SDMS Document
103824

## NEWARK BAY STUDY AREA

# ADDITIONAL SITES AND CANDIDATE PRPS FOR THE NEWARK BAY STUDY AREA

VOLUME I OF II

PRP DATA EXTRACTION FORM AND EVIDENCE CONCERNING:

**WHITE CHEMICAL CORPORATION**
**NEWARK, NEW JERSEY SITE**

PREPARED BY:
TIERRA SOLUTIONS, INC.

SUBMITTED TO:
USEPA REGION II

APRIL 2009

**NEWARK BAY STUDY AREA**
**PRP DATA EXTRACTION FORM**

# *White Chemical Corporation Newark, New Jersey Site*

**CANDIDATE PRP(S):**

On March 31, 1992, the United States Environmental Protection Agency ("EPA") issued Administrative Order (the "Order") Index No. II-CERCLA-20103 in the matter of White Chemical Corporation Site (the "Site"), pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §9606(a), as amended ("CERCLA"), to a group of eleven potentially responsible parties ("PRPs") to perform certain removal activities at the Site. The PRPs consisted of the following (ten companies and one individual):

- AZS Corporation (Site owner)
- White Chemical Corporation*
- PPG Industries, Inc.**
- D&O Chemical Co., Inc.**
- Hexagon Enterprises, Inc.**
- Hummel Croton, Inc.**
- Monsanto Company, Inc.**
- Rhone-Poulenc, Inc. (as parent of Rhone-Poulenc Ag Co.)**
- Maybrook, Inc.**
- Inolex Chemical Company, Inc.**
- James White (Site operator)*

*Operated under the protection of Chapter 11 of the bankruptcy code from October 1989 until October 1990, when the bankruptcy was dismissed by the bankruptcy court. BAF000031, BAF000039

**Associated with hazardous substances at the Site through manufacturing/tolling agreements with WCC (*see* "Description of Facility Operations" supra).

Only three PRPs, Monsanto Company, Inc. ("Monsanto"), PPG Industries, Inc. ("PPG"), and Rhone-Poulenc, Inc. ("Rhone-Poulenc," including also its subsidiary, Rhone-Poulenc Ag Co.) [the "Settling Defendants" or the "Performing Parties"], complied with the Order, satisfactorily completing the work in March 1993. BAA000051, BAF000042

In June 1993, EPA issued to the Performing Parties a Certification of Completion of the Work ("Certification"), which was required in the Order, but which "specifically does not release, discharge, or otherwise relieve the Performing Parties, their principles, officers, employees, agents, directors, subsidiaries, assigns and successors from further liability for the payment of money to EPA or to the United States pursuant to Section 107(a) of CERCLA, 42 U.S.C. Section

9607(a) or other federal laws, for costs incurred by the EPA or the United States as a result of involvement by the United States in actions or activities in connection with the Site." BAA000051

An April 3, 1997 Consent Decree, Civil Action No. 97-110 (DRD) in the matter of *United States v. Monsanto, et al.* relating to the White Chemical Corporation Superfund Site, was entered into by EPA and the Settling Defendants. In accordance with the Consent Decree, the Settling Defendants paid $600,000 to the EPA Hazardous Substance Superfund in settlement of response costs under Section 107(a) of CERCLA, 42 U.S.C. §9606(a), as amended. BAF000042

**CURRENT MAILING ADDRESS/CONTACT INFO FOR CANDIDATE PRP(S):**

**PRP: Monsanto Company**
Hugh Grant, Chairman, President & CEO
800 North Lindbergh Blvd.
St. Louis, MO 63167
BAC000001, BAC000002

**PRP: PPG Industries, Inc.**
Charles E. Bunch, Chairman & CEO
One PPG Place
Pittsburgh, PA 15272
BAC000003

**PRP: Bayer CropScience, as successor to Rhone-Poulenc Ag Co.**
William Buckner, Country Head of Crop Protection North America
2 T.W. Alexander Drive
Research Triangle Park, NC 27709
BAC000006, BAC000007, BAC000008, BAC000022

**PRP: D&O Chemicals, Inc.**
The Atrium 80 East Route 4
Paramus, NJ 07652
BAC000017

**PRP: Hummel Croton, Inc.**
Bernard F. Schoen Jr., President
10 Harmich Road
South Plainfield, NJ 07080
BAC000018

**PRP: Maybrook, Inc.**
Donald Francis, President & CEO
570 Broadway
Lawrence, MA 01841
BAC000019

**PRP: Hexagon Enterprises, Inc.**
Milton A. Berube, Vice-President
40 Briarwood Drive

Tuckerton, NJ 08087
BAC000020

**PRP: Inolex Chemical Company**
Michael Chiarlone, President
2101 S. Swanson Street
Philadelphia, PA 19148
BAC000021

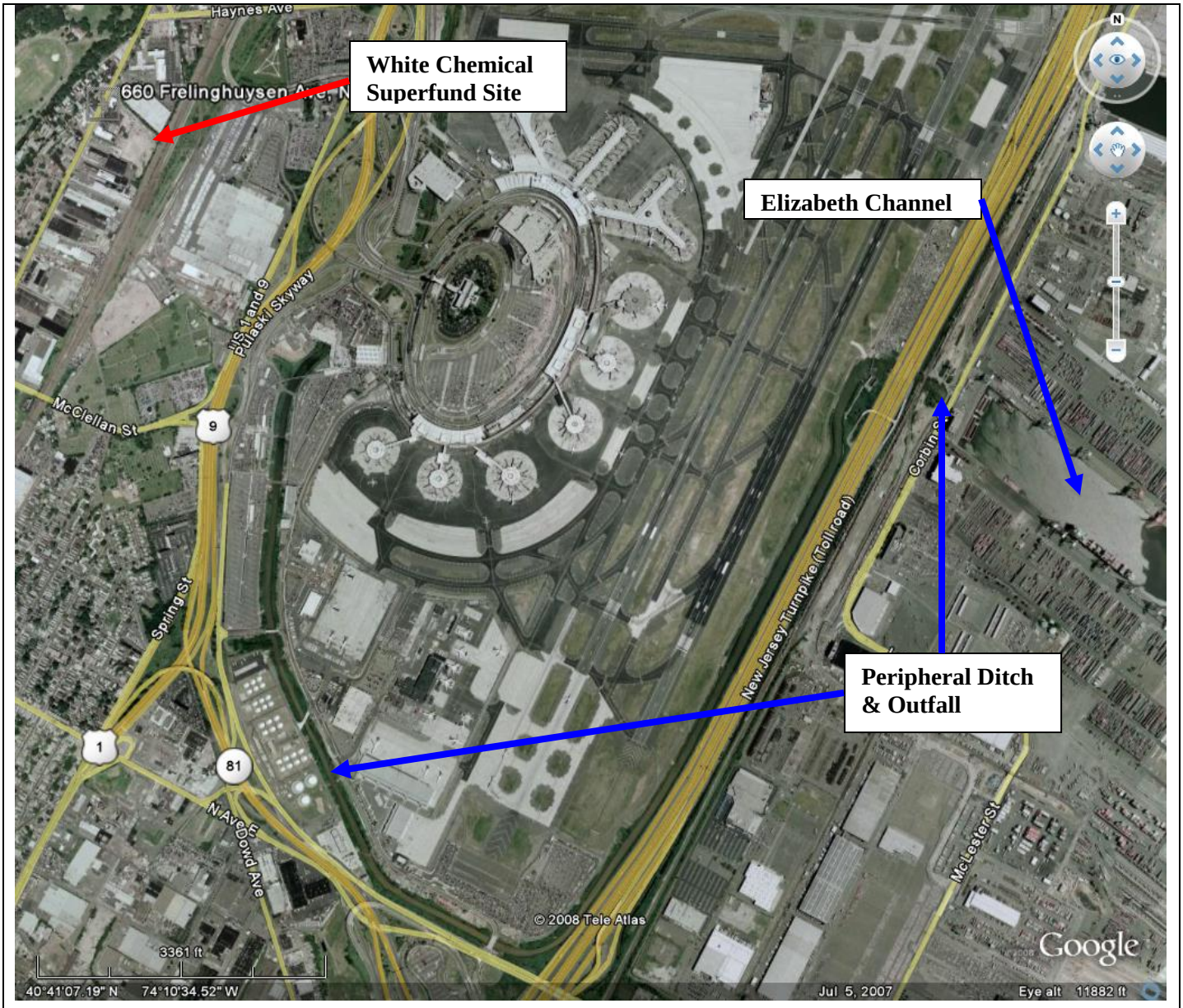
**FACILITY ADDRESS:**

The street address of the Site [also known as the White Chemical Corporation ("WCC") Superfund Site] is:

660 Frelinghuysen Avenue
Newark, NJ 07114

The WCC Superfund Site, CERCLIS No. NJD001239185, measures approximately 4.4 acres and is Block 3872, Lot 109 in Newark, Essex County, NJ. The Site is bounded by an industrial center to the north-northeast, Sleepline Industries to the west, Coopers Sportswear Manufacturer to the south-southwest, and Conrail and Amtrak rail lines to the east-southeast. The Newark brewery of Anheuser-Busch, Inc. is located approximately 1,000 yards east of the rail lines. The Site is located approximately 3,000 feet west of the Peripheral Ditch that surrounds most of Newark airport and discharges, via the Elizabeth Channel, into Newark Bay, which is located approximately three miles east of the Site. BAA000021, BAF000039

The approximate location of the Site is shown on the following annotated aerial photograph:




**White Chemical Corporation Superfund Site**
660 Frelinghuysen Avenue
Newark, Essex County, New Jersey

Aerial Photograph Copyright 2008
Photo Source: Google Earth (Tele Atlas)

Site boundary line locations as shown are approximations

**FINANCIAL VIABILITY** (annual revenue, # of employees)**:**

**WCC** operated under the protection of Chapter 11 of the bankruptcy code from October 1989 until October 1990, when the bankruptcy was dismissed by the bankruptcy court. The New Jersey Secretary of State lists the corporate status of WCC as "revoked for not filing annual reports." The last annual report was filed in 1989. It appears that WCC no longer exists today, and we have yet to identify any evidence of a legal successor to WCC or to WCC's historical operations at the Site. BAC000030, BAF000031

**Monsanto Company** ("Monsanto") is a leading global provider of agricultural products with over 18,800 employees worldwide. Monsanto is headquartered at 800 North Lindbergh Blvd., St. Louis, MO, and the Chairman, President and CEO is Hugh Grant. The company is listed on the NY Stock Exchange under symbol MON. Monsanto reported net sales of approximately $8.5 billion and net income of $993 million for 2007. BAC000001, BAC000002

**PPG Industries, Inc.** ("PPG") is a global supplier of paints, coatings, chemicals, optical products, specialty materials, glass and fiber glass. The company has more than 150 manufacturing facilities in more than 60 countries and is headquartered at One PPG Place, Pittsburgh, PA. The Chairman and CEO is Charles E. Bunch. The company is listed on the NY Stock Exchange, under symbol PPG. The company reported sales of $11.2 billion for 2007. BAC000003

**Bayer CropScience**, successor to Rhone-Poulenc Ag Co.*****, is a global provider of crop solutions, products and services with over 17,800 employees worldwide. The global headquarters of Bayer CropScience is located in Monheim, Germany, and the Chairman of the Board of Management is Friedrich Berschauer. The business headquarters of the company's North American Region is located at 2 T.W. Alexander Drive, Research Triangle Park, NC, and the Head of Crop Protection North America is William Buckner. In 2007, the company reported sales of 5,826 million euros; and 1,332 million euros for North America. BAC000004, BAC000005, BAC000006, BAC000007, BAC000008, BAC000009

> ***** Bayer CropScience was formed through the acquisition of Aventis CropScience by Bayer AG. Aventis CropScience was formed by the merger of AgroEvo (the former Hoechst AG's and Schering AG's 60-40 joint venture) and Rhone-Poulenc Ag Co. (the agricultural division of Rhone-Poulenc Inc., the U.S. subsidiary of Paris-based Rhone-Poulenc S.A.). BAC000004, BAC000009, BAC000023, BAC000024, BAC000025, BAC000026

The additional Candidate PRPs identified previously (*see* "Candidate PRPs" on pp.1-3), except for James White and WCC, all appear also to be existing, operating entities. To date, however, there appear to have been no cost recovery efforts by EPA or any regulatory agency against any of those other PRPs.

**DATES OF OPERATION** (include info. on predecessors/successors if known)**:**

Available information documents the following key dates in the corporate successorship and the history of the operations at the WCC Site:

- 1935-1970: It is not exactly known when the Union Carbide & Carbon Corporation first began operations at the Site; however, a New York Times article

indicated in 1935 a Linde Division development laboratory on Frelinghuysen Ave. in Newark, NJ. The laboratory reportedly studied industrial gases, and metal working processes and equipment. A 1949 Industrial Directory of New Jersey listed Union Carbide & Carbon Corp. at 646 Frelinghuysen Ave. In 1957, Union Carbide & Carbon Corporation changed its name to Union Carbide Corporation (hereafter, "UCC"). It has been reported that much of the Site's infrastructure, including sewer and utility conduits and buildings (construction dates ranged from 1951 to 1957) date from Union Carbide's ownership; however, very little information is known about UCC's operations at the Site. BAB000009, BAC000014, BAC000015, BAC000027, BAC000028, BAC000029, BAD000002, BAF000039

- 1970: EPA documents indicated that Central Services Corporation ("CSC," formed in New Jersey in 1969 as a non-profit corporation) purchased the Site from UCC in September 1970. Dun & Bradstreet listed CSC's business as hospital linen and laundry supply. Note that a 1972 Newark Directory of Business listed Union Carbide Corp., Linde Division at the Site, but CSC was not listed in the directory. BAB000009, BAC000013, BAC000016, BAD000003, BAF000039

- 1975: In August 1975, CSC sold the Site to Lancaster Chemical Company ("Lancaster"), a division of the AZS Corporation ("AZS"). 1977 and 1982 New Jersey State Industrial Directories listed Lancaster products as organic surfactants, resins, and asphalt additives and resins. BAB000009, BAD000004, BAD000005, BAF000039

- 1983: WCC leased the Site from Lancaster and moved its operations from Bayonne, NJ to the Newark site. BAA000021, BAB000009, BAF000039

- 1989: In October 1989, WCC initiated Chapter 11 bankruptcy proceedings. BAA000057

- 1990: On May 15, 1990, NJDEP initiated Site stabilization and removal activities at the Site utilizing public monies. BAA000021, BAB000010, BAF000039

  In August 1990, all production ceased at the Site. BAE000026

  In October 1990, WCC's bankruptcy case was dismissed by the Bankruptcy Court. BAF000031

- 1991: On May 9, 1991, EPA proposed the Site for inclusion on the National Priorities List ("NPL"). BAB000008, BAF000039

  The Site was listed on the NPL on September 25, 1991, and on September 26, 1991, the Record of Decision ("ROD") was issued requiring appropriate security measures; stabilization of the Site; management of contaminated material; decontamination and/or disposal of

drums/containers, tanks and process piping; and appropriate environmental monitoring. BAB000008, BAB000010, BAF000039

In November 1991, a Superfund State Contract was entered into between the State of New Jersey and EPA to conduct remedial activities at the WCC site. Financial responsibilities of the parties consisted of USEPA contributing 90% (but not more than $19,886,400) and the State contributing 10% ($2,209,600) of the total cost estimate of approximately $22 million to implement the interim remedial actions outlined in the 1991 ROD. BAA000035

- 1996: In 1996, the City of Newark acquired the Site through foreclosure after AZS failed to pay property taxes. BAB000008, BAF000047

- 2000: In September 2000, EPA provided the City of Newark a redevelopment grant to identify potential users of the property after remediation is complete. BAB000002

- 2008-2009: The final remedial design analysis was issued in March 2008; and, **currently**, issuance of EPA's OU-3 ROD, which will address the remedy for on-Site/off-Site groundwater contamination, is pending. BAB000008, BAB000010

[**During the period of 1989-2009**, a series of Local, State and Federal investigative, enforcement, and remedial actions have been attempted and or carried out in regard to the Site and involving various entities, including several of the Candidate PRPs. The nature of, and details regarding, these various government actions are discussed at greater length in the next section, "Description of Facility Operations."]

**DESCRIPTION OF FACILITY OPERATIONS** (list CERCLA hazardous substances used, manufactured or present)**:**

According to EPA documents and other public records, very little information is known about UCC's, CSC's, or Lancaster's operations at the Site during the 1935-1983 time frames.

**UCC:** As discussed previously, a New York Times article indicated in 1935 a "Linde Division development laboratory" on Frelinghuysen Ave. in Newark, NJ. The laboratory reportedly studied industrial gases, and metal working processes and equipment. It has been reported that much of the Site infrastructure, including sewer and utility conduits, and buildings (construction dates ranged from 1951 to 1957) date from UCC's ownership. BAB000009, BAC000014, BAC000015, BAC000027, BAC000028, BAC000029, BAD000002, BAF000039

**CSC:** As discussed previously, EPA records indicate that CSC (Central Services Corporation of Metropolitan New Jersey) purchased the Site from UCC in September 1970. Dun & Bradstreet listed CSC's business as hospital linen and laundry supply. BAC000013, BAC000016

**Lancaster:** As discussed previously, Lancaster (a division of AZS) purchased the Site from CSC in August 1975. 1977 and 1982 New Jersey State Industrial Directories listed Lancaster products as organic surfactants, resins, and asphalt additives and resins. BAB000009, BAD000004, BAD000005, BAF000039

**WCC** began leasing the Site in 1983 from Lancaster; and WCC moved its Bayonne, NJ operations to this Newark location. WCC produced a wide range of specialty chemicals that could be grouped into three primary chemical products: acid chlorides; brominated organics (both aliphatic and aromatic); and mineral acids, most notably hydriodic acid (an aqueous solution of hydrogen iodide). The finished products were generally formulated in small batches following individual customers' specifications. End-product usage included pharmaceuticals, cosmetics, perfume oils, dyestuffs, agricultural chemicals, and flame retardants. BAA000021, BAB000009, BAF000039

WCC produced acid chlorides by the simple reaction of phosphorous trichloride with carboxylic acid. Although acid chlorides are not a common or generally useful end product, they are essential intermediates for the production of other organic compounds such as esters, amides, phenyl ketones, aldehydes, anhydrides, and acid cyanides. BAF000039

WCC produced aliphatic and aromatic brominated materials by substitution reactions with alcohols, carboxylic acids, and diphenyloxide. Aromatic brominated compounds produced by WCC included the flame retardant, decabromodiphenyloxide (a/k/a decabromodiphenyl ether). Precursor chemicals in the manufacture of decabromodiphenyloxide have been known to contain polybrominated biphenyls ("PBBs"). Brominated diphenyl ethers and brominated phthalic acid derivatives are two of five major classes of brominated flame retardants. The term polybrominated diphenyl ethers ("PBDEs") refer to the three commercial mixtures: decabromodiphenyl ether ("DBDE"), octabromodiphenyl ether ("OBDE"), and pentabromodiphenyl ether ("pentaBDE"). PBDEs are structurally similar to dioxins and PCBs. Like dioxins and PCBs, due to their relatively low reactivity and high hydrophobicity, PBDEs are persistent environmental substances, and for certain congeners, bioaccumulative. BAF000039, BBB000058, BBB000059, BBB000060

The production of hydriodic acid consisted of the mixing of water and phosphorous, and then the addition of iodine. BAA000008

WCC also performed custom blending and repackaging of various chemicals for customers utilizing the processes on-Site. BAA000008, BAA000021

The following hazardous substances and materials (without limitation) were formulated, utilized, handled or disposed of by WCC at the Site in its manufacturing/tolling operations:

- Hexabromobenzene (EPA Class III Organic Chemical associated with the formation of dioxin)
- Decabromodiphenyl oxide (a/k/a Decabromodiphenyl ether) [Rhone-Poulenc, PPG, D&O, Monsanto]*
- Octabromodiphenyl oxide (a/k/a Octabromodiphenyl ether) [PPG]*
- Antimony trioxide
- Benzyl bromide
- Bromine [D&O, PPG]*
- Bromoacetic acid [D&O]*

- Penta-bromo phenyl allyl ether
- Capryloyl chloride [Maybrook, D&O, Hexagon, Monsanto, Rhone-Poulenc]*
- Cetyl bromide [D&O]*
- Decyl bromide [D&O, Hexagon]*
- Di-para-xylene [Hexagon]*
- Ethylene dichloride [D&O, PPG]*
- Ethyl glycol
- 2-Ethyl hexanoyl [D&O]*
- Heptanoyl chloride
- Hexabromocyclododecane
- Hexal bromide
- Hydriodic acid [D&O]*
- Hydrochloric acid [Hexagon, Inolex, Maybrook, Monsanto, Rhone-Poulenc]*
- Hydrogen bromide (hydrobromic acid)
- Hydrogen cyanide
- Isononoyl chloride [D&O]*
- Isopropyl bromide
- Lauroyl chloride [Maybrook]*
- Methyl butyrate
- Methylene chloride
- Myristoyl chloride [Maybrook, D&O, Hexagon, Inolex]*
- Neodecanoyl chloride [D&O]*
- Oleyoyl chloride [Maybrook]*
- Oxalate compounds [Hummel]*
- Palmitoyl chloride [Maybrook]*
- Pelargonoyl chloride [Monsanto]*
- Phenyl ethyl bromide [D&O]*
- Phosphoric acid [D&O, Hexagon, Inolex, Maybrook, Monsanto, Rhone-Poulenc]*
- Phosphorous tribromide
- Phosphorous trichloride [Rhone-Poulenc, Hexagon]*
- Pivaloyl chloride [PPG, D&O, Hexagon]*
- Propionic acid [Hexagon]*
- Propionyl chloride [D&O, Hexagon]*
- Red phosphorous
- Stearoyl bromide
- Sulfuric acid
- Tetrachloroethane [D&O, PPG]*
- Toluene [Hummel]*
- 2,4,6-Tribromophenyl acetate
- Trichloroethylene
- Trimethanylamine, anhydrous
- Valeryl chloride
- Xylene

* Hazardous substances produced/tolled for the noted PRPs.
BAA000019, BAA000047, BAF000014, BAF000026, BAF000027, BAF000028, BAF000039

Major Site features included nine buildings, a former aboveground storage tank ("AST") farm ("tank farm"), an underground tunnel, and a railroad spur. The five major buildings (Building Nos. 33, 34, 34A, 35 and 36) and three smaller, facility support buildings (Boiler Room, Pump House and Maintenance Shop) were located on the western portion of the Site. The majority of these buildings were grouped around the former tank farm located near the center of the Site. The tank farm was underlain by a concrete slab. Buildings Nos. 34 and 34A, located north of the tank farm, were connected by a hallway on the south side and separated by an alley on the north side. An underground tunnel originated in the western portion of Building No. 34 and led towards the south. The depth, usage, and destination of the tunnel are unknown. Building Nos. 33 and 35 were located west and south, respectively, of the tank farm. Adjacent to the tank farm were the Boiler Room (southwest side), Pump House (northwest side), and Maintenance Shop (eastern side). Building No. 36 was located on the southern portion of the Site. Also on the southern portion of the property was a ditch formed by the railroad spur. BAA000008, BAA000021, BAB000008

Brominated flame retardants were manufactured in Building 34, and acid chloride and hydriodic acid manufacturing was conducted in Building 33. According to a 1984 NJDEP Investigative Report, "…floors [were] washed down approximately once/day …" and "… [the] floor drain system [was] part of sanitary discharge to PVSC. Approximately 2x/month material is discharged to the sanitary sewer after appropriate analysis has been conducted." Laboratories were located on the second floor of Building 33, and numerous chemical storage areas were located throughout Buildings 34 and 35. BAA000008, BAA000021

In a 1990 memo, EPA noted that the two on-Site laboratories contained "thousands of unsegregated lab pack size materials in various stages of deterioration, stored haphazardly on shelves which are also deteriorating." The types of chemicals found in the laboratories included flammable liquids, corrosives, acids, oxidizers, air/water reactives, and peroxide forming materials. The laboratories were used to conduct research on nonhalogenated flame-retardant compounds. EPA noted numerous floor drains in the laboratories. BAA000021, BAE000028, BBA000019

NJDEP file photographs from WCC's Newark facility showed a network of hoses leading from several buildings to a storm sewer drain in the northeast portion of the Site (south of Building 33 and in the vicinity of the tank farm) and to a drainage swale (leading offsite) in the vicinity of the railroad tracks. A storm drain was also noted on the north side of Building 34. It was reported that the storm sewer connects with a sanitary sewer that leads to a pumping station near the McClellen Street bridge and ultimately to the Passaic Valley Sewerage Commissioners ("PVSC") treatment plant on Newark Bay (a distance of approximately three miles from the Site). BAE000028, BAF000039

The facility was permitted (PVSC Permit No. 21404460) to discharge sanitary and process wastewater to the PVSC treatment plant through the City's South Side Interceptor. The South Side Interceptor, completed in 1965, is a combined stormwater/sanitary sewer system ("CSS"), which is subject to overflows to the Peripheral Ditch during rainfall events. BAE000032, KLL010515

Process water was discharged from Building 34 through Outlet #1, and from Building 33 through Outlet #2, to the combined sewer system. The only reported pretreatment, prior to discharge, consisted of neutralization and continuous pH monitoring. Outlet #1 was reportedly also

continuously monitored for LEL (lower explosive limit). BAE000007, BAE000009, BAE000028, BAE000032

WCC reported in a 1988 PVSC Application for a Sewer Connection Permit that the average daily discharge flow from Outlet #1 was 40,600 gallons and 27,000 gallons from Outlet #2. The annual discharge to the combined sewer was reported to consist of 0.5 million gallons sanitary wastewater, 1 million gallons process wastewater, and 20 million gallons cooling water. BAE000009

The following hazardous substances, at the levels indicated, were reported in the effluent Monitoring Report (MR-2) for the period of 1/1/85 to 3/31/85:

- 1,2-Dichlorobenzene (EPA Class III Organic Chemical associated with the formation of dioxin) up to 22.8 parts per billion ("ppb")
- Polybrominated biphenyls up to 0.49 ppb
- Poly bromo biphenyl oxide up to 129 ppb
- 1,2-Dichloroethane up to 527 ppb
- 1,2-Dichloropropane up to 7.45 ppb
- Trichloroethylene up to 0.16 ppb
- 1,1,2-Trichloroethane up to 4.83 ppb
- 1,1,2,2-Tetrachloroethane up to 1.68 ppb
- Tetrachloroethylene up to 2.8 ppb
- Unidentified volatile organics up to 32.6 ppb

BAE000002

A composite wastewater effluent sample collected in December 1987 detected 1,2-dichloroethane at 885.9 ppb, which exceeded the permitted limit of 574 ppb. BAE000009, BAE000012, BAE000013, BAF000020

The following hazardous substances, at the levels indicated, were reported in the effluent Monitoring Report (MR-2) for the period of 10/1/89 to 12/31/89:

<u>Outlet #1 (Building 34 - brominated flame retardant manufacturing):</u>

- 1,2-Dichlorobenzene (EPA Class III Organic Chemical associated with the formation of dioxin) up to 5.1 ppb
- Bromodichloromethane up to 9.2 ppb
- Chloroform up to 86.7 ppb
- 1,2-Dichloroethane up to 142 ppb
- Ethylbenzene up to 24.4 ppb
- Methylene chloride up to 38.3 ppb
- Toluene up to 34.3 ppb
- Xylenes up to 184 ppb

<u>Outlet #2 (Building 33 - acid chloride and hydriodic acid manufacturing):</u>

- Bromodichloromethane up to 8.7 ppb
- Chloroform up to 88.7 ppb
- Methylene chloride up to 170 ppb
- Xylenes up to 13.2 ppb

BAE000018

Shallow groundwater flow at the Site radiates from a mound that exists in the vicinity of Building No. 34 (in the north-central portion of the Site), thereby creating a groundwater divide across the center portion of the Site. Mounding of the groundwater may be caused by a flooded tunnel that exists under the building. Shallow groundwater flow radiates away from the divide in the northern portions of the Site; south of the divide groundwater flows more uniformly to the south. Deeper groundwater flow is fairly consistent with the shallow groundwater flow and follows the surface of the underlying bedrock. Deeper groundwater flow in the southern portion of the Site is to the south, with groundwater flow in the northern portion of the Site varying from northeasterly to southeasterly. Based on information from wells within a 1-mile radius of the Site, the depth to groundwater in the area ranges from 15 to 60 feet. BAA000021, BAF000039

Historically, the WCC facility has had numerous RCRA violations, specifically, illegal treatment of hazardous waste and storing hazardous waste without the necessary permits. The improper management and storage of hazardous substances resulted in: numerous open containers; damaged, bulging and unlabeled containers; and numerous spills onto the ground. The Site was unsecured and, due to the volume and nature of the hazardous substances and unknown substances, there existed the potential for imminent and severe damage to the environment. BAA000021

In June 1989, the NJDEP conducted a RCRA inspection at the Site and issued Notices of Violations ("NOVs") for improper drum management, leaking drums, and open containers. BAA000057, BAB000010, BAF000039

In September 1989, NJDEP re-inspected the Site and it was noted that the facility had attained only partial compliance. NJDEP issued WCC an Administrative Order and penalty in the amount of $86,500 on March 15, 1990, notwithstanding that WCC had initiated Chapter 11 bankruptcy proceedings in October 1989. According to NJDEP, WCC never complied with the order and never paid the penalty. BAA000021, BAA000057, BAA000075, BAB000010, BAF000004, BAF000039

From March 27-29, 1990, NJDEP again inspected the facility and completed an inventory of the containers on Site. The facility continued to operate in violation of RCRA with regard to the management of hazardous waste. The inventory showed that approximately 8,148 drums were currently in storage, including: 2,005 drums containing hazardous waste; 342 drums which possibly contained hazardous waste; and 3,411 drums containing products or intermediates, which themselves constituted hazardous substances. At the completion of the inventory, WCC was issued a Notice of Violation under the New Jersey Spill Act (the "Spill Act"), and ordered to immediately remediate spillage and improper container management. WCC never complied with the NOVs. NJDEP noted that it was doubtful that compliance would ever be achieved due to the large number of drums involved and the questionable financial status of WCC. BAA000016, BAA000021, BAA000057, BAB000010, BAF000039

In May 1990, after weekly monitoring of the remediation performed at the Site, NJDEP determined that WCC's progress was unsatisfactory and, therefore, the March 1990 Administrative Order and penalty were rescinded. On May 8, 1990, NJDEP issued a Directive, pursuant to the Spill Act, to WCC, AZS, Lancaster (a division of AZS), and Tosoh ordering those companies to pay the Department $241,133.15 for the necessary Site stabilization. AZS,

Lancaster, and Tosoh responded that they were not responsible parties, and WCC responded that it could not pay the directed amount due to its bankruptcy proceedings. Accordingly, on May 15, 1990, NJDEP initiated Site stabilization and removal activities at the Site utilizing public monies. BAA000021, BAA000057, BAB000010, BAF000039

On June 15, 1990, the Department issued WCC, AZS, Lancaster, and Tosoh a second directive (Supplemental Directive #1 and Notice to Insurers) ordering the companies to remove and properly dispose of all empty drums. Again, AZS, Lancaster and Tosoh claimed that they were not responsible for the conditions at the Site. WCC removed 746 empty drums; however, approximately 2,500 empty drums remained on Site. BAA000012, BAA000021

On July 18, 1990, the Department issued WCC, AZS, Lancaster, and Tosoh another directive (Supplemental Directive #2 and Notice to Insurers) ordering them to pay $518, 964.24 for further stabilization costs. As previously, AZS, Lancaster and Tosoh claimed that they were not responsible parties, and WCC responded that it could not pay due to bankruptcy proceedings. BAA000014, BAA000021

In August 1990, all production ceased at the Site. BAE000026

From the time that NJDEP initiated a publicly-funded cleanup pursuant to the Spill Act in May 1990, to October 2, 1990, when EPA took over the Site, NJDEP had conducted Site stabilization and removal activities (which included: 24-hour security; the removal of approximately 37,400 gallons of ethylene dichloride, toluene, acetone and xylene; the staging and removal of approximately 16,275 gallons of trichloroethylene and an additional 906 empty drums), suspending operations in August 1990, upon reaching its publically-funded cost ceiling of $825,000, pending EPA's take-over of operations. BAA000016, BAA000021 BAA000047, BAA000054, BAB000010, BAF000039

In September 1990, EPA performed a preliminary assessment ("PA") of the WCC facility and found over 10,000 drums of hazardous substances in various stages of deterioration, fuming, and leaking their contents onto the soil. The EPA Technical Assistance Team also reported five SARA Title III extremely hazardous substances were present onsite in drums and tanks. The five extremely hazardous substances included: allyl alcohol, bromine, chlorine, red phosphorous, and phosphorous trichloride. BAB000008, BAF000039

On September 28, 1990, EPA issued an Administrative Order barring WCC from continuing on-Site operations and ordering the evacuation of all personnel. BAA000021, BAB000008, BAF000008 BAF000039

In January 1991, EPA granted Rhone-Poulenc permission to enter the Site for the purpose of assisting EPA in sampling, cleaning, and draining two tanks which contained approximately 1,200 gallons of phosphorous trichloride product. BAF000014

On May 13, 1991, PVSC filed Civil Action Complaint, Docket No. C-134-91 against WCC in the Superior Court of New Jersey, Chancery Division. In the complaint, PVSC alleged that to date WCC had consistently failed to comply with PVSC's Rules and Regulations regarding the discharge directly or indirectly of pollution to the rivers and tributaries, which PVSC has been empowered to regulate and control. PVSC demanded an Order revoking WCC's sewer connection permit. BAF000020

On September 25, 1991, the Site was listed on the National Priorities List ("NPL"), and on September 26, 1991, a Record of Decision ("ROD") was issued requiring appropriate security measures; stabilization of the Site; management of contaminated material; decontamination and/or disposal of drums/containers, tanks and process piping; and appropriate environmental monitoring. BAA000057, BAB000008, BAB000010, BAF000039

In November 1991, a Superfund State Contract was entered into between the State of New Jersey (the "State") and EPA to conduct remedial activities at the WCC site. Financial responsibilities of the parties consisted of EPA contributing 90% (but not more than $19,886,400) and the State contributing 10% ($2,209,600) of the total cost estimate of approximately $22 million to implement the interim remedial actions outlined in the 1991 ROD. BAA000035, BAA000057

As part of the overall remedial strategy, EPA divided the Site into the following separate operable units ("OUs"):

- **OU-1** – re the implementation of security measures, the interim remedy to stabilize the Site, and the removal of leaking drums and other containers containing hazardous chemicals. [**Status as of this DEF:** ROD issued September 1991; completed March 1993.]

- **OU-2** – re the remedy for Site buildings, above-ground storage tanks, sump sediments, surface and subsurface contaminated soils, and the implementation of deed restrictions. The demolition and removal of the buildings and above-ground storage tanks began in February 2006 and was completed in mid 2007. [**Status as of this DEF:** ROD issued September 2005; completed early 2007; and the final remedial design was issued in March 2008.]

- **OU-3** – re the remedy for on-Site/off-Site groundwater contamination. [**Status as of this DEF:** ROD to be issued.]

BAB000008, BAB000010

On March 31, 1992, EPA issued an Administrative Order, Index No. II CERCLA-20103 (the "Order"), to a group of eleven PRPs (ten companies and one individual) to remove 7,900 drums, the contents of more than 100 tanks, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, and 14 gas cylinders, and to empty and clean process tank piping. Only three PRPs: Monsanto, PPG, and Rhone-Poulenc (the "PRP group") complied with the Order. BAF000031, BAF000039, BAF000042

James White was sentenced, by Superior Court Judge Richard Newman, to 364 days in the county jail; ordered to perform 2,000 hours of community service; and fined $500. The county jail sentence was a condition of a five year probationary term James White had to complete as part of his penalty. BAA000001, BAA000054

On June 1, 1992, NJDEP issued a Directive and Notice to Insurers to the eleven PRPs, pursuant to the Spill Act, for recovery of $2,209,600 for the Department's estimated share of the remedial construction activities at the Site.BAA000047

In September, Whitman & Ransom, counsel for AZS, notified EPA that the City of Newark (the "City") was the current owner of the Site through an October 1, 1991 Final Judgment of In Rem

Tax Foreclosure entered by the Superior Court of New Jersey in favor of the City. EPA responded by advising them that on July 14, 1992, the Superior Court of New Jersey had issued an order vacating the Final Judgment, which was applied retroactively to the time that the court had entered the default judgment in favor in of the City on October 1, 1991. BAF000035

In March 1993, the PRP group completed the removal action at the Site and issued a Final Report – Response Action. BAF000039

In 1996, the City of Newark acquired the Site through foreclosure after AZS failed to pay property taxes. BAB000008, BAF000047

An April 3, 1997 Consent Decree, Civil Action No. 97-110 (DRD) in the matter of *U.S. v. Monsanto, et al.*, relating to the WCC Superfund Site was entered into by EPA and the Settling Defendants. In accordance with the Consent Decree, the Settling Defendants paid $600,000 to the EPA Hazardous Substance Superfund in settlement of response costs under Section 107(a) of CERCLA, 42 U.S.C. §9606(a), as amended. BAF000042

During January and March, 1998, Roy F. Weston, Inc. ("Weston") conducted a two-phase site assessment for EPA that included a soil and building material investigation at the Site. BAF000039, BAF000048

In October 1998, on behalf of the EPA Environmental Response Team, Malcolm Pirnie initiated the OU-2 RI to characterize the nature and extent of contamination at the Site. During the RI, additional sampling of test pits, surface soil, subsurface soil, building sump sediments, groundwater, and building materials was conducted.

On February 1, 1999, a proposed consent decree in *U.S. v. AZS Corp., et al*., Civil Action No. 99-464 (DRD) was filed in the United States District Court for the District of New Jersey. The complaint sought recovery of response costs totaling $5.9 million plus interest under CERCLA, 42 U.S.C. 9601, et seq., from AZS and four of its corporate relatives: Toyo Soda America, Inc.; Tosoh Corporation; Tosoh America, Inc.; and AZS's parent company, Tosoh U.S.A. for the cleanup of hazardous substances found at the WCC Superfund Site. BAB000017, BAF000044, BAF000046, BAF000047

In July 1999, the Remedial Investigation ("RI") field work, which began in October 1998, was completed at the Site. BAB000008, BAF000039

In September 2000, EPA provided the City of Newark a redevelopment grant to identify potential users of the property after remediation is complete. BAB000002

The OU-2 RI was completed in 2003, and the Final Remedial Investigation Report was issued in April 2003. BAA000067, BAA000068, BAB000008, BAF000039

Based on the results of the OU-2 RI/Feasibility Study ("FS"), EPA issued a ROD on September 29, 2005 that addressed on-Site buildings and surface and subsurface soils. The OU-2 ROD called for the demolition and off-Site disposal of the on-Site buildings; removal and disposal of the above-ground storage tanks; excavation and disposal of approximately 21,185 cubic yards of contaminated soil; backfilling the excavation with clean soil; placement of a deed notice for restricted land use; and environmental monitoring to ensure the effectiveness of the remedy. The

demolition was initiated in February 2006 and completed in July 2006. The off-Site removal and disposal of building demolition debris was completed in July 2007. BAB000008, BAB000010

In March 2008, the final remedial design analysis was completed; and as of the date of this DEF, the issuance of the OU-3 ROD, which will address the remedy for on-Site/off-Site groundwater contamination, is pending. BAB000008, BAB000010

**SITE SOIL SAMPLING AND CONTAMINATION:**

In 1998, Weston conducted a two phase site assessment at the WCC site. The Phase I investigation, conducted from January 26 though 29, 1998, and Phase II investigation, conducted March 16 and 17, 1998, included collecting surface and subsurface soil samples, and sump sediment samples in Buildings 33 and 34. The following hazardous substances (without limitation) were detected in on-Site soils and building sump sediments at the levels indicated:

- Dioxin TEQ up to 2.2059 ppb
- Polybrominated biphenyls ("PBBs") up to 5,043 ppb[1]
- Aroclor PCB-1254 up to 0.013 ppb
- Methylene chloride up to 25,230,000 ppb*
- Tetrachloroethane up to 560,000 ppb*
- Trichloroethane up to 1,400 ppb
- 1,2-Dichloroethane up to 27,460,000 ppb*
- Trichloroethene up to 230,000ppb*
- Ethylbenzene up to 200,000 ppb*
- Xylenes up to 3,800,000 ppb*
- Benzo(a)anthracene up to 0.016 ppb
- Benzo(k)fluoranthene up to 0.0089 ppb
- Benzo(a)pyrene up to 2,900 ppb*
- Indeno(1,2,3-cd)pyrene up to 0.01 ppb

- Antimony up to 446 parts per million ("ppm")
- Beryllium up to 1.4 ppm
- Copper up to 6,610 ppm
- Lead up to 3,090 ppm
- Thallium up to 8.4 ppm
- Zinc up to 5,490 ppm

[1] This number represents the sum of all PBBs

* Highest levels detected in Building 34 sump sediments

BAF000048

Dioxins and PBBs were detected in all surficial soil and building sump sediments that were collected. The highest concentrations of dioxins (2.2059 ppb) and PBBs (5,043 ppb) were detected in the same soil sample collected near the northeast corner of the maintenance shop. Significant concentrations of PBBs were also detected in other areas of the Site: the Tank Storage Area (4,131 ppb and 1,060 ppb); Building 33 (2,839 ppb and 1,136 ppb); the Maintenance Shop (2,242 ppb); Building 35 (2,168 ppb); Building 33 sump (362.5 ppb); and Building 34 sump (322 ppb). BAA000066, BAB000008, BAF000048

The 2003 Remedial Investigation Report ("RIR") indicated the following hazardous substances (without limitation) were detected in on-Site soils, test pits, and building sump sediments at the levels indicated:

Polychlorinated Dibenzo-p-Dioxins ("PCDDs"):

- 2,3,7,8-TCDD up to 0.0209 ppb
- 1,2,3,7,8-PeCDD up to 0.0139 ppb
- 1,2,3,4,7,8-HxCDD up to 0.0118 ppb
- 1,2,3,6,7,8-HxCDD up to 0.00519 ppb
- 1,2,3,7,8,9-HxCDD up to 0.00451 ppb
- 1,2,3,4,6,7,8-HpCDD up to 0.788 ppb
- OCDD up to 1.840 ppb

TEQ (non-PCB) up to 0.05087 ppb

Polybrominated Biphenyls ("PBBs"):

- Building sump sediments up to 0.362 ppb
- Surficial soil samples up to 0.190 ppb

PCBs:

- Aroclor-1254 up to 13,000 ppb
- Aroclor-1260 up to 160 ppb

Chlorinated Herbicides:

- 2,4-Dichlorophenoxyacetic acid (2,4-D) up to 19.8 ppb (EPA Class I Pesticide Chemical associated with the formation of dioxin)

Organochlorine Pesticides:

- gamma-Benzene Hexachloride (Lindane) ("BHC") up to 9,300 ppb (EPA Class II Pesticide Chemical associated with the formation of dioxin)
- alpha-BHC up to 2,800 ppb
- beta-BHC up to 6 ppb
- delta-BHC up to 1,900 ppb
- alpha-Chlordane up to 20,000 ppb
- gamma-Chlordane up to 760 ppb
- Aldrin up to 2,600 ppb
- Dieldrin up to 24,000 ppb
- 4,4'-DDD up to 18,000 ppb
- 4,4'-DDE up to 210 ppb
- 4,4'-DDT up to 1,100 ppb
- Endrin up to 520 ppb
- Heptachlor up to 840 ppb
- Heptachlor epoxide up to 94 ppb

Organics:

- Pentachlorophenol up to 110 ppb (EPA Class I Pesticide Chemical associated with the formation of dioxin)

- Hexachlorobenzene up to 560 ppb (EPA Class III Organic Chemical associated with the formation of dioxin)
- Benzene up to 17 ppb
- Ethylbenzene up to 130,000 ppb
- 1,2-Dichloroethane up to 31,000 ppb
- Hexachloroethane up to 35,000 ppb
- Methylene chloride up to 900 ppb
- Tetrachloroethene up to 18 ppb
- Trichloroethene up to 130,000 ppb
- Vinyl chloride up to 600 ppb
- Xylenes up to 500,000 ppb
- Benzo(a)anthracene up to 3,200 ppb
- Benzo(b)fluoranthene up to 2,100 ppb
- Benzo(a)pyrene up to 1,500 ppb

Inorganics:

- Arsenic up to 17.7 ppm
- Barium up to 260 ppm
- Chromium up to 270 ppm
- Copper up to 39,900 ppm
- Lead up to 361 ppm
- Mercury up to 104 ppm

Soil samples were not analyzed for Polybrominated Dioxins during this remedial investigation. BAA000067, BAA000068, BAF000039

**GROUNDWATER SAMPLING AND CONTAMINATION:**

The 2003 Remedial Investigation Report indicated the following hazardous substances (without limitation) were detected in on-Site groundwater at the levels indicated:

Dioxins: Not analyzed

PBBs: up to 0.025 ppb

PCBs:

- Aroclor-1260 up to 0.29 ppb

Herbicides: Not analyzed

Pesticides:

- Aldrin up to 0.024 ppb
- alpha-Chlordane up to 0.0037 ppb
- gamma-Chlordane up to 0.0089 ppb
- 4,4'-DDD up to 0.012 ppb
- 4,4'-DDE up to 0.0019 ppb
- Dieldrin up to 0.0036 ppb

Organics:

- 1,2-Dichloroethane up to 260,000 ppb
- 1,2-Dichloroethene up to 660 ppb
- Methylene chloride up to 100 ppb
- Tetrachloroethene up to 670 ppb
- Trichloroethene up to 2,400 ppb
- Vinyl chloride up to 4 ppb
- 2,4-Dimethylphenol up to 15 ppb
- 2,2'-oxybis(1-Chloropropane) up to 86 ppb

Inorganics:

- Arsenic up to 0.0055 ppm
- Barium up to 0.647 ppm
- Chromium up to 0.0679 ppm
- Copper up to 0.182 ppm
- Lead up to 0.790 ppm
- Manganese up to 23.6 ppm
- Mercury below detection limit of 0.0001 ppm
- Zinc up to 0.074 ppm

BAA000067, BAA000068, BAF000039

**OFF-SITE SEDIMENTS SAMPLING AND CONTAMINATION:**

Sediment sampling conducted at the head of the Elizabeth Channel (Core 86A) and in an un-dredged area of Newark Bay between the Port Newark and Elizabeth Channels (Cores 074 & 092) indicated contamination matching the hazardous substances found on-Site and discharged from the Site to the City sewer system. The following hazardous substances were detected in three core samples:

PCDDs:

- 2,3,7,8-TCDD up to 4.23 ppb
- 1,2,3,7,8-PeCDD up to 0.0082 ppb
- 1,2,3,4,7,8-HxCDD up to 0.0124 ppb
- 1,2,3,6,7,8-HxCDD up to 0.0498 ppb
- 1,2,3,7,8,9-HxCDD up to 0.0293 ppb
- 1,2,3,4,6,7,8-HpCDD up to 1.05 ppb
- OCDD up to 30.5 ppb

Total TCDD up to 4.78 ppb
Total TEQ up to 4,450 ppb

PCBs:

- Aroclor-1254 up to 1,900 ppb
- Aroclor-1260 up to 733 ppb

Organochlorine Pesticides:

- 2,4-D up to 420 ppb
- gamma-BHC (Lindane) up to 10 ppb
- alpha-Chlordane up to 14.5 ppb
- gamma-Chlordane up to 7.89 ppb
- 4,4'-DDD up to 230 ppb
- 4,4'-DDE up to 1,200 ppb
- 4,4'-DDT up to 200 ppb
- Total DDT up to 1,550 ppb
- Aldrin up to 2.3 ppb
- Dieldrin up to 51.6 ppb
- Endrin up to 4.6 ppb

Organics:

- 1,2-Dichlorobenzene up to 16 ppb
- Hexachlorobenzene up to 64 ppb
- Benzo(a)anthracene up to 1,900 ppb
- Benzo(b)fluoranthene up to 1,500 ppb
- Benzo(a)pyrene up to 780 ppb

Inorganics:

- Arsenic up to 142 ppm
- Barium up to 2,930 ppm
- Beryllium up to 2.4 ppm
- Cadmium up to 90.1 ppm
- Chromium up to 2,000 ppm
- Copper up to 868 ppm
- Lead up to 1,810 ppm
- Manganese up to 482 ppm
- Mercury up to 19.1 ppm
- Thallium up to 0.52 ppm
- Zinc up to 3,450 ppm

**PERMITS** (provide dates)**:**

NPDES:

No information is available at this time.

POTW (pretreatment):

WCC submitted to PVSC an Application for a Sewer Connection Permit in January 1988.

WCC was issued PVSC Sewer Connection Permit No. 21404463 with an effective date of July 25, 1988 and an expiration date of July 25, 1993. WCC notified PVSC that all production had ceased at the Site as of August 1990, and that EPA had taken over the property as of October 1990. BAE000009, BAE000012, BAE000013, BAE000026

The sewer connection permit required that WCC analyze the effluent twice quarterly for polybrominated biphenyls, deca bromobiphenyl oxide, and chlorinated organics. The permit also noted that WCC had been required to submit Monitoring Reports MR-2 to PVSC since October 15, 1983. BAE000012, BAE000013

**NEXUS TO NEWARK BAY STUDY AREA** (describe in detail; cite to supporting documentation; date or time period of disposal; list CERCLA hazardous substances and volume, if known):

Direct (e.g. pipe, outfall, spill):

No information is available at this time.

Sanitary Sewer (provide name and location of Combined Sewer Outfall ("CSO"); details regarding CSO overflows and dates):

Wastewaters from the Site were discharged to the City sewer system, which is a combined sewer system that is subject to overflows during rainfall events.

The City was issued Individual NJPDES Permit No. NJ0024724 (effective date July 1, 1986; expiration date June 30, 1991) to discharge pollutants from the combined sewer system into the Passaic River, Second River, Newark Bay, and Peripheral Ditch. The permit listed 30 CSO overflows that discharged to Newark Bay or its tributaries. Therefore, discharges from the Site were subject to combined sewer overflows from 1983 until July 1, 1986 (prior to the CSOs being permitted), as well as from July 1, 1986 until Site operations ceased. BAA000072, KLL001202

In 1995, this permit was superseded by General Permit for Combined Sewer Systems NJPDES Permit No. NJ0105023, Individual General Permit Authorization No. NJ0108758 (effective date July 1, 1995; expiration date February 28, 2000), which authorized the City to operate a combined sewer system for the collection and conveyance of wastewater and to discharge untreated wastewater in the form of combined sewer overflows from the same 30 CSO points permitted in NJ0024724. Permit No. NJ0108758 was subsequently reissued in 2000 with an effective date of February 29, 2000 and an expiration date of February 28, 2005. KLL001358, KLL037670

To alleviate persistent flooding and pollution problems in the Newark Meadows Drainage Basin, the "Peripheral Ditch" was constructed in 1965 around the Newark Airport complex by the Port Authority of New York. The Peripheral Ditch, which replaced and re-aligned sections of the Adams, Waverly, and Peddie Ditches (that drained adjoining areas), allowed runoff from the Newark Meadows Drainage Basin to be transported to the Elizabeth Channel and thence to Newark Bay. The construction of the Peripheral Ditch allowed for the replacement of several "Newark Meadows" ditches previously leading to Newark Bay, including the former Bound Creek, Peddie Canal, and Dead Creek. KLL010515

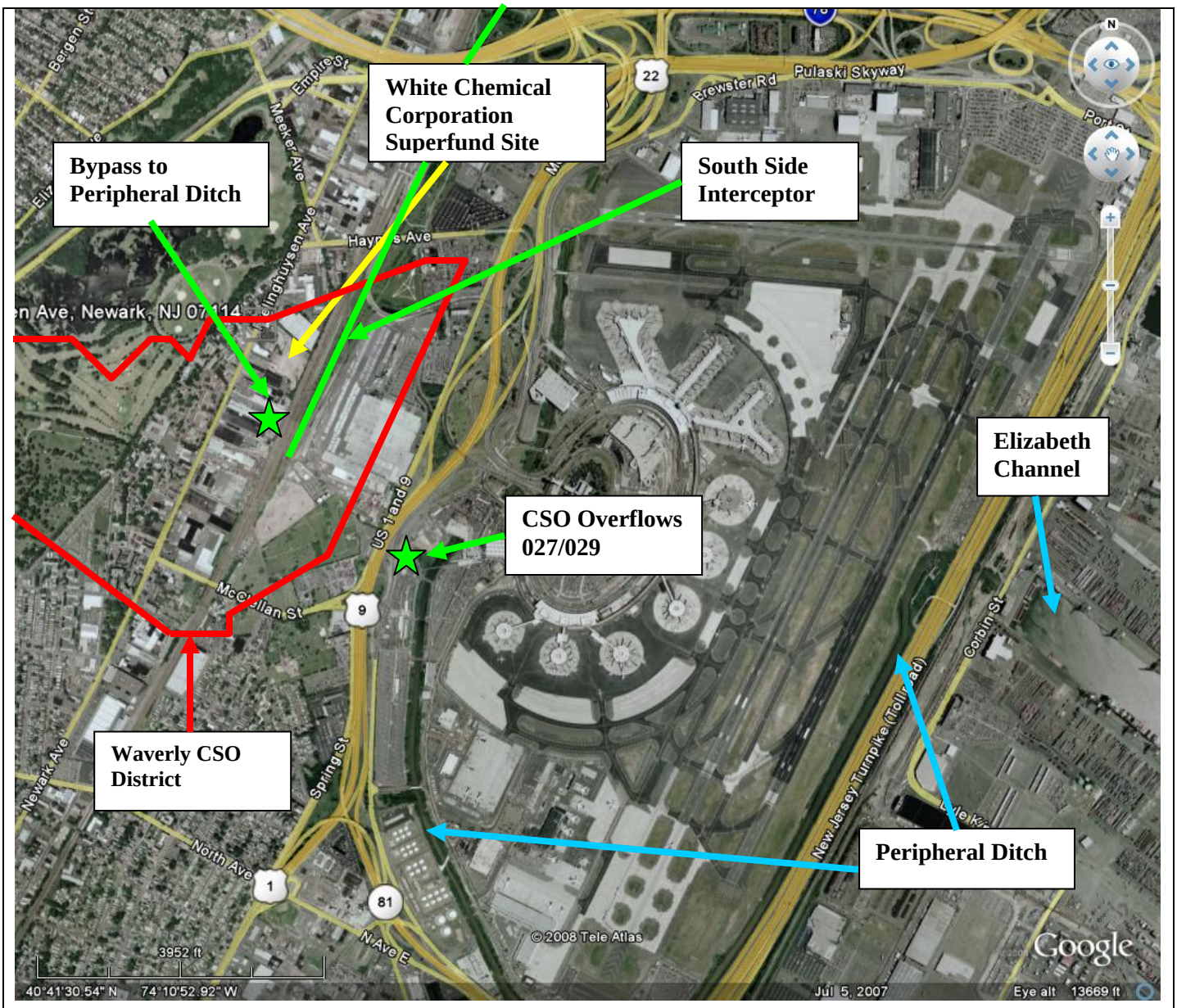
Also circa 1965, the City constructed its South Side Interceptor to convey dry weather wastewater flows to the PVSC. This interceptor measures approximately 4 miles in

length and, while built by the City, is leased and maintained by the PVSC. The three major connections to the South Side Interceptor are the Peddie, Queen, and Waverly outlets, which overflow into the Peripheral Ditch in wet weather. KLL010515

Prior to the construction of the South Side Interceptor in 1965, dry weather sewage flows from the Peddie, Queen, and Waverly districts were discharged directly from their outlets to the Peripheral Ditch, and/or previously existing Newark Meadows Ditches, which discharged to Newark Bay. A 1964 New Jersey Department of Health Engineer's Report indicated that untreated sewage flows to Newark Bay from the Waverly, Queen, and Peddie districts averaged 31.2 million gallons per day ("mgd") or 11.4 billion gallons annually. The Waverly and Queen Districts, which made up approximately 42% of this discharged waste stream, were identified as being "predominately industrial" districts. BAG000003

The Site is located within the City's Waverly CSO District, which is connected to CSO Overflows 027 (Waverly Overflow) and 029 (Waverly Secondary Overflow) that are located approximately 900 feet north of the McClellan Street Overpass on the east side of U.S. 1 and 9. KLL001202, KLL010515

The following annotated aerial photograph identifies the approximate location of the Site within the Waverly CSO District and associated CSO Overflows 027/029 in Newark, NJ:




**White Chemical Corporation**
**Including Waverly CSO District and Bypass/Overflows to Peripheral Ditch**
Newark, Essex County, New Jersey

Aerial Photograph Copyright 2008
Photo Source: Google Earth (Tele Atlas)

All annotated locations as shown are approximations

The Waverly District is located along the southern border of the City of Newark. The district drains an area of approximately 350 acres, including approximately 50 acres located in the City of Elizabeth. The Waverly District was noted in the 1975 Newark Pollution Abatement Plan to consist of primarily industrial-use properties, with 200 acres of the total 350 acres being designated as industrial use properties. The Waverly CSO District has a bypass to the Peripheral Ditch situated between Evergreen Avenue and Van Duyne Street in Newark and is located at the southern terminus of the South Side Interceptor. KLL010515

As a result of Compliance Evaluation Inspections conducted by NJDEP in 1988 and 1989, the City of Newark was issued numerous "Unacceptable" ratings for its continued discharge of untreated sewage from the Waverly Overflows (CSOs 027/029) to Newark Bay during dry weather. BAA000073, BAA000074, BAA000075

According to a 1984 NJDEP Investigative Report, "… [Building 33 & 34] floors are washed down approximately once/day and that – [the] floor drain system is part of sanitary discharge to PVSC. Approximately 2x/month material is discharged to the sanitary sewer after appropriate analysis has been conducted." BAA000008

Significant concentrations of PBBs were detected in Building 33 sump sediments (362.5 ppb) and Building 34 sump sediments (322 ppb). BAA000066, BAB000008, BAF000048

The following hazardous substances were detected in Building 34 sump sediments at the levels indicated:

- Methylene chloride up to 25,230,000 ppb
- Tetrachloroethane up to 560,000 ppb
- 1,2-Dichloroethane up to 27,460,000 ppb
- Trichloroethene up to 230,000ppb
- Ethylbenzene up to 200,000 ppb
- Xylenes up to 3,800,000 ppb
- Benzo(a)pyrene up to 2,900 ppb

BAF000048

WCC was listed as an Industrial User ("IU") in PVSC's 1984 and 1987 Pretreatment Program Annual Reports. The 1984 and 1987 reports indicated WCC had an average daily discharge flow of 0.012 mgd and 0.097 mgd, respectively.

The following hazardous substances at the levels indicated were reported in the effluent Monitoring Report (MR-2) for the period of 1/1/85 to 3/31/85:

- 1,2-Dichlorobenzene (EPA Class III Organic Chemical associated with the formation of dioxin) up to 22.8 ppb
- Polybrominated biphenyls up to 0.49 ppb
- Poly bromo biphenyl oxide up to 129 ppb
- 1,2-Dichloroethane up to 527 ppb

- 1,2-Dichloropropane up to 7.45 ppb
- Trichloroethylene up to 0.16 ppb
- 1,1,2-Trichloroethane up to 4.83 ppb
- 1,1,2,2-Tetrachloroethane up to 1.68 ppb
- Tetrachloroethylene up to 2.8 ppb
- Unidentified volatile organics up to 32.6 ppb

BAE000002

A composite wastewater effluent sample collected in December 1987 detected 1,2-dichloroethane at 885.9 ppb. BAE000009

The following hazardous substances at the levels indicated were reported in the effluent Monitoring Report (MR-2) for the period of 10/1/89 to 12/31/89:

Outlet #1 (Building 34 - brominated flame retardant manufacturing):

- 1,2-Dichlorobenzene (EPA Class III Organic Chemical associated with the formation of dioxin) up to 5.1 ppb
- Bromodichloromethane up to 9.2 ppb
- Chloroform up to 86.7 ppb
- 1,2-Dichloroethane up to 142 ppb
- Ethylbenzene up to 24.4 ppb
- Methylene chloride up to 38.3 ppb
- Toluene up to 34.3 ppb
- Xylenes up to 184 ppb

Outlet #2 (Building 33 - acid chloride and hydriodic acid manufacturing):

- Bromodichloromethane up to 8.7 ppb
- Chloroform up to 88.7 ppb
- Methylene chloride up to 170 ppb
- Xylenes up to 13.2 ppb

BAE000018

A study conducted in 1991 by the Port Authority of New York and New Jersey identified a number of pollutants in Peripheral Ditch sediments including total petroleum hydrocarbons, Aroclor PCBs, lead, polycyclic aromatic hydrocarbons, benzene, toluene, ethylbenzene, and xylene. Many of the pollutants found in Peripheral Ditch sediments are the same as those detected in WCC wastewater effluent. BAG000001, BAG000002

Sediment sampling conducted in the in the Elizabeth Channel (Core 86A) and Newark Bay (Cores 074 & 092) indicated contamination matching the hazardous substances found on-Site and discharged from the Site to the City sewer system. The following hazardous substances were detected in three core samples:

PCDDs:

- 2,3,7,8-TCDD up to 4.23 ppb
- 1,2,3,7,8-PeCDD up to 0.0082 ppb
- 1,2,3,4,7,8-HxCDD up to 0.0124 ppb

- 1,2,3,6,7,8-HxCDD up to 0.0498 ppb
- 1,2,3,7,8,9-HxCDD up to 0.0293 ppb
- 1,2,3,4,6,7,8-HpCDD up to 1.05 ppb
- OCDD up to 30.5 ppb

Total TCDD up to 4.78 ppb
Total TEQ up to 0.399 ppb

PCBs:

- Aroclor-1254 up to1,900 ppb
- Aroclor-1260 up to 733 ppb

Organochlorine Pesticides:

- 2,4-D up to 420 ppb
- gamma-BHC (Lindane) up to 10 ppb
- alpha-Chlordane up to 14.5 ppb
- gamma-Chlordane up to 7.89 ppb
- 4,4'-DDD up to 230 ppb
- 4,4'-DDE up to 1,200 ppb
- 4,4'-DDT up to 200 ppb
- Total DDT up to 1,550 ppb
- Aldrin up to 2.3 ppb
- Dieldrin up to 51.6 ppb
- Endrin up to 4.6 ppb

Organics:

- 1,2-Dichlorobenzene up to 16 ppb
- Hexachlorobenzene up to 64 ppb
- Benzo(a)anthracene up to 1,900 ppb
- Benzo(b)fluoranthene up to 1,500 ppb
- Benzo(a)pyrene up to 780 ppb

Inorganics:

- Arsenic up to 142 ppm
- Barium up to 2,930 ppm
- Beryllium up to 2.4 ppm
- Cadmium up to 90.1 ppm
- Chromium up to 2,000 ppm
- Copper up to 868 ppm
- Lead up to 1,810 ppm
- Manganese up to 482 ppm
- Mercury up to 19.1 ppm
- Thallium up to 0.52 ppm
- Zinc up to 3,450 ppm

From 1988 to 1990, WCC was issued numerous Notices of Violation from PVSC for pH noncompliances and LEL excursions. BAE000011, BAE000015, BAE000016, BAE000017, BAE000019

On May 13, 1991, PVSC filed Civil Action Complaint, Docket No. C-134-91 against WCC in the Superior Court of New Jersey, Chancery Division. In the complaint, PVSC alleged that to date WCC had consistently failed to comply with PVSC's Rules and Regulations regarding the discharge directly or indirectly of pollution to the rivers and tributaries, which PVSC has been empowered to regulate and control. PVSC demanded an Order revoking WCC's sewer connection permit. BAF000020

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

Storm sewer drains are located in the northeast portion of the Site (south of Building 33 and in the vicinity of the tank farm) and on the north side of Building 34. The storm sewer is connected to the sanitary sewer system, which is a combined sewer system that is subject to CSO overflows to Newark Bay during wet weather. BAE000028, BAF000039

The 2003 Final Remedial Investigation Report noted that NJDEP file photographs from WCC's Newark facility showed a network of hoses leading from several buildings to a storm sewer in the northeast portion of the Site and to a drainage swale (leading offsite) in the vicinity of the railroad tracks. It was reported that the storm sewer connects with a sanitary sewer that leads to a pumping station near the McClellen Street bridge and ultimately to the Passaic Valley Sewerage Treatment Plant on Newark Bay (a distance of approximately three miles). The drainage swale likely drained through the Newark Meadows Drainage Basin to the Peripheral Ditch via the Waverly Ditch. BAF000039, KLL010515

Runoff:

In 1998, the National Oceanic and Atmospheric Administration ("NOAA") reviewed several WCC remedial workplans and concluded:

> "The Site's proximity to trust resources and the likelihood of contamination by persistent and highly toxic substances suggest a strong potential threat. The most important consideration regarding the potential threat posed by the site is whether a substantial surface water pathway to Newark Bay exists. Topographic maps of the area indicate that large channels (mosquito control ditches) are present several hundred meters east of the site and these channels eventually discharge into Newark Bay."

BAA000065

It was stated in a 1990 Preliminary Assessment Report that "[d]eteriorating drums were observed leaking their contents onto the soil, and corrosives in drums were observed eroding the pallets on which the drums are stored." BAA000021

The 1990 Preliminary Assessment identified a culvert in the southern most portion of the Site that leads out to a depression along the railroad tracks. BAA000021

Storm sewer drains are located in the northeast portion of the Site (south of Building 33 and in the vicinity of the tank farm) and on the north side of Building 34. The storm sewer is connected to the sanitary sewer system, which is a combined sewer system that is subject to CSO overflows to Newark Bay during wet weather. BAE000028, BAF000039

The following hazardous substances (without limitation) were detected in on-Site soils and test pits at the levels indicated:

Polychlorinated Dibenzo-p-Dioxins ("PCDDs"):

- 2,3,7,8-TCDD up to 0.0209 ppb
- 1,2,3,7,8-PeCDD up to 0.0139 ppb
- 1,2,3,4,7,8-HxCDD up to 0.0118 ppb
- 1,2,3,6,7,8-HxCDD up to 0.00519 ppb
- 1,2,3,7,8,9-HxCDD up to 0.00451 ppb
- 1,2,3,4,6,7,8-HpCDD up to 0.788 ppb
- OCDD up to 1.840 ppb
- Dioxin up to 2.2059 ppb (sum of all dioxin using toxicity equivalent factor)
- PBBs up to 5,043 ppb (sum of all PBBs)

PCBs:

- Aroclor-1254 up to 13,000 ppb
- Aroclor-1260 up to 160 ppb

Chlorinated Herbicides:

- 2,4-Dichlorophenoxyacetic acid (2,4-D) up to 19.8 ppb (EPA Class I Pesticide Chemical associated with the formation of dioxin)

Organochlorine Pesticides:

- gamma-BHC (Lindane) up to 9,300 ppb (EPA Class II Pesticide Chemical associated with the formation of dioxin)
- alpha-BHC up to 2,800 ppb
- beta-BHC up to 6 ppb
- delta-BHC up to 1,900 ppb
- alpha-Chlordane up to 20,000 ppb
- gamma-Chlordane up to 760 ppb
- Aldrin up to 2,600 ppb
- Dieldrin up to 24,000 ppb
- 4,4'-DDD up to 18,000 ppb
- 4,4'-DDE up to 210 ppb
- 4,4'-DDT up to 1,100 ppb
- Endrin up to 520 ppb
- Heptachlor up to 840 ppb
- Heptachlor epoxide up to 94 ppb

Organics:

- Pentachlorophenol up to 110 ppb (EPA Class I Pesticide Chemical associated with the formation of dioxin)

- Hexachlorobenzene up to 560 ppb (EPA Class III Organic Chemical associated with the formation of dioxin)
- Benzene up to 17 ppb
- Ethylbenzene up to 200,000 ppb
- 1,2-Dichloroethane up to 27,460,000 ppb
- Hexachloroethane up to 35,000 ppb
- Methylene chloride up to 25,230,00 ppb
- Tetrachloroethene up to 560,000 ppb
- Trichloroethene up to 230,000 ppb
- Trichloroethane up to 1,400 ppb
- Vinyl chloride up to 600 ppb
- Xylenes up to 3,800,000 ppb
- Benzo(a)anthracene up to 3,200 ppb
- Benzo(b)fluoranthene up to 2,100 ppb
- Benzo(a)pyrene up to 2,900 ppb

Inorganics:

- Antimony up to 446 ppm
- Arsenic up to 17.7 ppm
- Barium up to 260 ppm
- Beryllium up to 1.4 ppm
- Chromium up to 270 ppm
- Copper up to 39,900 ppm
- Lead up to 3,090 ppm
- Mercury up to 104 ppm
- Thallium up to 8.4 ppm
- Zinc up to 5,490 ppm

BAA000067, BAA000068, BAF000039, BAF000048

Dioxins and PBBs were detected in all surficial soil samples that were collected. The highest concentrations of dioxins (2.2059 ppb) and PBBs (5,043 ppb) were detected in the same soil sample collected near the northeast corner of the maintenance shop. Significant concentrations of PBBs were also detected in other areas of the Site: the Tank Storage Area (4,131 ppb and 1,060ppb); Building 33 (2,839 ppb and 1,136 ppb); the Maintenance Shop (2,242 ppb); and Building 35 (2,168 ppb). BAA000066, BAB000008, BAF000048

Groundwater:

The Site is located approximately 3,000 feet west of the Peripheral Ditch that surrounds most of Newark airport and discharges, via the Elizabeth Channel, into Newark Bay, which is located approximately three miles east of the Site. BAA000021, BAF000039

In 1998, NOAA reviewed several WCC remedial workplans and concluded:

> "The Site's proximity to trust resources and the likelihood of contamination by persistent and highly toxic substances suggest a strong potential threat…. Groundwater is…assumed to discharge to Newark Bay or to the mosquito

ditches surrounding Newark International Airport located in proximity to the Bay."

BAA000065

The following hazardous substances (without limitation) were detected in on-Site groundwater at the levels indicated:

Dioxins: Not analyzed

PBBs: up to 0.025 ppb

PCBs:

- Aroclor-1260 up to 0.29 ppb

Herbicides: Not analyzed

Pesticides:

- Aldrin up to 0.024 ppb
- alpha-Chlordane up to 0.0037 ppb
- gamma-Chlordane up to 0.0089 ppb
- 4,4'-DDD up to 0.012 ppb
- 4,4'-DDE up to 0.0019 ppb
- Dieldrin up to 0.0036 ppb

Organics:

- 1,2-Dichloroethane up to 260,000 ppb
- 1,2-Dichloroethene up to 660 ppb
- Methylene chloride up to 100 ppb
- Tetrachloroethene up to 670 ppb
- Trichloroethene up to 2,400 ppb
- Vinyl chloride up to 4 ppb
- 2,4-Dimethylphenol up to 15 ppb
- 2,2'-oxybis(1-Chloropropane) up to 86 ppb

Inorganics:

- Arsenic up to 0.0055 ppm
- Barium up to 0.647 ppm
- Chromium up to 0.0679 ppm
- Copper up to 0.182 ppm
- Lead up to 0.790 ppm
- Manganese up to 23.6 ppm
- Mercury below detection limit of 0.0001 ppm
- Zinc up to 0.074 ppm

BAA000067, BAA000068, BAF000039

**POTENTIAL NEXUS TO NEWARK BAY STUDY AREA** (describe in detail; cite to supporting documentation; list CERCLA hazardous substances; and volume, if known):

Direct (e.g. pipe, outfall, spill):

No additional information is available at this time.

Sanitary Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

No additional information is available at this time.

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

Storm sewer drains are located in the northeast portion of the Site (south of Building 33 and in the vicinity of the tank farm) and on the north side of Building 34. The storm sewer is connected to the sanitary sewer system, which is a CSS that is subject to CSO overflows to Newark Bay during wet weather. BAE000028, BAF000039

Runoff:

No additional information is available at this time. As previously discussed above, soil contamination exceeding NJDEP action levels have been detected on Site.

Groundwater:

No additional information is available at this time. As previously discussed above, groundwater contamination exceeding NJDEP action levels have been detected on Site.

## REFERENCES

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 1 | BAA000001 | 1992 | Article: "White Chemical Co. owner jailed for hazardous on-site conditions" |
| 2 | BAA000008 | 10/04/84 | NJDEP Notices of Violation and Investigative Report |
| 3 | BAA000012 | 06/15/90 | Letter from NJDEP to White Chemical Corp. transmitting Supplemental Directive #1 and Notice to Insurer |
| 4 | BAA000014 | 07/18/90 | Letter from NJDEP to AZS Corp. transmitting Supplemental Directive #2 and Notice to Insurer |
| 5 | BAA000016 | 08/24/90 | Letter from NJDEP to EPA Re: Removal Request – White Chemical |
| 6 | BAA000019 | 09/26/90 | EPA Internal Memo Re: Action Approval at the White Chemical Company Site |
| 7 | BAA000021 | 12/27/90 | *Final Draft Preliminary A`1ssessment Report, Volume 1 of 2*, prepared by NUS Corp. (incomplete) |

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 8 | BAA000035 | Undated | NJDEP Internal Memo transmitting the 3/17/92 Superfund State Contracts |
| 9 | BAA000047 | 06/01/92 | NJDEP letter transmitting Directive and Notice to Insurers |
| 10 | BAA000051 | 06/1993 | Letter from EPA to Edwards & Angell Re: Certification of Completion of Work Required by Administrative Order Index No. II-CERCLA-20103 |
| 11 | BAA000054 | 06/05/92 | Star-Ledger newspaper article re: 3 firms ante up share of the bill to cleanse toxic site in Newark |
| 12 | BAA000057 | 09/11/95 | Site Information Summary |
| 13 | BAA000065 | 06/02/98 | Memo from NOAA to Acting BTAG Coordinator Re: WCC Superfund Site |
| 14 | BAA000066 | 02/07/01 | Letter from NJDEP to USEPA Re: NJDEP Comments on Draft Remedial Investigation Report dated October 2000 |
| 15 | BAA000067 | 04/2003 | *Final Remedial Investigation Report, Volume II of III* prepared by Malcolm Pirnie |
| 16 | BAA000068 | 04/2003 | *Final Remedial Investigation Report, Volume III of III* prepared by Malcolm Pirnie |
| 17 | BAA000072 | 05/16/86 | Letter from NJDEP to City of Newark Transmitting NJPDES Permit No. NJ0024724 [same as BAB000004 from 2/2007 City of Newark POTW Excerpts] |
| 18 | BAA000073 | 10/26/88 | Letter from NJDEP to City of Newark Re: 10/4/88 Compliance Evaluation Inspection |
| 19 | BAA000074 | 04/19/89 | Letter from NJDEP to City of Newark Re: 3/29/89 Compliance Evaluation Inspection |
| 20 | BAA000075 | 11/01/89 | Letter from NJDEP to City of Newark Re: 10/25/89 Compliance Evaluation Inspection |
| 21 | BAB000002 | 09/25/91 | White Chemical Corporation – NPL Listing History |
| 22 | BAB000008 | 08/2005 | USEPA, Region 2 Superfund Program Proposed Plan, White Chemical Corporation Site |
| 23 | BAB000009 | 09/29/05 | EPA Superfund - Record of Decision: White Chemical Corp. EPA ID: NJD980755623 |
| 24 | BAB000010 | 08/2007 | *Third Five-Year Review Report White Chemical Superfund Site* prepared by USEPA, Region 2 |
| 25 | BAB000017 | 02/25/99 | Federal Register: February 25, 1999, Vol. 64, Number 37, Pg. 9349: Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 |
| 26 | BAC000001 | 2007 | SEC Form 10-K for Monsanto for the fiscal year ended August 31, 2007 |
| 27 | BAC000002 | 2007 | Monsanto 2007 Annual Report (excerpts) |
| 28 | BAC000003 | 04/17/08 | PPG News: PPG's first quarter sales increase 41 percent, setting all-time record, www.ppg.com |
| 29 | BAC000004 | 06/13/08 | Bayer CropScience Milestones, www.bayercropscience.com |

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 30 | BAC000005 | 06/13/08 | Bayer CropScience Key Figures for 2007, www.bayercropscience.com |
| 31 | BAC000006 | 06/13/08 | Bayer CropScience Leadership for Success, www.bayercropscience.com |
| 32 | BAC000007 | 06/13/08 | About Bayer CropScience US, www.bayercropscience.com |
| 33 | BAC000008 | 06/13/08 | Bayer CropScience – Head of Crop Protection North America, www.bayercropscience.com |
| 34 | BAC000009 | 06/13/08 | Clemson University Pesticide Information Program, Links to Individual Pesticide Company Web Sites, www.entweb.clemson.edu |
| 35 | BAC000013 | 09/25/08 | Dun & Bradstreet Report for Central Services Corp of Metropolitan New Jersey |
| 36 | BAC000014 | 12/05/08 | Union Carbide Corporation History, www.unioncarbide.com |
| 37 | BAC000015 | 12/05/08 | Union Carbide: Information from Answers.com |
| 38 | BAC000016 | 09/25/08 | NJ Business Entity Status Report for Central Services Corporation of Metropolitan New Jersey |
| 39 | BAC000017 | 12/08/08 | Chemical Register for D&O Chemicals, Inc., www.chemicalregister.com |
| 40 | BAC000018 | 12/08/08 | Hummel Croton Home Page & Contacts, www.hummelcroton.com |
| 41 | BAC000019 | 12/08/08 | Maybrook Inc Company Profile, www.manta.com |
| 42 | BAC000020 | 12/08/08 | Hoover's Report for Hexagon Enterprises, www.premium.hoovers.com |
| 43 | BAC000021 | 12/08/08 | Hoover's Report for Inolex Chemical Company, www.premium.hoovers.com |
| 44 | BAC000022 | 12/04/08 | Rhone-Poulenc Ag Co. – Company Profile, www.biospace.com |
| 45 | BAC000023 | 12/03/08 | Fluoride Action Network Pesticide Project, www.fluoridealert.org |
| 46 | BAC000024 | 01/25/96 | Article: "Growth at AgrEvo. (company's biotech joint venture with Schering AG focuses on herbicide market)(Hoechst)," www.highbeam.com |
| 47 | BAC000025 | 06/26/96 | Article: "Rhone-Poulenc to Expand Production at Nashville Plant," www.highbeam.com |
| 48 | BAC000026 | 05/17/99 | Rhone-Poulenc and Hoechst Agree to Accelerate Full Merger with New Timetable, www.prnewswire.com |
| 49 | BAC000027 | 06/03/59 | Article: "Vice President Named By Union Carbide Corp.," The New York Times |
| 50 | BAC000028 | 10/31/65 | Classified Ad for Union Carbide Corporation, Linde Division, The New York Times |
| 51 | BAC000029 | 03/08/68 | Article: "New Center Begun By Union Carbide, " The New York Times |
| 52 | BAC000030 | 01/20/09 | NJ State Business Gateway Service Report for White Chemical |
| 53 | BAD000002 | 1949 | Industrial Directory of New Jersey |

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 54 | BAD000003 | 1972 | Newark Directory of Business |
| 55 | BAD000004 | 1977 | New Jersey State Industrial Directory |
| 56 | BAD000005 | 1982 | New Jersey State Industrial Directory |
| 57 | BAE000002 | 04/22/85 | PVSC Handwritten Wastewater Discharge Analytical Result for 1/1/85 – 3/31/85 |
| 58 | BAE000007 | 06/17/88 | Letter from White Chemical to PVSC Re: Proposed Water Meters and Current Sampling Points |
| 59 | BAE000009 | 01/29/88 | PVSC Application for a Sewer Connection Permit |
| 60 | BAE000011 | 07/15/88 | Letter from PVSC to White Chemical Re: Notice of Violation Date 7/5/88 |
| 61 | BAE000012 | 07/25/88 | Passaic Valley Sewerage Commissioners Application For a Sewer Connection Permit for White Chemical Corporation, permit number # 21404463 |
| 62 | BAE000013 | 07/25/88 | Passaic Valley Sewerage Commissioners Application For a Sewer Connection Permit for White Chemical Corporation, permit number # 21404463 (Void Copy) |
| 63 | BAE000015 | 04/25/89 | Letter from PVSC to White Chemical Re: Notice of Violation Date 3/28/89 |
| 64 | BAE000016 | 04/25/89 | Letter from PVSC to White Chemical Re: Notice of Violation Date 2/1/89 |
| 65 | BAE000017 | 05/31/89 | Letter from PVSC to White Chemical Re: Notice of Violation Date 5/11/89 |
| 66 | BAE000018 | 01/29/90 | PVSC Handwritten Wastewater Discharge Analytical Result for 10/1/89 – 12/31/89 |
| 67 | BAE000019 | 04/17/90 | Letter from PVSC to White Chemical Re: Notice of Violation Date 3/21/90 |
| 68 | BAE000026 | 11/29/90 | PVSC File Memorandum Re: Telecom with James White |
| 69 | BAE000028 | 12/20/90 | Letter from EPA to PVSC Re: Recent Site Visit |
| 70 | BAE000032 | Undated | Drawing Showing Process Water Discharge Points at the White Chemical Site |
| 71 | BAF000004 | 03/15/90 | *In the Matter of White Chemical Corp.*, NJDEP Administrative Order and Notice of Civil Administrative Penalty Assessment |
| 72 | BAF000008 | 09/28/90 | *In the Matter of White Chemical Corp.*, EPA Administrative Order Directing Compliance With Request For Access, Index No. II-CERCLA-00117 |
| 73 | BAF000014 | 01/25/91 | Letter from EPA to Rhone-Poulenc Re: Transfer of Product |
| 74 | BAF000020 | 05/13/91 | *PVSC v. White Chemical Corp.*, Civil Action Complaint, Docket No. C-134-91, Superior Court of New Jersey, Chancery Division: Essex County |
| 75 | BAF000026 | 10/16/91 | White Chemical Site Inventory of Drum Containers |
| 76 | BAF000027 | 01/03/92 | EPA Internal Memo Re: Hazardous Substances Tolled at White Chemical Corporation |
| 77 | BAF000028 | 01/08 92 | EPA Internal Memo Re: Analytical Evidence for the Existence of Waste Products, White Chemical Corp. |

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 78 | BAF000031 | 04/01/92 | Letter from EPA to Respondents transmitting 3/31/92 Administrative Order, Index No. II-CERCLA-20103 |
| 79 | BAF000035 | 09/02/92 | Letter from EPA to Whitman & Ransom Re: Court Order Vacating In Rem Tax Foreclosure Judgment |
| 80 | BAF000039 | 04/2003 | *Final Remedial Investigation Report, Volume I of III* prepared by Malcolm Pirnie |
| 81 | BAF000042 | 04/03/97 | *U.S. v. Monsanto ,et al*., Consent Decree, Civil Action No. 97-110 |
| 82 | BAF000044 | 02/01/99 | *U.S. v. AZS Corp., et al*., Notice of Lodging on Consent Decree, Civil Action No. 99-464 (DRD) |
| 83 | BAF000046 | 02/01/99 | *U.S. v. AZS Corp., et al*., Complaint, Civil Action No. 99-464 (DRD) |
| 84 | BAF000047 | 02/01/99 | *U.S. v. AZS Corp., et al*., Consent Decree |
| 85 | BAF000048 | 04/30/98 | Memo from Roy R. Weston, Inc. to EPA Re: Site Assessment Summary Letter Report (incomplete) |
| 86 | BAG000001 | 10/1991 | *Summary Report of Environment Assessment and Treatability Program for Peripheral Ditch Sediments at Newark International Airport, Att. 1, Vol. 1, Analytical Laboratory Data Reports* prepared by Roy F. Weston (raw data-cover pages only) |
| 87 | BAG000002 | 06/1995 | *Identification & Classification of the Tributary Discharges to Peripheral Ditch* prepared by Killiam Associates (excerpts) |
| 88 | BAG000003 | 09/09/64 | *Examining Engineer's Report*, NJ Dept. of Health Stream Pollution Control Program |
| 89 | BBB000058 | 11/14/07 | Polybrominated Diphenyl Ethers, ww.wikipedia.org |
| 90 | BBB000059 | 01/2007 | *Investigation into levels of dioxins, furans, polychlorinated biphenyls and brominated flame retardants in fishery produce in Ireland*, January 2007, Tlustos, et al; Marine Environment and Health Series, No. 26, 2006 |
| 91 | BBB000060 | 2003 | *Polybrominated Diphenyl Ethers (PBDEs) in Foodstuffs: Human Exposure through the Diet*; J. Agric. Food Chem. 2003, 51, 3191-3195 |
| 92 | KLL001202 | 02/1996 | *City of Newark, NJPDES General Permit No. NJ0105023 for Combined Sewer Systems, Sewer System Inventory and Assessment Report* prepared by Killam Associates (excerpts) |
| 93 | KLL001358 | 06/30/95 | Letter from NJDEP to Division of Sewers & Water Supply re: NJ Pollutant Discharge Elimination System Individual NJDPES/DSW General Permit Authorization |
| 94 | KLL010515 | 1975 | *Newark Pollution Abatement Plan* prepared by Purcell Associates |
| 95 | KLL025765 | 09/27/84 | PVSC Pretreatment Program Annual Report No. 1 (excerpts) |

| TAB NO. | BATES NO. | DATE | DESCRIPTION |
|---|---|---|---|
| 96 | KLL037670 | 02/28/00 | NJDEP- NJ Pollutant Discharge Elimination System – Permit Number NJ0108758 |
| 97 | KLL038645 | 09/18/87 | PVSC Pretreatment Program Annual Report No. 4 (excerpts) |

# White Chemical Co. owner jailed for hazardous on-site conditions

By DIANE CURCIO WALSH

The owner of the bankrupt White Chemical Co., who illegally stored thousands of seeping drums of toxic chemicals on the plant site in Newark, was sentenced yesterday to 364 days in the county jail, ordered to perform 2,000 hours of community service and fined $500.

Superior Court Judge Richard Newman imposed the sentence upon 66-year-old James White of Union City. The county jail sentence is a condition of the five year probationary term White also must complete as part of his penalty.

The sentence is in accordance with the plea bargain negotiated between White's attorney Joseph Hayden and state Environmental Prosecutor Stephen Madonna.

Madonna initiated the investigation of the 4.4 acre site on Frelinghuysen Avenue in 1990. State investigators found more than 11,000 drums of hazardous materials strewn about the property. Conditions at the site were so dangerous that federal officials issued a public health advisory.

Consequently, the site was placed on the national superfund list of toxic waste sites and the federal Environmental Protection Agency (EPA) has been overseeing the $22 million cleanup operation.

Richard Cahill, a regional director of the EPA, said yesterday his staff has completed the testing of the drums' contents and are now readying them for shipment to disposal facilities.

Madonna said White's sentence shows his office is carrying out its pledge to seek prison terms for polluters when appropriate. The prosecutor said yesterday's action was an "ideal resolution" to the case.

He also hopes that White's community service is environmentally oriented.

During the hearing before Judge Newman, Hayden maintained White's role amounted to "passive conduct."

The defense attorney argued his client's crime was mitigated by the "economic duress he was under." Hayden said White was trying to "keep the company open, not layoff employees and deal with the overall management problems."

He contended White did not have the money to properly dispose of the drums as established by federal and state guidelines. "There was no midnight dumping or offsite dumping here . . . He just did not send the drums to the Hazardous Waste Storage facilities," said Hayden.

When state investigators raided the site in 1990 they found many of the drums were seeping. The company manufactured acid chlorides and flame-retardant compounds.

Madonna said his office investigated White's finances to determine whether he could assist in the cleanup operation but the state officials are certain the plant operator had no funds available. Under terms of the plea bargain, however, White agreed to cooperate with the state's civil efforts to recoup money for the toxic cleanup.

1992

FREE

Form D[illegible]
2/84

NEW J[illegible]EY DEPARTMENT OF ENVIRONMENTAL PROT
DIVISION OF WASTE MANAGEMENT
1259 ROUTE 46
PARSIPPANY, N.J. 07054

# NOTICE OF VIOLATION

EPA
ID NO. NJD980755623 DATE 10-4-84

NAME OF FACILITY White Chemical Co.

LOCATION OF FACILITY 660 Frelinghuysen Ave. - Newark

NAME OF OPERATOR Mr. Shapiro - Plant Manager

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION (3) NJAC 7:26-9.4(d)4iv No segregation between hazardous waste and product storage

Remedial action to correct these violations must be initiated immediately and be completed by immediately. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

Linda Zannells
*Investigator, Division of Waste Management*
*Department of Environmental Protection*

BAA000008

Form DWM-0[illegible]
2/84

NEW J[illegible]EY DEPARTMENT OF ENVIRONMENTAL PROT[illegible]ION
DIVISION OF WASTE MANAGEMENT
1259 ROUTE 46
PARSIPPANY, N.J. 07054

# NOTICE OF VIOLATION

EPA ID NO. NJD980755623 DATE 10-4-84

NAME OF FACILITY White Chemical Co.

LOCATION OF FACILITY 660 Frelinghuysen Ave. - Newark

NAME OF OPERATOR Mr. Shapsis - Plant Manager

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION (1) NJAC. 7:26-7.2(a) - Failing to properly label a hazardous waste container. (73 drums of hazardous waste with no labels).

(2) N.J.A.C. 7:26-12.1 - Storing waste > 90 days (3 drums noted; accumulation start date 11-8-83).

Remedial action to correct these violations must be initiated immediately and be completed by immediately. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the investigator issuing this notice at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

Linda Zanelli
*Investigator, Division of Waste Management*
*Department of Environmental Protection*

STATE OF NEW JERSEY - DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT - BUREAU OF COMPLIANCE & ENFORCEMENT 07-14-83

NJ ID _____ EPA ID N J D 9 8 0 7 6 5 6 2 3

**VIOLATOR INFORMATION**

NAME White Chemical Corporation
ADDRESS 660 Frelinghuysen Avenue Newark NJ 07114

VIOLATION DATE 10/04/84

**LOCATION OF VIOLATION**

BLOCK _____ LOT _____
OTHER _____ C/M 0714

DATE (FOLLOW UP EVAL.) 11/26/84

| ALL TYPE EVAL. | | HAZ. WASTE ONLY TYPE INSP. | | TYPE RECORD REV. | | REQUESTING AGENCY | | | |
|---|---|---|---|---|---|---|---|---|---|
| X | EVAL. INSP. | X | GEN | | CLOSURE PLAN | X | BFO | | EPA |
| | SAMP. INSP. | | TRANS | | FINAN. DOC. | | SWE | | R&P |
| | SPEC. INSP. | | TSD | | GWM REPORT | | HWE | | DWR |
| | FOLLOW-UP | | GWM | | ANNUAL REPORT | | C&M | | HSMA |
| | RECORD REV | | | | OTHER: _____ | | ECRA | | |

**ENFORCEMENT ACTION** (DWM ACTION NO. HW 00627)

| | | | | | |
|---|---|---|---|---|---|
| | SOLID WASTE | | DL | ACTION DATE: | 02/27/85 |
| X | HAZ. WASTE | X | NOV | COMP. DATE: | |
| | SPILL FUND | | AO | SCHED: | __/__/__ |
| | | | ACO | ACTUAL: | 03/13/85 |
| X | NEW | | CIV A | PENALTY: | |
| | AMEND | X | PSO | ASSESSED: | $ 500 |
| | RESCIND | | | COLLECTED: | $ _____ |

**VIOLATIONS (ALL)**

| REG | CLASS | REG | CLASS |
|---|---|---|---|
| 7.2(a) | I | | |
| 9.3(b) | II | | |
| 9.4(d)4iv | I | | |
| 9.4(d)4v | I | | |
| 12.1(a) | I | | |

**REFERRALS**

| | | | |
|---|---|---|---|
| X | ORS | | |
| | LAW (AG) | | |
| X | CJ | | |
| X | DWR | | |
| X | HWE | | |
| | HSMA | | |

**REQUESTED ACTION**

| | |
|---|---|
| X | REVIEW |
| | INJ. RELIEF |
| | PENALTY COLL. |
| | _____ |

DATE OF REQUEST TO CJ 02/08/85

**REFERRAL RESPONSE**

| | | | |
|---|---|---|---|
| | ORS | | HOLD |
| | LAW (AG) | | RELEASE |
| | CJ | | _____ |
| | DWR | | _____ |
| | HWE | | _____ |
| | HSMA | | |

DATE OF RESP. __/__/__

**VIOL. SUM. (HW ONLY)**

| CLASS | HP | I | II |
|---|---|---|---|
| GWM | | | |
| C/PL | | | |
| FR | | | |
| Pt.B | | | |
| CS | | | |
| MAN | | | 1 |
| OTHER | | 4 | |

COMMENTS: _____

COORDINATOR: BG DATE: __/__/__ SUPERVISOR: _____ DATE: __/__/__

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT - BUREAU OF COMPLIANCE & ENFORCEMENT 07-14-83

N.J. ID _____ EPA ID N J D 9 8 0 7 6 5 6 2 3

**VIOLATOR INFORMATION**

NAME WHITE CHEMICAL CORPORATION
ADDRESS 660 FRELINGHUYSEN AVENUE NEWARK NJ 07114

**LOCATION OF VIOLATION**

BLOCK _____ LOT _____
OTHER _____ C/M 07114

VIOLATION DATE 10/04/84
DATE (FOLLOW UP EVAL.) 11/26/84

**ALL TYPE EVAL.**

- [X] EVAL. INSP.
- [ ] SAMP. INSP.
- [ ] SPEC. INSP.
- [ ] FOLLOW-UP
- [ ] RECORD REV

**HAZ. WASTE ONLY**

**TYPE INSP.**

- [X] GEN
- [ ] TRANS
- [ ] TSD
- [ ] GWM

**TYPE RECORD REV.**

- [ ] CLOSURE PLAN
- [ ] FINAN. DOC.
- [ ] GWM REPORT
- [ ] ANNUAL REPORT
- [ ] OTHER: _____

**REQUESTING AGENCY**

- [X] BPO
- [ ] SWE
- [ ] HWE
- [ ] C&M
- [ ] ECRA
- [ ] EPA
- [ ] R&P
- [ ] DWR
- [ ] HSMA
- [ ] _____

**ENFORCEMENT ACTION** (DWM ACTION NO. HW 00627)

- [ ] SOLID WASTE
- [X] HAZ. WASTE
- [ ] SPILL FUND

- [X] NEW
- [ ] AMEND
- [ ] RESCIND

- [ ] DL
- [X] NOV
- [ ] AO
- [ ] ACO
- [ ] CIV A
- [X] PSO
- [ ] _____

ACTION DATE: 02/27/85
COMP. DATE:
SCHED: __/__/__
ACTUAL: 03/13/85
PENALTY:
ASSESSED: $ 500
COLLECTED: $ 500 3/19/85

**VIOLATIONS (ALL)**

| REG | CLASS | REG | CLASS |
|---|---|---|---|
| 7.2(a) | II | | |
| 9.3(b) | II | | |
| 9.4(d)4iv | I | | |
| 9.4(d)4v | I | | |
| 12.1(a) | I | | |

**REFERRALS**

- [X] ORS
- [ ] LAW (AG)
- [X] CJ
- [X] DWR
- [X] HWE
- [ ] HSMA

**REQUESTED ACTION**

- [X] REVIEW
- [ ] INJ. RELIEF
- [ ] PENALTY COLL.

DATE OF REQUEST TO CJ 03/08/85

**REFERRAL RESPONSE**

- [ ] ORS
- [ ] LAW (AG)
- [ ] CJ
- [ ] DWR
- [ ] HWE
- [ ] HSMA

- [ ] HOLD
- [ ] RELEASE

DATE OF RESP. __/__/__

**VIOL. SUM. (HW ONLY)**

| CLASS | HP | I | II |
|---|---|---|---|
| GWM | | | |
| C/PL | | | |
| FR | | | |
| Pt.B | | | |
| CS | | | |
| MAN | | | 1 |
| OTHER | | 4 | $ |

COMMENTS: _____

COORDINATOR: BG DATE: __/__/__ SUPERVISOR: _____ DATE: __/__/__

DIVISION OF WASTE MANAGEMENT
BUREAU OF FIELD OPERATIONS

INVESTIGATIVE REPORT

Inspector: L. Zaninelli Date: 10-4-84 Time: 0930 hours DWM Incident Report #: 07-14-38

Company Name: White Chemical Corp. Telephone: (201) 621-4100

Street: 660 Frelinghuysen Ave. Property Owner:

Town: Newark Address:

County: Essex

Lot: Block:

Type Ownership:

Investigative Findings:

Complaint: Facility moved from Bayonne to Newark; check activities, etc.

On 10-4-84 at approximately 0930 hours, the writer arrived at the above-noted site. I met with Steve Shopsis, Plant Manager, and operations were discussed. It must be noted that White Chemical Corporation (WCC) is registered as a generator with EPA ID # NJD980755623.

According to facility representative, WCC moved from Bayonne to Newark around July of 1983, and manufacturing operations began January of 1984. The property is

Incident Report #: 07-14-38 thru Fred Sickels  Page 2 of 9

Subject: Investigation  Date: 10-9-84

Findings and Summary:

leased from Lancaster Chemical, who used to manufacture chemicals on the site, and who also conduct operations in Georgia and Florida. Approximately seventy-five people are employed by WCC, and the site is located off of Fretinghuysen Ave. behind Central Services Corporation of Metropolitan (see attached map) The following processes are conducted on-site, as well as resultant wastes generated from same:

① Acid Chloride Manufacturing

Organic acids (pivalic, steric, lauric, caprilic, and acetic) are reacted with phosphorous trichlorides through distillation. One high vacuum and two fractionating stills are located on-site. Resultant material is an acid chloride layer and a phosphorous acid layer (products)

Most still bottoms are converted back into acid by hydrolosis with water. Those that can not be converted back are deemed a waste. In addition off-spec fatty acid layers are

Findings and Summary:

also treated as waste. Product is distributed via common carrier in drum and bulk-farm

(2) Brominated Flame Retardent - 15,000 lbs. / batch

Diphenyloxide is brominated in a solvent with a reactor ; ethylene dichloride. There is one reactor on-site, as well as an additional reactor to filter material from and for storage. The by-product from this operation is HCl which is sold as a product. The actual product is called decabrodiphenyl oxide (TBNO). This material is distributed, mainly via common carrier mostly in drums to customers such as American Hoechst, and Collins + Akman located in southern United States. Wastes generated are still bottoms (looking into reclaiming further) + off-site TBNO

According to facility representative, the brominated flame retardent and acid chloride manufacturing processes are both conducted on a 50 to 50 ratio as per production rates. However, occasionally (approximately 2x/year) specialty chemicals are also produced

(3) Specialty Chemicals

Incident Report #: 07-14-38 thru Fred Sickels

Page 4 of 9

Subject: - Investigation -

Date: 10-9-84

Findings and Summary:

The most predominant specialty chemical manufactured on-site is hydriodic acid. Process includes the mixing of water and phosphorous and the addition of iodine. Material is distilled and product (hydriodic acid) is produced. Wastes generated from this process include unrecoverable still bottoms (2-3 drums / batch)

I questioned Mr. Shapsis on alkyd bromide manufacturing which was conducted at the Bayonne site, and was informed that this operation is not anticipated to be conducted in the near future at the Newark site. In addition a 5½ day/24 hour operation is conducted.

Manifest Check:

The following shipments of waste have been sent off-site from the Newark location.

| Shipment Date | Manifest # | Material | |
|---|---|---|---|
| 3/1/84 | NJ 0065262 | corrosive still bottoms | D001 72 drums |
| 3/27/84 | NJ 0065263 | ethylene dichloride bottoms | 28 drums |
| 5/8/84 | NJ 0065264 | " | 40 drums K019 |

Incident Report #: 07-14-0 thru Fred Sickels Page 5 of 9

Subject: - Investigation - Dates: 10-9-84

Findings and Summary:

8/1/84 NJ 0028592 Ethylene dichloride - K019
-distillate residues-

8/30/84 NJ 0028590 corrosive liquid - D001
80 drums

All manifests were found to be in order.
I then questioned Mr. Shapsis as to if there was any waste at the old WCC site in Bayonne, and I was informed that all waste was shipped off site for disposal. In addition, Exhaustive soil sampling had been done, and WCC is waiting for results from Stablex. At this time WCC is in negotiations with ECRA over Bayonne site

We then proceeded with a tour of the site.

Site Inspection (see attached map)
Outside of Building #35 office was several hundred drums which I was informed contained either product or intermediate material from acid chloride production.

I then toured Bulding #33 - acid chloride. Several

Subject: - Investigation - Date: 10-14-84

Findings and Summary:

floor drains were observed, and I was informed that floors are washed down approximately once/day and that - floor drain system is part of sanitary discharge to PVSC. Approximately 2x/month material is discharged to the sanitary sewer after appropriate analysis has been conducted

Mr. Shapsis then pointed out contents of various tanks (pivalic, lauric, caprilic acids, bromine, or HCl) or if tank is not being used by the facility. We walked toward the northern portion of the site (entrance) and several thousand drums could be observed stored on asphalt and for the most part palletized. According to plant representatives, the majority of these drums contained HCl product generated from the brominated flame retardent manufacturing operations, as also indicated on stenciled labels. I was told that this material is sold to U.S. Steel (approximately 20,000 gallons per week) in bulk. Another buyer is Madison Industries, as well as several other customers. Also noted stored in this area was phosphoric and and chlorine, as well as old equipment

Findings and Summary:

including tanks and parts.

~~Here~~ Building #34: brominated flame retardent manufacturing - was then toured. Operations and housekeeping appeared to be conducted satisfactorily.

We then toured the rear of the plant (east) where several hundred drums were noted mainly of either raw materials (chlorine gas cylinders, bromine in a solution, phosphoric acid, diphenyloxide, ethylene dichloride) or product (TENO + HCl). ~~NO~~ leaks or spills were observed, and containment was mainly on ~~asphalt~~ asphalt with pallets.

Mr. Shapsis indicated that this was also his drum storage area for hazardous waste, and pointed at one aisle containing seventy-three drums. He stated that out of these, fifty-five contain waste ethylene dichloride (EDC) bottoms, and eighteen contained waste fatty acid layers. Although drums were stenciled with contents (for the most part), there were no hazardous waste labels on them and they were stored right in

Incident Report #: 07-14-38 thru Fred Sickels

Page 8 of 9

Subject: -Investigation-

Date: 10-14-84

Findings and Summary:

with the raw material and product with no segregation. Field NOV's were issued pursuant to N.J.A.C. 7:26-7.2(a) + 9.4(d)4iv. In addition, while checking drums in this area, three drums were observed (and not in hazardous waste row) with hazardous waste labels and an accumulation start date of 11/8/83. Also manifest # NJ0065262 was on label. According to Mr. Shopsis, they must have forgotten to take these drums with that shipment of corrosive still bottoms. A field NOV was issued pursuant to N.J.A.C. 7:26-12.1, and I directed him to segregate the hazardous waste drum storage area from the other drums and to place hazardous waste labels on drums immediately. He indicated that he had made arrangements for their disposal for the following week. (S+W waste)

Beyond this area to the south more drums were observed containing product/intermediate material, as well as old equipment and several hundred empty drums.

Incident Report #: 07-14-38 thru Fred Suckers Page 9 of 9

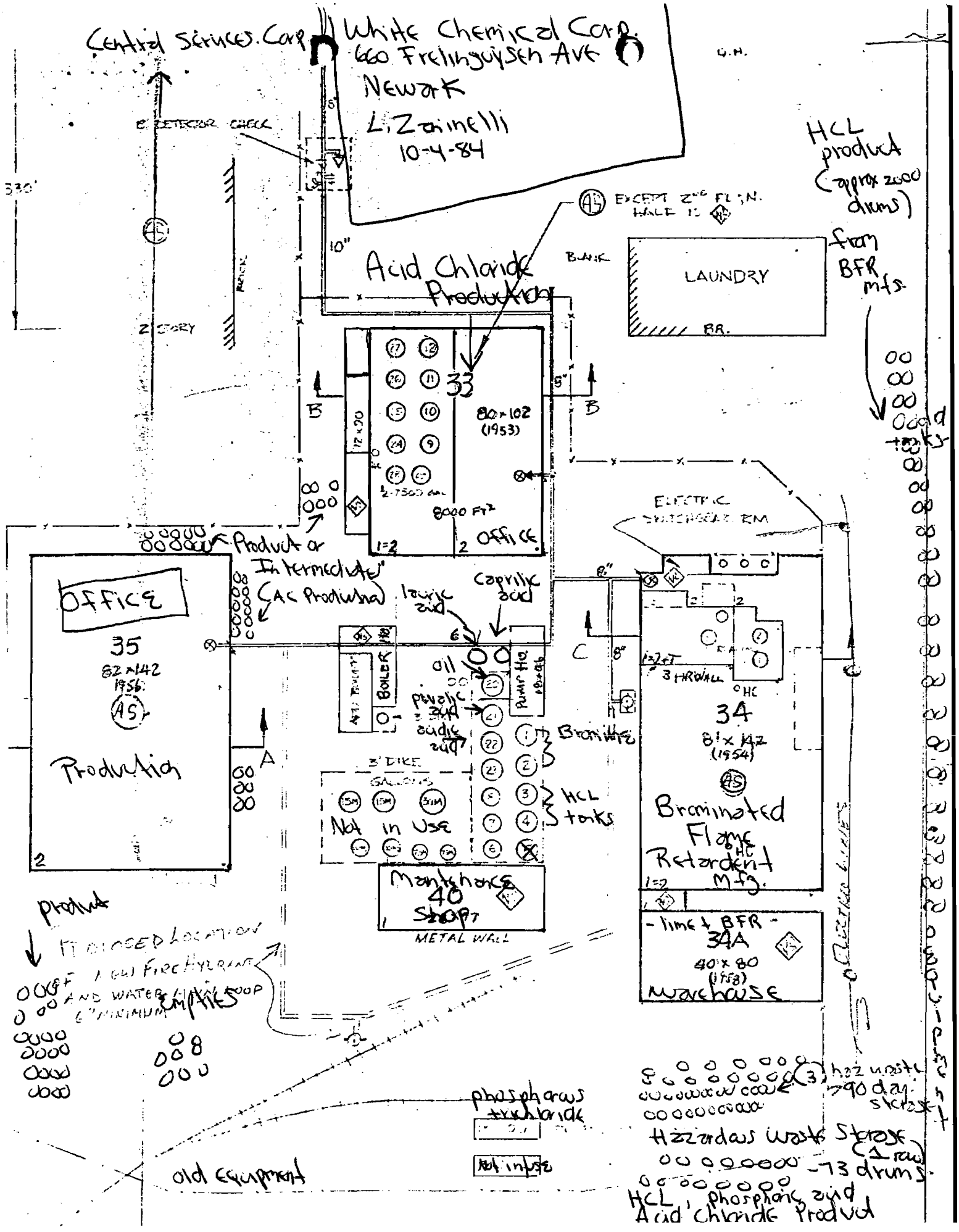
Subject: -Investigation- Date: 10-14-84

Findings and Summary:

Samples and Photos

No samples were obtained; ten photographs were taken.

The writer secured the site at approximately 1145 hours.



Central Services Corp
White Chemical Corp.
660 Frelinguysen Ave
Newark
L. Zaninelli
10-4-84
HCL product (approx 2000 drums)
from BFR mfs.
Acid Chloride Production
LAUNDRY
BR.
33
80 x 102 (1953)
8000 FT²
Office
Product or Intermediate (AC Production)
Office
35
82 x 142 1956
Production
lauric acid
caprilic acid
oil
pyralic acid
acidic acid
Bromine
HCL tanks
3' DIKE
Not in Use
Maintenance Shop
40
METAL WALL
34
81 x 142 (1954)
Brominated Flame Retardent Mfg.
3 HR WALL
- limit BFR -
34A
40 x 80 (1958)
Warehouse
product
PROPOSED LOCATION OF NEW FIRE HYDRANT AND WATER MAIN LOOP 6" MINIMUM
empties
phosphorous trichloride
Not in use
old equipment
haz waste >90 day storage
Hazardous Waste Storage (1 row) -73 drums
HCL, phosphoric acid
Acid Chloride Product

SM-016-90A

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

15 JUN 1990

**CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

White Chemical Corporation
P.O. Box 2500
660 Frelinghuysen Avenue
Newark, NJ 07114

ATTENTION: James White, President

Dear Mr. White:

Members of the New Jersey Department of Environmental Protection, Division of Hazardous Waste Management, have determined that conditions at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey, constitute a danger to the public health or environment and are violative of the laws of the State of New Jersey. Enclosed please find a **SUPPLEMENTAL DIRECTIVE #1** requiring your immediate response with regard to this matter. This DIRECTIVE is issued pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.

The Department is available to meet with the principals of the case to discuss the enclosed enforcement document. Should you desire such a meeting please contact Christina Purcell within 7 calendar days of receipt of this letter.

Should you have any questions concerning this matter, please contact Ms. Purcell at (609) 633-0700.

Sincerely,

for Wayne Howitz

Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

WCH/chp
Enclosure(s)
cc Health Department
Mayor's Office
Bureau of Compliance and Technical Services
Regional Field Office

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State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

15 JUN 1990

| | | |
|---|---|---|
| **IN THE MATTER OF THE** | : | |
| WHITE CHEMICAL CORPORATION SITE | : | **SUPPLEMENTAL DIRECTIVE #1** |
| 660 FRELINGHUYSEN AVENUE | : | **AND** |
| NEWARK, NEW JERSEY | : | **NOTICE TO INSURER** |
| | : | |
| -AND- | : | |
| | : | |
| WHITE CHEMICAL CORPORATION; | : | |
| JAMES WHITE, INDIVIDUALLY; | : | |
| | : | |
| AZS CORPORATION; AND | : | |
| | : | |
| LANCASTER CHEMICAL CORPORATION | : | |
| | : | |
| **RESPONDENTS** | : | |

This Directive is issued to the above captioned **Respondents** pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "NJDEP") by N.J.S.A. 13:1D-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. (hereinafter "the Spill Act"), and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management, pursuant to N.J.S.A. 13:1B-4. This Directive is issued in order to notify Respondents that the Department, pursuant to the provisions of the Spill Act, has determined that it is necessary to remove or arrange for the removal of hazardous substances, and in order to notify Respondents that the Department believes them to be responsible for the discharge of hazardous substances at the "site", hereinafter described.

## FINDINGS

1. White Chemical Corporation (hereinafter "White" or "Respondent") has operated a chemical manufacturing facility located at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey (hereinafter "the site") since January of 1984.

2. James White is currently the president of White. Since White began operations at the site, James White was responsible for controlling all aspects the company's operations.

3. AZS Corporation (hereinafter "AZS" or "Respondent"), has a place of business located at 6025 Sandy Springs Circle, Suite 313, City of Atlanta, State of Georgia.

4. Tosoh (U.S.A.), formerly Toyo Soda Corporation, (hereinafter "Tosoh" or "Respondents"), which is located at 1700 Water Place, City of Atlanta, State of Georgia, is the parent corporation of AZS.

5. Lancaster Chemical Corporation, a division of AZS, operated and manufactured chemicals at the site prior to May 1983. In 1981 USEPA determined the presence of xylene contamination at the site.

6. On May 8, 1990 a DIRECTIVE was issued to the Respondents. A copy of the DIRECTIVE is attached hereto and is fully incorporated herein and made a part hereof.

7. There are currently approximately 2500 drums at the site that are or may be empty or may contain small quantities of hazardous substances. The existence and location of these drums prevents the Department from properly stabilizing the site in accordance with the May 8, 1990 DIRECTIVE.

8. The Department has determined that in order for the Department to be able to properly undertake the stabilization of the site in accordance with the May 8, 1990 DIRECTIVE, proper removal and disposal of the approximately 2500 drums referenced in paragraph (7) above, is necessary.

**DIRECTIVE**

**NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:**

9. Within sixty five (65) calendar days after receipt of this DIRECTIVE, properly remove and dispose of all empty drums located on-site.

**THIS DIRECTIVE SHALL BE EFFECTIVE UPON RECEIPT.**

**NOTICE**

If Respondents fail to agree to perform the actions set forth in paragraph (9) above in accordance with the time frame set forth therein, the Department will conduct the associated work, using public funds. In the event that Respondents fail to perform the actions required by this Directive, the Department will commence suit against them seeking reimbursement for all costs incurred. In addition, failure to comply with this Directive may increase Respondent's liability to NJDEP to an amount equal to three (3) times the cost of performing the work required by this Directive, and may cause a lien to be placed upon Respondent's real and personal property pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11f, including a first priority lien on the property subject to the cleanup and removal, upon the expenditure of public funds.

**RESERVATION OF RIGHTS**

The Department reserves the right to direct Respondents to take or arrange for the taking of any and all additional remedial actions, should the Department determine that such actions are necessary to protect the public health, safety or the environment. The Department reserves all rights and remedies under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., in addition to those referred to above, including the right to seek recovery from Respondents of all costs of any actions previously taken and costs and treble damages for any actions to be taken by the Department to investigate and remediate the site. Respondents are advised that any discharges referenced in this Directive may also constitute violations of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and that Respondents may therefore be subject to the penalties prescribed for violations of the Water Pollution Control Act. The Department reserves all rights and remedies under the Act.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

BY: for Wayne Howitz

Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

**NOTICE TO INSURER**

BE ADVISED THAT, pursuant to the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11s, any claims for the cost of cleanup or damages by the State of New Jersey may be directly asserted against Respondents' insurers or any other person providing evidence of financial responsibility for the site should Respondents fail to fully satisfy this Directive. As such, Respondents' are advised to notify their respective insurers with regard to the issuance of this DIRECTIVE.

WCH/chp

SM-005 - 9/C

Let's protect our earth

# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

18 JUL 1990

**CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

AZS Corporation
6025 Sandy Springs Circle
Atlanta, GA 30318

ATTENTION: Joel Padgett, Treasurer

Dear Mr. Padgett:

Members of the New Jersey Department of Environmental Protection, Division of Hazardous Waste Management, have determined that conditions at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey, constitute a danger to the public health or environment and are violative of the laws of the State of New Jersey. Enclosed please find a **SUPPLEMENTAL DIRECTIVE #2** requiring your immediate response with regard to this matter. This DIRECTIVE is issued pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.

The Department is available to meet with the principals of the case to discuss the enclosed enforcement document. Should you desire such a meeting please contact Christina Purcell within 7 calendar days of receipt of this letter.

Should you have any questions concerning this matter, please contact Ms. Purcell at (609) 633-0700.

Sincerely,

Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

WCH/chp
Enclosure(s)
cc Health Department
Mayor's Office
Bureau of Compliance and Technical Services
Regional Field Office

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SM-0002-91

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State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

18 JUL 1990

| | | |
|---|---|---|
| **IN THE MATTER OF THE** | : | |
| WHITE CHEMICAL CORPORATION SITE | : | **SUPPLEMENTAL DIRECTIVE #2** |
| 660 FRELINGHUYSEN AVENUE | : | **AND** |
| NEWARK, NEW JERSEY | : | **NOTICE TO INSURER** |
| | : | |
| -AND- | : | |
| | : | |
| WHITE CHEMICAL CORPORATION; | : | |
| JAMES WHITE, INDIVIDUALLY; | : | |
| | : | |
| AZS CORPORATION; AND | : | |
| | : | |
| LANCASTER CHEMICAL CORPORATION; AND | : | |
| | : | |
| TOSOH (U.S.A) | : | |
| | : | |
| **RESPONDENTS** | : | |

This Directive is issued to the above captioned **Respondents** pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "NJDEP") by N.J.S.A. 13:1D-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. (hereinafter "the Spill Act"), and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management, pursuant to N.J.S.A. 13:1B-4. This Directive is issued in order to notify Respondents that the Department, pursuant to the provisions of the Spill Act, has determined that it is necessary to remove or arrange for the removal of hazardous substances, and in order to notify Respondents that the Department believes them to be responsible for the discharge of hazardous substances at the "site", hereinafter described.

## FINDINGS

1. White Chemical Corporation (hereinafter "White" or "Respondent") has operated a chemical manufacturing facility located at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey (hereinafter "the site") since January of 1984.

2. James White is currently the president of White. Since White began operations at the site, James White was responsible for controlling all aspects the company's operations.

3. AZS Corporation (hereinafter "AZS" or "Respondent"), has a place of business located at 6025 Sandy Springs Circle, Suite 313, City of Atlanta, State of Georgia.

4. Tosoh (U.S.A.), formerly Toyo Soda Corporation, (hereinafter "Tosoh" or "Respondents"), which is located at 1700 Water Place, City of Atlanta, State of Georgia, is the parent corporation of AZS.

5. Lancaster Chemical Corporation, a division of AZS, operated and manufactured chemicals at the site prior to May 1983. In 1981 USEPA determined the presence of xylene contamination at the site.

6. On May 8, 1990 a DIRECTIVE was issued to the Respondents. A copy of the DIRECTIVE is attached hereto and is fully incorporated herein and made a part hereof.

7. On June 15, 1990 a SUPPLEMENTAL DIRECTIVE #1 was issued to the Respondents. A copy of the SUPPLEMENTAL DIRECTIVE #1 is attached hereto and is fully incorporated herein and made a part hereof.

8. As of the date of this SUPPLEMENTAL DIRECTIVE #2, White has removed approximately 300 empty drums, has removed hazardous substances from Building #35 and is continuing to undertake further stabilization activities in accordance with the May 8, 1990 DIRECTIVE, and the June 15, 1990 SUPPLEMENTAL DIRECTIVE #1.

9. As of the date of this SUPPLEMENTAL DIRECTIVE #2, the initial stabilization and removal actions have been completed and the initial Directive amount of $241,133.115 has been expended.

10. As of the date of this SUPPLEMENTAL DIRECTIVE #2 there are still 1282 drums on-site containing hazardous substances including, but not limited to, ethylene dichloride, trichloroethylene/water mixture, fatty acids and xylene filter cake.

11. The Department currently estimates that the cost and scope of the waste removal and disposal of the hazardous substances mentioned in paragraph (10) will be $451,273.26. The Department currently estimates that its cost of overseeing this investigation will be $67,690.98 (15% of 451,273.26). The cost and the scope of the waste removal and disposal are set forth in Appendix A which is attached hereto and made a part hereof.

## DIRECTIVE

**NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:**

12. Within fourteen (14) calendar days after receipt of this SUPPLEMENTAL DIRECTIVE #2 ("DIRECTIVE"), arrange for the complete removal of all hazardous substances on-site including, but not limited to, ethylene dichloride, trichloroethylene/water mixture, fatty acids, and waste xylene filter cake by paying $518,964.24 (451,273.26 + 67,690.98) to the Department to fund the costs of the hazardous substances removal.

**THIS DIRECTIVE SHALL BE EFFECTIVE UPON RECEIPT.**

## NOTICE

If Respondents fail to agree to perform the actions set forth in paragraph (10) above in accordance with the time [illegible] set forth therein, the Department will conduct the associated work using public funds. In the event that Respondents fail to perform the actions required by this DIRECTIVE, the Department will commence suit against them seeking reimbursement for all costs incurred. In addition, failure to comply with this Directive may increase Respondent's liability to NJDEP to an amount equal to three (3) times the cost of [illegible] work required by this DIRECTIVE, and may cause a lien to be placed upon Respondent's real and personal property pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11f, including a first priority lien on the property subject to the cleanup and removal upon the expenditure of public funds.

## RESERVATION OF RIGHTS

In the event that the costs of conducting the actions [illegible] paragraph (12) above exceed the amounts specified [illegible] the Department reserves the right to direct Respondents [illegible] and to seek full reimbursement and treble damages [illegible] additional costs of Respondents fail to comply with [illegible] Furthermore, the Department reserves the right to direct [illegible] take or arrange for the taking of any and all additional [illegible] actions, should the Department determine that such actions [illegible] necessary to protect the public health, safety or the environment. [illegible] reserves all rights and remedies under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., in addition to those referred to above, including the right to seek recovery from Respondents for costs of any actions previously taken and costs and expenses for any actions to be taken by the Department to investigate and remediate the site. Respondents are advised that any discharge [illegible] this DIRECTIVE may also constitute violations of [illegible]

Control Act, N.J.S.A. 58:10A-1 et seq., and that Respondents may therefore be subject to the penalties prescribed for violations of the Water Pollution Control Act. The Department reserves all rights and remedies under the Act.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

BY: _____
Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

**NOTICE TO INSURER**

BE ADVISED THAT, pursuant to the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11s, any claims for the cost of cleanup or damages by the State of New Jersey may be directly asserted against Respondents' insurers or any other person providing evidence of financial responsibility for the site should Respondents fail to fully satisfy this DIRECTIVE. As such, Respondents' are advised to notify their respective insurers with regard to the issuance of this DIRECTIVE.

WCH/chp

# APPENDIX A

**WHITE CHEMICAL**
**COST ESTIMATE: LABOR/EQUIPMENT**

| LABOR | MOBILZATION | COST/HR | DAYS | TOTAL |
|---|---|---|---|---|
| Supervisor | $200.00/day | | 20 | $4000.00 |
| Supervisor | | $80.00 | 20 | $12800.00 |
| Laborers (4) | $400.00/day | | 20 | $8000.00 |
| Laborers (4) | | $45.00 | 20 | $28800.00 |

| EQUIPMENT | MOBILZATION | COST | DAYS | TOTAL |
|---|---|---|---|---|
| Fork-lift w/ grapples | | $350.00/day | 20 | $7000.00 |
| Vac Truck Mobilzation | | | | $300.00 |
| Vac Truck Operations | | $75.00/hr | 30 hours | $2250.00 |
| Vac Truck Driver | $100.00/day | | 7 | $700.00 |
| Vac Truck Driver | | $50.00/hr | 42 hours | $2100.00 |
| Tank Trucks (12) (6000 gallon) mobilization | | | | $3600.00 |
| Tank Truck Operation (12) | | $67.00/hr | 50 hours | $3350.00 |
| Tank Truck Driver (12) daily mobilzation | | | | $1200.00 |
| Tank Truck Drivers (12) | | $50.00/hr | 50 hours | $2500.00 |
| Box Truck mobilization | | | | $150.00 |
| Box Truck Operations | | $40.00 | 40 hours | $1600.00 |
| Box Truck Driver | 5 days | | | $500.00 |
| Box Truck Driver | | $50.00/hr | 40 hours | $2000.00 |
| Field Trailer | | | 30 (1 month) | $3500.00 |
| Additional required sampling, labor/equipment, field cability tests, decontamination | | | | $10000.00 |
| | | | **TOTAL** | $94350.00 |

mical

**WHITE CHEMICAL**
**COST ESTIMATE; WASTE DISPOSAL**

| HAZARDOUS SUBSTANCE | NO. OF DRUMS | DISPOSAL COST |
|---|---|---|
| Ethylene Dichloride | 120 | $30971.00 |
| TCE/water | 289 | $74706.50 |
| Fatty acids | 264 | $87420.00 |
| Xylene filter cake | 609 | $106575.00 |
| Empty drums | *** | $10695.00 |
| | | $310368.06 |
| +15% contractor markup | | $46555.20 |
| | | $356923.26 |

**COST ESTIMATE; SUMMARY**

| | |
|---|---|
| Labor, Equipment | $94350.00 |
| Waste Disposal | $356923.26 |
| | $451273.26 |
| +15% contingency | $67690.98 |
| **TOTAL** | $518964.24 |

Ken Kloo


State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408


AUG 2 4 1990

Richard Caspe, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Dear Director Caspe:

Re: Removal Request - White Chemical
600 Frelinghuysen Avenue
Newark, New Jersey

The New Jersey Department of Environmental Protection hereby submits the White Chemical site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

White Chemical is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by James White (President) on property owned by the Lancaster Chemical Corp which operated at 660 Frelinghuysen Avenue prior to 1983. Lancaster Chemical is in turn owned by AZS Corp. of Atlanta, Georgia.

On September 8, 1989, the NJDEP, Metro Bureau of Enforcement conducted a RCRA compliance inspection at White Chemical which resulted in the issuance of NOVs for a number of hazardous waste violations including improper drum management, leaking drums, open containers and inadequate isle space. A reinspection conducted on September 22, 1989 noted that the facility had attained only partial compliance and, as a result, an Administrative Order and penalty in the amount of $86,500 was issued on March 15, 1990.

From March 27 to March 29, 1990, the NJDEP, Metro Bureau of Enforcement reinspected White Chemical and took a complete inventory of drums on site. Although some improvement in drum management was noted, many containers of unknown and hazardous wastes continued to be stored improperly and in excess of the 90-day limit for storage of hazardous waste without a permit. The inventory showed that 9,063 drums are currently in storage, including 2,005 hazardous and 342 possibly hazardous drums. According to White Chemical, 3,411 drums are product, intermediates or reusable. During the March 27 to March 29 inspection, White Chemical was issued NOVs under the N.J. Spill Compensation and Control Act and ordered to effectively remediate spills and improper drum storage.

*New Jersey is an Equal Opportunity Employer*

White Chemical was issued a Directive on May 8, 1990 under the N.J. Spill Compensation and Control Act to secure the perimeter of the facility, supply 24 hour per day security and conduct stabilization of the 9,063 drums on site. Supplemental Directive #1 was issued on June 15, 1990 directing White Chemical to remove 2,500 empty drums as part of site stabilization. Supplemental Directive #2, issued on July 18, 1990, directed White Chemical to remove 1,282 drums containing hazardous substances including, but not limited to, ethylene dichloride, TCE/water mixture, fatty acids and xylene filter cakes.

On May 8, 1990, the Department initiated a publicly funded clean up under the N.J. Spill Compensation and Control Act which resulted in the removal of 130 drums of xylene, acetone and toluene; 389 drums of ethylene dichloride (EDC); 161 drums of TCE and 376 drums of contaminated filter cake. There are presently 526 drums of hazardous waste staged for disposal, which include fatty acids, TCE/water, filter cake, EDC and flammables.

To date, White Chemical has failed to comply with the requirements of the issued Directives. It is, furthermore, doubtful that compliance will ever be attained due to the large number of drums involved and the questionable financial status of White Chemical. Additionally, the facility has ceased operations, and production staff and other personnel were layed off on July 31, 1990. According to White Chemical employees, this is a temporary layoff with employment possibly being reactivated by September 4, 1990; however, this layoff may be an indication of the permanent cessation of operations. Accordingly, White Chemical may not realistically be able to utilize certain "intermediates" or "reusables". These may in fact be considered additional wastes.

Any discharge, fire, explosion or air release involving stored material at White Chemical may threaten local residents, as the facility is located adjacent to other commercial facilities, is across Frelinghuysen Avenue from a County park and is approximately one-half mile from a public housing project.

The Department requests that the EPA secure and stabilize the site by posting signs warning of hazardous waste, by disposing of all hazardous substances on site and by providing site security during the removal.

Should your staff require additional information please have them contact David Triggs of the Bureau of Planning and Assessment at (609) 984-3016.

Very truly yours,

Lance R. Miller

Lance R. Miller
Director

LM:sc

c: Assistant Director Howitz, Hazardous Waste Enforcement Element
Chief Yacoub, Metro Bureau of Enforcement
Richard Salkie, USEPA

OCT 16 1990

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION II**

DATE: SEP 26 1990

SUBJECT: Confirmation of Verbal Approval and Funding Request for Removal Action Approval at the White Chemical Company Site, Newark, Essex County, New Jersey - **ACTION MEMORANDUM**

FROM: Paula A. Cammarata
Paula A. Cammarata, On-Scene Coordinator
Removal Action Branch

TO:
Constantine Sidamon-Eristoff
Regional Administrator

THRU: Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

Site No: 6J
Category of Removal: Time Critical
National Significance: No

## I. ISSUE

In a letter dated August 24, 1990, and received on August 30, 1990, the New Jersey Department of Environmental Protection (NJDEP) requested the United States Environmental Protection Agency (EPA) to perform an assessment of the White Chemical facility for a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action consideratic.. This site is an active facility, which is currently going through Chapter 11 bankruptcy proceedings. This site meets the criteria for initiating a removal action under Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

## II. BACKGROUND

White Chemical Company (White) is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by Mr. James White, (President), on property owned by Lancaster Chemical Corporation at 660 Frelinghuysen Avenue, Newark, New Jersey. Prior to 1983, White Chemical operated a facility located in Bayonne, New Jersey.

The site contains over 9,000 55-gallon drums, several hundred cylinders, tanks and vats, carboys, boxes, and two laboratories containing thousands of lab pack size materials; some of which appear to have formed crystals on the outside lip of the containers.

On June 30, July 7, September 8, and 22, 1989, NJDEP inspected the White Chemical facility and found numerous Resource Conservation and Recovery Act (RCRA) violations, specifically, illegal treatment of hazardous waste, and storing hazardous waste without the necessary permits. These violations involved over 9,000 55-gallon drums located on-site.

White's improper management of the stored containers resulted in numerous open containers, damaged, bulging, unlabeled containers, numerous spills onto the ground, inadequate aisle space between drums, unsegregated chemicals, water reactive materials in the open yards, and the storage of ignitable waste within 50 feet of the property line. The site was unsecured and due to the volume and nature of the hazardous substances and unknown substances, there exists the potential for fire and/or explosion to occur, and a substantial risk of imminent and severe damage to the public health and safety and the environment.

Several Notices of Violations (NOV) were issued and penalties were assessed at that time and continue to be issued to Mr. White by NJDEP. However, there has been no response to the NOVs by Mr. White.

In early 1990, NJDEP issued several Directives, the latest issued on May 8, 1990, to White Chemical to perform a clean-up of the site. A response was not received by NJDEP.

On May 15, 1990, NJDEP commenced a removal action under the New Jersey Spill Compensation and Control Act. However, by August 1990, after NJDEP had removed approximately 1,000 drums, the project ceiling of $825,000 was reached causing the cleanup to be halted. As a result, on August 24, 1990, NJDEP requested EPA to assess the site for CERCLA removal consideration.

A. Site Description

1. Physical Description

The four (4) acre site is located at 660 Frelinghuysen Avenue directly in back (east) of two large manufacturing facilities; a feather company and a sportswear manufacturer. To the north is a large clothing manufacturer. Further east and adjacent to the site is the Conrail line which is the major eastern corridor to New York and on the other side of the Conrail line lies the Anheuser Bush Brewery. Approximately one-half mile further east is U.S. Highway No. 1 and Newark International Airport. The prevailing winds in the area blow toward the east.

To the west lies a feather company, a sportswear manufacturer and Frelinghuysen Avenue. Across Frelinghuysen Avenue, within one-quarter mile, is Weequahic Park and several large housing projects.

In addition, there are several high rise senior citizen homes in the area. During the day, there are approximately 12,000 people working within a one-quarter mile radius of the site (See Attachment A).

2. General Character of Site

On September 7, 1990, EPA performed an assessment of White Chemical. NJDEP was also present for the assessment and provided information on the current status of NJDEP's removal action.

The site is an active facility currently in Chapter 11. Minimal staff (4-6) are on-site; however the manufacturing portion of the facility has ceased operation.

During the EPA assessment, EPA and the Technical Assistance Team (TAT) found numerous CERCLA and RCRA violations on-site. There are approximately 9,000 drums of hazardous materials improperly stored and precariously stacked throughout the four (4) acre site. Drums and containers are in various stages of deterioration and leaking into the soil. Numerous stains were observed on the soil. Corrosive drums are deteriorating the pallets which support them. Drums were found fuming and are in an unstable condition. Thousands of water reactive materials were found stored outside where the inclement weather provides an avenue of escape for on-going releases due to rain or humidity. Corrosives are found stored next to flammables. Drums appear to have been used several times by the number of labels found on them. Some of the drums are unknown due to the numerous labels or the lack of labeling. Other containers state "Salvage - Hazardous Waste Rejected".

There are also two laboratories on-site which EPA did not assess since White Chemical is currently working in these laboratories conducting research on non-halogenated flame retardant compounds. However, a video obtained by EPA from the Newark Fire Department, reveals thousands of unsegregated lab pack size materials in various stages of deterioration, stored haphazardly on shelves which are also deteriorating.

The types of chemicals found include, flammable liquids, flammable acids, corrosives, acids, oxidizers, air/water reactives and peroxide forming materials (shock sensitive).

This site clearly presents a threat to public health and welfare as defined under Section 300.415 of the NCP. Multiple pathways for the potential migration of hazardous substances off-site exist. The deteriorated condition of the drums and other containers, the clutter and proximity of incompatible materials, the local geography and close proximity of urban residential housing and industry are all contributing factors to the threat to public health and welfare.

3. NPL Status

White Chemical is not on the National Priorities List.

B. Incident/Release Characteristics

On September 7, 1990, EPA performed a preliminary assessment of White Chemical and found 11 drums of phosphorus tribromide fuming. Phosphorus tribromide is a water reactive material which gives off hydrogen bromide when exposed to moisture.

Therefore, verbal funding was authorized on September 7, 1990, by Richard L. Caspe, Director of the Emergency and Remedial Response Division (ERRD) to perform an emergency removal by overpacking these 11 drums and storing them inside of a building.

It should be noted, however, that the overpacking of these 11 drums does not contain nor stabilize the present situation of on-going releases from the several thousand remaining water reactive materials found throughout the site.

Furthermore, there is an enormous amount of material leaking into the soil due to the haphazard storage and packing of these drums, which is evident by spills, soil stains, corroded pallets and drums.

C. Quantities and Types of Substances

The site contains over 9,000 drums, several hundred cylinders and tanks, fiberpacks, gallon bottles, carboys, boxes, and several hundred to a thousand lab size bottles. Most of the containers appear to be full with the exception of the perhaps 200 - 300 empties. Since White Chemical is an active facility, NJDEP has reported that of the 9,000 drums, 3,000 of those drums have been designated by the owner as "product". This statement will be further explored during the removal action and all product found will be placed aside for White Chemical. However, those drums found to meet the requirements of a waste referenced in 40 CFR 261 will be included within this removal action.

A wide variety of flammables, acids, corrosives, poisons, oxidizers, air/water reactives and highly toxic chemicals were found stored together without adequate consideration of reaction potential in the event of breakage. The presence of water reactives such as phosphorus tribromide and the numerous different types of concentrated acids present a threat to the surroundings. In addition, the air reactives such as red phosphorus increase the threat to neighboring adjacent facilities since 90% of all drums are presently being stored outside; some within 50 feet of adjacent working facilities. Furthermore, the imminent threat is compounded by the numerous flammable compounds such as acetone, xylene, alcohols and oxidizers which are found

throughout the other materials, unsegregated. The oxidizers and air reactives pose a threat through the production of heat and toxic oxides in the event of a chemical reaction occurring. The potential dangers posed by these chemicals are described in more detail in Section III. Listings of materials have been compiled by NJDEP and verified by EPA and TAT thus far are given in the Attachment C. It should be emphasized that these lists were compiled by NJDEP during their removal action, by the Newark Fire Department during their May 1990, inspection, and through the Title III Community Right-To-Know requirements. Many other hazardous chemicals may be found in the large volume of unknown or unlabelled containers during the removal action.

| Compound | Applicable Legislation | Reportable Quantity (in pounds)* |
|---|---|---|
| Benzyl bromide | 5 | 100 |
| Dichloromethane (methylene chloride) | 5 | 100 |
| Hydriotic acid | 5 | 100 |
| Hydrochloric acid | 1 | 5,000 |
| Hydrogen cyanide | 1,4 | 10 |
| Phosphoric acid | 5 | 5,000 |
| Phosphorus | 1 | 1 |
| Phosphorus tribromide | 5 | 100 |
| Propionic acid | 5 | 5,000 |
| Red phosphorus | 5 | 100 |
| Toluene | 1,2,4 | 1,000 |
| TCE | 1,2,4 | 1,000 |
| Trimethylamine | 1 | 1,000 |
| Sulfuric acid | 1 | 1,000 |

Legislative Codes:

1. CERCLA CWA Section 311(b)(4)
2. CERCLA CWA Section 307(a)
3. CERCLA CAA Section 112
5. CERCLA CWA Section 3001
5. 49 CFR 172, Subpart B, Section 172.101

* Reportable Quantity per Department of Transportation, EPA and/or CERCLA

Table 1

## WHITE CHEMICAL, NEWARK, NEW JERSEY

Summary of Potential Toxicological
Effects of Selected Identified Compounds

| | 1. CARCINOGENIC | 2. TERATOGENIC | 3. MUTAGENIC | 4. TOXIC BY INHALATION, INGESTION OR DERMAL CONTACT | 5. CENTRAL NERVOUS SYSTEM EFFECTS | 6. EYE, SKIN, RESPIRATORY, OR MUCOUS MEMBRANE IRRITANT | 7. CARDIOVASCULAR DAMAGE | 8. KIDNEY DAMAGE | 9. LIVER DAMAGE |
|---|---|---|---|---|---|---|---|---|---|
| BENZYL BROMIDE | | | X | X | X | X | | | |
| BROMIDE | | | | X | X | | | | |
| HYDRIOTIC ACID | | | | X | | X | | | |
| HYDROCHLORIC ACID | | | X | X | | X | | | |
| HYDROCYANIC ACID | | | | X | X | X | X | X | X |
| HYDROGEN BROMIDE | | | | X | | X | | | |
| PHOSPHORUS | | | | X | X | | | | |
| PHOSPHORUS ACID | | | | X | | X | | | |
| PHOSPHORUS TRIBROMIDE | | | | X | | X | | | |
| RED PHOSPHORUS | | | | X | | | | | |
| SULFURIC ACID | | | | X | | X | | | |
| TRICHLOROETHYLENE | X | | X | X | X | X | | X | X |
| TRIMETHYLAMINE ANHYDR | | | | X | | | | | |
| TOLUENE | | | X | X | X | | | X | X |

D. State and Local Authorities' Roles

1. State and local actions to date

On August 24, 1990, NJDEP requested EPA to perform an assessment of White Chemical for CERCLA removal consideration. NJDEP commenced a removal action from May 15, 1990 through August 1990, at the White Chemical facility removing approximately 1,000 drums of flammable compounds. Upon reaching their project ceiling of $825,000, NJDEP contacted EPA for their CERCLA removal consideration.

On several occasions, the Newark Fire Department and NJDEP's Emergency Response Team have been called to the site for releases of chemicals. For example, on June 23, 1990, a pentanol spill was reported next to a container of ammonium bromide. Newark's Hazardous Material Response Team responded along with a NJDEP contractor to clean up the spill. There are numerous reports on air releases and/or spills which have occurred on-site where either the local and/or State has responded. On two different occasions the manufacturer which is adjacent to the northern portion of the White facility has had to close for the day due to workers experiencing sickness from fumes being released from drums at the White Chemical facility.

2. Potential for continued State and local response

At the present time, NJDEP has reached their project ceiling of $825,000 for the current removal action and no further funding has been made available to date, and none is anticipated. Currently, NJDEP is maintaining twenty-four hour security at the site. However, once funding has been expended, security service will cease.

E. Other Action to Date

1. Previous actions to abate threat

During the September 7, 1990 preliminary assessment, a verbal approval was obtained from the Director of ERRD, for $249,900 of which $150,000 was for contract mitigation to overpack 11 fuming drums of water reactives and store them inside of a building so as to protect them from the weather. This action was completed on September 21, 1990.

2. Current actions to abate threat

At the present time, EPA is trying to obtain an access agreement from the owner(s) and operator of White Chemical to perform a removal action at the facility. NJDEP is currently maintaining twenty-four hour security at the site.

## III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Threat to Public Health, Welfare and the Environment

The site is situated in a heavily populated and highly industrialized area of Newark. The four (4) acre property is located behind two active manufacturing facilities and adjacent to the south of another large clothing manufacturer along Frelinghuysen Avenue. The site is currently secured through NJDEP which will continue as long as funding is available. However, the site poses an imminent threat of direct contact with hazardous substances to nearby workers. There is concern for the three large manufacturing facilities adjacent to the facility along with the major eastern corridor of Conrail and Newark International Airport directly east of the facility, which in the event of fire, may have to be closed until the fire is controlled. Due to the large volume of materials (9,000 drums, carboys, cylinders) this fire would be difficult to control. As a result, this could lead to a catastrophic event, since during the day, there are approximately 12,000 people working and living within a one-quarter mile radius of the site.

Any one of a number of scenarios, could cause a chain of uncontrollable chemical reactions resulting in fire and the release of lethally toxic fumes.

The inventory of chemicals at the site includes, Occupational Safety and Health Administration Class 1 flammable liquids, flammable solids, corrosives, poisons, oxidizers, acids, and air/water reactives. These incompatible and interactive materials are not segregated, and are haphazardly stored in conjunction with one another. Containers were noted to be in various stages of deterioration, as indicated by corrosion and/or leakage. Numerous chemicals on-site would liberate heat as part of any chemical reaction. As documented in the support documents, a combination of any two of a majority of chemicals found at the site could cause a violent or explosive reaction.

During the initial preliminary assessment on September 7, 1990 by EPA and TAT, the following hazardous conditions were noted, which in themselves could create a disaster at the site:

1) As noted in Attachment C, water reactive chemicals have been identified in great numbers at the site. During periods of rain, NJDEP has stated that the entire site fumes toxic vapors (the fumes emanating from the drums have been photographed).

2) Storage is haphazard and precarious. Thus, there is a grave danger of materials inadvertently falling/breaking with minimal physical contact.

3) Should a reaction take place, depending upon wind direction and velocity, numerous personnel from adjacent properties would be in direct contact with toxic chemicals through skin absorbtion and inhalation.

An uncontrolled chemical reaction at this site could also cause one or more explosions.

There are no other Federal or state response mechanisms to respond to both existing and potential releases.

## IV. ENFORCEMENT

### A. Enforcement Strategy

#### 1. Summary of Enforcement Strategy

EPA's enforcement strategy includes identifying Potentially Responsible Parties (PRPs) early enough in the removal action so they can be given an opportunity to participate in the cleanup. Since the removal is to be conducted in phases, once the PRPs are identified, EPA can turn the action over to them at any appropriate phase. In order to accomplish this in a timely manner, EPA has initiated a PRP search for the White Chemical site to be conducted concurrent with the start-up of this removal action.

All information provided by NJDEP on Administrative Orders and penalties issued to White Chemical are currently being reviewed by EPA's Office of Regional Counsel (ORC).

#### 2. Summary of Enforcement Actions

At this time, due to the imminent threat to public health and welfare, ORC is currently negotiating an access agreement with Mr. James White for continued access for EPA and for EPA to perform the necessary removal action of hazardous substances and wastes which are creating an imminent danger to the general population working and residing within a one-quarter mile radius of the site.

### B. Status of Enforcement Actions

#### 1. Potential Responsible Parties

White Chemical Company is currently operated by Mr. James White, (President), on property owned by the Lancaster Chemical Corporation. Lancaster Chemical Corporation which operated on this same facility location prior to 1983, is in turn owned by AZS Corporation of Atlanta, Georgia. These PRPs have not taken any action.

On September 5, 1990, EPA's Removal Action Branch requested a PRP search to be conducted by ORC and the Program Support Branch to explore the identification of PRPs. To date, EPA has conducted several activities as part of the PRP search.

A Title search has been initiated to determine past history of site ownership, as well as possible liens or mortgages which may have been placed on the property. If appropriate, a financial status assessment will be performed on any companies or individuals identified by the Title search. When the names and addresses of companies and/or individuals who may be themselves liable, or who may have information which could help EPA uncover other PRPs have been compiled, ORC will initiate an Information Request Letter under Section 104(e) of CERCLA. Based on information received from these letters, as well as from other sources, PRPs will be informed of their potential liability and ORC will meet with them to determine what portion, if any, of the removal action they will perform.

2. Probability of Recovering Costs

Although the Company is currently under Chapter 11 bankruptcy proceedings, EPA is conducting a PRP search to determine if any additional companies or individuals are liable. In addition, a civil investigation is anticipated to determine the viable assets of the owner or other PRPs, and their ability to pay for the cleanup.

## V. PROPOSED ACTIONS AND COSTS

### A. Proposed Actions

The objective of this phase of the removal action is to secure and stabilize the site. Future efforts will then address the proper sampling and disposal of all wastes.

It should be noted that due to the magnitude of the hazardous waste, the total cost for complete site hazards mitigation removal action will exceed the 12 month time limit and the $2 million funding limitation. Due to the magnitude of the threat and lack of funding at this time, the removal action will be done in phases. This will also allow time for PRPs to assume the actions under enforcement activities.

Phase I includes providing twenty-four hour security by guard service and will be directed toward site stabilization. Buildings which could provide shelter for later staging and sampling will be cleaned. Materials found within the buildings will be segregated. This task will create room for the staging of a portion of the materials until they are transported for final disposal.

Access paths will be cleared for any possible emergencies which may occur during the removal action. Contingency plans for the community will be in place in the event of a major release.

Due to the magnitude of the hazardous material on the site, priority will be given to move water/air reactives into the buildings and the segregation of all other materials throughout the site.

In addition, all potential peroxide forming material will be assessed for safety and will be isolated, if possible. The laboratories on-site will be addressed and a determination of priority will be made, depending on the contents in the laboratories.

Phase I will provide the information on the amount of waste currently on-site to be disposed of at a later phase of the project. When all materials have been segregated and staged, or a large enough volume has been collected; the substances will be sampled and analyzed for reprocessing, use, or disposal in Phase II of the removal action.

Many containers, due to the extent of deterioration, will have to be overpacked in place before staging and segregation can occur. Any containers found to be of imminent danger to on-site personnel will be addressed at that time.

All actions taken will be consistent with remedial actions that would be expected to be undertaken based on site conditions. At this time, there are no remedial plans scheduled for this site.

Project Schedule

Due to the amount of material; 9,000 drums, hundreds of cylinders, tanks, boxes, carboys, and lab size material; the total clean up of this site will exceed the one year and $2 million funding limitations. This phase will be done for less than $2 million and will be completed in less than twelve months.

Further funding requests will be made in FY-91 to continue the next phase of this removal action pending the outcome of enforcement activities.

Phase I is estimated as taking a minimum of three months to complete.

B. Estimated Costs

Extramural Costs

| | |
|---|---|
| Extramural Clean up Contractor | $1,362,000 |
| 10% Contingency | 136,200 |

| | |
|---|---|
| Subtotal Extramural Cost | 1,498,200 |
| Rounded Subtotal Extramural Cost | 1,500,000 |
| TAT Costs | 130,000 |
| 15% Contingency [$1,500,000 + $130,000] | 244,500 |
| TOTAL EXTRAMURAL COSTS | $1,874,500 |
| Intramural Costs | $ 120,000 |
| TOTAL PROJECT CEILING | $1,994,500 |
| ROUNDED TOTAL PROJECT CEILING | $1,995,000 |

*Included in these figures is the $249,900 verbal authorization by Richard L. Caspe, Director of ERRD on September 7, 1990, of which $150,000 was for mitigation contracting.

## VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no action is taken or action delayed at the White Chemical site, the conditions are such as to pose a significant threat to public health welfare and the environment. Incompatible substances may come into contact with each other, react and increase the threat of fire/explosion or formation of poisonous gases such as hydrogen bromide. The presence of water and air reactives such as phosphorous tribromide and red phosphorus, respectively, pose an explosion threat to adjacent facilities. Flammable compounds such as acetone, xylene, alcohols and oxidizers are additional fire/explosive threats to the adjacent area.

## VII. RECOMMENDATION

Conditions at the White Chemical site meet the criteria for a removal action under the NCP Section 300.415(b)(2). Qualifying criteria include the following:

i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

iii. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of a release;

iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

vi. Threat of fire or explosion;

vii. The availability of other appropriate Federal or state response mechanisms to respond to the release.

Because conditions at the site meet the above criteria for a removal action, I recommend your approval of the proposed removal action. The total project ceiling is $1,995,000, of which $1,725,000 are for mitigation contracting costs.

Funds for this removal action are currently within the Regional Advice of Allowance.

I recommend your approval to initiate response actions due to the nature of the threat described herein. Please indicate your approval and authorization of funding for the White Chemical site, per Delegation of Authority, by signing below.

Approved: _____ Date: 9/27/91
Constantine Sidamon-Eristoff
Regional Administrator

Disapproved: _____ Date: _____
Constantine Sidamon-Eristoff
Regional Administrator

cc: (after approval is obtained)
R. Caspe, 2ERR
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Frisco, 2ERR-ADNJP
J. Marshall, 2OEP
D. Karlen, 2ORC-NJSUP
R. Gherardi, 2OPM-FIN
S. Anderson, PM-214F (Express Mail)
R. Cahill, 2OEP
S. Luftig, OS-210
B. Aber, 2ORC-NJSUP
L. Miller, NJDEP
J. Trela, NJDEP
L. Grayson, NJDEP
C. Moyik, 2ERRD-PS
M. Mjoness, OS-210
S. Becker, PSB

02-9010-19-PA
REV. NO. 0

# FINAL DRAFT
# PRELIMINARY ASSESSMENT REPORT
# WHITE CHEMICAL CORP.
# NEWARK, ESSEX COUNTY, NEW JERSEY

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-9010-19
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

DECEMBER 27, 1990

NUS CORPORATION
SUPERFUND DIVISION

(VOLUME 1 OF 2)

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BAA000021

## SITE SUMMARY AND RECOMMENDATION

White Chemical Corp. (hereafter referred to as White Chemical), located in a densely populated, residential and industrial section of Newark, Essex County, New Jersey, is a former manufacturer of acid chlorides and flame-retardant chemicals. Mr. James White, president of White Chemical, operated the Newark facility on property owned by AZS Corporation, from January 1984 to July 1990. The facility is currently undergoing Chapter 11 bankruptcy proceedings (Ref. Nos. 3, 15, 32, 33). The 4.4-acre site originally consisted of laboratories, storerooms, and grounds with approximately 9,000 drums of various chemicals, including flammable liquids, corrosives, poisons, oxidizers, air/water reactives, and shock-sensitive materials.

The site is bounded by an industrial center to the north-northeast, Sleepline Industries to the west, Coopers Sportswear Manufacturer to the south-southwest, and a Conrail line to the east-southeast. Directly beyond the Conrail line lies an Anheuser-Busch Brewery ( Ref. Nos. 3, 15, 28, 34).

White Chemical conducted research on nonhalogenated flame-retardant compounds in two laboratories on site. The Newark Fire Department (NFD) inspected the laboratories on site and discovered thousands of lab pack -size materials in various stages of deterioration stored haphazardly on deteriorating shelves. Some of these materials are shock-sensitive and highly volatile (Ref. No. 54, p. 4). The NFD also noted leaking, unmarked drums, soil contamination, and storage of incompatible materials in proximity to each other. Numerous violations were cited by the NFD (Ref. Nos. 3, 35, 36).

On June 30, July 7, and September 8, 1989, the New Jersey Department of Environmental Protection (NJDEP) conducted a Resource Conservation and Recovery Act (RCRA) compliance inspection of the White Chemical Site. The inspection uncovered numerous violations, including storing hazardous waste without the necessary permits, failing to ship hazardous waste off site to an approved facility within 90 days, failing to properly label hazardous waste containers, failing to keep hazardous waste in containers that are in good condition, failing to securely close drums of hazardous waste, and failing to maintain proper aisle space between hazardous waste drums. A reinspection on September 22, 1989 showed only partial compliance ( Ref. Nos. 1, 37, 38, 55). On March 15, 1990, the NJDEP, Division of Hazardous Waste Management (DHWM), served White Chemical and AZS Corporation an Administrative Order and Notice of Civil Administrative Penalty Assessment for the above- mentioned violations.

On or about May 3, 1990, the NJDEP requested that the EPA assess the White Chemical Corp. Site to determine site stability, and removal eligibility under the National Contingency Plan. On May 4, 1990, several EPA representatives visited the site and discovered many violations of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Approximately 9,000 drums of materials were improperly stored on site. Of these drums, approximately 1,974 contained hazardous

## SITE SUMMARY AND RECOMMENDATION (CONTD)

waste, 915 contained scrubbing solution (water with xylene or trichloroethylene), 608 contained waste filter cake, 2,347 contained wastes that may be hazardous, and 109 contained substances not yet classified. The remainder of the drums either were reportedly empty or contained product or intermediates ( Ref. Nos. 1, 2, 3).

Deteriorating drums were observed leaking their contents onto the soil, and corrosives in drums were observed eroding the pallets on which the drums are stored. The NJDEP observed spills of phosphoric acid, sulfuric acid, ethylene dichloride, and xylene (Ref. No. 1). Some drums have fumes emanating from them (Ref. No. 44). Water-reactive materials were found to be stored outside where rain or humidity provides conditions for ongoing releases. Incompatible materials are stored next to each other. The presence of multiple labels on some drums indicates that drums may have been used several times. There are indications that some drums had been transported off site for disposal and were returned to White after having been rejected (Ref. No. 15). The EPA concluded that the site was unstable and that it was eligible for a CERCLA removal action. However, the EPA informed the NJDEP that the facility had to be declared abandoned before any removal action could be initiated.

On May 8, 1990, the NJDEP, DHWM issued a directive to White Chemical Corp., James White, AZS Corporation, Lancaster Chemical Corporation, and Tosoh (U.S.A.), ordering the securing of the site to prevent unauthorized access, the payment of monies for a security guard and for drum stabilization, and the removal of all chemicals and chemical containers from one of the on-site buildings. (Ref. No. 1). White Chemical failed to comply with the directive (Ref. No. 45).

Consequently, on May 9, 1990, the NJDEP Metro Bureau of Field Operations requested funding to provide round-the-clock guard service for 4 weeks at White Chemical Corp. Funding was approved, and guard service was provided. Pursuant to the New Jersey Spill Compensation and Control Act, the NJDEP Metro Bureau of Field Operations began a publicly funded removal action at the White Chemical Corp. Site on May 15, 1990 (Ref. Nos. 39, 54). Nearly 800 drums were sampled and staged in May, and approximately 350 of those were subsequently removed in June (Ref. No. 40). By August 1990 the NJDEP had removed approximately 1,000 drums; however, cleanup was halted at this point, as the project ceiling of $675,000 was reached. The State again called in the EPA for assistance (Ref. Nos. 3, 41, 42, 43, 45).

On September 7, 1990, the U.S. EPA's Emergency Response Cleanup Services (ERCS) contractor mobilized in order to stabilize approximately 20 fuming drums of phosphorous tribromide. The poor condition of containers on site provided a vehicle for a release of contaminants that posed a clear threat to the surrounding public and the environment (Ref. No. 4).

## SITE SUMMARY AND RECOMMENDATION (CONTD)

On October 1, 1990, the EPA assumed the responsibility for site security from the NJDEP (Ref. No. 46), and on October 4, pursuant to an order from Judge Daniel Moore, White Chemical evacuated the site (Ref. Nos. 15, 47, 54). The ERCS contractor was mobilized once again (Ref. No. 7), and on October 8, the first phase of the removal action began (Ref. No. 20). Specific drums deemed to pose serious hazards were targeted for overpacking. Empty drums were staged for off-site disposal. The EPA's Technical Assistance Team (TAT) conducted MIRAN testing of ambient air, the results of which indicated the possible presence of amines (Ref. No. 7).

Currently, efforts are continuing to stabilize and secure the site (Ref. No. 56). Site stabilization will take approximately 3 to 6 months. In addition, ERCS continues to assess site conditions and the quantities and types of materials found (Ref. No. 46). Preparations are being made to sample the drums and tanks for the purposes of identification and subsequent removal (Ref. No. 53). The removal action is projected to last another 18 months. It must be noted here that several of the workers involved in the removal action have experienced eye and throat irritation as a result of working on site (Ref. No. 16).

Although the White Chemical Corp. Site is suspected to have released contaminants to groundwater, the threat posed by such a release is insignificant, since groundwater is not used for drinking within 3 miles of the site. It is possible that there are four private wells from 3 to 3.5 miles from the site that are used for domestic purposes, but their status has not been confirmed. The only other known groundwater use within 4 miles is for industrial purposes.

There is no suspected release to surface water caused by White Chemical since there is no overland migration path. The only potential to release would be through flooding, as the site is located between the limits of the 100-year flood and the 500-year flood.

The most serious threats to public health and the environment would be the effects of a release of contaminants to air from substances within unstable drums and other containers, and by fire and explosion and the associated release of contaminants to air. Targets for a release of contaminants to the air from White Chemical include the 487,000 persons living within 4 miles of the site, as well as the unknown number of people employed within this 4-mile radius ( Ref. Nos. 14, 49). It is noteworthy that Newark International Airport is situated less than 1 mile east of the site. Given prevailing winds toward the east, a fire and explosion at White Chemical could seriously impact operations at the airport. In addition, the Conrail line at the site's eastern boundary, as well as U.S. Route 1 and 9 (between the rail line and the airport), could be severely affected by a release from the site.

## SITE SUMMARY AND RECOMMENDATION (CONTD)

Pending removal of the containers, the remaining threat would be soil contamination. The soils on site are assumed to be contaminated, based on evidence of chemical spills on the ground, observed by the NJDEP and the U.S. EPA. The only population presently on site is the removal action workers; no employees of White Chemical are on site. There have been reports, however, of break-ins during the night (Ref. No. 56). The extent of soil contamination and its effect on the surrounding population are undetermined. If the soil is heavily contaminated, there is a potential for it to adversely affect the surrounding population if dry and dusty conditions provide a vehicle for a release of particulates. In addition, contaminants in the soil may volatilize and release to the air.

In summary, due to the magnitude of material currently on site; the storage of water-reactives, air-reactives, flammables, and oxidizers in open and/or leaking containers; the storage of incompatible materials in proximity to each other; the existence of soil contamination; and the proximity of urban residential housing, active industrial facilities, a major airport, a rail line (the major eastern corridor to New York), and a highway system; the White Chemical Corp. Site poses a clear threat to public health and the environment. There is an immediate risk of a release of contaminants to the air, as well as a significant risk of fire and explosion. Human error or vandalism, or various natural phenomena such as lightning could cause a chain of uncontrollable chemical reactions. The resulting fire could release toxic fumes. Such occurrences would pose serious health and safety risks to the large residential and working populace in the surrounding area (Ref. Nos. 4, 5, 6, 25, 56). Therefore, the White Chemical Corp. Site is recommended for a **SITE INSPECTION**.

## SITE ASSESSMENT REPORT: PRELIMINARY ASSESSMENT

## PART I: SITE INFORMATION

1. **Site Name/Alias** White Chemical Corp.

   **Street** 660 Frelinghuysen Avenue

   **City** Newark **State** NJ **Zip** 07114

2. **County** Essex **County Code** 013 **Cong. Dist.** 10

3 **EPA ID No.** NJD980755623

4. **Block No.** 3782 **Lot No.** 109

5. **Latitude** 40° 41' 35" **Longitude** 074° 12' 00"

   **USGS Quad.** Elizabeth, NJ-NY

6. **Owner** AZS Corporation* **Tel. No.** Not listed, according to information

   **Street** 6025 Sandy Springs Circle, Suite 313

   **City** Atlanta **State** GA **Zip** Unknown

7. **Operator** Mr. James White, President **Tel. No.** (201) 621-4100

   **Street** 660 Frelinghuysen Avenue

   **City** Newark **State** NJ **Zip** 07114

8. **Type of Ownership**

   ☒ Private ☐ Federal ☐ State
   ☐ County ☐ Municipal ☐ Unknown ☐ Other _____

9. **Owner/Operator Notification on File**

   ☐ RCRA 3001 **Date** _____ ☐ CERCLA 103c **Date** _____
   ☐ None ☒ Unknown

10. **Permit Information**

| Permit | Permit No. | Date Issued | Expiration Date | Comments |
|---|---|---|---|---|
| None known | | | | |

* The property on which White Chemical Corp. operated is owned by AZS Corporation of Atlanta, Georgia. Background literature indicates the above address for AZS; however, telephone directory assistance advised that there is no listing for AZS in Atlanta. The parent company of AZS is Tosoh, 1700 Water Place, Atlanta, Georgia, (404) 956-1100. Prior to May 1983 Lancaster Chemical Corp., a division of AZS, manufactured chemicals at the site.

11. **Site Status**

☐ Active ☒ Inactive ☐ Unknown

12. **Years of Operation** 1983† to 1990

†White Chemical Corp. formerly carried on its chemical manufacturing activities in Bayonne but moved to its current location at 660 Frelinghuysen Avenue, Newark, in 1983.

13. **Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.**

(a) **Waste Sources**

| Waste Unit No. | Waste Source Type | Facility Name for Unit |
|---|---|---|
| 1 | Drums | |
| 2 | Tanks, Cylinders, Vats, Carboys, Boxes, Lab Pack -size Containers | |

(b) **Other Areas of Concern**

**Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.**

According to the NJDEP, which conducted inspections on site, numerous spills had taken place. Materials spilled included phosphoric acid, sulfuric acid, and ethylene dichloride. Background information does not delineate specific areas where or dates when spills occurred.

14. **Information available from**

**Contact** Amy Brochu **Agency** U.S. EPA **Tel. No.** (201) 906-6802

**Preparer** Susan Lenczyk **Agency** NUS Corp. Region 2 FIT **Date** December 27, 1990

Ref. Nos. 1, 2, 3, 59, 60

## PART II: WASTE SOURCE INFORMATION

**For each of the waste units identified in Part I, complete the following items.**

**Waste Unit** 1 - Drums

**Source Type**

| | | | |
|---|---|---|---|
| ____ | Landfill | ____ | Contaminated Soil |
| ____ | Surface Impoundment | ____ | Pile |
| X | Drums | ____ | Land Treatment |
| ____ | Tanks/Containers | ____ | Other |

**Description:**

Approximately 9,000 55-gallon drums, in various stages of deterioration, are stored on site. Of these drums, approximately 1,974 contain hazardous waste, 915 contain scrubbing solution (water with xylene or trichloroethylene), 608 contain waste filter cake, 2,347 contain wastes that may be hazardous, and 109 contain substances not yet classified. The remainder of the drums either were reportedly empty or contained product or intermediates.

Some drums are leaking their contents onto the soil; substances in others are corroding the pallets on which the drums are stored. Some drums have fumes emanating from them. Water-reactive materials were found to be stored outside where rain or humidity provides conditions for ongoing releases. Incompatible substances are stored next to each other. The presence of multiple labels on some drums indicates that drums may have been used several times.

**Hazardous Waste Quantity**

5,953 drums x 50 gallons = 297,650 gallons

(1,974 + 915 + 608 + 2,347 + 109 = 5,953)

**Hazardous Substances/Physical State**

Some known chemicals contained within the drums are acetone, benzyl bromide, ethylene dichloride, hydrochloric acid, hydrocyanic acid, hydrozer bromide, phosphorous tribromide, sulfuric acid, trichloroethylene, (anhydrous) toluene, and xylene. Drums contain mostly liquids, but there is some evidence of volatilization. Acids were detected in ambient air off site by colorimetric methods. Concurrently, some workers performing the removal action on site have experienced illness. Some substances found on site may also be in solid form.

Ref. Nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11

## PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 2 - Tanks/Containers

Source Type

| | | | |
|---|---|---|---|
| ____ | Landfill | ____ | Contaminated Soil |
| ____ | Surface Impoundment | ____ | Pile |
| ____ | Drums | ____ | Land Treatment |
| X | Tanks/Containers | ____ | Other |

Description:

During its assessment of the White Chemical Corp. Site, the U.S. EPA observed over 100 cylinders, tanks, vats, carboys, and boxes, many of which were leaking or were in a deteriorated state. In addition, the Newark Fire Department noted that the buildings contain thousands of lab pack -size containers in poor condition.

Hazardous Waste Quantity

It is unclear precisely how many of the containers on site contain hazardous substances. Of the 100-plus containers, 63 are outdoor tanks ranging in capacity from 75 gallons to 20,000 lbs.

Hazardous Substances/Physical State

Background information is not clear concerning exactly what substances the above-mentioned containers hold. It is probable that the contents of many of the tanks and containers are liquids and that the contents of the cylinders are gases. It appears that there is at least one tank containing bromine, another tank holding phosphorous trichloride, and one cylinder containing chlorine. Other materials contained in the tanks include acetic acid, acetyl chloride, and valaroyl chloride. Some substances found on site may also be in solid form.

Ref. Nos. 11,12, 13, 14

## PART III: EXISTING ANALYTICAL DATA (If any)

No soil, groundwater, or surface water sampling has been conducted on site.

The U.S. EPA's Technical Assistance Team (TAT) conducted MIRAN testing of ambient air on October 11, 1990. Results indicated the possible presence of amines. Air samples collected from the perimeter of the White Chemical Corp. Site have shown sulfuric acid levels at nearly 1 ppm, which is the threshold limit value (TLV) for this compound. TAT used Draeger tubes in the vicinity of the drums after a rainstorm; these indicated the presence of acids at concentrations greater than 100 ppm. The data for these sampling events were not available for this report (Ref. Nos. 18, 19, 20).

On October 22, 1990, the air was sampled in one of the EPA trailers stationed on site in support of the removal action. The data showed the presence of various organic compounds, including toluene, 1,1,1-trichloroethane, and trichloroethene. It must be noted that no QC evaluation has been performed on these data. The complete results of this sampling event can be found in Reference 8 of this report.

On October 25, 1990, air sampling in the trailers revealed the presence of formaldehyde at concentrations ranging from 0.44 ppm to 0.65 ppm (Ref. No. 9).

# PART IV: HAZARD ASSESSMENT

## GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.**

   There is a suspected release of contaminants from the White Chemical Site to groundwater. During NJDEP inspections and a U.S. EPA assessment, drums were found to be leaking their contents onto the soil. Soil was observed to be stained in some areas. Some of the substances known to have been spilled include phosphoric acid, sulfuric acid, and ethylene dichloride. Background information does not indicate the identity of all of the leaking substances or the dates on which spills occurred. However, some known chemicals contained within drums on site are acetone, benzyl bromide, ethylene dichloride, hydrochloric acid, hydrocyanic acid, hydrogen bromide, phosphorous (red), phosphorous tribromide, sulfuric acid, trichloroethylene, (anhydrous) toluene, and xylene. Since the site area does not have a continuous clay layer between the surface and the water table, and since water can be found in the area at depths ranging from 15 to 60 feet, it is suspected that contaminants from the site migrated to the groundwater beneath the site.

   Ref. Nos. 3, 14, 15, 60

2. **Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

   Underlying the site is the Passaic Formation (formerly known as the Brunswick Formation) of the Newark Group of Late Triassic Age (Ref. No. 21, p. 15). This formation and the Pleistocene deposits overlying it form the aquifer of concern; there is no impermeable layer between the formation and the underlying deposits. The site is located in southern Essex County, east of the Watchung Mountains. In this part of the county the Passaic Formation is predominantly composed of a soft red shale (Ref. No. 22, p. 5). The total thickness of this formation, though not known, probably exceeds 6,000 feet (Ref. No. 22, p. 5). The depth to bedrock in the site vicinity is approximately 50 feet (Ref. No. 23).

   Unconsolidated clay, sand, and gravel deposited during the Pleistocene and Recent Epochs overlie the Newark Group Passaic Formation (Ref. No. 22, p. 5). Specifically, the site area is covered by unconsolidated sediments deposited by glaciers or glacial meltwater. These deposits consist of unstratified drift called till, or ground moraine (Ref. No. 22). This drift is a heterogeneous mixture of clay, silt, sand, gravel, cobbles, and boulders deposited by ice (Ref. No. 22). The hydraulic conductivity of such deposits has an approximate range of $10^{-5}$ to $10^{-7}$ cm/sec. (Ref. No. 24). The Pleistocene deposits vary in thickness throughout the Newark area. In the vicinity of the site, the thickness of these deposits is approximately 50 feet. Based on information on wells within a 1-mile radius of the site, the depth to the water table ranges from 15 to 60 feet (Ref. No. 22, p. 45, Fig. 2).

   The Passaic Formation yields water from the cracks in the rocks of which it is composed. In this formation is a type of modified water-table condition wherein the water is generally free to move in any direction. The various systems of cracks intersect so that water can move in all directions. For the Newark area as a whole, there may be no one particular direction that is more favorable for water flow than are others. Most likely, flow direction differs from place to place (Ref. No. 21, p. 24).

   It is unlikely that water is transmitted for long distances underground through the Passaic Formation. The bedding planes, or the horizontal cracks along them, probably do not provide the path of least resistance to the flow of water. Rather, water probably flows through the formation in vertical or nearly vertical cracks. Individual vertical cracks are not likely to extend very far without interruption except along major faults. These cracks probably would not transmit water for distances greater than 2 or 3 miles (Ref. No. 21, p. 25).

3. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

Many drums are stored on the ground surface. Both the U.S. EPA and the NJDEP observed chemical spills on the soil (Ref. Nos. 14, 25). Some had formed puddles, which were found to be strongly acidic based on pH tests (Ref No. 25). As no soil samples, either surface or subsurface, have been collected on site, it is assumed that the lowest point of waste disposal/storage is on the surface. As the water table in the area can be found at a depth ranging from 15 to 60 feet, the depth from the lowest point of waste storage to the highest seasonal level of the saturated zone of the aquifer of concern is approximately 15 feet (Ref. Nos. 3; 22, p.45, Fig. 2).

4. **What is the distance to and depth of the nearest well that is currently used for drinking purposes?**

According to the U.S. Geological Survey, there is a private well in Elizabeth that is used for domestic purposes. This well is located approximately 3 miles from the site.

Ref. Nos. 26, 27

5. **If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be located within the contamination boundary of the release.**

A release to groundwater is suspected; however, it is unknown how far any contamination may have spread. Most of the wells within a 4-mile radius of the site are used for industrial purposes. According to the U.S. Geological Survey, however, there are four private wells that are used for domestic purposes. These are located from approximately 3 to 3.5 miles from the site.

As stated previously, it is not likely that water is transmitted for long distances underground through the Passaic Formation. Water probably flows through the formation in vertical or nearly vertical cracks. Individual vertical cracks are not likely to extend very far without interruption except along major faults. These cracks probably would not transmit water for distances greater than 2 or 3 miles (Ref. No. 21, p. 25). Therefore, there is little likelihood that wells located 3 to 4 miles from the site would be affected by groundwater contamination attributable to the site.

Ref. Nos. 26, 27

6. **Identify the population served by wells located within 4 miles of the site that draw from the aquifer of concern.**

| Distance | Population |
|---|---|
| 0 - ¼ mi | 0 |
| > ¼ - ½ mi | 0 |
| > ½ - 1 mi | 0 |
| > 1 - 2 mi | 0 |
| > 2 - 3 mi | 0 |
| > 3 - 4 mi | 15 (est.) |

Ref. Nos. 26, 27

7. **Identify uses of groundwater within 4 miles of the site (i.e. private drinking source, municipal source, commercial, irrigation, unuseable).**

Most of the wells within a 4-mile radius of the site are used for industrial purposes. However, according to the U.S. Geological Survey, there are four private wells that are used for domestic purposes. These are located from approximately 3 to 3.5 miles from the site.

Ref. Nos. 26, 27

**SURFACE WATER ROUTE**

8. **Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence.**

There is no suspected or observed release of contaminants from the site to surface water, since there is no overland migration route. However, there is at least one storm drain on site located on the northern portion of the property, and there is also a culvert on the southern part of the property. It is not known to where the drain or the culvert leads. However, storm drains in the vicinity of the site are connected to sewage lines. These lead to a pumping station near McClellan Street Bridge and then to the Passaic Valley Sewage Treatment Plant. The distance from the site to the treatment plant is approximately 3 miles.

The only apparent potential for a release of contaminants from the site to surface water is by means of severe flooding. The site is located between the limits of the 100-year flood and the 500-year flood.

Ref. Nos. 14, 28, 29, 30

9. **Identify the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.**

In the event of flooding the nearest downslope surface waters are two Riverine Lower Perennial Open Waters and several Palustrine Emergent Wetlands surrounding Newark Airport. These waters are approximately 0.6 mile east and southeast of the site. However, there does not appear to be an overland route for runoff from the site to travel to these waters.

Ref. Nos. 27, 28

10. **What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.**

See Nos. 8 and 9 above.

11. **Determine the floodplain that the site is located within.**

The site is located in an area between the limits of the 100-year flood and the 500-year flood.

Ref. No. 30

12. **Identify drinking water intakes in surface waters within 15 miles downstream of the site. For each intake identify: the distance from the point of surface water entry, population served, and stream flow at the intake location.**

| Intake | Distance | Population Served | Flow (cfs) |
|---|---|---|---|
| None | | | |

There are no drinking water intakes in surface waters within 15 miles of the site. There is no point at which overland surface runoff from the site enters any surface water body. There is a possibility that storm drainage from the site discharges to Newark Bay. The distance from the site to the bay is approximately 3 miles. Newark Bay and the various rivers that enter and exit it (Passaic River, Hackensack River, Arthur Kill, and Kill Van Kull) are not used as sources of drinking water.

Ref. Nos. 27, 28, 31

13. **Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:**

| Fishery | Water Body Type | Flow (cfs) |
|---|---|---|
| Newark Bay | coastal tidal waters | NA |
| Passaic River | large river | >10,000 |
| Hackensack River | large river | >10,000 |
| Arthur Kill | coastal tidal waters | NA |
| Kill Van Kull | coastal tidal waters | NA |
| Upper New York Bay | coastal tidal waters | NA |

There is no point at which overland surface runoff from the site enters any surface water body. A storm drain that may lead from the site to Newark Bay would follow a path at least 3 miles in length. However, the site is located between the limits of the 100-year flood and the 500-year flood. It is assumed that the only potential for a release of contaminants from the site to surface water is by means of flooding.

Ref. Nos. 14, 27, 29, 30

14. **Identify sensitive environments that exist within 15 miles of the point of surface water entry. For each sensitive environment specify the following:**

| Environment | Water Body Type | Flow (cfs) |
|---|---|---|
| Newark Bay | coastal tidal waters | NA |
| Passaic River | large river | >10,000 |
| Hackensack River | large river | >10,000 |
| Arthur Kill | coastal tidal waters | NA |
| Kill Van Kull | coastal tidal waters | NA |
| Upper New York Bay | coastal tidal waters | NA |

There is no point at which overland surface runoff from the site enters any surface water body. Although a storm drain on site may lead to Newark Bay, in which several tidal flats are present, the distance from the site to the bay is approximately 3 miles. However, the site is located between the limits of the 100-year flood and the 500-year flood. It is assumed that the only potential for a release of contaminants from the site to surface water and associated sensitive environments is by means of flooding. The least tern (Sterna antillarum), a federally listed endangered species, is known to nest in the Newark Bay area. In addition, Newark Bay, the Arthur Kill, the Kill Van Kull, the Passaic River, and the Hackensack River are used by the Atlantic sturgeon (Acipenser oxyrhynchus) and the American shad (Alosa sapidissima) during their migration. These fish are listed by the State of New Jersey as threatened. Upper New York Bay is a migratory route for the shortnose sturgeon (Acipenser brevirostrum), a federally listed endangered species.

Ref. Nos. 14, 27, 29, 30, 48, 50, 51

15. **If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 12-14 that are or may be located within the contamination boundary of the release.**

| Intake | Fishery | Environment |
|---|---|---|
| None | None | None |

There is no observed or suspected release from the White Chemical Site to surface water, since there is no point at which overland surface runoff from the site enters any surface water body. A possible below-ground route from a storm drain on site to Newark Bay would follow a path at least 3 miles in length. There is no past or present release to surface water suspected. However, the site is located in an area between the limits of the 100-year flood and the 500-year flood. The potential for the site to release to surface water is based upon its location within this floodplain.

Ref. Nos. 27, 28, 29, 30

**SOIL EXPOSURE PATHWAY**

16. **Determine the number of people that occupy residences or attend school or day care on or within 200 feet of the site property.**

There are no residences, schools, or day care facilities known to exist within 200 feet of the site property.

Ref. Nos. 14; 15; 27; 54, p.3

17. **Determine the number of people that work on or within 200 feet of the site property.**

There are three large commercial establishments immediately adjacent to the White Chemical Corp. Site. To the east lies Coopers Sportswear, to the east-northeast is Sleepline Industries, and to the north is found an industrial center. It is not known how many people are employed by these businesses; however, approximately 6,000 to 8,000 people are reported to be employed in the area within one-quarter mile of the site.

Ref. Nos. 14, 15, 28

18. **Identify terrestrial sensitive environments on or within 200 feet of the site property.**

There are no terrestrial sensitive environments within 200 feet of the White Chemical Corp. Site.

Ref. Nos. 28, 48

**AIR ROUTE**

19. **Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence.**

Activities at the White Chemical Corp. Site have caused releases of contaminants to the air. According to the U. S. EPA's Toxic Release Inventory System, White Chemical has had fugitive air emissions of chlorine, hydrochloric acid, xylene, and 1, 2-dichloroethane. During one year the amount of hydrochloric acid emitted was 15, 507 lbs. ( Ref. Nos. 57, 58). Photographs taken by the NJDEP depict large clouds that formed at the site caused by the interaction of moisture in the air with fumes emanating from drums (Ref. Nos. 15; 54, pp. 3-4). During the current EPA

removal action, MIRAN testing has indicated the presence of amines in the air on site (Ref. No. 7). Concurrently, removal workers have experienced eye and throat irritation within the trailers on site (Ref. No. 16). Various organic contaminants including formaldehyde at high levels were found in these trailers (Ref. Nos. 8, 9, 16).

Perimeter air samples taken around the White Chemical Corp. Site have sometimes shown sulfuric acid levels near 1 ppm (Ref. No. 18).

On September 7, 1990, the U.S. EPA's Emergency Response Cleanup Services (ERCS) contractor mobilized in order to stabilize approximately 20 fuming drums of phosphorous tribromide (Ref. No. 4).

On September 25, 1990, the U.S. EPA's Technical Assistance Team (TAT) conducted air sampling at the site. Draeger tubes showed that various acids were migrating from drums at concentrations in excess of 100 ppm (Ref. No. 19). The Agency for Toxic Substances and Disease Registry (ATSDR) and EPA met with representatives of Handcraft, a facility north of the site. On two occasions in June 1990, Handcraft had to close because of fumes from White Chemical. Employees experienced nausea, vomiting, headaches, and eye irritation.

On October 9, 1990, Draeger tubes showed hydrochloric acid at concentrations of 8 ppm and chlorine at 10 ppm in the air near drums after a heavy rain at night (Ref. No. 20).

The EPA is particularly concerned about the presence of phosphorous trichloride, as a release of this substance could potentially affect the population within 3 miles of the site (Ref. No. 14). Approximately 290,000 people live within the 3-mile radius, and an unknown number of people are employed in this area. Approximately 487, 000 people live within 4 miles of the site. (Ref. No. 49).

The City of Newark's Office of Emergency Management (OEM) notes that the Newark Fire Department and NJDEP's Emergency Response Team have frequently been called to the site due to complaints by employees of adjacent facilities. These complaints centered around noxious fumes emanating from the site and spills occurring on site (Ref. No. 12). Some drums on site were found to be within 50 feet of adjacent properties (Ref. No. 17).

The State of New Jersey Department of Health visited the Personality Corporation adjacent to the White Chemical Corp. Site and interviewed employees who had symptoms and signs of illness. Complaints centered around burning eyes, irritated nose and throat, cough, chest discomfort, itchy skin, and nausea associated with frequent odors in the building. The Department of Health representatives noted that they, too, experienced burning and tearing of the eyes and irritation of the throat during their visit to Personality Corporation. They also noted an odor that had an acidlike quality in the area outside the building (Ref. No. 18).

20. **Determine populations that reside within 4 miles of the site.**

| Distance | Population |
|---|---|
| 0 - ¼ mi | 4,000-6,000 |
| >¼ - ½ mi | 3,391 |
| >½ - 1 mi | 10,463 |
| >1 - 2 mi | 91,466 |
| >2 - 3 mi | 179,021 |
| >3 - 4 mi | 197,423 |

Ref. Nos. 14, 49

21. **Identify sensitive environments and wetlands acreage within $\frac{1}{4}$ mile of the site.**

| Sensitive Environment Type | Distance |
|---|---|
| None | |

Ref. No. 27

22. **If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination from the release.**

Although a release to air from the White Chemical Site is observed, there are no known data indicating that those who reside in the site area have been adversely affected. However, a number of employees of Personality Corporation, adjacent to the northern part of the site, have complained of illness associated with odors emanating from White Chemical Corp. In addition, Handcraft, another neighboring facility, closed on two occasions because of fumes from White Chemical. The number of employees affected is unknown.

The site is located in a densely populated area, with 4,000 to 6,000 people living within one-quarter mile of the site. There are several large public housing projects and a senior citizens' home within this quarter-mile radius. The number of people working within one-quarter mile of the site is approximately 6,000 to 8,000. In addition, Newark International Airport is situated less than 1 mile east of the site. Given prevailing winds toward the east, a fire and explosion at White Chemical could seriously impact airport operations. Furthermore, the Conrail line at the site's eastern boundary, as well as U.S. Route 1 and 9 (between the rail line and the airport), could be severely affected by a release from the site.

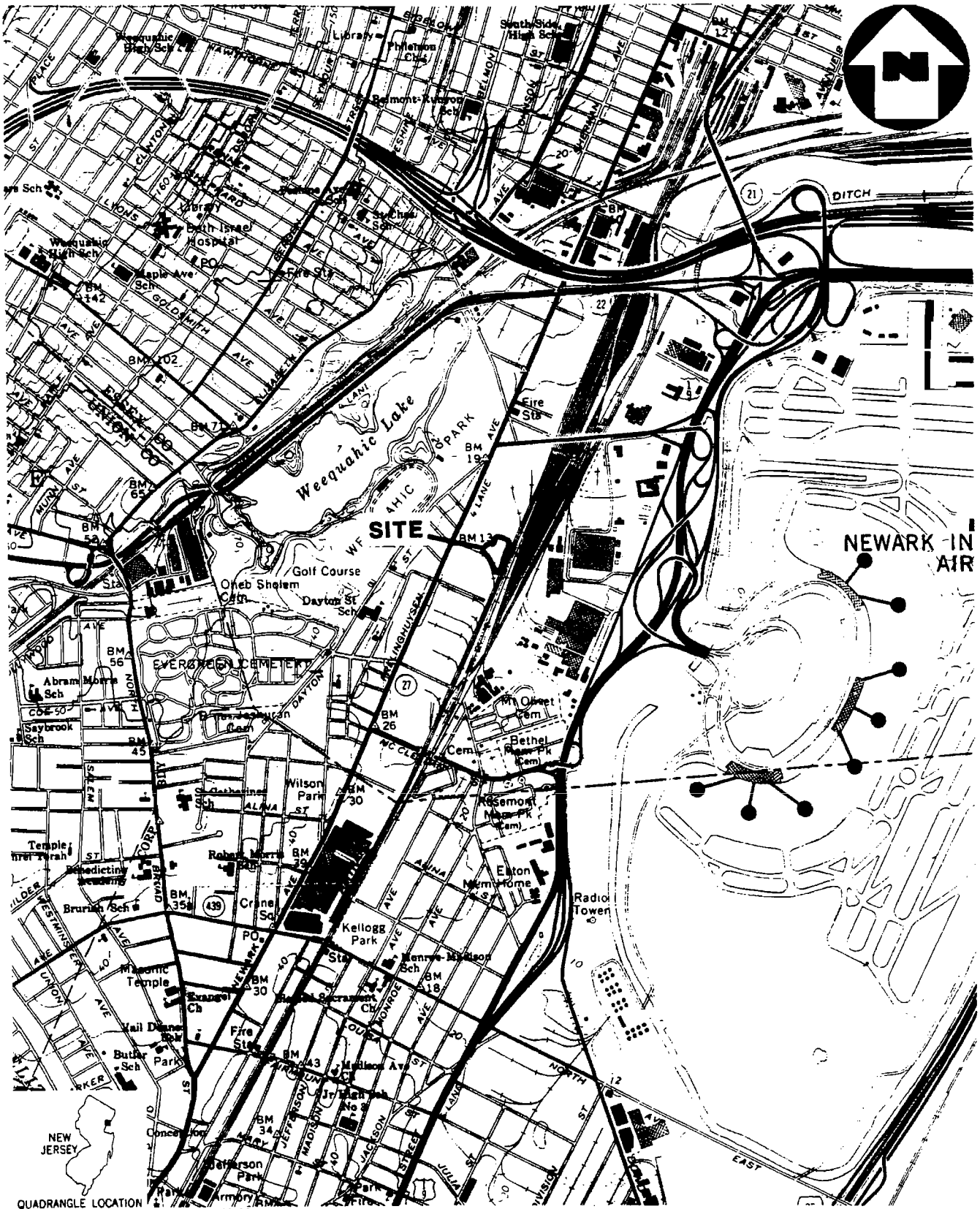
Ref. Nos. 15, 18, 19

23. **If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 21, that are or may be located within the area of air contamination from the release.**

There are no sensitive environments in the site vicinity that may be affected by air contamination from the site.

Ref. No. 27

**ATTACHMENT 1**




**SITE LOCATION MAP**

**WHITE CHEMICAL CORP., NEWARK, N.J.**

SCALE 1" = 2000'

FIGURE 1

NUS CORPORATION

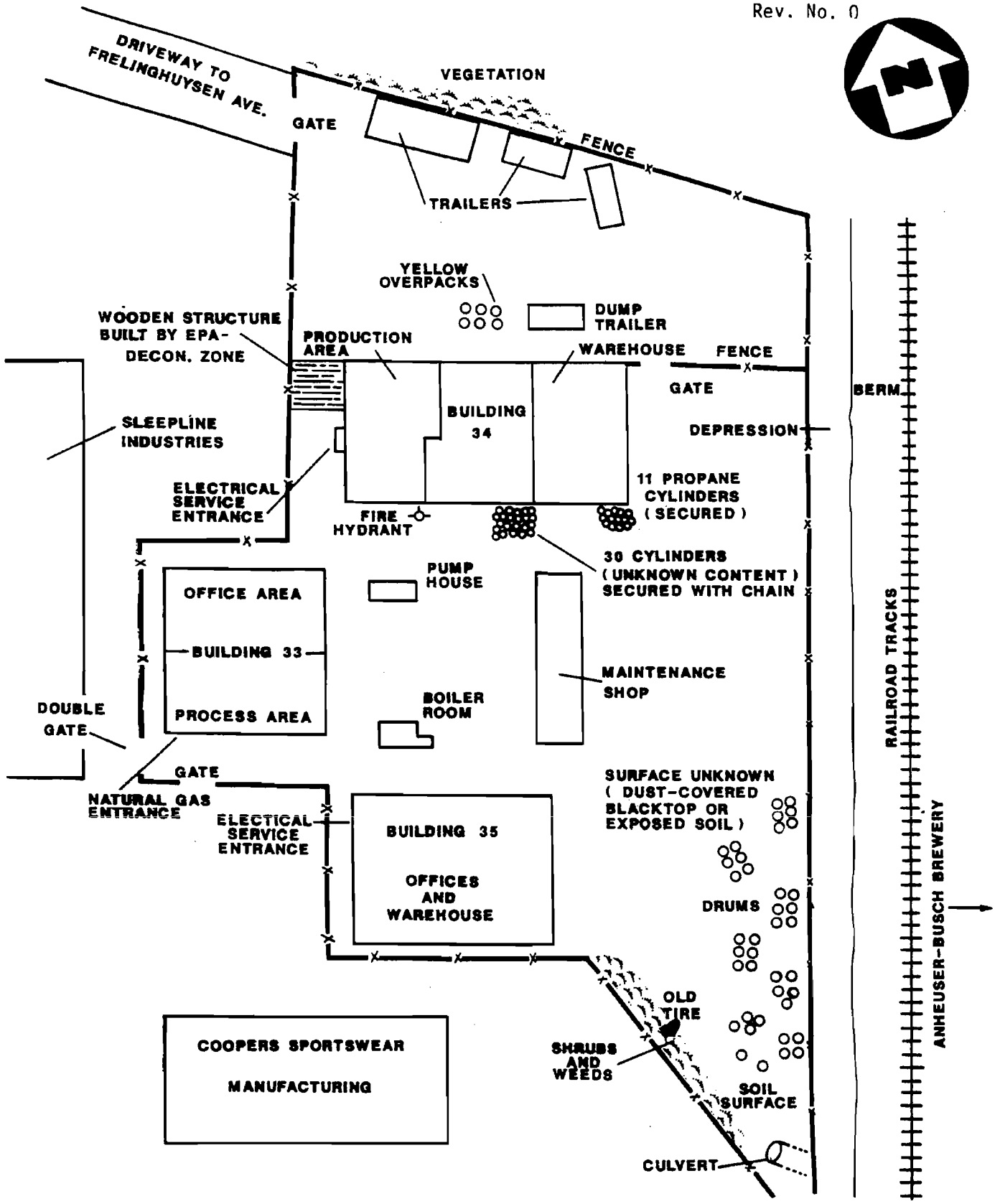



FIGURE 2

**SITE MAP**
**WHITE CHEMICAL CORP., NEWARK, N.J.**
NOT TO SCALE

NUS CORPORATION

**ATTACHMENT 2**

## REFERENCES

1. State of New Jersey, Department of Environmental Protection (NJDEP), Division of Waste Management (DWM), Supplemental Directive No. 1 and Notice to Insurer, in the matter of White Chemical Corporation Site, et al. June 15, 1990.

2. NJDEP, DWM, Supplemental Directive No. 2 and Notice to Insurer, in the matter of White Chemical Corporation Site, et al. July 18, 1990.

3. United States Environmental Protection Agency (U.S. EPA), Region II memorandum from Paula A. Cammarata, On-Scene Coordinator (OSC), Removal Action Branch (RAB), to Constantine Sidamon- Eristoff, Regional Administrator, Subject: Confirmation of Verbal Approval and Funding Request for Removal Action Approval at the White Chemical Company Site, Newark, Essex County, New Jersey. September 26, 1990.

4. Fact Sheet, White Chemical, from U.S. EPA files. Undated.

5. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) memorandum from Chief, Technical Support Section, and Chief, Program Operations Section, to Arthur Block, ATSDR Regional Representative, EPA Region II, Subject: Health Consultation - White Chemical Company Site. September 28, 1990.

6. Photo Log, White Chemical, 600 Frelinghuysen Avenue, Newark, New Jersey; Photos by R. J. Montgomery, OSC, EPA-RAB; from U.S. EPA files. September 28 and October 1, 1990.

7. U.S. EPA, Progress Polrep, from Paula Cammarata, OSC, to R. Caspe et al. Subject: White Chemical Company, 660 Frelinghuysen Avenue, Essex County, New Jersey, October 19, 1990.

8. Results of GC/MS air samples analysis, White Chemical Site. Sampled October 22, 1990.

9. Record of Subcontracting Contacts, White Chemical, Project No. 3347-21-01-3438, Formaldehyde Results. October 25, 1990; Roy F. Weston, Inc. Zone Location Map of White Chemical Corp, Newark, New Jersey, 10/17/90; U. S. EPA memorandum from Paula A. Cammarata, OSC, RAB, to Rod Turpin, Section Chief, Environmental Response Team, Subject: Request for Air Sampling at White Chemical, October 29. 1990.

10. City of Newark, Department of Engineering, Emergency Information System, Site Characterization and Analysis, White Chemical Corp. October 11, 1990.

11. Technical Assistance Team, Combined Chemical List for White Chemical Corp. October 1990.

12. U.S. EPA, Region II, Administrative Order Directing Compliance with Request for Access, in the matter of White Chemical Corporation and Mr. James White, Index No. II CERCLA - 00117. Effective October 8, 1990.

13. Weston, Title III List of Extremely Hazardous Substances, White Chemical Corp. October 10, 1990, plus attachment.

14. Telecon Note: Conversation between Paula Cammarata, OSC, Removal Action Branch, U.S. EPA, and Susan Lenczyk, NUS Corp., November 19, 1990.

15. Community Relations Plan, White Chemical Site, City of Newark, Essex County, New Jersey, prepared by Roy F. Weston, Inc., Region II, Technical Assistance Team, and Emergency and Remedial Response Division, Removal Action Branch, U.S. EPA. Issued September 1990.

## REFERENCES (CONTD)

16. Bullets for Week Ending November 1, 1990, White Chemical Site, Newark, New Jersey, Paula Cammarata/ E. Makarewicz; Fourth Quarter Management Memo, White Chemical, Newark, NJ; Bullets for Week of October 15, 1990, White Chemical Company Site, Newark, New Jersey; Bullet for Habicht on White Chemical.

17. Request for Assignment of Attorney for the White Chemical Site, Newark, Essex County, New Jersey. Richard C. Salkie, Associate Director for Removal and Emergency Preparedness Programs, Delmar Karlen, Chief, New Jersey Superfund Branch. September 6, 1990.

18. Letter from Robert R. Boesch, MD, Occupational Health Service, and Marilyn V. Howarth, MD, Occupational Health Service, State of New Jersey, Department of Health, to Lisa Voice, ATSDR Representative, U.S. EPA Region 2. October 17, 1990.

19. U.S. EPA Pollution Report, Polrep No. 3, from Paula Cammarata, OSC, RAB, to R. Caspe et al. Subject: White Chemical Company, September 28, 1990; date released: October 1, 1990.

20. U.S. EPA, Pollution Report, Polrep No.5, from Paula Cammarata, OSC, RAB, to R. Caspe et al. Subject: White Chemical Company, October 12, 1990; date released: October 15, 1990.

21. Herpers, H. and H.C. Barksdale. Preliminary Report on the Geology and Groundwater Supply of the Newark, New Jersey Area. Special Report 10. State of New Jersey Department of Conservation and Economic Development, Division of Water Policy and Supply, 1951.

22. Nichols, W.D. Groundwater Resources of Essex County, New Jersey. Special Report No. 28. State of New Jersey Department of Conservation and Economic Development, Division of Water Policy and Supply, 1968.

23. Nemickas, B. Bedrock Topography and Thickness of Pleistocene Deposits in Union County and Adjacent Areas (Map), New Jersey. 1974.

24. Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1984.

25. Declaration of Paula A. Cammarata, U.S. EPA, On-Scene Coordinator for the White Chemical Site. October 9, 1990.

26. U.S. Geological Survey, Selected Information of Wells from the Groundwater Site Inventory Database, Essex County. 1986.

27. Four-Mile Vicinity Map based on U.S. Department of the Interior Geological Survey Topographic Maps, 7.5 minute series, Quadrangles for Elizabeth, NJ-NY, 1967, photorevised 1981; Jersey City, NJ-NY, 1967, photorevised 1981; Weehawken, NJ-NY, 1967, photorevised 1981; Orange, NJ, 1955, photorevised 1981; Caldwell, NJ, 1954, photorevised 1981; and Roselle, NJ, 1955, photorevised 1981.

28. Preliminary Asessment Off-Site Reconnaissance Information Reporting Form for White Chemical Corp., TDD No. 02-9010-19, NUS Corporation Region 2 FIT, November 1, 1990.

29. Telecon Note: Conversation between Mr. Tivillyes, Engineer, Newark City Water Department, and Paul Bauer, NUS Corp., June 27, 1989.

30. FIRM, Flood Insurance Rate Map, City of Newark, New Jersey, Panel 9 of 12, Community Panel No. 340189 0009 B; U.S. Department of Housing and Urban Development, Federal Insurance Administration, Effective Date: March 28, 1980.

## REFERENCES (CONTD)

31. NJDEP, Surface Water Quality Standards, N.J.A.C. 7:9-4.1 et. seq., May 1985.

32. Declaration of Yacoub Yacoub, Chief, Bureau of Metro Field Operations, NJDEP, DHWM. October 4, 1990.

33. White Chemical Corporation, chemical specification literature. Undated.

34. U.S. EPA, Aerial Photography Services Request Form, White Chemical Site. September 11, 1990; plus attachments.

35. Newark Fire Department, Division of Fire Prevention and Life Safety, Fire Inspection Records, Nos. 00984, 04010, 04028, and 04030. Dates of Inspection: May 2, 1990 and May 5, 1990.

36. Interior Sketches of White Chemical Corp. site buildings, from U.S. EPA files. Undated.

37. NJDEP, DHWM, Administrative Order and Notice of Civil Administrative Penalty Assessment, in the matter of White Chemical Corporation. March 15, 1990; plus attachments.

38. Letter from John M. Scagnelli, Whitman & Ransom, to Arnold Schiff, NJDEP, Re: White Chemical Co. Notice of Violation. May 2, 1990.

39. NJDEP memorandum from David Oster, Acting Section Chief, Metro Bureau of Field Operations, to Bruce Venner, Chief, Bureau of Compliance and Technical Services (both of NJDEP), Subject: Request for $35,567 Funding Reauthorization to continue guard service at White Chemical, Newark. June 4, 1990.

40. NJDEP memorandum from David Oster, Acting Section Chief, Metro Bureau of Field Operations, to Wayne Howitz, Assistant Director, Hazardous Waste Enforcement (both of NJDEP), Subject: Update on White Chemical. June 19, 1990.

41. U.S. EPA, FACTS, Superfund Removal Action at White Chemical in Newark, NJ. October 1990.

42. Letter from Lance R. Miller, Director, NJDEP, DHWM, to Richard Caspe, Director, Emergency and Remedial Response Division (ERRD), U.S. EPA, Re: Removal Request, White Chemical. 660 Frelinghuysen Avenue, Newark, New Jersey, August 24, 1990.

43. Letter from Lance R. Miller, Acting Director, NJDEP, DHWM, to Stephen Luftig, Director, EERD, U.S. EPA, Re: Removal Request, White Chemical Corporation. Undated.

44. New Jersey Department of Health (NJDOH) memorandum from Jim Pasqualo, ATSDR Project Manager, to Chris Milne, Program Manager, (both of NJDOH), Subject: White Chemical Company. October 11, 1990: plus attachment.

45. Letter from Gary Greulich, Environmental Specialist, NJDEP, DHWM, to White Chemical, Subject: Hazardous Waste Accumulation, July 27, 1990; NJDEP memorandum from Gary Greulich, Environmental Specialist, Metro Bureau of Field Operations, to Wayne Howitz, Assistant Director, Hazardous Waste Enforcement Element, (both of NJDEP), Subject: Removal of empty drums by White Chemical, July 27, 1990; NJDEP memorandum from David Oster, Acting Section Chief, Metro Bureau of Field Operations, to Wayne Howitz, Assistant Director, Hazardous Waste Enforcement Element (both of NJDEP), Subject: Update on White Chemical, August 8,1990.

## REFERENCES (CONTD)

46. U.S. EPA, Pollution Report, Polrep. No. 4, from John Witkowski for Paula Cammarata, OSC, RAB, to R. Caspe et al. Subject: White Chemical Company. October 7, 1990.

47. U.S. EPA, NEWS. For release October 5, 1990.

48. U.S. Fish and Wildlife Service, Atlantic Coast Ecological Inventory, Newark, NJ-NY-PA. 1980.

49. General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS), Landover Maryland, 1986.

50. NJDEP, Division of Fish and Wildlife, Endangered and Nongame Species Project, Endangered and Threatened Species of New Jersey. Undated.

51. NJDEP, Division of Parks & Forestry, Natural Lands Management, The New Jersey Natural Heritage Program, Potential Threatened and Endangered Vertebrate Species in Essex County. Undated.

52. U.S. Department of the Interior, Fish and Wildlife Service, Atlas of National Wetlands Inventory Maps for New Jersey. 1984.

53. Telecon Note: Conversation between Paula Cammarata, OSC, Removal Action Branch, U.S. EPA, and Susan Lenczyk, NUS Corp., November 26, 1990.

54. U.S. EPA, Region II, Administrative Order Directing Compliance with Request for Access, in the matter of White Chemical Corporation and Mr. James White, Index No. II CERCLA-00117. September 28, 1990.

55. Fact Sheet, White Chemical Removal Actions, Newark, New Jersey, Specialty chemical facility; significant health impact; from U.S. EPA files. Undated.

56. U.S. EPA memorandum from Constantine Sidamon-Eristoff, Regional Administrator, to Don Clay, Assistant Administrator, Office of Solid Waste and Emergency Response (both of U.S. EPA), Subject: Request for Ceiling Increase and Twelve-Month Exemption for White Chemical Company Site, Newark, Essex County, New Jersey - Action Memorandum. Undated.

57. U.S. EPA, Toxic Release Inventory System, Geographic Location Report for Region: 02, State: NJ, Zip Code: 07114. October 3, 1990.

58. U.S. EPA, Office of Toxic Substances, Toxics Release Inventory 1987 (Order Blank) , NTIS, U.S. Department of Commerce, PR-859. January 1990.

59. U.S. EPA Superfund Program, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), October 4, 1990.

60. NJDEP memorandum from Arnold Schiff, Principal Environmental Scientist, to Yacoub E. Yacoub, Bureau Chief, Metro Bureau of Enforcement, Subject: White Chemical Investigation. March 29, 1990.

REFERENCE NO. 1

3. AZS Corporation (hereinafter "AZS" or "Respondent"), has a place of business located at 6025 Sandy Springs Circle, Suite 313, City of Atlanta, State of Georgia.

4. Tosoh (U.S.A.), formerly Toyo Soda Corporation, (hereinafter "Tosoh" or "Respondents"), which is located at 1700 Water Place, City of Atlanta, State of Georgia, is the parent corporation of AZS.

5. Lancaster Chemical Corporation, a division of AZS, operated and manufactured chemicals at the site prior to May 1983. In 1981 USEPA determined the presence of xylene contamination at the site.

6. On May 8, 1990 a DIRECTIVE was issued to the Respondents. A copy of the DIRECTIVE is attached hereto and is fully incorporated herein and made a part hereof.

7. There are currently approximately 2500 drums at the site that are or may be empty or may contain small quantities of hazardous substances. The existence and location of these drums prevents the Department from properly stabilizing the site in accordance with the May 8, 1990 DIRECTIVE.

8. The Department has determined that in order for the Department to be able to properly undertake the stabilization of the site in accordance with the May 8, 1990 DIRECTIVE, proper removal and disposal of the approximately 2500 drums referenced in paragraph (7) above, is necessary.

## DIRECTIVE

NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:

9. Within sixty five (65) calendar days after receipt of this DIRECTIVE, properly remove and dispose of all empty drums located on-site.

THIS DIRECTIVE SHALL BE EFFECTIVE UPON RECEIPT.

## NOTICE

If Respondents fail to agree to perform the actions set forth in paragraph (9) above in accordance with the time frame set forth therein, the Department will conduct the associated work, using public funds. In the event that Respondents fail to perform the actions required by this Directive, the Department will commence suit against them seeking reimbursement for all costs incurred. In addition, failure to comply with this Directive may increase Respondent's liability to NJDEP to an amount equal to three (3) times the cost of performing the work required by this Directive, and may cause a lien to be placed upon Respondent's real and personal property pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11f, including a first priority lien on the property subject to the cleanup and removal, upon the expenditure of public funds.

## RESERVATION OF RIGHTS

The Department reserves the right to direct Respondents to take or arrange for the taking of any and all additional remedial actions, should the Department determine that such actions are necessary to protect the public health, safety or the environment. The Department reserves all rights and remedies under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., in addition to those referred to above, including the right to seek recovery from Respondents of all costs of any actions previously taken and costs and treble damages for any actions to be taken by the Department to investigate and remediate the site. Respondents are advised that any discharges referenced in this Directive may also constitute violations of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and that Respondents may therefore be subject to the penalties prescribed for violations of the Water Pollution Control Act. The Department reserves all rights and remedies under the Act.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

## NOTICE TO INSURER

BE ADVISED THAT, pursuant to the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11s, any claims for the cost of cleanup or damages by the State of New Jersey may be directly asserted against Respondents' insurers or any other person providing evidence of financial responsibility for the site should Respondents fail to fully satisfy this Directive. As such, Respondents' are advised to notify their respective insurers with regard to the issuance of this DIRECTIVE.

WCH/chp

## FINDINGS

1. White Chemical Corporation (hereinafter "White" or "Respondent") operates a chemical manufacturing plant at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey (hereinafter "the site").

2. James White is currently the president of White and is responsible for controlling all aspects the company's operations at the site.

3. AZS Corporation (hereinafter "AZS" or "Respondent"), which is located at 762 Marietta Boulevard, City of Atlanta, State of Georgia, is the owner of record of the site.

4. Tosoh (U.S.A) (hereinafter "Tosoh" or "Respondent"), which is located at 1700 Water Place, City of Atlanta, State of Georgia, is the parent corporation of AZS.

5. Lancaster Chemical Corporation, a division of AZS, operated and manufactured chemicals at the site prior to May 1983. In 1981 USEPA determined the presence of xylene contamination at the site.

6. Prior to June of 1983, White conducted chemical manufacturing operations at a facility located at East 22 Street, City of Bayonne, County of Hudson, New Jersey. This Bayonne facility was the subject of investigations and enforcement actions undertaken by the Department.

7. In June of 1983, White moved its operations from Bayonne, New Jersey, to the Newark New Jersey site, which is the subject of this DIRECTIVE. White manufactures acid chlorides, which are used as raw materials for the agricultural and pharmaceutical markets, and mixing flame retardants for resale.

8. On June 30, July 7, and September 8, 1989, representatives of the Department inspected the site. These inspections revealed numerous violations of the Solid Waste Management Act N.J.S.A. 13:1E-1 and the New Jersey Hazardous Waste Regulations, N.J.A.C. 7:26-1 et. seq., promulgated pursuant thereto, specifically, illegal treatment of hazardous waste, and storing hazardous waste without a permit. These violations, which involve over 9000 55-gallon drums located on site, include White's improper container management practices, resulting in numerous open containers, damaged or bulging, unlabeled containers or containers with labels not visible, numerous spills onto the ground, inadequate aisle space between drums, and the storage of ignitable waste within fifty (50) feet of the property line. Furthermore, White failed to conduct daily inspections of the drum storage areas, failed to maintain adequate personnel training records, and the facility's contingency plan was deemed inadequate.

9. On September 22, 1989, Department representatives conducted a reinspection at the site and determined that White failed to correct the majority of violations set forth in paragraph eight (8) above.

10. In September of 1989, White filed bankruptcy proceedings under Chapter 11 in Newark, New Jersey.

11. During an investigation conducted at the site by Department representatives on March 23, 1990, discharges of hazardous substances were observed including, but not limited to discharges of phosphoric acid, sulfuric acid, ethylene dichloride, and xylene. A Notice of Violation was issued on this date citing White for violating provisions under the Spill Compensation and Control Act, specifically, N.J.S.A. 58:10-23.11(c) and 23.11(e).

12. An inspection and inventory of all containers on the site was conducted by Department representatives on March 27, March 28, and March 29, 1990. A total of 9063 drums were recorded on site, of which 1974 are considered to contain hazardous waste. Of the total drums recorded, 915 drums contain "scrubbing solution", water with xylene or tricholroethylene, 608 drums contain waste filter cake (which White disposes of as non-hazardous), 2347 drums contain wastes that may potentially be hazardous waste, 109 drums contain substances that are currently not classified, 1,673 drums are empty and 3,411 drums are considered to be product or intermediates by White.

13. During a site inspection conducted on May 3, 1990, the Department observed that various chemicals, including, but not limited to, laboratory chemicals, were improperly stored, some without identification as to the content, in a building described as Building 35.

14. The substances described in paragraph eleven (11) above are hazardous substances pursuant to the regulations found at N.J.A.C. 7:1E-1 et seq., promulgated under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.

15. The hazardous substances contained in the drums and other containers are not satisfactorily stored or contained and have discharged and continue to discharged onto the lands and into the waters of the State.

16. The site is inadequately secured against unauthorized entry by members of the public as a result of the numerous points for unauthorized access through the existing site fence, thereby creating a substantial risk for members of the public to come into direct contact with various hazardous substances referenced above.

17. Due to the volume and nature of the hazardous and other unknown substances at the site, the inadequate and unsatisfactory storage of the drums containing such substances, and the potential for unauthorized access by members of the public, there exists the potential for fire and or explosion to occur, and a substantial risk of imminent and severe damage to the public health and safety and the environment.

18. The hazardous substances, referred to above, have been and continue to be discharging onto the lands and into the waters of the State, or such hazardous substances are not satisfactorily stored and contained and if discharged, would create a substantial risk of imminent damage to the public health and safety and the environment, in violation of Section 4 of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11(c).

19. Based on the above FINDINGS, the NJDEP has determined that Respondents are responsible for the discharge and potential discharge of hazardous substances at the site.

20. Pursuant to N.J.S.A. 58:10-23.11g(c), Respondents are strictly liable, jointly and severally, without regard to fault, for all costs of the cleanup and removal of the hazardous substances discharged or stored at the site.

21. Pursuant to N.J.S.A. 58:10-23.11f, whenever any hazardous substance is discharged, the Department may, in its discretion, act to remove or arrange for the removal of such discharge, or may direct the discharger to remove or arrange for the removal of such discharge.

22. Based on all of the above and the potential for harm to human health and safety and the environment, the Department has arranged for immediate twenty-four (24) hour security for the site and has arranged to conduct an on-site stabilization of the site. The cost and scope of the stabilization are set forth in Appendix A which is attached hereto and made a part hereof. The Department currently estimates that the costs of conducting the on-site stabilization will be $209,681.00. The Department currently estimates that its cost of overseeing this investigation will be $31,452.15 (15% of $209,681.00)

23. Furthermore, the Department has determined that it is necessary for respondents to remove and properly dispose of the chemicals, including the laboratory chemicals, located in Building 35 and for Respondents to take further appropriate measures to prevent unauthorized access to the site.

## DIRECTIVE

NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:

24. Within two (2) calendar days after receipt of this DIRECTIVE, repair, replace, or add as necessary, fencing and gates around the site perimeter and post the site perimeter with "Warning: No Trespassing" signs and lock all gates and entrances to prevent unauthorized access.

25. Within two (2) calendar days after receipt of this DIRECTIVE, remove all chemicals and chemical containers located in Building 35 and arrange for proper disposal. This removal action must include, but not be limited to, the analysis, classification and arrangement for proper disposal of all the chemicals and chemical containers located in this building.

26. Within seven (7) calendar days after receipt of this DIRECTIVE, arrange for the conduct of on-site twenty-four (24) hour-a-day patrol by security guard by paying $25,328.00 to the Department to fund the cost of a security guard for thirty (30) calendar days.

27. Arrange for the conduct of the on-site stabilization of the 9063 drums by paying $241,133.15 ($209,681.00 + $31,452.15) to the Department to fund the costs of the on-site stabilization within (10) days after receipts of this DIRECTIVE.

28. Payments made pursuant to this DIRECTIVE shall be made by certified check or cashier's check payable to "Treasurer, State of New Jersey" at the following address:

    New Jersey Department of Environmental Protection
    Division of Hazardous Waste Management
    Bureau of Compliance and Technical Services
    401 East State Street, 5th Floor
    CN 028
    Trenton, New Jersey 08625
    Attention: Wayne C. Howitz, Assistant Director, Enforcement

**THIS DIRECTIVE SHALL BE EFFECTIVE UPON RECEIPT.**

## NOTICE

If Respondents fail to perform the actions set forth in paragraphs (24) through (28) of this DIRECTIVE in accordance with the time frames set forth therein, the Department will conduct the associated work, using public funds. In the event that Respondents fail to perform the actions required by this Directive, the Department will commence suit against them seeking reimbursement for all costs incurred. In addition, failure to comply with this Directive may increase Respondent's liability to NJDEP to an amount equal to three (3) times the cost of performing the work required by this Directive, and may cause a lien to be placed upon Respondent's real and personal property pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11f, including a first priority lien on the property subject to the cleanup and removal, upon the expenditure of public funds.

## RESERVATION OF RIGHTS

In the event that the costs of conducting the actions set forth in paragraphs (26) and (27) above exceed the amounts specified therein, the Department reserves the right to direct Respondents to pay such costs

and to seek full reimbursement and treble damages for all such additional costs if Respondents fail to comply with such DIRECTIVE. Furthermore, the Department reserves the right to direct Respondents to take or arrange for the taking of any and all additional remedial actions, should the Department determine that such actions are necessary to protect the public health, safety or the environment. The Department reserves all rights and remedies under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., in addition to those referred to above, including the right to seek recovery from Respondents of all costs of any actions previously taken and costs and treble damages for any actions to be taken by the Department to investigate and remediate the site. Respondents are advised that the discharges referenced in this Directive may also constitute violations of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and that Respondents may therefore be subject to the penalties prescribed for violations of the Water Pollution Control Act. The Department reserves all rights and remedies under the Act.

BE ADVISED THAT, pursuant to the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11s, any claims for the cost of cleanup or damages by the State of New Jersey may be directly asserted against Respondents' insurers or any other person providing evidence of financial responsibility for the site should Respondents fail to fully satisfy this Directive. As such, Respondents' are advised to notify their respective insurers with regard to the issuance of this DIRECTIVE.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

WCH/chp

REFERENCE NO. 2

SM-002-91

Let's protect our earth

# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

18 JUL 1990

| | | |
|---|---|---|
| IN THE MATTER OF THE<br>WHITE CHEMICAL CORPORATION SITE<br>660 FRELINGHUYSEN AVENUE<br>NEWARK, NEW JERSEY<br><br>-AND-<br><br>WHITE CHEMICAL CORPORATION;<br>JAMES WHITE, INDIVIDUALLY;<br><br>AZS CORPORATION; AND<br><br>LANCASTER CHEMICAL CORPORATION; AND<br><br>TOSOH (U.S.A)<br><br>RESPONDENTS | : | SUPPLEMENTAL DIRECTIVE #2<br>AND<br>NOTICE TO INSURER |

This Directive is issued to the above captioned Respondents pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "NJDEP") by N.J.S.A. 13:1D-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. (hereinafter "the Spill Act"), and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management, pursuant to N.J.S.A. 13:1B-4. This Directive is issued in order to notify Respondents that the Department, pursuant to the provisions of the Spill Act, has determined that it is necessary to remove or arrange for the removal of hazardous substances, and in order to notify Respondents that the Department believes them to be responsible for the discharge of hazardous substances at the "site", hereinafter described.

## FINDINGS

1. White Chemical Corporation (hereinafter "White" or "Respondent") has operated a chemical manufacturing facility located at Block 3782, Lot 107, 660 Frelinghuysen Avenue, City of Newark, County of Essex, State of New Jersey (hereinafter "the site") since January of 1984.

2. James White is currently the president of White. Since White began operations at the site, James White was responsible for controlling all aspects the company's operations.

3. AZS Corporation (hereinafter "AZS" or "Respondent"), has a place of business located at 6025 Sandy Springs Circle, Suite 313, City of Atlanta, State of Georgia.

4. Tosoh (U.S.A.), formerly Toyo Soda Corporation, (hereinafter "Tosoh" or "Respondents"), which is located at 1700 Water Place, City of Atlanta, State of Georgia, is the parent corporation of AZS.

5. Lancaster Chemical Corporation, a division of AZS, operated and manufactured chemicals at the site prior to May 1983. In 1981 USEPA determined the presence of xylene contamination at the site.

6. On May 8, 1990 a DIRECTIVE was issued to the Respondents. A copy of the DIRECTIVE is attached hereto and is fully incorporated herein and made a part hereof.

7. On June 15, 1990 a SUPPLEMENTAL DIRECTIVE #1 was issued to the Respondents. A copy of the SUPPLEMENTAL DIRECTIVE #1 is attached hereto and is fully incorporated herein and made a part hereof.

8. As of the date of this SUPPLEMENTAL DIRECTIVE #2, White has removed approximately 300 empty drums, has removed hazardous substances from Building #35 and is continuing to undertake further stabilization activities in accordance with the May 8, 1990 DIRECTIVE, and the June 15, 1990 SUPPLEMENTAL DIRECTIVE #1.

9. As of the date of this SUPPLEMENTAL DIRECTIVE #2, the initial stabilization and removal actions have been completed and the initial Directive amount of $241,133.115 has been expended.

10. As of the date of this SUPPLEMENTAL DIRECTIVE #2 there are still 1282 drums on-site containing hazardous substances including, but not limited to, ethylene dichloride, trichloroethylene/water mixture, fatty acids and xylene filter cake.

11. The Department currently estimates that the cost and scope of the waste removal and disposal of the hazardous substances mentioned in paragraph (10) will be $451,273.26. The Department currently estimates that its cost of overseeing this investigation will be $67,690.98 (15% of 451,273.26). The cost and the scope of the waste removal and disposal are set forth in Appendix A which is attached hereto and made a part hereof.

## DIRECTIVE

NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:

12. Within fourteen (14) calendar days after receipt of this SUPPLEMENTAL DIRECTIVE #2 ("DIRECTIVE"), arrange for the complete removal of all hazardous substances on-site including, but not limited to, ethylene dichloride, trichloroethylene/water mixture, fatty acids, and waste xylene filter cake by paying $518,964.24 (451,273.26 + 67,690.98) to the Department to fund the costs of the hazardous substances removal.

THIS DIRECTIVE SHALL BE EFFECTIVE UPON RECEIPT.

## NOTICE

If Respondents fail to agree to perform the actions set forth in paragraph (10) above in accordance with the time frame set forth therein, the Department will conduct the associated work, using public funds. In the event that Respondents fail to perform the actions required by this DIRECTIVE, the Department will commence suit against them seeking reimbursement for all costs incurred. In addition, failure to comply with this Directive may increase Respondent's liability to NJDEP to an amount equal to three (3) times the cost of performing the work required by this DIRECTIVE, and may cause a lien to be placed upon Respondent's real and personal property pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11f, including a first priority lien on the property subject to the cleanup and removal, upon the expenditure of public funds.

## RESERVATION OF RIGHTS

In the event that the costs of conducting the actions set forth in paragraph (12) above exceed the amounts specified therein, the Department reserves the right to direct Respondents to pay such costs and to seek full reimbursement and treble damages for all such additional costs of Respondents fail to comply with such DIRECTIVE. Furthermore, the Department reserves the right to direct Respondents to take or arrange for the taking of any and all additional remedial actions, should the Department determine that such actions are necessary to protect the public health, safety or the environment. The Department reserves all rights and remedies under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., in addition to those referred to above, including the right to seek recovery from Respondents of all costs of any actions previously taken and costs and treble damages for any actions to be taken by the Department to investigate and remediate the site. Respondents are advised that any discharges referenced in this DIRECTIVE may also constitute violations of the Water Pollution

# APPENDIX A

Control Act, N.J.S.A. 58:10A-1 et seq., and that Respondents may therefore be subject to the penalties prescribed for violations of the Water Pollution Control Act. The Department reserves all rights and remedies under the Act.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

NOTICE TO INSURER

BE ADVISED THAT, pursuant to the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11s, any claims for the cost of cleanup or damages by the State of New Jersey may be directly asserted against Respondents' insurers or any other person providing evidence of financial responsibility for the site should Respondents fail to fully satisfy this DIRECTIVE. As such, Respondents' are advised to notify their respective insurers with regard to the issuance of this DIRECTIVE.

WCH/chp

REFERENCE NO. 3

G Zachos

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION II**

DATE: SEP 26 1990

SUBJECT: Confirmation of Verbal Approval and Funding Request for Removal Action Approval at the White Chemical Company Site, Newark, Essex County, New Jersey - **ACTION MEMORANDUM**

FROM: Paula A. Cammarata
Paula A. Cammarata, On-Scene Coordinator
Removal Action Branch

TO:
Constantine Sidamon-Eristoff
Regional Administrator

THRU: Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

Site No: 6J
Category of Removal: Time Critical
National Significance: No

## I. ISSUE

In a letter dated August 24, 1990, and received on August 30, 1990, the New Jersey Department of Environmental Protection (NJDEP) requested the United States Environmental Protection Agency (EPA) to perform an assessment of the White Chemical facility for a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action consideration. This site is an active facility, which is currently going through Chapter 11 bankruptcy proceedings. This site meets the criteria for initiating a removal action under Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

## II. BACKGROUND

White Chemical Company (White) is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by Mr. James White, (President), on property owned by Lancaster Chemical Corporation at 660 Frelinghuysen Avenue, Newark, New Jersey. Prior to 1983, White Chemical operated a facility located in Bayonne, New Jersey.

The site contains over 9,000 55-gallon drums, several hundred cylinders, tanks and vats, carboys, boxes, and two laboratories containing thousands of lab pack size materials; some of which appear to have formed crystals on the outside lip of the containers.

On June 30, July 7, September 8, and 22, 1989, NJDEP inspected the White Chemical facility and found numerous Resource Conservation and Recovery Act (RCRA) violations, specifically, illegal treatment of hazardous waste, and storing hazardous waste without the necessary permits. These violations involved over 9,000 55-gallon drums located on-site.

White's improper management of the stored containers resulted in numerous open containers, damaged, bulging, unlabeled containers, numerous spills onto the ground, inadequate aisle space between drums, unsegregated chemicals, water reactive materials in the open yards, and the storage of ignitable waste within 50 feet of the property line. The site was unsecured and due to the volume and nature of the hazardous substances and unknown substances, there exists the potential for fire and/or explosion to occur, and a substantial risk of imminent and severe damage to the public health and safety and the environment.

Several Notices of Violations (NOV) were issued and penalties were assessed at that time and continue to be issued to Mr. White by NJDEP. However, there has been no response to the NOVs by Mr. White.

In early 1990, NJDEP issued several Directives, the latest issued on May 8, 1990, to White Chemical to perform a clean-up of the site. A response was not received by NJDEP.

On May 15, 1990, NJDEP commenced a removal action under the New Jersey Spill Compensation and Control Act. However, by August 1990, after NJDEP had removed approximately 1,000 drums, the project ceiling of $825,000 was reached causing the cleanup to be halted. As a result, on August 24, 1990, NJDEP requested EPA to assess the site for CERCLA removal consideration.

A. Site Description

1. Physical Description

The four (4) acre site is located at 660 Frelinghuysen Avenue directly in back (east) of two large manufacturing facilities; a feather company and a sportswear manufacturer. To the north is a large clothing manufacturer. Further east and adjacent to the site is the Conrail line which is the major eastern corridor to New York and on the other side of the Conrail line lies the Anheuser Bush Brewery. Approximately one-half mile further east is U.S. Highway No. 1 and Newark International Airport. The prevailing winds in the area blow toward the east.

To the west lies a feather company, a sportswear manufacturer and Frelinghuysen Avenue. Across Frelinghuysen Avenue, within one-quarter mile, is Weequahic Park and several large housing projects.

In addition, there are several high rise senior citizen homes in the area. During the day, there are approximately 12,000 people working within a one-quarter mile radius of the site (See Attachment A).

2. General Character of Site

On September 7, 1990, EPA performed an assessment of White Chemical. NJDEP was also present for the assessment and provided information on the current status of NJDEP's removal action.

The site is an active facility currently in Chapter 11. Minimal staff (4-6) are on-site; however the manufacturing portion of the facility has ceased operation.

During the EPA assessment, EPA and the Technical Assistance Team (TAT) found numerous CERCLA and RCRA violations on-site. There are approximately 9,000 drums of hazardous materials improperly stored and precariously stacked throughout the four (4) acre site. Drums and containers are in various stages of deterioration and leaking into the soil. Numerous stains were observed on the soil. Corrosive drums are deteriorating the pallets which support them. Drums were found fuming and are in an unstable condition. Thousands of water reactive materials were found stored outside where the inclement weather provides an avenue of escape for on-going releases due to rain or humidity. Corrosives are found stored next to flammables. Drums appear to have been used several times by the number of labels found on them. Some of the drums are unknown due to the numerous labels or the lack of labeling. Other containers state "Salvage - Hazardous Waste Rejected".

There are also two laboratories on-site which EPA did not assess since White Chemical is currently working in these laboratories conducting research on non-halogenated flame retardant compounds. However, a video obtained by EPA from the Newark Fire Department, reveals thousands of unsegregated lab pack size materials in various stages of deterioration, stored haphazardly on shelves which are also deteriorating.

The types of chemicals found include, flammable liquids, flammable acids, corrosives, acids, oxidizers, air/water reactives and peroxide forming materials (shock sensitive).

This site clearly presents a threat to public health and welfare as defined under Section 300.415 of the NCP. Multiple pathways for the potential migration of hazardous substances off-site exist. The deteriorated condition of the drums and other containers, the clutter and proximity of incompatible materials, the local geography and close proximity of urban residential housing and industry are all contributing factors to the threat to public health and welfare.

3. NPL Status

White Chemical is not on the National Priorities List.

B. Incident/Release Characteristics

On September 7, 1990, EPA performed a preliminary assessment of White Chemical and found 11 drums of phosphorus tribromide fuming. Phosphorus tribromide is a water reactive material which gives off hydrogen bromide when exposed to moisture.

Therefore, verbal funding was authorized on September 7, 1990, by Richard L. Caspe, Director of the Emergency and Remedial Response Division (ERRD) to perform an emergency removal by overpacking these 11 drums and storing them inside of a building.

It should be noted, however, that the overpacking of these 11 drums does not contain nor stabilize the present situation of on-going releases from the several thousand remaining water reactive materials found throughout the site.

Furthermore, there is an enormous amount of material leaking into the soil due to the haphazard storage and packing of these drums, which is evident by spills, soil stains, corroded pallets and drums.

C. Quantities and Types of Substances

The site contains over 9,000 drums, several hundred cylinders and tanks, fiberpacks, gallon bottles, carboys, boxes, and several hundred to a thousand lab size bottles. Most of the containers appear to be full with the exception of the perhaps 200 - 300 empties. Since White Chemical is an active facility, NJDEP has reported that of the 9,000 drums, 3,000 of those drums have been designated by the owner as "product". This statement will be further explored during the removal action and all product found will be placed aside for White Chemical. However, those drums found to meet the requirements of a waste referenced in 40 CFR 261 will be included within this removal action.

A wide variety of flammables, acids, corrosives, poisons, oxidizers, air/water reactives and highly toxic chemicals were found stored together without adequate consideration of reaction potential in the event of breakage. The presence of water reactives such as phosphorus tribromide and the numerous different types of concentrated acids present a threat to the surroundings. In addition, the air reactives such as red phosphorus increase the threat to neighboring adjacent facilities since 90% of all drums are presently being stored outside; some within 50 feet of adjacent working facilities. Furthermore, the imminent threat is compounded by the numerous flammable compounds such as acetone, xylene, alcohols and oxidizers which are found

throughout the other materials, unsegregated. The oxidizers and air reactives pose a threat through the production of heat and toxic oxides in the event of a chemical reaction occurring. The potential dangers posed by these chemicals are described in more detail in Section III. Listings of materials have been compiled by NJDEP and verified by EPA and TAT thus far are given in the Attachment C. It should be emphasized that these lists were compiled by NJDEP during their removal action, by the Newark Fire Department during their May 1990, inspection, and through the Title III Community Right-To-Know requirements. Many other hazardous chemicals may be found in the large volume of unknown or unlabelled containers during the removal action.

| Compound | Applicable Legislation | Reportable Quantity (in pounds)* |
|---|---|---|
| Benzyl bromide | 5 | 100 |
| Dichloromethane (methylene chloride) | 5 | 100 |
| Hydriotic acid | 5 | 100 |
| Hydrochloric acid | 1 | 5,000 |
| Hydrogen cyanide | 1,4 | 10 |
| Phosphoric acid | 5 | 5,000 |
| Phosphorus | 1 | 1 |
| Phosphorus tribromide | 5 | 100 |
| Propionic acid | 5 | 5,000 |
| Red phosphorus | 5 | 100 |
| Toluene | 1,2,4 | 1,000 |
| TCE | 1,2,4 | 1,000 |
| Trimethylamine | 1 | 1,000 |
| Sulfuric acid | 1 | 1,000 |

Legislative Codes:

1. CERCLA CWA Section 311(b)(4)
2. CERCLA CWA Section 307(a)
3. CERCLA CAA Section 112
5. CERCLA CWA Section 3001
5. 49 CFR 172, Subpart B, Section 172.101

* Reportable Quantity per Department of Transportation, EPA and/or CERCLA

Table 1

## WHITE CHEMICAL, NEWARK, NEW JERSEY
Summary of Potential Toxicological
Effects of Selected Identified Compounds

| | 1. CARCINOGENIC | 2. TERATOGENIC | 3. MUTAGENIC | 4. TOXIC BY INHALATION, INGESTION OR DERMAL CONTACT | 5. CENTRAL NERVOUS SYSTEM EFFECTS | 6. EYE, SKIN, RESPIRATORY, OR MUCOUS MEMBRANE IRRITANT | 7. CARDIOVASCULAR DAMAGE | 8. KIDNEY DAMAGE | 9. LIVER DAMAGE |
|---|---|---|---|---|---|---|---|---|---|
| BENZYL BROMIDE | | | X | X | X | X | | | |
| BROMIDE | | | | X | X | | | | |
| HYDRIOTIC ACID | | | | X | | X | | | |
| HYDROCHLORIC ACID | | | X | X | | X | | | |
| HYDROCYANIC ACID | | | | X | X | X | X | X | X |
| HYDROGEN BROMIDE | | | | X | | X | | | |
| PHOSPHORUS | | | | X | X | | | | |
| PHOSPHORUS ACID | | | | X | | X | | | |
| PHOSPHORUS TRIBROMIDE | | | | X | | X | | | |
| RED PHOSPHORUS | | | | X | | | | | |
| SULFURIC ACID | | | | X | | X | | | |
| TRICHLOROETHYLENE | X | | X | X | X | X | | X | X |
| TRIMETHYLAMINE ANHYDR | | | | X | | | | | |
| TOLUENE | | | X | X | X | | | X | X |

D. State and Local Authorities' Roles

1. State and local actions to date

On August 24, 1990, NJDEP requested EPA to perform an assessment of White Chemical for CERCLA removal consideration. NJDEP commenced a removal action from May 15, 1990 through August 1990, at the White Chemical facility removing approximately 1,000 drums of flammable compounds. Upon reaching their project ceiling of $825,000, NJDEP contacted EPA for their CERCLA removal consideration.

On several occasions, the Newark Fire Department and NJDEP's Emergency Response Team have been called to the site for releases of chemicals. For example, on June 23, 1990, a pentanol spill was reported next to a container of ammonium bromide. Newark's Hazardous Material Response Team responded along with a NJDEP contractor to clean up the spill. There are numerous reports on air releases and/or spills which have occurred on-site where either the local and/or State has responded. On two different occasions the manufacturer which is adjacent to the northern portion of the White facility has had to close for the day due to workers experiencing sickness from fumes being released from drums at the White Chemical facility.

2. Potential for continued State and local response

At the present time, NJDEP has reached their project ceiling of $825,000 for the current removal action and no further funding has been made available to date, and none is anticipated. Currently, NJDEP is maintaining twenty-four hour security at the site. However, once funding has been expended, security service will cease.

E. Other Action to Date

1. Previous actions to abate threat

During the September 7, 1990 preliminary assessment, a verbal approval was obtained from the Director of ERRD, for $249,900 of which $150,000 was for contract mitigation to overpack 11 fuming drums of water reactives and store them inside of a building so as to protect them from the weather. This action was completed on September 21, 1990.

2. Current actions to abate threat

At the present time, EPA is trying to obtain an access agreement from the owner(s) and operator of White Chemical to perform a removal action at the facility. NJDEP is currently maintaining twenty-four hour security at the site.

## III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

### Threat to Public Health, Welfare and the Environment

The site is situated in a heavily populated and highly industrialized area of Newark. The four (4) acre property is located behind two active manufacturing facilities and adjacent to the south of another large clothing manufacturer along Frelinghuysen Avenue. The site is currently secured through NJDEP which will continue as long as funding is available. However, the site poses an imminent threat of direct contact with hazardous substances to nearby workers. There is concern for the three large manufacturing facilities adjacent to the facility along with the major eastern corridor of Conrail and Newark International Airport directly east of the facility, which in the event of fire, may have to be closed until the fire is controlled. Due to the large volume of materials (9,000 drums, carboys, cylinders) this fire would be difficult to control. As a result, this could lead to a catastrophic event, since during the day, there are approximately 12,000 people working and living within a one-quarter mile radius of the site.

Any one of a number of scenarios, could cause a chain of uncontrollable chemical reactions resulting in fire and the release of lethally toxic fumes.

The inventory of chemicals at the site includes, Occupational Safety and Health Administration Class 1 flammable liquids, flammable solids, corrosives, poisons, oxidizers, acids, and air/water reactives. These incompatible and interactive materials are not segregated, and are haphazardly stored in conjunction with one another. Containers were noted to be in various stages of deterioration, as indicated by corrosion and/or leakage. Numerous chemicals on-site would liberate heat as part of any chemical reaction. As documented in the support documents, a combination of any two of a majority of chemicals found at the site could cause a violent or explosive reaction.

During the initial preliminary assessment on September 7, 1990 by EPA and TAT, the following hazardous conditions were noted, which in themselves could create a disaster at the site:

1) As noted in Attachment C, water reactive chemicals have been identified in great numbers at the site. During periods of rain, NJDEP has stated that the entire site fumes toxic vapors (the fumes emanating from the drums have been photographed).

2) Storage is haphazard and precarious. Thus, there is a grave danger of materials inadvertently falling/breaking with minimal physical contact.

3) Should a reaction take place, depending upon wind direction and velocity, numerous personnel from adjacent properties would be in direct contact with toxic chemicals through skin absorbtion and inhalation.

An uncontrolled chemical reaction at this site could also cause one or more explosions.

There are no other Federal or state response mechanisms to respond to both existing and potential releases.

## IV. ENFORCEMENT

### A. Enforcement Strategy

#### 1. Summary of Enforcement Strategy

EPA's enforcement strategy includes identifying Potentially Responsible Parties (PRPs) early enough in the removal action so they can be given an opportunity to participate in the cleanup. Since the removal is to be conducted in phases, once the PRPs are identified, EPA can turn the action over to them at any appropriate phase. In order to accomplish this in a timely manner, EPA has initiated a PRP search for the White Chemical site to be conducted concurrent with the start-up of this removal action.

All information provided by NJDEP on Administrative Orders and penalties issued to White Chemical are currently being reviewed by EPA's Office of Regional Counsel (ORC).

#### 2. Summary of Enforcement Actions

At this time, due to the imminent threat to public health and welfare, ORC is currently negotiating an access agreement with Mr. James White for continued access for EPA and for EPA to perform the necessary removal action of hazardous substances and wastes which are creating an imminent danger to the general population working and residing within a one-quarter mile radius of the site.

### B. Status of Enforcement Actions

#### 1. Potential Responsible Parties

White Chemical Company is currently operated by Mr. James White, (President), on property owned by the Lancaster Chemical Corporation. Lancaster Chemical Corporation which operated on this same facility location prior to 1983, is in turn owned by AZS Corporation of Atlanta, Georgia. These PRPs have not taken any action.

On September 5, 1990, EPA's Removal Action Branch requested a PRP search to be conducted by ORC and the Program Support Branch to explore the identification of PRPs. To date, EPA has conducted several activities as part of the PRP search.

A Title search has been initiated to determine past history of site ownership, as well as possible liens or mortgages which may have been placed on the property. If appropriate, a financial status assessment will be performed on any companies or individuals identified by the Title search. When the names and addresses of companies and/or individuals who may be themselves liable, or who may have information which could help EPA uncover other PRPs have been compiled, ORC will initiate an Information Request Letter under Section 104(e) of CERCLA. Based on information received from these letters, as well as from other sources, PRPs will be informed of their potential liability and ORC will meet with them to determine what portion, if any, of the removal action they will perform.

2. Probability of Recovering Costs

Although the Company is currently under Chapter 11 bankruptcy proceedings, EPA is conducting a PRP search to determine if any additional companies or individuals are liable. In addition, a civil investigation is anticipated to determine the viable assets of the owner or other PRPs, and their ability to pay for the cleanup.

## V. PROPOSED ACTIONS AND COSTS

### A. Proposed Actions

The objective of this phase of the removal action is to secure and stabilize the site. Future efforts will then address the proper sampling and disposal of all wastes.

It should be noted that due to the magnitude of the hazardous waste, the total cost for complete site hazards mitigation removal action will exceed the 12 month time limit and the $2 million funding limitation. Due to the magnitude of the threat and lack of funding at this time, the removal action will be done in phases. This will also allow time for PRPs to assume the actions under enforcement activities.

Phase I includes providing twenty-four hour security by guard service and will be directed toward site stabilization. Buildings which could provide shelter for later staging and sampling will be cleaned. Materials found within the buildings will be segregated. This task will create room for the staging of a portion of the materials until they are transported for final disposal.

Access paths will be cleared for any possible emergencies which may occur during the removal action. Contingency plans for the community will be in place in the event of a major release.

Due to the magnitude of the hazardous material on the site, priority will be given to move water/air reactives into the buildings and the segregation of all other materials throughout the site.

In addition, all potential peroxide forming material will be assessed for safety and will be isolated, if possible. The laboratories on-site will be addressed and a determination of priority will be made, depending on the contents in the laboratories.

Phase I will provide the information on the amount of waste currently on-site to be disposed of at a later phase of the project. When all materials have been segregated and staged, or a large enough volume has been collected; the substances will be sampled and analyzed for reprocessing, use, or disposal in Phase II of the removal action.

Many containers, due to the extent of deterioration, will have to be overpacked in place before staging and segregation can occur. Any containers found to be of imminent danger to on-site personnel will be addressed at that time.

All actions taken will be consistent with remedial actions that would be expected to be undertaken based on site conditions. At this time, there are no remedial plans scheduled for this site.

Project Schedule

Due to the amount of material; 9,000 drums, hundreds of cylinders, tanks, boxes, carboys, and lab size material; the total clean up of this site will exceed the one year and $2 million funding limitations. This phase will be done for less than $2 million and will be completed in less than twelve months.

Further funding requests will be made in FY-91 to continue the next phase of this removal action pending the outcome of enforcement activities.

Phase I is estimated as taking a minimum of three months to complete.

B. Estimated Costs

Extramural Costs

| | |
|---|---|
| Extramural Clean up Contractor | $1,362,000 |
| 10% Contingency | 136,200 |

| | |
|---|---|
| Subtotal Extramural Cost | 1,498,200 |
| Rounded Subtotal Extramural Cost | 1,500,000 |
| TAT Costs | 130,000 |
| 15% Contingency [$1,500,000 + $130,000] | 244,500 |
| TOTAL EXTRAMURAL COSTS | $1,874,500 |
| Intramural Costs | $ 120,000 |
| TOTAL PROJECT CEILING | $1,994,500 |
| ROUNDED TOTAL PROJECT CEILING | $1,995,000 |

*Included in these figures is the $249,900 verbal authorization by Richard L. Caspe, Director of ERRD on September 7, 1990, of which $150,000 was for mitigation contracting.

## VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no action is taken or action delayed at the White Chemical site, the conditions are such as to pose a significant threat to public health welfare and the environment. Incompatible substances may come into contact with each other, react and increase the threat of fire/explosion or formation of poisonous gases such as hydrogen bromide. The presence of water and air reactives such as phosphorous tribromide and red phosphorus, respectively, pose an explosion threat to adjacent facilities. Flammable compounds such as acetone, xylene, alcohols and oxidizers are additional fire/explosive threats to the adjacent area.

## VII. RECOMMENDATION

Conditions at the White Chemical site meet the criteria for a removal action under the NCP Section 300.415(b)(2). Qualifying criteria include the following:

i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

iii. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of a release;

iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

vi. Threat of fire or explosion;

vii. The availability of other appropriate Federal or state response mechanisms to respond to the release.

Because conditions at the site meet the above criteria for a removal action, I recommend your approval of the proposed removal action. The total project ceiling is $1,995,000, of which $1,725,000 are for mitigation contracting costs.

Funds for this removal action are currently within the Regional Advice of Allowance.

I recommend your approval to initiate response actions due to the nature of the threat described herein. Please indicate your approval and authorization of funding for the White Chemical site, per Delegation of Authority, by signing below.

Approved: _____ Date: 9/27/94
Constantine Sidamon-Eristoff
Regional Administrater

Disapproved: _____ Date: _____
Constantine Sidamon-Eristoff
Regional Administrator

cc: (after approval is obtained)
R. Caspe, 2ERR
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Frisco, 2ERR-ADNJP
J. Marshall, 2OEP
D. Karlen, 2ORC-NJSUP
R. Gherardi, 2OPM-FIN
S. Anderson, PM-214F (Express Mail)
R. Cahill, 2OEP
S. Luftig, OS-210
B. Aber, 2ORC-NJSUP
L. Miller, NJDEP
J. Trela, NJDEP
L. Grayson, NJDEP
C. Moyik, 2ERRD-PS
M. Mjoness, OS-210
S. Becker, PSB

ATTACHMENT A

| | | |
|---|---|---|
| WESTON Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION | EPA PM P. CAMMARATA | FIGURE 1 SITE LOCATION |
| In Association with ICF Technology Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc. and R.E. Sarriera Associates | TAT PM B. ROSEN | WHITE CHEMICAL, NJ |

ATTACHMENT B

PRELIMINARY COST ESTIMATE FOR WHITE CHEMICAL REMOVAL ACTION

This estimate has been prepared using personnel costs based on a period of six months. During a removal action there are often significant periods of downtime due to delays while waiting for analytical results, weather, other demands on ERCS and so forth. For these reasons, it was felt that actual work on site would more accurately be reflected in the six month (26 week) period. This has been further averaged into a five-day, sixty-hour work week.
Some of the equipment and other costs have been estimated over the entire year as many of these are fixed costs and/or offer economic savings when amortized over the full year. For example; the cost of the office trailers are estimated over the full year while passenger van costs coincide with the seven month personnel costs time frame. Consideration has also been given to those items which are cost efficient to demobilize over the short term, such as BACK HOES and BOBCATS, as opposed to those which are not.

I. EXTRAMURAL COSTS

Emergency Response Cleanup Services (ERCS) Costs

ERCS costs have been determined using prices set forth in O.H. Material's "Zone 1 Option Year 2" contract personnel and equipment rates documentation. All cost estimates are based on a 60-hour work week.

A. ERCS Personnel Costs

| | | |
|---|---|---|
| (1) | Supervisor Response Manager - Level 3 | |
| | $60.64 x 60 hrs x 26 wks | $ 94,598.40 |
| (2) | Foremen - Level 2 | |
| | $31.97 x 40 hrs x 26 wks x 2 persons | $ 66,497.60 |
| | $48.51 OT x 20 hrs x 26 wks x 2 persons | $ 50,450.40 |
| (1) | Safety Engineer - Level 2 | |
| | $68.36 x 60 hrs x 26 wks | $106,641.60 |
| (1) | Chemists - Level 2 | |
| | $36.38 x 40 hrs x 26 wks x 1 person | $ 37,835.20 |
| | $54.02 OT x 20 hrs x 26 wks x 1 person | $ 28,090.40 |
| (4) | Cleanup Technicians | |
| | $25.36 x 40 hrs x 26 wks x 4 persons | $ 79,123.20 |
| | $37.49 OT x 20 hrs x 26 wks x 4 persons | $ 58,484.40 |
| (4) | Laborers | |
| | $25.36 x 40 hrs x 26 wks x 4 persons | $ 79,123.20 |
| | $37.49 OT x 20 hrs x 26 wks x 4 persons | $ 58,484.40 |
| (2) | Project Control Technicians | |
| | $25.36 x 40 hrs x 26 wks x 2 persons | $ 52,748.80 |
| | $37.49 OT x 20 hrs x 30 wks x 2 persons | $ 38,989.60 |

| | | |
|---|---|---|
| (20) | Per diem (M&IE)<br>$118.00 per day per person x 15 persons x 5 days per week x 26 wks. | $230,100.00 |
| | Total ERCS Personnel Costs | $981,167.20 |

B. ERCS Equipment Costs

| | | |
|---|---|---|
| (1) | 40' Decon Trailer<br>$898.12/month x 12 months | $ 10,777.44 |
| (2) | 8' x 20' Office Trailers<br>$434.71/month x 12 months | $ 5,216.52 |
| | Plumbing (water) installation and estimated operating costs prorated over 12 month period<br>@ $200.00/month x 12 months | $ 2,400.00 |
| | Electricity installation and estimated operating costs prorated over 12 month period<br>@ $300.00/month x 12 months | $ 3,600.00 |
| | Telephone/data communication lines installation and estimated operating costs prorated over 12 month period @ $300.00/month x 12 months | $ 3,600.00 |
| (1) | Field Lab<br>$1534.74/month x 12 months | $ 18,416.88 |
| (1) | Backhoe<br>$6130.14/month x 6 months | $ 36,780.84 |
| (2) | BOBCATS with drum grappling capability<br>$2000.00/month x 6 months x 2 units | $ 24,000.00 |
| (2) | Passenger vans for personnel transport<br>$449.90/month x 6 months x 2 units | $ 5,398.80 |
| (1) | Pickup truck<br>$513.05/month x 6 months | $ 3,078.30 |
| (1) | Passenger sedan<br>$449.90/month x 6 months | $ 2,699.40 |
| (1,000) | Poly overpack drums<br>$140.00 each x 1000 units | $140,000.00 |
| (2) | Computer/printer system<br>$503.93/month x 6 months x 2 units | $ 6,047.16 |
| (1 Set) | Assorted air monitoring instruments @ avg cost of $1,000.00/month x 6 months | $ 6,000.00 |
| (2) | Portable latrines<br>$3.25/day x 365 days x 2 units | $ 2,372.50 |
| (1) | FAX machine $65.00/month x 6 months | $ 390.00 |
| (6) | Telephones @ $85.00 each | $ 510.00 |
| (5) | Portable radios @ $250.00/month x 6 months | $ 1,500.00 |
| (1) | Copy machine @ $450.00/month x 12 months | $ 5,400.00 |
| | Total ERCS Equipment Costs | $278,187.84 |

C. Site Security Costs

Site security costs have been estimated using costs for similar work at other sites. Costs have also been corroborated by soliciting telephone "estimates" from appropriate sources.

Site Security

| | | |
|---|---|---|
| (1) | Construction of main driveway gate and emergency exit on other side of property | $ 4,200.00 |
| (1) | Provision of off-hour site security 12 hrs/day Mon-Fri, 24 hrs Sat & Sun = 108 hours @ $12.00/hr x 52 wks | $ 67,392.00 |
| (1) | Surveillance closed circuit television system | |
| | 4 cameras @ $2,200.00 each | $ 8,800.00 |
| | quad monitor (4-way split screen) | $ 2,000.00 |
| | installation of system, wires,etc | $ 3,500.00 |
| | (Leasing or buy back contract may be possible) | |
| | Total Security Costs | $ 85,892.00 |

D. Miscellaneous Costs

Miscellaneous costs have initially been taken to include transport and disposal costs for three thousand empty drums. Drum disposal service will provide storage trailer and transportation of empty drums for total cost of $5.50/drum.

| | | |
|---|---|---|
| (1) | Transport and Disposal 3,000 empty drums x $5.50/drum | $ 16,500.00 |

E. Technical Assistance Team (TAT) Costs

TAT costs have been determined using the field wrap around rate of $65.00/hour. This represents the direct and indirect costs associated with TAT operations.

TAT Costs

| | | |
|---|---|---|
| (3) | TATS | |
| | (2) Primary TATS 40 hrs/wk x 20 wks @ $65.00/hr, | |
| | (1) Alt. TAT 20 hrs/wk x 20 wks @ $65.00/hr, | |
| | Total 100 TAT hrs/wk x 20 wks x $65.00/hr | $130,000.00 |
| | Total TAT Costs | $130,000.00 |

II. INTRAMURAL COSTS

EPA cost estimated according to the figure of $101.00/hour as provided by OSC. This represents the direct and indirect costs associated with EPA operations.

A. Intramural Direct Costs

| | |
|---|---|
| (2) On-Scene Coordinators (OSC and alternate) total 60 hrs/wk x 20 wks x $30.00/hr | $ 36,000.00 |

B. Intramural Indirect Costs

| | |
|---|---|
| 1200 hours x $70.00/hr | $ 84,000.00 |
| Total EPA Costs | $120,000.00 |

III. Total Cost

A. Mitigation Subcontractor Costs

| | |
|---|---|
| ERCS Personnel | $981,167.20 |
| ERCS Equipment | $278,187.84 |
| Site Security | $ 85,892.00 |
| Miscellaneous | $ 16,500.00 |
| Subtotal | $1,361,747.00 |
| 10 % Contingency | $136,174.70 |
| Total | $1,497,921.70 |
| Rounded: | $1,500,000.00 |

B. TAT Costs

| | |
|---|---|
| TAT Personnel Costs | $130,000.00 |
| Subtotal Extramural Direct Costs | $1,630,000.00 |
| 15 % Contingency | $244,500.00 |
| Total Extramural Costs | $1,874,500.00 |

C. Intramural Costs

| | |
|---|---|
| Direct Costs | $ 36,000.00 |
| Indirect Costs | $ 84,000.00 |
| Total Intramural Costs | $120,000.00 |
| Total Intramural + Extramural | $1,994,500.00 |

8/31/90 #10 RJM

# COMMUNITY RIGHT TO KNOW SURVEY FOR 1989 Attachment C

to satisfy requirements under SARA, Title III, Section 312
and New Jersey Community Right to Know

NJEIN | SIC | COUNTY/MUNIC. | DUE DATE

17711500000--2899--0714
WHITE CHEMICAL CORPORATION
660 FRELINGHUYSEN AVE.
NEWARK, NJ 07114

PEEL HERE

Indicate changes to mailing address on label

*IMPORTANT: A separate survey must be completed for each facility.*

(A) FACILITY LOCATION
If the facility or township location is different than the mailing address on the label, enter location address or township below.

Check here if you would like your survey mailed to above address ☐

(B) Does this facility use, store, or produce any hazardous materials which must be reported under the N.J. Worker & Community Right to Know Act or Section 312, Title III of the Superfund Amendments and Reauthorization Act? ☒ Yes ☐ No
*(See Reportable Substances and Thresholds)*

(C) Briefly describe the nature of the operations or business conducted at this facility:
Manufacture of chemical intermediates

(D) Number of employees at facility: 23

(E) *Number of facilities in New Jersey* 1

(F) *Dun and Bradstreet No.* 10 01 12 39 18 5

(G) *Check the box if you were granted a R&D exemption last year or if you wish to receive an application questionnaire.* ☑

(H) CERTIFICATION OF OWNER/OPERATOR OR AUTHORIZED REPRESENTATIVE — I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Signature _____ Date 3-13-90 Phone Number (201) 621-4100

Name (Print) James W. White Title President

(I) POLICE AND FIRE DEPARTMENT — Enter the respective phone numbers, names and addresses (including Zip Code) of your local police and fire departments in the spaces below.

POLICE DEPT. Phone Number (201) 733-6600
Name Newark Police Dept. ATTN: Emer. Ser.
Address 31 Green Street
Municipality Newark, N. J. Zip 07101

FIRE DEPT. Phone Number (201) 733-7495
Name Newark Fire Dept.
Address 1010 18th Avenue
Municipality Newark, N. J. Zip 07106

(J) FACILITY EMERGENCY CONTACT
Name Steven L. Shopsis Title Plant Manager
Facility Phone Number (201) 621-4100 Emergency Contact Phone Number (201) 678-8071

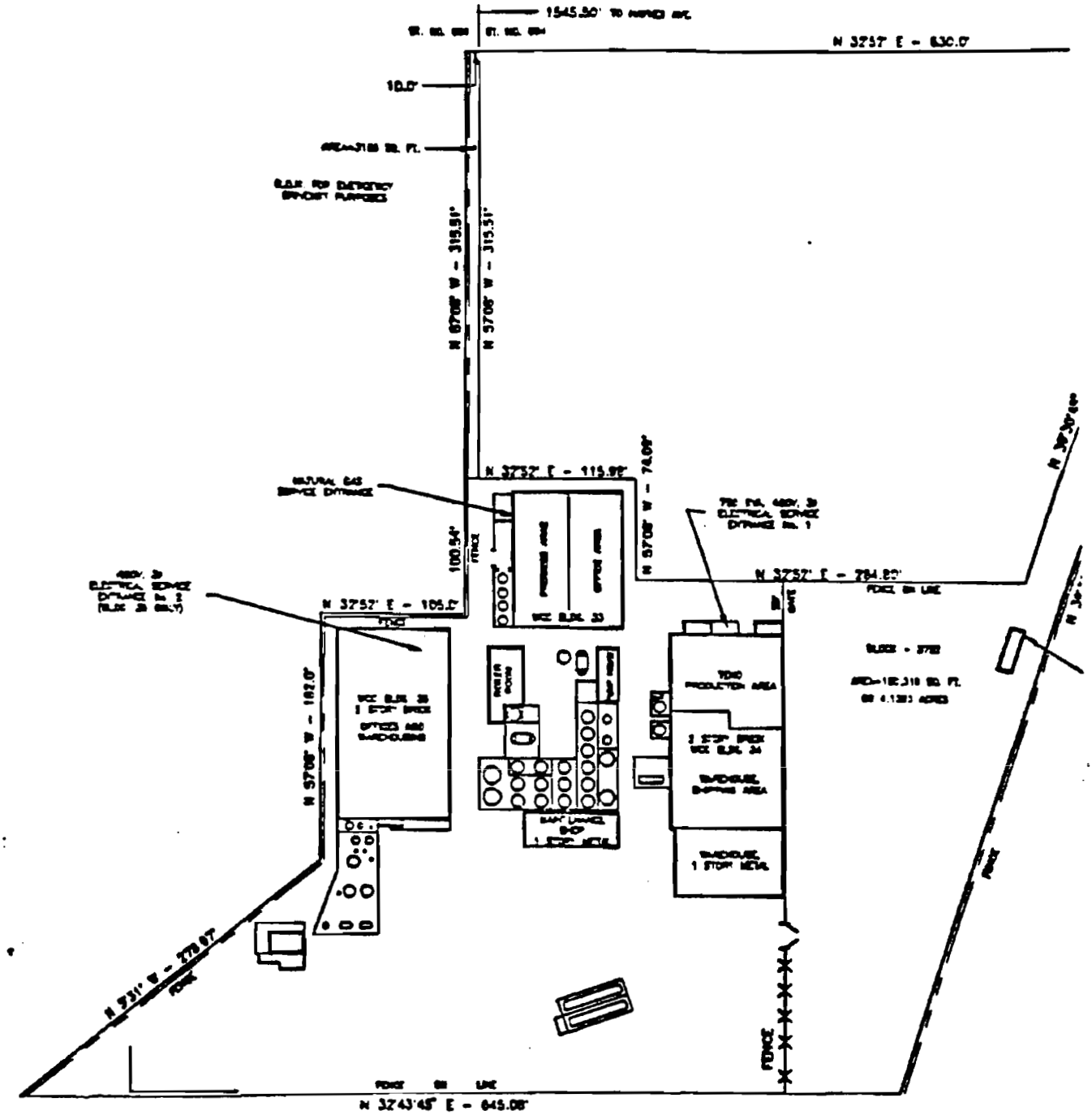
NOTE: Make copies of this survey! The law requires that you send a copy to your County Lead Agency, Local Emergency Planning Committee and your local police and fire departments.
*(County agency and local committee addresses in Instructions)*

Return original to:
RIGHT TO KNOW PROGRAM
CN 405
Trenton, NJ 08625-0405

FOR INTERNAL USE ONLY STAT ☐ FTS ☐ E ☐ F ☐

8/31/90
#7(2A)
RJM

FRELINGHUYSEN A




UNITED NEW JERSEY RAILROAD AND CANAL COMPANY

| NCE DRAWINGS | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DWG. NO. | TITLE | NO. | REVISION | BY | CHD | APP | DATE | NO. | REVISION | BY | CHD | APP | DATE | NO. | REVISION | BY | CHD | APP | DATE |
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*IMPORTANT! Read all instructions before completing. Photocopy this sheet, if you need additional forms. Please print or type all responses. Complete sections A-F before making photocopies of this page.*



Reporting Period: January 1 - December 31, 1989

FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 17711500000

B. Facility Name White Chemical Corporation

C. Location Address 660 Frelinghuysen Avenue

D. City Newark, E. State N.J. F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Acetic Acid<br>CAS No. 64-19-7 DOT No. 2789<br>Substance No. (if available) 0004<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>70, 67, ___, ___, ___, ___ | (Enter Code)<br>Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 32 Conditions 01, 04<br>Location(s) Bldg 35 |
| Substance Acetic Anhydride<br>CAS No. 108-24-7 DOT No. 1715<br>Substance No. (if available) 0005<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67, ___, ___, ___, ___, ___ | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01, 04<br>Location(s) Area 1 |
| Substance Acetone<br>CAS No. 67-64-1 DOT No. 1090<br>Substance No. (if available) 0006<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70, ___, ___, ___, ___, ___ | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01, 04<br>Location(s) Area 1, Area 2 |
| Substance Acetyl Chloride<br>CAS No. 75-36-5 DOT No. 1717<br>Substance No. (if available) 0013<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67, 68, 70, ___, ___, ___ | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47/32 Conditions 01, 04<br>Location(s) Bldg 34, Area 1 |
| Substance Activated Carbon<br>CAS No. 7440-44-0 DOT No. 1851<br>Substance No. (if available) 2060<br>Percent 60 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | ___, ___, ___, ___, ___, ___ | Max. Daily 12<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 42 Conditions 01, 04<br>Location(s) Bldg 35 |
| Substance Air Compressed<br>CAS No. ---- DOT No. 1002<br>Substance No. (if available) 2070<br>Percent ___ (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69, ___, ___, ___, ___, ___ | Max. Daily ___<br>Avg. Daily ___<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02, 04<br>Location(s) Bldgs 33, 34, 35 |
| Substance Allyl Alcohol<br>CAS No. 107-18-6 DOT No. 1098<br>Substance No. (if available) 0036<br>60 State L Trade Secret ☐ | 67, 70, ___, ___, ___, ___ | Max. Daily 12<br>Avg. Daily 11<br>Days Onsite 365 | Container 47 Conditions 01, 04<br>Location(s) Area 1 |

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Reporting Period: January 1 - December 31, 1989

## FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 17711500000

B. Facility Name White Chemical Corpocation

C. Location Address 660 Frelinghuysen Avenue

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Aluminum Chloride<br>CAS No. 7446 - 70 - 0 DOT No. 1726<br>Substance No. (if available) 0057<br>Percent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>69 , 67 , ___ , ___<br>___ , ___ | (Enter Code)<br>Max. Daily 12<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 46 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance Ammonium Hydroxide<br>CAS No. 1336 - 21 - 6 DOT No. 2672<br>Substance No. (if available) 0103<br>Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , ___ , ___ , ___<br>___ , ___ | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance Amyl Alcohol<br>CAS No. 71 - 41 - 0 DOT No. 1105<br>Substance No. (if available) 0124<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , ___ , ___ , ___<br>___ , ___ | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance Antimony Trioxide<br>CAS No. 1309 - 64 - 4 DOT No. 1549<br>Substance No. (if available) 0149<br>Percent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | 67 , ___ , ___ , ___<br>___ , ___ | Max. Daily 14<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 42 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance Benzyl Bromide<br>CAS No. 100 - 39 - 0 DOT No. 1737<br>Substance No. (if available) 0216<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , ___ , ___ , ___<br>___ , ___ | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01 , 04<br>Location(s) Area 2 |
| Substance Bromine<br>CAS No. 7726 - 95 - 6 DOT No. 1744<br>Substance No. (if available) 0252<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , ___ , ___ , ___<br>___ , ___ | Max. Daily 13<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 50 Conditions 01 , 04<br>Location(s) Tank Y & Z |
| Substance Bromo Acetic Acid<br>CAS No. 79 - 08 - 3 DOT No. 1938<br>Substance No. (if available) 2182 | 67 , ___ , ___ , ___<br>___ , ___ | Max. Daily 12<br>Avg. Daily 12 | Container 32 Conditions 01 , 04<br>Location(s) Blg 34, Area 3 |

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Reporting Period: January 1 - December 31, 1989

FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 17711500000

B. Facility Name White Chemical Corporation

C. Location Address 660 Frelinghuysen Avenue

D. City Newark, E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Bromoacetic Acid Soln.<br>CAS No. 79 - 08 - 3 DOT No. 1938<br>Substance No. (if available) 2182<br>Percent 56 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>67 , , , , , | (Enter Code)<br>Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 32 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance Bromo Ethyl Butane<br>CAS No. 107 - 82 - 4 DOT No. 2341<br>Substance No. (if available) 0263<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance 2 Brom 2 Methyl Propane<br>CAS No. 507 - 19 - 7 DOT No. 2342<br>Substance No. (if available) 0264<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance 1 Bromo 2 Methyl Propane<br>CAS No. 78 - 77 - 3 DOT No. 2342<br>Substance No. (if available) 0265<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance Bromo Pentane<br>CAS No. 29756 - 38 - 5 DOT No. 2343<br>Substance No. (if available) 0266<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance Bromo Propane<br>CAS No. 26446 - 77 - 5 DOT No. 2344<br>Substance No. (if available) 0267<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |
| Substance N Butyl Alcohol<br>CAS No. 71 - 36 - 3 DOT No. 1120<br>Substance No. (if available) 1330<br>Percent 59 State L Trade Secret ☐ | 70 , , , , , | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 | Container 47 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |

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Reporting Period: January 1 - December 31, 1989

ACILITY IDENTIFICATION AND SITE LOCATION

. NJEIN 17711500000

C. Location Address 660 Frelinghuysen Avenue

I. Facility Name White Chemical Corporation

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Sec Butyl Alcohol<br>CAS No. 78 - 92 2 DOT No. ____<br>Substance No. (if available) 1645<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>70 . ____ . ____ .<br>____ . ____ | (Enter Code)<br>Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 47 Conditions 01 , 04<br>Location(s) Area 1, Blg 34 |
| Substance Tert. Butyl Alcohol<br>CAS No. 75 - 65 0 DOT No. 1120<br>Substance No. (if available) 1787<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . ____ . ____ .<br>____ . ____ | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Area 1, Blg 34 |
| Substance Butyl Bromide<br>CAS No. 109 - 65 9 DOT No. 1126<br>Substance No. (if available) 0283<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . ____ . ____ .<br>____ . ____ | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance Butyric Acid<br>CAS No. 107 - 92 6 DOT No. 2820<br>Substance No. (if available) 0300<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 . ____ . ____ .<br>____ . ____ | Max. Daily 14<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 50 Conditions 01 , 04<br>Location(s) Tank F |
| Substance Butyroyl Chloride<br>CAS No. 141 - 75 3 DOT No. 2353<br>Substance No. (if available) 0303<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , 68 , 70 ,<br>____ . ____ | Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01 , 04<br>Location(s) Blg 34, Blg 33 |
| Substance Calcium Oxide<br>CAS No. 1305 - 78 8 DOT No. 1910<br>Substance No. (if available) 0325<br>Percent 58 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | ____ . ____ . ____ .<br>____ . ____ | Max. Daily 14<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | Container 42 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance Hexanoic Acid<br>CAS No. 142 - 62 - 1 DOT No. 1760<br>Substance No. (if available) 0336 | 67 , 70 , ____ .<br>____ | Max. Daily 14<br>Avg. Daily 11 | Container 32 Conditions 01 , 04<br>Location(s) Blg 34, Area 1 |

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Reporting Period: January 1 - December 31, 1989

## FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 17711500000

C. Location Address 660 Frelinghuysen Avenue

B. Facility Name White Chemical Corporation

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Carbon Dioxide<br>CAS No. 124 - 38 - 9 DOT No. 1013<br>Substance No. (if available) 0343<br>Percent 59 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>69 , , ,<br>, | (Enter Code)<br>Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 40 Conditions 04 , 02<br>Location(s) Cyl Rack, Bldg 34, Bldg 33 |
| Substance Chlorine<br>CAS No. 7782 - 50 - 5 DOT No. 1017<br>Substance No. (if available) 0367<br>Percent 60 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69 , 67 , ,<br>, | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 04 , 02<br>Location(s) Area 1, Bldg 33 |
| Substance Corrosive Liq FLAM NOS<br>CAS No. - - DOT No. 2920<br>Substance No. (if available) 2281<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , 70 , ,<br>, | Max. Daily 15<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | Container 50/47/32 Conditions 01 , 04<br>Location(s) Bldg 34, Tanks S, T, U<br>Area 1 |
| Substance Corrosive Liq NOS<br>CAS No. - - DOT No. 1760<br>Substance No. (if available) 2282<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , , ,<br>, | Max. Daily 15<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | Container 50/47/32 Conditions 01 , 04<br>Location(s) Bldg 34, Area 1<br>Tanks S, T, U |
| Substance 1, 2 Dichloroethane<br>CAS No. 107 - 06 - 2 DOT No. 2362<br>Substance No. (if available) 0652<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , 66 , ,<br>, | Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 50/47 Conditions 01 , 04<br>Location(s) Tank T, Bldg 34<br>Area 1 |
| Substance Flammable gas NOS<br>CAS No. - - DOT No. 1954<br>Substance No. (if available) 2422<br>Percent 59 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69 , 70 , ,<br>, | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02 , 04<br>Location(s) Cyl Rack, Bldg 34<br>Maint. Shop |
| Substance Flammable solid NOS<br>CAS No. - - DOT No. 1325<br>Substance No. (if available) 2429<br>59 State S Trade Secret ☐ | 70 , , ,<br>, | Max. Daily 12<br>Avg. Daily 11<br>Days Onsite 365 | Container 40 Conditions 01 , 04<br>Location(s) Bldg 34 |

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Reporting Period: January 1 - December 31, 1989

## ACILITY IDENTIFICATION AND SITE LOCATION

NJEIN 17711500000

C. Location Address 660 Frelinghuysen Avenue

Facility Name White Chemical Corporation

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance #2 Fuel Oil<br>CAS No. ---<br>DOT No. 1993<br>Substance No. (if available) 2444<br>Percent 61 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>10 . . . .<br>. . | (Enter Code)<br>Max. Daily 14<br>Avg. Daily 13<br>Days Onsite 365<br>(Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 50 Conditions 01, 04<br>Location(s) Tank G |
| Substance Helium<br>CAS No. 7440-59-7<br>DOT No. 1046<br>Substance No. (if available) 0972<br>Percent 60 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69 . . . .<br>. . | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365<br>(Actual Number) | Container 40 Conditions 02, 04<br>Location(s) Cyl Rack Blg 34, Labs Blg 33 |
| Substance Hydriodic Acid Solution<br>CAS No. 10034-85-2<br>DOT No. 1787<br>Substance No. (if available) 1009<br>Percent 55.54 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365<br>(Actual Number) | Container 45/32 Conditions 01, 04<br>Location(s) Blg 33, 34, 35 Area 2, 3 |
| Substance Hydrogen Bromide Solution<br>CAS No. 10035-10-6<br>DOT No. 1048<br>Substance No. (if available) 1011<br>Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 . . . .<br>. . | Max. Daily 14<br>Avg. Daily 13<br>Days Onsite 365<br>(Actual Number) | Container 32 Conditions 01, 04<br>Location(s) Blg 34, 33 Area 1, 4 |
| Substance Hydrogen Chloride<br>CAS No. 7647-01-0<br>DOT No. 1050<br>Substance No. (if available) 1012<br>Percent 54 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 . . . .<br>. . | Max. Daily 17<br>Avg. Daily 16<br>Days Onsite 365<br>(Actual Number) | Container 50/32 Conditions 01, 04<br>Location(s) Tank CC, BB, A, B, C, D Area 1 |
| Substance Iodine<br>CAS No. 7553-56-2<br>DOT No. 1759<br>Substance No. (if available) 1026<br>Percent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | 67 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365<br>(Actual Number) | Container 43 Conditions 01, 04<br>Location(s) Blg 34 |
| Substance Iso Amyl Alcohol<br>CAS No. 123-51-3<br>DOT No. 1987<br>Substance No. (if available) 1039 | 70 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 11 | Container 47 Conditions 01, 04<br>Location(s) Area 1 |

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Reporting Period: January 1 - December 31, 1989

## FACILITY IDENTIFICATION AND SITE LOCATION

A. NJEIN 17711500000

B. Facility Name White Chemical Corporation

C. Location Address 660 Frelinghuysen Avenue

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Iso Butyl Alcohol<br>CAS No. 78 - 83 - 1 DOT No. 1212<br>Substance No. (if available) 1043<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>70 . . . .<br>. . | (Enter Code)<br>Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 47 Conditions 01 . 04<br>Location(s) Area 1, Blg 34 |
| Substance Melamine<br>CAS No. 108 - 78 - 1 DOT No. [illegible]<br>Substance No. (if available) 2401<br>Percent 60 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | . . . .<br>. . | Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 42 Conditions 01 . 04<br>Location(s) Blg 35 |
| Substance Methyl Alcohol<br>CAS No. 67 - 56 - 1 DOT No. 1230<br>Substance No. (if available) 1222<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 . 04<br>Location(s) Area 1, Lab, Blg 33 |
| Substance Methyl Butyrate<br>CAS No. 623 - 42 - 7 DOT No. 1237<br>Substance No. (if available) 1234<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 . 04<br>Location(s) Area 1 |
| Substance Nitrogen<br>CAS No. 7727 - 37 - 9 DOT No. 1066<br>Substance No. (if available) 1375<br>Percent 60 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69 . . . .<br>. . | Max. Daily 13<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02 . 04<br>Location(s) Cyl Rack Blg 34, 35, 33<br>Maint. Shop, Lab |
| Substance Oxygen<br>CAS No. 7782 - 44 - 7 DOT No. 1072<br>Substance No. (if available) 1448<br>Percent 60 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 69 . . . .<br>. . | Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02 . 04<br>Location(s) Cyl Rack, Blg 34<br>Maint. Shop |
| Substance Phosphoric Acid<br>CAS No. 7664 - 38 - 2 DOT No. 1805<br>Substance No. (if available) 1516<br>Percent 55 State L Trade Secret ☐ | 67 . . . .<br>. . | Max. Daily 12<br>Avg. Daily 11<br>Days Onsite 365 | Container 32 Conditions 01 . 04<br>Location(s) Blg 35, Blg 34 |

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Reporting Period: January 1 - December 31, 1989

## ACILITY IDENTIFICATION AND SITE LOCATION

. NJEIN 17711500000

. Facility Name White Chemical Corporation

C. Location Address 660 Frelinghuysen Avenue

D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Phosporous Acid<br>CAS No. 13598 - 36 - 2 DOT No. 2834<br>Substance No. (if available) 1519<br>Percent 56 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>67 . . .<br>. . | (Enter Code)<br>Max. Daily 16<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 50/32 Conditions 01 04<br>Location(s) Bldgs 34, 33 Tank J&M PMS Area 1, 2 |
| Substance Phosphorous Trichloride<br>CAS No. 7719 - 12 - 2 DOT No. 1809<br>Substance No. (if available) 1530<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 . 68 . .<br>. . | Max. Daily 15<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 50 Conditions 01 . 04<br>Location(s) Blg 33, Tank DD |
| Substance Phosphorous, Red<br>CAS No. 7723 - 14 - 0 DOT No. 1338<br>Substance No. (if available) 1520<br>Percent 60 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | 70 . . .<br>. . | Max. Daily 13<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 46 Conditions 01 . 04<br>Location(s) Blg 34, 33 |
| Substance Propane<br>CAS No. 74 - 98 6 DOT No. 1978<br>Substance No. (if available) 1594<br>Percent 61 (Code) State G (Code) Trade Secret ☐ (Check if claiming) | 70 . 69 . .<br>. . | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02 . 04<br>Location(s) Propane Rack, Blg 34 |
| Substance Propionic Acid<br>CAS No. 79 - 09 4 DOT No. 1848<br>Substance No. (if available) 1599<br>Percent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . 67 . .<br>. . | Max. Daily 14<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 50 Conditions 01 . 04<br>Location(s) Tank E |
| Substance Propyl Alcohol<br>CAS No. 71 - 23 8 DOT No. 1219<br>Substance No. (if available) 1605<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 . . .<br>. . | Max. Daily 14<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 . 04<br>Location(s) Blg 34, Area 1 |
| Substance Refrigerant gas NOS<br>CAS No. - - DOT No. 1078<br>Substance No. (if available) 2744<br>Percent 61 State G Trade Secret ☐ | 69 . . .<br>. . | Max. Daily 11<br>Avg. Daily 10<br>Days Onsite 365 | Container 40 Conditions 02 . 04<br>Location(s) Maint. Shop |

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Reporting Period: January 1 - December 31, 1989

## FACILITY IDENTIFICATION AND SITE LOCATION

NJEIN 17711500000 C. Location Address 660 Frelinghuysen Avenue

Facility Name White Chemical Corporation D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| Substance Sodium Bisulfite<br>CAS No. 7631-90-5 DOT No. 2693<br>Substance No. (if available) 1685<br>Percent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>67 , , ,<br>, | (Enter Code)<br>Max. Daily 12<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 42 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance sodium Hydroxide<br>CAS No. 1310-73-2 DOT No. 1823<br>Substance No. (if available) 1706<br>Percent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | 67 , , ,<br>, | Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Blg 33, 34, Area 1 |
| Substance Sodium Phosphate Tribasic<br>CAS No. 7601-54-9 DOT No. 9148<br>Substance No. (if available) 1724<br>Percent 61 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | , , ,<br>, | Max. Daily 13<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 42 Conditions 01 , 04<br>Location(s) Blg 34, 35 |
| Substance Sulfuric Acid<br>CAS No. 7664-93-9 DOT No. 1831<br>Substance No. (if available) 1761<br>Percent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 67 , , ,<br>, | Max. Daily 14<br>Avg. Daily 12<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01 , 04<br>Location(s) Blg 34 |
| Substance 1,1,2,2 Tetrachlorocethane<br>CAS No. 79-34-5 DOT No. 1702<br>Substance No. (if available) 1809<br>Percent 55 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 66 , , ,<br>, | Max. Daily 14<br>Avg. Daily 13<br>Days Onsite 365 (Actual Number) | Container 32 Conditions 01 , 04<br>Location(s) Area 1 |
| Substance Trimethyl Amine<br>CAS No. 75-50-3 DOT No. 1083<br>Substance No. (if available) 1927<br>Percent 60 (Code) State GX (Code) Trade Secret ☐ (Check if claiming) | 70 , 69 , 67 ,<br>, | Max. Daily 13<br>Avg. Daily 09<br>Days Onsite 365 (Actual Number) | Container 40 Conditions 02 , 04<br>Location(s) Blg 34<br>Area 1 |
| Substance Valeric Acid<br>CAS No. 109-52-4 DOT No. 1760<br>Substance No. (if available) 1988 | 67 , , ,<br>, | Max. Daily 14<br>Avg. Daily 11<br>Days Onsite 365 | Container 32 Conditions 01 , 04<br>Location(s) Blg 33, 34 Area 1 |

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Reporting Period: January 1 - December 31, 1989

CILITY IDENTIFICATION AND SITE LOCATION

NJEIN 17711500000 C. Location Address 660 Frelinghuysen Avenue

Facility Name White Chemical Corpocation D. City Newark E. State NJ F. Zip 07114

| CHEMICAL DESCRIPTION | HAZARDS | Inventory (Ranges) | STORAGE CODES AND LOCATIONS |
|---|---|---|---|
| ubstance Valeroyl Chloride<br>AS No. 638 - 29 - 9 DOT No. 2502<br>ubstance No. (if available) 1989<br>ercent 60 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | (Codes for all that apply.)<br>67 , 68 , ____ ,<br>____ , ____ | (Enter Code)<br>Max. Daily 14<br>Avg. Daily 11<br>Days Onsite 365 (Actual Number) | (Enter Codes, except Location(s); supply narrative.)<br>Container 32 Conditions 01 , 04<br>Location(s) Blg 34, 33 |
| ubstance p Xylene<br>AS No. 106 - 42 - 3 DOT No. 1307<br>ubstance No. (if available) 2904<br>ercent 59 (Code) State S (Code) Trade Secret ☐ (Check if claiming) | 70 , ____ , ____ ,<br>____ , ____ | Max. Daily 14<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | Container 47 Conditions 01 , 04<br>Location(s) Area 1, 2 |
| ubstance Xylenes<br>AS No. 1330 - 20 - 7 DOT No. 1307<br>ubstance No. (if available) 2014<br>ercent 59 (Code) State L (Code) Trade Secret ☐ (Check if claiming) | 70 , ____ , ____ ,<br>____ , ____ | Max. Daily 15<br>Avg. Daily 14<br>Days Onsite 365 (Actual Number) | Container 50 Conditions 01 , 04<br>Location(s) Tank P, Area 2,<br>Tanks FF, GG, HH |
| ubstance<br>AS No. - - DOT No.<br>ubstance No. (if available)<br>ercent (Code) State (Code) Trade Secret ☐ (Check if claiming) | ____ , ____ , ____ ,<br>____ , ____ | Max. Daily<br>Avg. Daily<br>Days Onsite (Actual Number) | Container Conditions , <br>Location(s) |
| ubstance<br>AS No. - - DOT No.<br>ubstance No. (if available)<br>ercent (Code) State (Code) Trade Secret ☐ (Check if claiming) | ____ , ____ , ____ ,<br>____ , ____ | Max. Daily<br>Avg. Daily<br>Days Onsite (Actual Number) | Container Conditions , <br>Location(s) |
| ubstance<br>AS No. - - DOT No.<br>ubstance No. (if available)<br>ercent (Code) State (Code) Trade Secret ☐ (Check if claiming) | ____ , ____ , ____ ,<br>____ , ____ | Max. Daily<br>Avg. Daily<br>Days Onsite (Actual Number) | Container Conditions , <br>Location(s) |
| ubstance<br>AS No. - - DOT No.<br>bstance No. (if available) | ____ , ____ , ____ ,<br>____ , ____ | Max. Daily<br>Avg. Daily<br>Days Onsite | Container Conditions , <br>Location(s) |

WHITE CHEMICAL CORPORATION
NEWARK, NEW JERSEY

RAW MATERIALS AND PRODUCTS - MSDS STATUS

| PRODUCT NO. | CHEMICAL NAME | CAS NO. | CHEMICAL FORMULA | MSDS RECD | DATE MSDS ISSD | MSDS ORIGINATED BY | HAZARD CLASS | MAXIMUM QTY ON SITE POUNDS |
|---|---|---|---|---|---|---|---|---|
| | | | | .F. | / / | | | |
| | | | | .F. | / / | | | |
| | | | | .F. | / / | | | |
| | | | | .F. | / / | | | |
| | 1,2-DICHLOROBENZENE | 95-50-1 | | .T. | 01/11/88 | ALDRICH CHEM | | |
| | 1,3-DICHLOROPROPANE | 142-28-9 | | .T. | 12/28/87 | ALDRICH CHEM | | |
| | 1-PENTANOL | 71-41-0 | C5H11OH | .T. | 11/01/01 | UNION CARBIDE | | |
| | 2,2,6,6-TETRAMETHYL-4-PIP ERIDINE MONOHYDRATE, 99% | 10581-38-1 | | .T. | 02/12/88 | ALDRICH CHEM | | |
| 27298 | 2-BROMO CAPROIC ACID | 616-05-7 | C6H11BrO2 | .T. | 02/26/88 | WHITE CHEMICAL | | |
| 27327 | 2-BROMO MYRISTIC ACID | 10520-01-7 | C14H27BrO2 | .T. | 02/26/86 | WHITE CHEMICAL | | |
| 27095 | 2-BROMOBUTYRIC ACID | 80-58-0 | C4H7BrO2 | .T. | 02/26/86 | WHITE CHEMICAL | | |
| 27535 | 2-ETHYLHEXANOYL CHLORIDE | 760-67-8 | C8H15ClO | .T. | 02/26/86 | WHITE CHEMICAL | | |
| | 2-METHYL -1-BUTANOL | 137-32-6 | C5H11OH | .T. | 12/01/83 | U NION CARBIDE | | |
| | 2-METHYLBUTANOL | 137-32-6 | C5H11OH | .T. | 02/01/87 | UNION CARBIDE | | |
| | 3-CHLOROANILINE | | | .T. | / / | ALDRICH CHEM | | |
| | ACETALDEHYDE | 075-07-0 | | .T. | 05/01/85 | EASTMAN CHEM | | |
| | ACETAMIDE, N-(2-HYDROXYMETHYL)- | | C4H9NO2 | .T. | 12/01/85 | WITCO | | |
| | ACETIC ACID, 20% | 64-19-7 | C2H4O2+H2O | .T. | 05/01/86 | ASHLAND CHEM | | |
| | ACETIC ACID, GLACIAL | 64-19-7 | C2H4O2 | .T. | 04/01/86 | FISHER SCIENT. | | |
| | ACETONITRILE | 75-05-8 | C2H3N | .T. | 08/02/88 | ALDRICH CHEM | | |
| 00230 | ACETYL CHLORIDE | 75-36-5 | C2H3ClO | .T. | 02/26/86 | WHITE CHEMICAL | | |
| | ACRYSOL ASE-75 RESIN | MIXTURE | | .T. | 06/27/85 | ROHM & HAAS | | |
| | ACRYSOL ASE-95 THICKENING AGENT | MIXTURE | | .T. | 07/14/87 | ROHM & HAAS | | |
| | ACRYSOL LMW-45 | | | .T. | 12/04/86 | ROHM & HAAS | | |
| | ACRYSOL LMW-45 POLYMER SOLUTION | MIXTURE | | .T. | 02/26/88 | ROHM & HAAS | | |
| | ADIPIC ACID | 124-04-9 | C6H10O4 | .T. | 12/01/79 | MONSANTO CHEM | | |
| | AMCO AP-160 | MIXTURE | | .T. | 10/16/78 | ICI AMERICAS | | |

WHITE CHEMICAL CORPORATION
NEWARK, NEW JERSEY

RAW MATERIALS AND PRODUCTS - MSDS STATUS

| PRODUCT NO. | CHEMICAL NAME | CAS NO. | CHEMICAL FORMULA | MSDS RECD | DATE MSDS ISSD | MSDS ORIGINATED BY | HAZARD CLASS | MAXIMUM QTY ON SITE POUNDS |
|---|---|---|---|---|---|---|---|---|
| | ANTIMONY TRICHLORIDE | 10025-91-9 | SbCl3 | .T. | 07/20/87 | ALDRICH CHEM | | |
| | AROFOL 9-1060T-15 | MIXTURE | TRADE SECRET | .T. | 06/17/88 | ASHLAND CHEM | | |
| | ATLAS G-3449 | MIXTURE | | .T. | 09/01/85 | ICI AMERICAS | | |
| | BENZALDEHYDE | 100-52-7 | | .T. | 07/16/86 | ALDRICH CHEM | | |
| | BENZENE | 71-43-2 | C6H6 | .T. | 12/29/87 | ALDRICH CHEM | | |
| | BENZOIC ACID | 65-85-0 | C7H6O2 | .T. | 02/01/87 | VELSICOL CHEM | | |
| | BENZYL ALCOHOL | 100-51-6 | C7H8O | .T. | 05/01/85 | STAUFFER | | |
| | BIS(TRIMETHYLSILYL)TRIFLU | 25561-30-2 | | .T. | 08/21/86 | ALDRICH CHEM | | |
| | OROACETAMIDE | | | | | | | |
| | BROMINE | 007726-95-6 | Br2 | .T. | 10/16/85 | DOW CHEMICAL | CORROSIV | |
| | BROMINE | 7726-95-6 | Br2 | .T. | 08/01/87 | GREAT LAKES | | |
| | BROMOBENZENE | 0108-86-1 | C6H5Br | .T. | 12/01/85 | GREAT LAKES | | |
| | BUTYL ACETATE | 123-86-4 | CH3COOC4H9 | .T. | 06/01/86 | UNION CARBIDE | | |
| | BUTYL PARASEPT | 94-26-8 | C11H14O3 | .T. | 10/15/85 | PALAMA CHEMICAL | | |
| | BUTYRIC ACID | 107-92-6 | C4H8O2 | .T. | 08/01/84 | CELANESE | | |
| 03700 | BUTYRYL CHLORIDE | 141-75-3 | C4H7ClO | .T. | 02/26/86 | WHITE CHEMICAL | | |
| | CALCIUM CHLORIDE | 10035-04-8 | CaCl2 | .T. | 10/01/85 | ALLIED CHEMICAL | | |
| | CAPROIC ACID | | | .T. | / / | HEXAGON ENTERPR | | |
| | CAPRYLIC ACID | 124-07-2 | | .T. | 04/12/85 | EMERY CHEMICALS | | |
| 04105 | CAPRYLOYL CHLORIDE | 111-64-8 | C8H15ClO | .T. | 02/26/86 | WHITE CHEMICAL | | |
| | CARBON DISULFIDE | 75-15-0 | | .T. | 04/06/88 | ALDRICH CHEM | | |
| | CARBON MONOXIDE | 630-08-0 | CO | .T. | 10/01/85 | MATHESON GAS | | |
| | CARBOWAX POLYETHYLENE | 25322-68-3 | | .T. | 08/31/81 | UNION CARBIDE | | |
| | GLYCOL 8000 | | | | | | | |
| | CAUSTIC SODA - ANHYDROUS | 1310-73-2 | NaOH | .T. | 04/20/83 | DIAMOND SHAMROC | | |
| | CAUSTIC SODA-LIQUID | 1310-73-2 | NaOH | .T. | 05/24/83 | DIAMOND SHAMROC | | |
| | CELITE 545 | 61790-53-2 | SiO2 | .T. | 01/26/83 | MANVILLE PROD | | |
| | CELLOSIZE | | | .T. | 11/01/82 | UNION CARBIDE | | |
| | CETYL ALCOHOL | | | .T. | 06/01/77 | CONOCO CHEMICAL | | |
| 04527 | CETYL BROMIDE | 112-82-3 | C16H33Br | .T. | 02/26/86 | WHITE CHEMICAL | | |
| | CHLORINE | 00782-50-5 | Cl2 | .T. | 10/19/82 | OLIN | OXIDIZER | |
| | CHLORINE | 7782-50-5 | Cl2 | .T. | 04/01/89 | OLIN | | |
| | [illegible] | [illegible] | [illegible] | .T. | 10/15/87 | ALDRICH CHEM | | |

6/30/90 #11

NEWARK, NEW JERSEY 07114
FACILITY VESSEL DATA
REVISION: 0 PREPARED 01/23/89

| ID # | CONTENTS | CAPACITY IN GALLONS | DIA. IN INCHES | S/S OF CONSTRUCTION | MATERIALS | MANUFACTURER | MANUFACTURER LOCATION | YEAR BUILT | NATIONAL BOARD No | DSGN PRES FOR CODE VESSEL PSIG | OPER TEMP F | INSUL THICK IN. | JKT Y/N | BAT SERVED | NORM QTY GAL | POLLUTION PERMIT No | ETP ID DAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AA | FATTY ACIDS | 3,700 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | 0 | 0 | NO | NO | | | 065801- | 1 |
| BB | R.V.OIL | 2,500 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | 0 | 0 | YES | NO | | | | 1 |
| CC | CIRCULATING COOLING WATER | 2,000 | 8.00 | 8.00 | CARB. STEEL | | | 0 | | 0 | 0 | NO | NO | | | | 1 |
| DD | CIRCULATING COOLING WATER | 2,000 | 8.00 | 8.00 | CARB. STEEL | | | 0 | | 0 | 0 | NO | NO | | | | 1 |
| EE | 30% HYDROCHLORIC ACID | 2,500 | 8.00 | 8.00 | POLYETHYLEN | | | 0 | | 0 | 100 | NO | NO | | | 077435 | 2 |
| FF | 30% HYDROCHLORIC ACID | 2,500 | 8.00 | 8.00 | POLYETHYLEN | | | 0 | | 0 | 100 | NO | NO | | | 077435 | 2 |
| GG | PHOSPHORUS TRICHLORIDE | 14,500 | 96.00 | 48.00 | CARB. STEEL | BUFFALO TANK | | 76 | 18226 | 5 | 100 | NO | NO | 5,000 | 3,200 | 067953 - 6 | |
| HH | EMERGENCY STORAGE OF PHOSPHORUS TRICHLORIDE | 14,500 | 96.00 | 48.00 | CARB. STEEL | BUFFALO TANK | | 77 | 18867 | 5 | 100 | NO | NO | | | 067953 - 6 | |
| II | | 2,400 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | 0 | 0 | NO | NO | | | | 1 |
| R-1 | BROMINE | 1,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | 25 | 100 | NO | YES | 1,000 | 1,600 | 067051 - 7 | |
| R-2 | BROMINE | 1,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | 25 | 100 | NO | YES | 1,000 | 1,600 | 067051 - 7 | |
| R-1 | DPI & XYLENE 3% S CRUST | 600 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | 0 | 0 | NO | Y | | | | 1 |
| R-2 | DPI & XYLENE 3% S CRUST | 1,000 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | 0 | 0 | NO | Y | | | | 1 |
| R-3 | DIPHENYL OXIDE & ETHYLENE DICHLORIDE | 3,000 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | 0 | 0 | Y | NO | | | | 1 |
| R-1 | 30% HYDROCHLORIC ACID | 7,000 | 8.00 | 8.00 | FIBERGLASS | OWENS ILL | | 79 | 0 | | 0 | 100 | NO | NO | | | 1 |
| R-2 | 30% HYDROCHLORIC ACID | 6,000 | 8.00 | 8.00 | FIBERGLASS | " " | | 0 | | | 0 | 100 | NO | NO | | | 1 |
| R-3 | 20% HYDROCHLORIC ACID (EI STRIPPER) | 7,000 | 8.00 | 8.00 | FIBERGLASS | OWENS ILL | | 79 | 0 | | 0 | 0 | NO | NO | | | 1 |
| R-4 | 30% HYDROCHLORIC ACID | 7,000 | 8.00 | 8.00 | FIBERGLASS | OWENS ILL | | 79 | 0 | | 0 | 100 | NO | NO | | | |
| R-6 | 30% HYDROCHLORIC ACID | 7,000 | 8.00 | 8.00 | FIBERGLASS | OWENS ILL | | 79 | 0 | | 0 | 100 | NO | NO | | | |
| R-7 | 20% HYDROCHLORIC ACID (EI STRIPPER) | 4,000 | 8.00 | 8.00 | FIBERGLASS | " " | | 0 | | | 0 | 100 | NO | NO | | | |
| R-1 | PIVALOYL CHLORIDE | 750 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 61 | 0 | YES | 0 | 0 | Y | YES | | 065796 - 6 | |
| R-2 | | 2,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 77 | 0 | YES | 0 | 0 | N | YES | | | |
| R-3 | ACID CHLORIDES | 2,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 64 | 0 | YES | 0 | 0 | Y | YES | | 071359 1 | |
| R-5 | | 750 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | YES | 0 | 0 | N | YES | | | |
| R-6 | DPI & XYLENE | 2,000 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | | 0 | 0 | Y | YES | | | |
| R-7 | DPI & XYLENE | 1,000 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | | 0 | 0 | NO | YES | | | |
| R-8 | LIQUID PHOS ACID | 1,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 66 | 0 | YES | 0 | 0 | N | YES | | 065800 | |
| R-9 | ETHYLENE DICHLORIDE | 3,000 | 8.00 | 8.00 | CARB. STEEL | | | 0 | | | 0 | 0 | N | YES | | 067032-A | |
| MT-6 | PIVALOYL CHLORIDE | 2,600 | 8.00 | 8.00 | CARB. STEEL | DeDIETRICH | | 0 | | YES | 0 | 0 | N | NO | | | |
| MT-8 | XYLENE | 2,000 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | | 0 | 0 | NO | NO | | | |
| R-10 | ACID CHLORIDES | 4,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 69 | 0 | 250 | 0 | 0 | Y | YES | | 073560 -2 | |
| R-11 | TEMP & ETHYLENE DICHLORIDE | 4,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | NO | 0 | 0 | N | YES | | 067036 A | |
| R-12 | DPI & XYLENE | 1,500 | 8.00 | 8.00 | CARB. STEEL | | | 0 | | | 0 | 0 | NO | YES | | 070519 | |
| R-14 | TEMP & ETHYLENE DICHLORIDE | 4,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 78 | 0 | YES | 0 | 0 | N | YES | | | |
| R-15 | ACID CHLORIDES | 4,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 75 | 0 | YES | 0 | 0 | N | YES | | 070566 - 1 | |
| MT-15 | | 3,500 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | | 0 | 0 | NO | NO | | | |
| MT-16 | | 8,000 | 8.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | | 0 | 0 | NO | NO | | | |
| MT-18 | 30% HYDROCHLORIC ACID | 2,600 | 8.00 | 8.00 | CARB. STEEL | DeDIETRICH | | 0 | | | 0 | 0 | NO | NO | | 067036 A | |
| MT-19 | PIVALOYL CHLORIDE | 7,500 | 120.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | | 0 | 0 | NO | NO | | | |
| MT-20 | ACETYL CHLORIDE | 7,500 | 120.00 | 8.00 | CARB. STEEL | PFAUDLER | | 0 | | | 0 | 0 | NO | NO | | | |
| MT-23 | XYLENE | 2,400 | 8.00 | 8.00 | STAIN STEEL | | | 0 | | | 0 | 0 | NO | NO | | | |

Page No. 1
02/06/89

NEED IA MARKED

WHITE CHEMICAL CORPORATION, INC
NEWARK, NEW JERSEY 07114
FACILITY VESSEL DATA
REVISION: 0 PREPARED 01/23/89

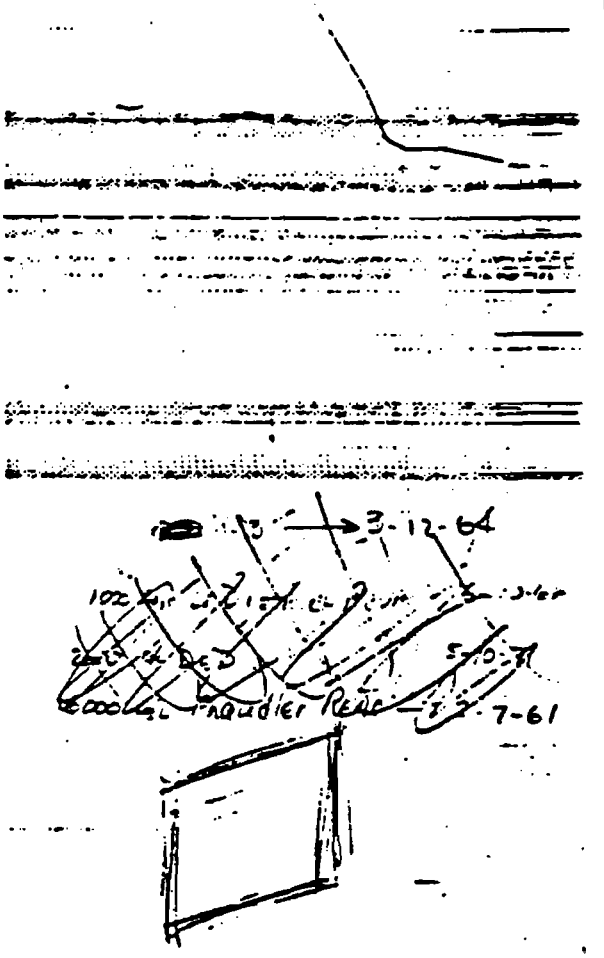
| NEW TANK No. | OLD TANK No. | CONTENTS | CAPACITY IN GALLONS | DIA. INCHES | S/S FT. | MATERIALS OF CONSTRUCTION | MANUFACTURER & MANUFACTURER LOCATION | YEAR & MFGR | NATIONAL BOARD No FOR VESSEL | OPER PRES PSIG | OPER TEMP F | MINIMUM THICK | JET | MAX SOLVENT GALS | REPAIR QTY GAL | POLLUTION PERMIT No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0.00 | 0.00 | | | | | 0 | 0 | 0 | | | | |
| | | | | 0.00 | 0.00 | | | | | 0 | 0 | 0 | | | | |
| WT3305 | 1 | [illegible] | | | | | | | | 0 | 0 | 0 | | | | |
| WT3306 | 2 | [illegible] | 100 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | | | | |
| WT3307 | 3 | ACID CHLORIDES [illegible] | 100 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | NO | | | |
| WT3308 | 4 | PIVALOYL CHLORIDE [illegible] | 50 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | NO | | | |
| WT3403 | 5 | DIPHENYLOXIDE & ETHYLENE DICHLORIDE | 500 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | NO | | | |
| WT3416 | 6 | 30% HYDROCHLORIC ACID [illegible] | 500 | 0.00 | 0.00 | POLYETHYLEN | | | | 0 | 0 | 175 | | | | |
| WT3417 | 7 | 30% HYDROCHLORIC ACID [illegible] | 500 | 0.00 | 0.00 | POLYETHYLEN | | | | 0 | 0 | 100 | | | | |
| WT3508 | 8 | WATER [illegible] | 500 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |
| WT3509 | 9 | XYLENE [illegible] | 500 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | | | | |
| WT3509 | A | ACID CHLORIDES [illegible] | 1,500 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | | | | |
| WT3510 | B | PHOSPHOROUS TRICHLORIDE - WEIGHT TANK | 1,000 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | N | | | |
| WT3511 | C | [illegible] | 1,500 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | N | Y | | |
| WT3512 | D | [illegible] | 750 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | N | Y | | |
| WT3513 | E | DILUTE HYDROCHLORIC ACID [illegible] | 500 | 0.00 | 0.00 | POLYETHYLEN | [illegible] | | | 0 | 0 | 0 | N | | | |
| WT3514 | F | PIVALOYL CHLORIDE [illegible] | 1,500 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | N | | | |
| WT4005 | G | CIRCULATING COOLING WATER | 4,000 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| S16001 | H | INACTIVE | 30,000 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S16002 | I | INACTIVE | 30,000 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S16003 | J | INACTIVE | 7,500 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S16004 | K | INACTIVE | 7,500 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S16005 | L | INACTIVE | 15,000 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S16006 | M | INACTIVE | 15,000 | 0.00 | 0.00 | CARB. STEEL | BUFFALO TANK | 77 | | 0 | 0 | 0 | Y | | | |
| S13501 | P | XYLENE | 9,000 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| S16007 | Q | INACTIVE | 9,000 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | 9,833 | 4,133 | |
| S16008 | R | INACTIVE | 9,000 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| WT4004 | T | FUEL OIL | 6,000 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| S16009 | U | INACTIVE | 7,500 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| S16010 | V | INACTIVE | 7,500 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| S16011 | W | INACTIVE | 7,500 | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | Y | | | |
| WT3402 | X | [illegible] | 1,000 | 0.00 | 0.00 | CARB. STEEL | [illegible] DeDietrich | 66 | | 0 | 0 | 0 | Y | | | |
| WT3407 | Y | DIPHENYLOXIDE & ETHYLENE DICHLORIDE | 2,000 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |
| WT3512 | Z | XYLENE HT-35 | 500 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |
| WT3510 | 10 | XYLENE DRY PERK | 250 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |
| WT3511 | 11 | 40% SULFURIC ACID | 500 | 0.00 | 0.00 | POLYETHYLEN | | | | 0 | 0 | 100 | | | | |
| S13302 | 12 | [illegible] | | 0.00 | 0.00 | CARB. STEEL | | | | 0 | 0 | 0 | | | | |
| S13301 | 13 | WATER (FOR VENT SCRUBBING OF PCl3) | 500 | 0.00 | 0.00 | POLYETHYLEN | | | | 0 | 0 | 0 | | | | |
| WT3408 | 14 | ETHYLENE DICHLORIDE DRY FEED | 500 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |
| WT3409 | 15 | ETHYLENE DICHLORIDE [illegible] | 100 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | | | 0 | 0 | 0 | | | | |
| WT3410 | 16 | [illegible] | 500 | 0.00 | 0.00 | STAIN STEEL | | | | 0 | 0 | 0 | | | | |

CHEMICAL CORPORATION, INC
NEWARK, NEW JERSEY 07114
FACILITY VESSEL DATA
REVISION: 0 PREPARED 01/23/89

| NEW TANK No. | OLD TANK No. | CONTENTS | CAPACITY IN GALLONS | DIA. INCHES | S/S FT. | MATERIALS OF CONSTRUCTION | MANUFACTURER MANUFACTURER LOCATION | YEAR OFSD | NATIONAL BOARD No FOR CODE VESSEL | OPER PRES PSIG | OPER TEMP F | INSUL THICK INCH. | JKT V/N | MAX INVENT GALS | ROW BY GA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MT3316 | MT-24 | CAPRYLOYL (OCTANOYL) CHLORIDE | 2,600 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | 0 | | 0 | 0 | N | NO | | |
| MT3317 | MT-25 | CAPRYLOYL (OCTANOYL) CHLORIDE | 2,600 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | 0 | | 0 | 0 | N | NO | | |
| MT3411 | MT-26 | ETHYLENE DICHLORIDE | 2,600 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | 0 | | 0 | 0 | NO | NO | | |
| MT3413 | MT-29 | TETRACHLOROETHANE | 750 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | 70 | | 0 | 0 | NO | NO | | |
| MT3410 | MT-30 | ETHYLENE DICHLORIDE | 1,700 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | NO | NO | | |
| MT3412 | MT-31 | ETHYLENE DICHLORIDE | 1,700 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | NO | NO | | |
| MT3507 | MT-34 | XYLENE | 1,000 | 0.00 | 0.00 | CARB. STEEL | PFAUDLER | 0 | | 0 | 0 | NO | NO | | |
| MT3505 | MT-36 | XYLENE | 1,000 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | NO | NO | | |
| MT3506 | MT-37 | XYLENE | 1,000 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | NO | NO | | |
| ST3303 | SS-21 | CAPRYLIC ACID | 12,000 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | NO | NO | | |
| ST3419 | SS-22 | ETHYLENE DICHLORIDE | 12,000 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | YES | NO | 8,970 | 5.00 |
| ST3304 | SS-23 | [illegible] ACID | 12,000 | 0.00 | 0.00 | STAIN STEEL | | 0 | | 0 | 0 | YES | NO | 6,112 | 3.02 |
| | | FIVALIC | | | | | | 0 | | 0 | 0 | YES | NO | 5,60 | [illegible] |

NEED INFO IN COLUMNS MARKED WITH *

| * IDNAL CODE | * OPER PRES PSIG | * OPER TEMP F | * INSUL THICK | * JET | * MAT SOLVENT | * BORDR QTY | * POLLUTION PERMIT No | * EXPIRES OR DATE | SPEC VAPOR GRAV | PRESS @ 68F | FLASH POINT F | TCPA REG Y/N | DIKED Y/N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | GALS | GAL | | | | | | | |
| 0 | 0 | | | | | | | / / | | 0.00 | | 0.00 | |
| 0 | 0 | | | | | | | / / | | 0.00 | | 0.00 | |
| 0 | 0 | NO | Y | | | | | / / | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 065800 | / / | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 071859 | - 11/19 | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 065795 | - 6/17/80 | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | | / / | | 0.00 | | 0.00 | NO |
| 0 | 375 | NO | | | | | 071695 | - 9/11/79 | | 1.14 | 31 | 0.00 | YES |
| 0 | 100 | NO | | | | | 071855 | - 9/12/79 | | 1.14 | 31 | 0.00 | YES |
| 0 | 0 | NO | | | | | 070523 | / / | | 1.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | | 015178 | | 0.06 | | 81.00 | NO |
| 0 | 0 | NO | | | | | 071559 | - 11/19 | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | | / / | | 1.57 | | 0.00 | NO |
| 0 | 0 | NO | Y | | | | 070330 | / / | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | Y | | | | 071360 | - 2/19/ | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 065795 | - 6/17/80 | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 065795 | - 6/17/80 | | 0.00 | | 0.00 | NO |
| 0 | 0 | YES | | | | | | / / | | 1.00 | | 0.00 | NO |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | 9,833 | 4,199 | | / / | | 0.06 | | 81.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | YES | | | | | | / / | | 0.00 | | 0.00 | YES |
| 0 | 0 | NO | | | | | | / / | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | | | | | | / / | | 0.00 | | 0.00 | NO |
| 0 | 0 | NO | Y | | | | | / / | | 0.06 | | 81.00 | NO |
| 0 | 100 | NO | | | | | 070523 | / / | | 1.30 | | 0.00 | NO |
| 0 | 0 | NO | | | | | 060793 | - 4/17/80 | | 0.00 | | 0.00 | YES |
| 0 | 0 | NO | | | | | 060289 | - 11/19/80 | | 0.00 | | 0.00 | YES |
| 0 | 0 | NO | | | | | 070150 | - 11/19/79 | | 1.26 | 87 | 0.00 | NO |
| 0 | 0 | NO | | | | | 067037 | - 12/3/79 | | 1.26 | 87 | 0.00 | NO |
| 0 | 0 | NO | | | | | | / / | | 0.00 | | 0.00 | NO |



8/31/90
12 pm

*AS OF FEBRUARY 21,1990

| CHEMICAL | DRUMS (UNITS) | CONDITION OF DRUMS | | CLASSIFICATION OF | | |
|---|---|---|---|---|---|---|
| | | GOOD | REDIRES TRANSFER | CORROSIVE | FLAMABLE | CORROSIV FLAMABL |
| PRIOR TO D.I.P. | | | | | | |
| XYLENE/WATER | 0 | | | | | |
| KETTLE CLEANINGS | 22 | 22 | | | | |
| HYDRIODIC ACID D/R | 95 | 75 | 20 | 95 | | |
| FATTY ACIDS | 137 | 137 | | 137 | | |
| ALLYL BROMIDE D/R | 3 | 3 | | | 3 | |
| FLAME RETARDANT SOLIDS | 186 | | 186 | | | |
| 40 HYDROCHLORIC ACID/EDC | 371 | | 371 | 371 | | 3 |
| TCE/DBF/EDC | 318 | | 318 | | | 3 |
| HEPTYL ALLYL BR. | 144 | | 144 | 144 | | |
| ETHYLENE DICHLORIDE | 55 | | 55 | | | 5 |
| CAPRYLOYL CHL F/C | 27 | | 27 | 27 | | |
| STRIP DPX CAKE | 112 | | 112 | | | |
| UNSTRIP DPX CAKE | 304 | | 304 | | 304 | |
| ACETIC ACID D/R | 22 | | 22 | 22 | | |
| PIVALIC ACID/WATER | 55 | 41 | 14 | | | 5 |
| CAPRYLOYL CL D/R | 155 | | 155 | 155 | | |
| TOLUENE EX DFBC | 19 | | 19 | | 19 | |
| XYLENE D/R | 49 | 49 | | | 49 | |
| VALAROYL CHLORIDE F/C | 0 | | | | | |
| PIVALOYL CHLORIDE D/R | 95 | 71 | 24 | | | 9 |
| VALAROYL CHLORIDE D/R | 5 | | 5 | 5 | | |
| DPX STRIP WATER | 0 | | | | | |
| BROM ACETOYL BR. D/R | 18 | | 18 | 18 | | |
| SPENT ACETONE | 53 | 53 | | | 53 | |
| PHENETHYL BROMIDE | 48 | 48 | | | | |
| SPENT SULFURIC ACID | 59 | 29 | 30 | 59 | | |
| ACETOYL CHLORIDE D/R | 16 | | 16 | | | 16 |
| BROMO ACETIC ACID D/R | 26 | | 26 | 26 | | |
| BROMO ACETIC ACID/WATER | 8 | | 8 | 8 | | |
| BUTYRIC ACID D/R | 15 | 15 | | 15 | | |
| PROPIONIC ACID D/R | 0 | | | | | |
| BUTYROYL CL D/R | 8 | | 8 | 8 | | |
| PROPIONYL CL D/R | 4 | | 4 | 4 | | |
| DDDR | 89 | | 89 | 89 | | |
| VALARIC ACID | 24 | 24 | | 24 | | |
| ETHYLENE DICHLORIDE D/R | 194 | 97 | 97 | | 194 | |
| LAB WASTE | 11 | 11 | | | | |
| COUNTED (UNKNOWNS) | 376 | 188 | 188 | | | 376 |
| TOTAL | 3,123 | 863 | 2,260 | 1,287 | 622 | 1,181 |
| NOT COUNTED (APPROXIMATELY) | 715 | | | | | |
| TOTAL PRIOR TO D.I.P. | 3,838 | | | | | |

REFERENCE NO. 4

OHM COMPLETED A 6TH SITE UNDER SUPERFUND

# White Chemical: FACT SHEET

## Site History

- Location of White Chemical Company
- 660 Frelinghuysen Avenue, Newark, New Jersey
- Manufacturer of acid chlorides and flame retardent compounds
- Facility shut down since July 1, 1990
- Four-acre site that includes laboratories, storerooms, and grounds with approximately 10,000 drums of various chemicals
- Among the known chemicals contained within the drums are substantial quantities of acetone, benzyl bromide, ethylene dichloride, hydriodic acid, hydrochloric acid, hydrocyanic acid, hydrozer bromide, phosphorous (red), phosphorous tribromide sulfuric acid, trichloroe-thylene, (anhydros) toluene, and xylene. Among the identified chemicals are carouses, large quantities of acids, and flammable liquids.

## OHM Emergency Response

- September 7, 1990
- EPA Delivery Order for Emergency Response Cleanup Services issued by USEPA Region II in Edison, New Jersey
- Condition of stored materials on site deteriorated to the point where they pose an imminent threat to the surrounding public and the environment
- OHM mobilized in response to approximately 20 fuming drums of phosphorus tri-bromide
- Primary purpose of emergency response was to stabilize the site by mitigating the immediate hazards that threaten the surrounding public and the environment
- Work includes surveying the site, site mobilization and setup, drum handling, drum transferring, overpacking, sampling, and emergency actions
- Emergency response and contingency plan is in place to detail procedures necessary to respond to varying emergencies and chemical releases

REFERENCE NO. 5

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Agency for Toxic Substances
and Disease Registry

# Memorandum

Date September 28, 1990

From Chief, Technical Support Section, ERCB, DHAC, ATSDR (E32)
Chief, Program Operations Section, ERCB, DHAC, ATSDR (E32)

Subject Health Consultation: White Chemical Company Site
Newark, Essex County, New Jersey

To Arthur Block
ATSDR Regional Representative
EPA Region II
Through: Director, DHAC KGO for RCW
Chief, ERCB, DHAC EKS

## Background and Statement of Issues

On September 27, 1990 the U.S. Environmental Protection Agency (EPA) requested that the Agency for Toxic Substances and Disease Registry (ATSDR) review the White Chemical Company's site data and information to determine if conditions at the site pose a threat to the health and well being of individuals residing or working near the site. The EPA had concluded that the site was an imminent and substantial threat to public health due to the potential for continuing releases of hazardous substances and because of the potential for fire and explosions. The EPA concluded that an immediate removal action was warranted to secure and stabilize the site.

The White Chemical Company (White) facility, a former manufacturer of acid chlorides and flame retardant compounds, is located on about 4 acres of land in a heavily populated and industrial section of Newark, Essex County, New Jersey. The manufacturing portion of the facility has ceased operations and the Company is in Chapter 11. Currently, there are two laboratories on-site in which research is conducted on non-halogenated flame retardant compounds. Reportedly six individuals currently work on-site, while approximately 12,000 people are estimated to live and work within a 1/4 mile radius of the site. The Newark International Airport is within 1 mile of the site.

Reportedly, there are approximately 9,000 drums containing hazardous materials stored on-site. The chemicals found on-site include flammable liquids, flammable acids, corrosives, acids, oxidizers, air/water reactive chemicals, and peroxide forming materials which can explode. Specific substances reported to be on-site include hydrogen cyanide, phosphorus tribromide, sulfuric acid, hydrochloric acid, and trimethylamine.

Many of the drums are stored improperly and are precariously stacked throughout the site. Corrosives are stored next to flammables. Thousands of containers with water reactive materials are stored outside. Within the laboratories, thousands of small containers in various stages of deterioration were found unsegregated stored on shelves.

The drums outside are in various stages of deterioration and are leaking their contents onto the soil and pallets which support them. A number of these drums were observed to be fuming. Qualitative data collection methods have identified the presence of acid gas vapors beyond the perimeter of the site. Odors indicative of acid gases have been detected by workers at nearby manufacturing facilities.

On four occasions, the New Jersey Department of Environmental Protection (NJDEP) inspected the White Chemical Facility and found numerous RCRA violations, specifically illegal treatment of hazardous waste and storing hazardous waste without the necessary permits. In early 1990, the NJDEP issued several Directives, the latest issued on May 9, 1990 to White Chemical to perform a cleanup of the site. A response was not received by NJDEP. On May 15, 1990 the NJDEP commenced a removal action under the New Jersey Spill Compensation and Control Act. However, by August 1990, after NJDEP had removed approximately 1,000 drums, the project ceiling was reached causing the cleanup to be halted. As a result, on August 24, 1990 NJDEP requested EPA to assess the site for CERCLA removal consideration.

DOCUMENTS AND INFORMATION REVIEWED

ACTION MEMORANDUM--Verbal Approval and Funding Request for Removal Action Approval at the White Chemical Company Site, Newark, Essex County New Jersey.

Telephone conference call between EPA, ATSDR, and State of New Jersey, September 27, 1990.

On-scene verbal report from Scott Wright, ERCB, DHAC, ATSDR about conditions at the site, September 28, 1990.

DISCUSSION

Direct observations of conditions at this site by Scott Wright, an ATSDR Emergency Response Coordinator, confirmed the previous reports of an unstable situation which could lead to a catastrophic release of hazardous materials and would likely affect the surrounding community. Mr. Wright reported that releases of acid fumes are already occurring on a continuous basis. The presence of acids was detected in ambient air off-site by colorometric methods.

The close proximity of significant worker and resident populations, the leaking and deteriorating drums and other containers, and the improper storage of incompatible substances are reasons for grave concern. Many of

the substances will react upon contact with moisture or air, forming toxic and irritating substances. Mixture of incompatible substances can lead to fire and explosion or a release of vapors. Continued operation on the site will increase the likelihood that releases could occur. A fire or explosion in the laboratory could involve the drum storage area resulting in a catastrophic release.

CONCLUSIONS

Based on the information available, ATSDR concludes that the White Chemical Site poses an imminent and substantial threat to the health and safety of residents and workers near the site.

RECOMMENDATIONS

The following recommendations are made by ATSDR for the White Chemical Site located in Newark, New Jersey:

1. Immediately secure and stabilize the site.

2. Initiate appropriate air monitoring activities around the perimeter of the site in order to monitor contaminant migration from the site. Air monitoring activities should be implemented in the immediate vicinity of worker and residential populations.

3. Initiate the development of contingency plans for the protection of residents and workers in the immediate area of the site who would be at risk in the event of a major release from the site.

Allan S. Susten, Ph.D., DABT

David M. Barry

**REFERENCE NO. 10**

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>Site Characterization & Analysis | 12:03 |
|---|---|---|

| | |
|---|---|
| Facility: WHITE CHEMICAL CORPORATION<br>Address: 660 FRELINGHUYSEN AVENUE<br>City/St: NEWARK, NEW JERSEY<br>Zip: 07114 County: ESSEX<br>Owner/Oper: JAMES WHITE<br>24-Hour Phone: 201-621-4100<br>ID Number: H2MP113-655<br>312 Tier II Report:05/25/89<br>EPA #: | Contact: STEVEN SHOPSIS<br>Title: PLANT MANAGER<br>Phone: 201-679-8071<br>Alternate: HARRY KERTSCHER<br>Title: ASST. PLANT MANAGER<br>Phone: 201-521-1991<br>D & B: - -<br>SIC #1: 2869 SIC #2:<br>SIC #3:<br>NPDES #: |

302 SARA Notification: Y 311 Report: 05/25/89 313 Report: 05/25/89
Plan Distribution --- Fire: Y Local District: Y State Commission: Y

Site Notes (Location, Topography, Characterization)

HOURS OF SHIFT/NO. OF EMPLOYEES
0800 - 1600 45EMPLOYESS
1600 - 2400 8EMPLOYEES
2400 - 0800 8EMPLOYEES

1 of 1 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ACETIC ACID
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK S DMS., BLDG 35
Site Location:

CAS: 64-19-7 RTEC: UN: 2789 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

1 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ACETIC ANHYDRIDE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: DMS. AREA 1
Site Location:

CAS: 108-24-7 RTEC: UN: 1715 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

2 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ACETONE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 2 & AREA 1
Site Location:

CAS: 67-64-1 RTEC: UN: 1090 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

3 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity: Y
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ACETYL CHLORIDE
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 75-36-5 RTEC: UN: 1717 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes: ^PD

Update: 01/29/90

of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ACTIVATED CARBON
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 35
Site Location:

CAS: 7440-44-0 RTEC: UN: 1851 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/29/90

5 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: AIR, COMPRESSED
Inventory #: Composition: UNK State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 33, 34 & 35
Site Location:

CAS: RTEC: UN: 1002 Label:

Maximum Pounds: Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

6 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ALLYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1
Site Location:

CAS: 107-18-6 RTEC: UN: 1098 Label:

Maximum Pounds: 10000
Storage Pounds:
Average Daily Pounds: 100
Storage Type: SD
Notes:

Storage Codes: 1&4
Confidential:
Trade Secret:
Number of Days on Site: 365

Update: 01/29/90

7 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ALUMINUM CHLORIDE
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7446-70-0 RTEC: UN: 1726 Label:

Maximum Pounds: 10000
Storage Pounds:
Average Daily Pounds: 1000
Storage Type: SD
Notes:

Storage Codes: 1&4
Confidential:
Trade Secret:
Number of Days on Site: 365

Update: 01/29/90

of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: AMMONIUM HYDROXIDE
Inventory #: Composition: 49% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1, BLDG. 34
Site Location:

CAS: 1336-21-6 RTEC: UN: 2672 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

9 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: AMYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1
Site Location:

CAS: 71-41-0 RTEC: UN: 1105 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

10 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ANTIMONY TRIOXIDE
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 1309-64-4 RTEC: UN: 1549 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/29/90

11 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BENZYL BROMIDE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 2
Site Location:

CAS: 100-39-0 RTEC: UN: 1737 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

12 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMINE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANKS Y & Z
Site Location:

CAS: 7726-95-6 RTEC: UN: 1744 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

13 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMACETIC ACID
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: DMS.,BLDG. 34, AREA 3
Site Location:

CAS: 79-08-3 RTEC: UN: 1938 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

14 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMACETIC ACID SOLUTION
Inventory #: Composition: 69% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 79-08-3 RTEC: UN: 1938 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

15 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMO ETHYL BUTANE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 107-82-4 RTEC: UN: 2341 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

16 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: 2 BROMO 2 METHYL PROPANE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 507-19-7 RTEC: UN: 2342 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

17 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: 1 BROMO 2 METHYL PROPANE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 78-77-3 RTEC: UN: 2342 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

18 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMO PENTANE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 29756-38-5 RTEC: UN: 2343 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

19 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BROMO PROPANE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 26446-77-5 RTEC: UN: 2344 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

20 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: N-BUTYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 71-36-3 RTEC: UN: 1120 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

21 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: SEC. BUTYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 78-92-2 RTEC: UN: Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

22 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: TERT. BUTYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 75-65-0 RTEC: UN: 1120 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

23 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BUTYL BROMIDE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 109-65-9 RTEC: UN: 1126 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

24 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BUTYRIC ACID
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK F
Site Location:

CAS: 107-92-6 RTEC: UN: 2820 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

25 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity: Y
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: BUTYROYL CHLORIDE
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 141-75-3 RTEC: UN: 2353 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

6 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: CALCIUM OXIDE
Inventory #: Composition: 89% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 1305-78-8 RTEC: UN: 1910 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/29/90

27 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: HEXANOIC ACID
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 142-62-1 RTEC: UN: 1760 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

28 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: CARBON DIOXIDE
Inventory #: Composition: 100% State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: CYL. RACK, BLDG. 34 & 33
Site Location:

CAS: 124-38-9 RTEC: UN: 1013 Label:

Maximum Pounds: 1000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

29 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: CHLORINE
Inventory #: Composition: 100% State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1, BLDG. 34
Site Location:

CAS: 7782-50-5 RTEC: UN: 1017 Label:

Maximum Pounds: 50000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

0 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: CORROSIVE LIQ. FLAM. N.O.S
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG 34, TANKS S,T & U;AREA
Site Location: ^1

CAS: RTEC: UN: 2920 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

31 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: CORROSIVE LIQ. N.O.S
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG 34, AREA 1,TANKS S,T,&
Site Location: ^U

CAS: RTEC: UN: 1760 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

32 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: 1,2 DICHLOROETHANE
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK T, BLDG. 34 & AREA 1
Site Location:

CAS: 107-06-2 RTEC: UN: 2362 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

33 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: FLAMMABLE GAS N.O.S.
Inventory #: Composition: 100% State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: CYL.RACK,BLDG.34 MAINT SHOP
Site Location:

CAS: RTEC: UN: 1954 Label:

Maximum Pounds: 10000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

34 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: FLAMMABLE SOLIDE N.O.S.
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: RTEC: UN: 1325 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10 Trade Secret:
Storage Type: CAN Number of Days on Site: 365
Notes:

Update: 01/29/90

35 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: #2 FUEL OIL
Inventory #: Composition: UNK State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK G
Site Location:

CAS: RTEC: UN: 1993 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

36 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: HELIUM
Inventory #: Composition: 100% State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: CYL. RACK, BLDG 34 LABS, &
Site Location: ^BLDG 33

CAS: 7440-59-7 RTEC: UN: 1046 Label:

Maximum Pounds: 1000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

37 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: HYDRIODIC ACID SOLUTION
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG.33, 34 & 35 AREAS 2 & 3
Site Location:

CAS: 10034-85-2 RTEC: UN: 1787 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: CB Number of Days on Site: 365
Notes:

Update: 01/29/90

38 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: HYDROGEN BROMIDE SOL.
Inventory #: Composition: 49% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG.33 & 34 AREA 1 & 4
Site Location:

CAS: 10035-10-6 RTEC: UN: 1048 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

39 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: HYDROGEN CHLORIDE
Inventory #: Composition: 49% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK CC,BB,A,B,C & D AREA 1
Site Location:

CAS: 7647-01-0 RTEC: UN: 1050 Label:

Maximum Pounds: 500000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 250000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

40 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: IODINE
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7553-56-2 RTEC: UN: 1851 Label:

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: IODINE
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7553-56-2 RTEC: UN: 1851 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: FD Number of Days on Site: 365
Notes:

Update: 07/18/90

41 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ISO AMYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1
Site Location:

CAS: 123-51-3 RTEC: UN: 1987 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

42 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: ISO BUTYL ALCOHOL
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1, BLDG. 34
Site Location:

CAS: 78-83-1 RTEC: UN: 1212 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

43 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: MELAMINE
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 35
Site Location:

CAS: 108-78-1 RTEC: UN: Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/29/90

44 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: METHYL ALCOHOL
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1, LAB, BLDG. 33
Site Location:

CAS: 67-56-1 RTEC: UN: 1230 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

15 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: METHYL BUTYRATE
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1
Site Location:

CAS: 623-42-7 RTEC: UN: 1237 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

16 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PHOSPHORIC ACID
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG.35
Site Location:

CAS: 7664-38-2 RTEC: UN: 1805 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/29/90

49 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PHOSPHOROUS ACID
Inventory #: Composition: 69% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG.33 & 34 TANKS J & M DMS
Site Location: ^AREA 1 & 2

CAS: 13598-36-2 RTEC: UN: 2834 Label:

Maximum Pounds: 250000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

0 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity: Y
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PHOSPHOROUS TRICHLORIDE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK DD, BLDG. 33
Site Location:

CAS: 7719-12-2 RTEC: UN: 1809 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 10000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

51 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PHOSPHOROUS RED
Inventory #: Composition: 100% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 33 & 34
Site Location:

CAS: 7723-14-0 RTEC: UN: 1338 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: CAN Number of Days on Site: 365
Notes:

Update: 01/29/90

52 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PROPANE
Inventory #: Composition: UNK State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: PROPANE RACK, BLDG.34
Site Location:

CAS: 74-98-6 RTEC: UN: 1978 Label:

Maximum Pounds: 10000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

53 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PROPIONIC ACID
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANK E
Site Location:

CAS: 79-09-4 RTEC: UN: 1848 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/29/90

54 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: PROPYL ALCOHOL
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34, AREA 1
Site Location:

CAS: 71-23-8 RTEC: UN: 1219 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/29/90

55 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: REFRIGERANT GAS N.O.S.
Inventory #: Composition: UNK State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: MAINT. SHOP
Site Location:

CAS: RTEC: UN: 1078 Label:

Maximum Pounds: 100 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 10 Trade Secret:
Storage Type: CYL Number of Days on Site: 365
Notes:

Update: 01/29/90

56 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: SODIUM BISULFITE
Inventory #: Composition: 99% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7631-90-5 RTEC: UN: 2693 Label:

Maximum Pounds: 1000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/30/90

57 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: SODIUM HYDROXIDE
Inventory #: Composition: 99% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 33 & 34, AREA 1
Site Location:

CAS: 1310-73-2 RTEC: UN: 1823 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/30/90

58 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: SODIUM PHOSPHATE TRIBASIC
Inventory #: Composition: UNK State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7601-54-9 RTEC: UN: 9148 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: BAG Number of Days on Site: 365
Notes:

Update: 01/30/90

59 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: SULFURIC ACID
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34
Site Location:

CAS: 7664-93-9 RTEC: UN: 1831 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/30/90

60 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: 1,1,2,2, - TETRACHLORAETHANE
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1
Site Location:

CAS: 79-34-5 RTEC: UN: 1702 Label:

Maximum Pounds: 10000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 1000 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/30/90

61 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release: Y
Reactivity:
Fire: Y
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: TRIMETHYLAMINE
Inventory #: Composition: 100% State: G

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 34 AREA 1
Site Location:

CAS: 75-50-3 RTEC: UN: 1083 Label:

Maximum Pounds: 10000 Storage Codes: 2&4
Storage Pounds: Confidential:
Average Daily Pounds: 1 Trade Secret:
Storage Type: CYL Number of Days on Site: 100
Notes:

Update: 01/30/90

62 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: VALERIC ACID
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 33 & 34 AREA 1
Site Location:

CAS: 109-52-4 RTEC: UN: 1760 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/30/90

63 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity: Y
Fire:
Health: Y

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: VALEROYL CHLORIDE
Inventory #: Composition: 100% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: BLDG. 33 & 34
Site Location:

CAS: 638-29-9 RTEC: UN: 2502 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 100 Trade Secret:
Storage Type: PD Number of Days on Site: 365
Notes:

Update: 01/30/90

64 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: P-XYLENE
Inventory #: Composition: 99% State: S

Facility: WHITE CHEMICAL CORPORATION
General Location: AREA 1 & 2
Site Location:

CAS: 106-42-3 RTEC: UN: 1307 Label:

Maximum Pounds: 50000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: SD Number of Days on Site: 365
Notes:

Update: 01/30/90

65 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

Release:
Reactivity:
Fire: Y
Health:

EMERGENCY INFORMATION SYSTEM Chemical Inventory Data

Chemical Name: XYLENES
Inventory #: Composition: 99% State: L

Facility: WHITE CHEMICAL CORPORATION
General Location: TANKS P,FF,GG,& HH AREA 1
Site Location:

CAS: 1330-20-7 RTEC: UN: 1307 Label:

Maximum Pounds: 100000 Storage Codes: 1&4
Storage Pounds: Confidential:
Average Daily Pounds: 50000 Trade Secret:
Storage Type: AGT Number of Days on Site: 365
Notes:

Update: 01/30/90

66 of 66 [PgUp/Dn] [E]dit [C]opy [D]elete [T]ext #[F]ull [M]ap

REFERENCE NO. 11

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

ACETONE 100%

ACETONITRILE

ACETYL CHLORIDE

ACETYL CHLORIDE

ACETYL CHLORIDE D/R

ACETYL CHLORINE

ACID CHLORIDES

ACRYSOL ASE-75 RESIN

ACRYSOL ASE-95 THICKENING MIXTURE

ACRYSOL LMW-45

ACRYSOL LMW-45 POLYMER

ACTIVATED CARBON

AD HYDROCHLORIC ACID/EDC

ADIPIC ACID

ADIPOYL CHLORIDE

AHCO AB-160

AIR COMPRESSED

ALLYL BROMIDE

ALLYL ALCOHOL

ALLYL BROMIDE D/R

ALUMINUM CHLORIDE

AMMONIUM HYDROXIDE

AMONNIA

AMYL ALCOHOL

ANTIMONY TRICHLORIDE

ANTIMONY TRIOXIDE

AROPOL D-1060T-15

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

ATLAS G-3449

BENZALDEHYDE

BENZENE 99%

BENZOIC ACID

BENZYL ALCOHOL

BENZYL BROMIDE

~~BENZYL~~ BROMIDE

BIS(TRIMETHYLSILYL)TRIFLU

BOILER TREATMENT CHEMICAL

BROM ACETOYL BR. D/R

BROMIDE

BROMINE

~~BROMI~~NE

BROMO ACETAL BROMIDE

BROMO ACETIC ACID

BROMO ACETIC ACID

BROMO ACETIC ACID D/R

BROMO ACETIC ACID/WATER

BROMO ETHYL BUTANE

BROMO PENTANE

BROMO PROPANE

BROMOACETIC ACID SOLN.

BROMOBENZENE

BUFURAL

BUTERIC ACID

BUTYL ACETATE

BUTYL BROMIDE

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

BUTYL PARASEPT
BUTYRIC ACID
BUTYRIC ACID
BUTYROYL CHLORIDE
BUTYROYL CHLORIDE
BUTYROYL CHLORIDE
BUTYROYL CL D/R
CALCIUM CHLORIDE
CALCIUM OXIDE
CAPROIC ACID
CAPRYLIC ACID
CAPRYLIC ACID
CAPRYLOYL (OCTNOYL) CHLORIDE
CAPRYLOYL CH. F/C
CAPRYLOYL CHLORIDE
CAPRYLOYL CHLORIDE
CAPRYLOYL CL D/R
CARBON DIOXIDE
CARBON DISULFIDE
CARBON MONOXIDE
CARBOWAX POLYETHYLENE
CAUSTIC SODA-ANHYDROUS
CAUSTIC SODA-LIQUID
CELITE 545
CELLOSIZE
CETYL ALCOHOL
CETYL BROMIDE

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

CHLORINATED ORGANIC (UNKNOWN)

CHLORINE

CHLORINE

CIRCULATING COOLING WATER

COLUMN PACKING

CORROSIVE LIQ FLAM NOS

CORROSIVE LIQ NOS

DECANOYL CHLORIDE

DIAMONIOS PHOSPHATE

DILUTE HYDROCHLORIC ACID

DIMETHYL OXYLATE

DIPHENYL OXIDE

DIPHENYL OXIDE AND ETHYLENE DICHLORIDE

DPI AND XYLENE

DPX AND XYLENE

DPX FILTER CAKE (NON-HAZ)

DPX STRIP WATER

EDC ETHYLENE DICHLORIDE

EMPTY GAS GYLINDERS OF TRIMETHANYLAMINE ANHYDROUS

ERIODINE MONOHYDRATE, 99%

ETHYL GLYCOL

ETHYLENE DICHLORIDE

ETHYLENE DICHLORIDE D/R

FATTY ACIDS

FATTY ACIDS

FLAME RETARDANTS

FLAME RETARDENT SOLIDS

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

FLAMMABLE GAS NOS

FLAMMABLE SOLID NOS.

FUEL OIL

GLYCOL

GLYCOL 8000

HBr

HCI

HEBREX ALKYL BR.

HELIUM

HEPTANOYL CHLORIDE

N-HEXYL BROMIDE

HEXANOIC ACID

HEXENOYL CHLORIDE

HYDRIATIC ACID (HI)

HYDRIODIC ACID D/R

HYDRIODIC ACID SOLUTION

HYDROCHLORIC ACID (conc)

HYDROGEN BROMIDE SOLUTION

HYDROGEN CHLORIDE 36-37%

HYPO PHOSPORUS ACID 50%

HYSOL SOLVENT

IODINE

ISANAONOYL CHLORIDE

ISO AMYL ALCOHOL

ISO BUYTL ALCOHOL

ISOPROL BROMIDE

ISOPROPYL VIRGIN

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

KETTLE CLEANERS

LAB WASTE

LAB WASTE

LAUROYL CHLORIDE

LIQUID PHOSPHORUS ACID

MELAMINE

METHANOL

METHYL ALCOHOL

METHYL BUTALATE - Not Highlighted

METHYL BUTYRATE

METHYLENE CHLORIDE

N BUTYL ALCOHOL

N-(2-HYDROXYMETHYL)

NITROGEN

OROACETAMIDE

OXYGEN

PENTANOL WATER

PHENETHYL ALCOHOL

PHENETHYL BROMIDE

PHENYL ETHYL BROMIDE

PHOSPHORIC ACID

PHOSPHOROUS TRICHLORIDE

PHOSPHOROUS TRICHLORIDE

PHOSPHOROUS, RED

PHOSPHORUS ACID

PIVALIC ACID

PIVALIC ACID/WATER

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

PIVALOYL CHLORIDE
PIVALOYL CHLORIDE
PIVALOYL CHLORIDE D/R
PROPANE
PROPANOYL CHLORIDE
PROPIANIC ACID
PROPIONIC ACID
PROPIONYL CL D/R
PROPYL ALCOHOL
PROVALYL CHLORIDE
REFRIGERANT GAS NOS
SALT
SALT WATER
SEC BUTYL ALCOHOL
SODIUM BISULFITE
SODIUM HYDROXIDE
SODIUM PHOSPHATE TRIBASIC
SPENT ACETONE
SPENT SULFURIC ACID
SPENT SULFURIC ACID
STERYL BROMIDE
STRIP DPX CAKE
SULFURIC ACID
SULFURIC ACID
SULFURIC WATER
TCE WATER AND XYLENE/WATER
TCE/DBP/EDC

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

TCE/WATER

TEND AND ETHYLENE DICHLORIDE

TERT. BUTYL ALCOHOL

TETRACHLOROETHANE

TOLUENE

TOLUENE EX OFBC

TRIMETHYL AMINE

UNSTRIP DPX CAKE

VALARIC ACID

VALAROYL CHLORIDE

VALAROYL CHLORIDE F/C

VALERIC ACID

VALEROYL CHLORIDE

VALORIC ACID

WASTE OIL

WATER TREATMENT CHEMICALS

XYLENE

XYLENE

XYLENE D/R

XYLENE/WATER

XYLENES

p XYLENE

WHITE CHEMICAL COMBINED CHEMICAL LIST
(TAT, OCTOBER 90)

CHEMICAL NAME

#2 FUEL OIL
1 BROMO 2 METHYL PROPANE
1,1,2,2, TETRACHLOROETHANE
1,2 DICHLOROBENZENE
1,2 DICHLOROETHANE
1,3 DICHLOROPROPANE
1-PENTANOL
2 BROM 2 METHYL PROPANE
2,2,6,6-TETRAMETHYL-4-PIP
2- METHYLBUTANOL
2-BROMO CAPROIC ACID
2-BROMO MYRISTIC ACID
2-BROMOBUTYRIC ACID 98%
2-ETHYLHEXANOYL CHLORIDE
2-METHYL -1- BUTANOL
28% HYDROCHLORIC ACID
3-CHLOROANILINE
38% HYDROCHLORIC ACID
ACETALDEHYDE
ACETAMIDE
ACETIC ACID
ACETIC ACID
ACETIC ACID D/R
ACETIC ACID, 28%
ACETIC ACID, GLACIAL
ACETIC ANHYDRIDE
ACETONE 99%

* MSDS AVAILABLE

REFERENCE NO. 12

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

| | |
|---|---|
| In the Matter of | |
| White Chemical Corporation and Mr. James White | ADMINISTRATIVE ORDER DIRECTING COMPLIANCE WITH REQUEST FOR ACCESS |
| Proceeding under Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9604(e). | Index No. II CERCLA-00117 |

## JURISDICTION

1. The following Administrative Order is issued to James White ("Respondent") and White Chemical Corporation pursuant to the authority vested in the President of the United States by §104(e)(5) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §9604(e)(5), which authority was delegated to the Administrator of the United States Environmental Protection Agency ("EPA") on January 23, 1987, by Executive Order 12580, and further redelegated to the Regional Administrator of EPA on April 17, 1987.

## PARTIES BOUND

2. This Order shall apply to and be binding upon the Respondent, and each and every agent of the Respondent and upon all other persons and entities who are under the direct or indirect control of the Respondent.

## FINDINGS OF FACT AND CONCLUSIONS OF LAW

3. Respondent, James White, is a person as that term is defined in §101(21) of CERCLA, 42 U.S.C. §9601(21).

4. Respondent is a tenant in possession of real property ("property") located at Block 3782, Lot 107, 660 Frelinghusysen Avenue, Newark, New Jersey.

5. Respondent is an "operator," as that term is defined in §101(20)(A) of CERCLA, 42 U.S.C. §9601(20)(A), of the White Chemical Corporation, a manufacturer of acid chlorides, alkyl bromides, and flame retardant compounds.

6. The Respondent's property and corporation constitute a "facility" as that term is defined in § 101(9) of CERCLA, 42 U.S.C. §9601(9).

7. The property on which Respondent operates is owned by Lancaster Chemical Corporation, a division of AZS Corporation. AZS Corporation is located at 6025 Sandy Springs Circle, Atlanta, Georgia. Tosch ("U.S.A."), formerly Toyo Soda Corporation, (hereinafter "Tosch"), is the parent corporation of AZS and is located at 1700 Water Place, Atlanta, Georgia.

8. On September 8, 1989, the New Jersey Department of Environmental Protection (NJDEP) conducted an inspection at Respondent's facility pursuant to the Resource Conservation and Recovery Act of 1976 ("RCRA") and issued Notice of Violations for the following hazardous waste violations: improper drum management, leaking drums, open containers, and inadequate aisle space. A reinspection of the facility on September 22, 1989, noted that the facility had attained only partial compliance, and as a result, an Administrative Order and penalty in the amount of $86,500 was issued on March 15, 1990. According to NJDEP, the respondent has not complied with the order and has not paid the amount requested.

9. On March 27 through 29, 1990, the NJDEP reinspected the facility and took a complete inventory of drums at the site. The inventory showed 9,063 improperly stored, ruptured and leaking drums, containing flammable liquids, acids, and flame retardant compounds, including but not limited to toluene, xylene, acetone, ethylene-dichloride, and trichloroethylene (TCE). These substances are "hazardous substances" as defined in §101(14) of CERCLA, 42 U.S.C. §9601(14).

10. During NJDEP's visit of March, 1990, many drums containing unknown substances and hazardous wastes were observed to be improperly stored and in excess of the RCRA 90-day limit for storage of hazardous waste without a permit. As a result, the NJDEP issued Notice of Violations (NOVs) under the New Jersey Spill Compensation and Control Act and ordered Respondent to immediately remediate the spills and improper drum storage. According to the NJDEP, the Respondent has failed to comply with these NOVs.

11. On May 8, 1990, NJDEP issued a Directive to the Respondent pursuant to the N.J. Spill Compensation and Control Act, in order to secure the perimeter of the facility, supply 24

hour per day security, and stabilize the 9,063 drums at the site. Supplemental Directives were issued on June 15, 1990, and July 18, 1990, ordering Respondent to remove 2,500 empty drums as part of site stabilization, and remove 1,282 drums containing hazardous substances. According to the NJDEP, the Respondent has failed to comply with the requirements of the issued directives.

12. Also on May 8, 1990, the NJDEP initiated a publicly funded cleanup pursuant to the N.J. Spill Compensation and Control Act which resulted in the removal of the following CERCLA hazardous substances: 130 drums of toluene, xylene, acetone; 389 drums of ethylene-dichloride; 161 drums of TCE; and 376 drums of contaminated filter cake.

13. On September 7, 1990, at NJDEP's request, EPA accompanied NJDEP to conduct an initial assessment of the site for removal consideration under CERCLA, and the National Contingency Plan (NCP) §300.412.

14. EPA's inspection of Respondent's facility confirmed that extremely dangerous and highly volatile chemical compounds exist in an unsecured state, and that an imminent and substantial danger is posed to the health and safety of Respondent's employees who remain at the facility, employees at adjacent commercial facilities, residents who reside in several large public housing projects and a senior citizens' home senior citizen's home, both located within a quarter mile of the site, persons who recreate in the county park across the street from the facility, and others who are in close proximity to the facility.

15. During EPA's inspection of Respondent's facility, EPA conducted air sampling which indicated that sulphuric acid is migrating off-site, posing a health risk to employees of adjacent facilities, and the aforementioned persons who reside within close proximity to the site.

16. In addition, EPA observed and verified NJDEP's current inventory list of approximately 9000 fifty-five gallon drums. About 90% of the drums were stored on the Respondent's property outside of the buildings where the Respondent worked, in close proximity to adjacent facilities and the aforementioned persons. Several thousand of these drums contain air and water reactive chemicals which are stored in open containers and deteriorated and ruptured drums. NJDEP submitted photos to EPA which offer proof that large toxic vapor clouds form during inclement and humid weather due to nature of the air/water reactive chemicals in the open containers and drums. In addition, EPA observed over 100 cylinders, tanks, vats, carboys, boxes, many of which are in deteriorating and leaking condition.

17. Specific observations of EPA regarding the facility's inventory of drums, containers, cylinders, tanks, vats, carboys, and boxes, support a determination that Respondent and all associated employees and personnel must evacuate the facility during removal activities. These observations are as follows:

1) unsegregated, incompatible chemicals (e.g., corrosives and flammables) stored in close proximity, thereby creating a risk for a fire or explosion in the event of chemical interaction during removal;

2) unlabeled and multilabeled drums and containers, creating confusion as to the drums and containers contents; this uncertainty could result in a mishandling of the drums and containers during removal, thereby increasing the risk of an fire or explosion.

3) storage of ignitable waste within 50 feet of the property line;

4) open containers emitting fumes and open containers consisting of multiphased hazardous waste;

5) numerous spills of hazardous substances on the ground;

6) numerous overpaked drums labeled, "salvage hazardous waste rejected".

18. Approximately 1000 lab pack size containers of hazardous waste material, some appearing to have crystalized (e.g., shock sensitive) materials, are present in two active laboratories at the facility. The extremely volatile nature of the crystalized materials warrants a complete evacuation of the lab during EPA's removal activities in the laboratories, and cessation of Respondent's business operations until removal activities are completed.

19. According to the City of Newark's Office of Emergency Management (OEM), the Newark Fire Department and NJDEP's Emergency Response Team has been called to the site numerous times as a result of complaints from employees of adjacent commercial facilities concerning noxious fumes emanating from the site, and spills occuring at the site. According to OEM, on at least two occasions a commercial manufacturer, adjacent to the northern portion of the site, had to close business operations due to its worker's experiencing sickness and nausea from fumes being released from Respondent's site.

20. On September 26, 1990, EPA drafted a first Action Memorandum for CERCLA removal under its response authority of Section 104(a)(1) of CERCLA, 42 U.S.C. §104)a)(1), requesting funds for CERCLA removal activities at the site.

21. The Respondent's Property is, for the purposes of §104(e)(1)(3)(4) of CERCLA, 42 U.S.C. §9604(e)(1)(3)(4), a place where entry by and on behalf of EPA is necessary to determine the need for further response action(s) or the appropriate response action(s) and to effectuate a response action(s) under CERCLA.

Specifically, EPA needs full and unrestricted access to the Respondent's site, including but not limited to, chemical manufacturing laboratories inside the Respondent's buildings, and areas outside the buildings for the purpose of conducting response activities which EPA deems necessary to address the threat to the public health, welfare or the environment posed by releases or threatened releases of hazardous substances at the site, from the day of commencement of the removal action and for such time as is reasonably necessary to complete such activities.

22. On September 25, 1990, EPA received from Respondent a written Consent for Access form which allows EPA to perform the following: implement site security (fence and gate), collect and analyze soil, water and air samples, stabilization of the site by performance of removal activities, and recycling and disposal of hazardous and non-hazardous materials.

## DETERMINATION

23. Based on the FINDINGS and CONCLUSIONS set forth above and the entire administrative record, the Regional Administrator has determined that there is a reasonable basis to believe (i) that there may be a release or threat of release of a hazardous substance or pollutant or contaminant; (ii) that full and unrestricted access to the property is needed in order for EPA to take response actions necessary to address the threat to public health, welfare or the environment posed by the releases or threatened releases of hazardous substances at the site, from the day of commencement of the removal action and for such time as is reasonably necessary to complete such activities; (iii) that EPA is authorized to enter the Property pursuant the statutory provisions in §104(e) of CERCLA, 42 U.S.C. §9604(e); and (iv) that due to the extremely volatile and dangerous nature of the hazardous substances at the site, and the possibility of fire or explosion occurring in the laboratories or elsewhere on the site during removal activities, the Respondent must cease all chemical manufacturing, work, research or other activities at the facility, and completely evacuate all personnel from the facility, from the day of commencement of the removal action, and for such time as is reasonably necessary to complete such activities.

## ORDER

24. Based upon the foregoing FINDINGS AND DETERMINATION, IT IS HEREBY ORDERED that Respondent and any and all employees, agents, and all other persons under the direct or indirect control of Respondent, in accordance with paragraph 32, shall cease all chemical manufacturing, work, research or other activities at the facility, and completely evacuate all personnel

from the facility, from the day of commencement of the removal action, and for such time as is reasonably necessary to complete such activities.

25. Respondent shall afford EPA, its officers, employees, or representatives, including but not limited to contractors and subcontractors, full and unrestricted access to all areas of the site for the purpose of conducting response activities which EPA deems necessary to address the release or threat of release of a hazardous substance pollutant or contaminant, from the effective date of this Order and for such time as is reasonably necessary to complete such activities.

26. Respondent and any and all employees, agents, and all other persons under the direct or indirect control of Respondent shall not interfere in any way with EPA's response activities described above, including entry onto the property unless Respondent has received written authorization from EPA, complies with all health and safety requirements, and is accompanied by a representative of EPA. Any such interference shall be deemed a violation of this Order.

27. This Order and all of its terms and provisions shall remain in effect until such time that all of the removal activities for the Site are completed and Respondent is notified of such completion in writing by the Director of the Emergency and Remedial Response Division, EPA - Region II.

28. Nothing herein shall constitute or be construed as a satisfaction or release from liability with respect to any conditions or claims arising as a result of past, current or future operations, ownership or use of the site by Respondent, its agents, contractors, successors or assigns.

29. Nothing contained in this Order shall affect any right, claim, interest, defense or cause of action of EPA with respect to Respondent or any third parties.

30. Nothing in this Order shall affect in any manner the right of EPA to issue any other Orders to the Respondent or to any other parties under CERCLA which relate to this Site.

31. Nothing herein shall preclude EPA from taking any additional enforcement actions, and/or other actions as it may deem necessary for any purposes, including but not limited to the prevention or abatement of an imminent and substantial danger to the public health, welfare or the environment arising from conditions at the Site, and recovery of costs thereof.

## NOTICE OF INTENTION TO COMPLY

32. This Administrative Order shall become effective on October 8, 1990. EPA will notify Respondent at least 24 hours prior to EPA's entrance onto the property to conduct its response action. This 24 hour notice, coupled with one week's notice prior to the effective date of this Order provides, the Respondent and any and all employees, agents, and all other persons under the direct or indirect control of Respondent, an opportunity to evacuate all persons from the property. On or before the effective date of this Administrative Order, Respondent shall provide written notice to EPA, certified return receipt requested stating whether Respondent intends to comply with the terms of this Order. Such written notice shall be sent to, Bruce Aber, Office of Regional Counsel, U.S. Environmental Protection Agency, Region II, 26 Federal Plaza, Rm 309, New York, N.Y. 10278. In the event that Respondent fails to provide such notice, Respondent shall be deemed not to have complied with the terms of this Administrative Order.

PENALTIES FOR NONCOMPLIANCE

33. Respondent is hereby advised that, pursuant to §§104(e)(5), 106(a), and 107(a) of CERCLA, as amended, 42 U.S.C. §§9604(e)(5), 9606(a) and 9607 (a), respectively, a court may assess civil penalties of up to $25,000 per day and other civil damages for each day that Respondent fails to comply with this Administrative Order or any part thereof.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Constantine Sidamon-Eristoff
Regional Administrator
U.S. Environmental Protection Agency
Region II

Date of Issuance

**REFERENCE NO. 13**

WESTON SM
MANAGERS DESIGNERS/CONSULTANTS

SHEET ____ of ____

CLIENT/SUBJECT _____ W.O. NO. _____

TASK DESCRIPTION _____ TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY

DEPT _____ DATE _____

10/10/90

Paula:

These are the Title III list of Extremely Hazardous Substances (and quantities) found on site at White Chemical according to Whites Title III reports.

| CHEMICAL | QUANTITY | CAS # | LOCATION |
|---|---|---|---|
| Allyl Alcohol | 10,000 (dms) | CAS 107-18-6 | 1 |
| Bromine | 20,000 (Bulk Tk) | CAS 7726-95-6 | 2 |
| Chlorine | 20,000 (Ton Cyl) | CAS 7782-50-5 | 3 |
| Phosphorous (Red) | 1,000 (100# dms) | CAS 7723-14-6 | 4 |
| Phosphorous Trichloride | 40,000 (Bulk Tk) | CAS 7719-12-2 | 5 |

## LISTING OF HAZARDOUS MATERIALS (Extremely Hazardous Substances)

| | | | |
|---|---|---|---|
| Allyl Alcohol | 10,000# (dms) | CAS# 107-18-6 | Location 1 |
| Bromine | 20,000# (Bulk Tk) | CAS# 7726-95-6 | 2 |
| Chlorine | 20,000# (Ton Cyl) | CAS# 7782-50-5 | 3 |
| Phosphorous (Red) | 1,000# (100# dms) (-150lb. | CAS# 7723-14-6 | 4 |
| Phosphorous Trichloride | 40,000# (Bulk Tk) 20,000 | CAS# 7719-12-2 | 5 |

## LISTING OF EMERGENCY RESPONSE EQUIPMENT

See Attachment 3

## MAPS

See Attachment

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>AF4 - WHITE CHEMICAL\ | 11:57 |
|---|---|---|

| # | CHEMICAL NAME | MAXIMUM LBS |
|---|---|---|
| 1 | ACETIC ACID | 50000 |
| 2 | ACETIC ANHYDRIDE | 10000 |
| 3 | ACETONE | 10000 |
| 4 | ACETYL CHLORIDE | 50000 |
| 5 | ACTIVATED CARBON | 1000 |
| 6 | AIR, COMPRESSED | 0 |
| 7 | ALLYL ALCOHOL | 10000 |
| 8 | ALUMINUM CHLORIDE | 10000 |
| 9 | AMMONIUM HYDROXIDE | 1000 |
| 10 | AMYL ALCOHOL | 10000 |
| 11 | ANTIMONY TRIOXIDE | 100000 |
| 12 | BENZYL BROMIDE | 1000 |
| 13 | BROMINE | 50000 |
| 14 | BROMACETIC ACID | 50000 |
| | TOTAL LBS ONSITE: | 2589100 |

1 of 5 [PgUp/Dn], [P]rint, [G]lobal, #[I]d, #[H]ide, #[F]ull, #[M]ap:

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>AF4 - WHITE CHEMICAL\ | 11:58 |
|---|---|---|

| # | CHEMICAL NAME | MAXIMUM LBS |
|---|---|---|
| 15 | BROMACETIC ACID SOLUTION | 50000 |
| 16 | BROMO ETHYL BUTANE | 10000 |
| 17 | 2 BROMO 2 METHYL PROPANE | 10000 |
| 18 | 1 BROMO 2 METHYL PROPANE | 10000 |
| 19 | BROMO PENTANE | 10000 |
| 20 | BROMO PROPANE | 10000 |
| 21 | N-BUTYL ALCOHOL | 50000 |
| 22 | SEC. BUTYL ALCOHOL | 10000 |
| 23 | TERT. BUTYL ALCOHOL | 10000 |
| 24 | BUTYL BROMIDE | 10000 |
| 25 | BUTYRIC ACID | 50000 |
| 26 | BUTYROYL CHLORIDE | 50000 |
| 27 | CALCIUM OXIDE | 50000 |
| 28 | HEXANOIC ACID | 50000 |
| | TOTAL LBS ONSITE: | 2589100 |

2 of 5 [PgUp/Dn], [P]rint, [G]lobal, #[I]d, #[H]ide, #[F]ull, #[M]ap:

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>AF4 - WHITE CHEMICAL\ | 11:59 |
|---|---|---|

| # | CHEMICAL NAME | MAXIMUM LBS |
|---|---|---|
| 29 | CARBON DIOXIDE | 1000 |
| 30 | CHLORINE | 50000 |
| 31 | CORROSIVE LIQ. FLAM. N.O.S | 100000 |
| 32 | CORROSIVE LIQ. N.O.S | 100000 |
| 33 | 1,2 DICHLOROETHANE | 100000 |
| 34 | FLAMMABLE GAS N.O.S. | 10000 |
| 35 | FLAMMABLE SOLIDE N.O.S. | 1000 |
| 36 | #2 FUEL OIL | 50000 |
| 37 | HELIUM | 1000 |
| 38 | HYDRIODIC ACID SOLUTION | 10000 |
| 39 | HYDROGEN BROMIDE SOL. | 50000 |
| 40 | HYDROGEN CHLORIDE | 500000 |
| 41 | IODINE | 10000 |
| 42 | ISO AMYL ALCOHOL | 10000 |
| | TOTAL LBS ONSITE: | 2589100 |

3 of 5 [PgUp/Dn], [P]rint, [G]lobal, #[I]d, #[H]ide, #[F]ull, #[M]ap:

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>AF4 - WHITE CHEMICAL\ | 12:00 |
|---|---|---|

| # | CHEMICAL NAME | MAXIMUM LBS |
|---|---|---|
| 43 | ISO BUTYL ALCOHOL | 10000 |
| 44 | MELAMINE | 50000 |
| 45 | METHYL ALCOHOL | 10000 |
| 46 | METHYL BUTYRATE | 10000 |
| 47 | NITROGEN | 10000 |
| 48 | OXYGEN | 1000 |
| 49 | PHOSPHORIC ACID | 1000 |
| 50 | PHOSPHOROUS ACID | 250000 |
| 51 | PHOSPHOROUS TRICHLORIDE | 100000 |
| 52 | PHOSPHOROUS RED | 10000 |
| 53 | PROPANE | 10000 |
| 54 | PROPIONIC ACID | 50000 |
| 55 | PROPYL ALCOHOL | 50000 |
| 56 | REFRIGERANT GAS N.O.S. | 100 |
| | TOTAL LBS ONSITE: | 2589100 |

4 of 5 [PgUp/Dn], [P]rint, [G]lobal, #[I]d, #[H]ide, #[F]ull, #[M]ap:

| 10/11/90 | City of Newark Dept. of Engineering<br>EMERGENCY INFORMATION SYSTEM<br>AF4 - WHITE CHEMICAL\ | 12:00 |
|---|---|---|

| # | CHEMICAL NAME | MAXIMUM LBS |
|---|---|---|
| 57 | SODIUM BISULFITE | 1000 |
| 58 | SODIUM HYDROXIDE | 10000 |
| 59 | SODIUM PHOSPHATE TRIBASIC | 10000 |
| 60 | SULFURIC ACID | 10000 |
| 61 | 1,1,2,2, - TETRACHLORAETHANE | 10000 |
| 62 | TRIMETHYLAMINE | 10000 |
| 63 | VALERIC ACID | 50000 |
| 64 | VALEROYL CHLORIDE | 50000 |
| 65 | P-XYLENE | 50000 |
| 66 | XYLENES | 100000 |
| | TOTAL LBS ONSITE: | 2589100 |

REFERENCE NO. 14

**NUS CORPORATION AND SUBSIDIARIES** — **TELECON NOTE**

| CONTROL NO: | DATE: | TIME: |
|---|---|---|
| 02-9010-19 / NJHIPA | November 19, 1990 | 0935 |

**DISTRIBUTION:**
White Chemical Corp. Page 1 of 2

| BETWEEN: | OF: | PHONE: |
|---|---|---|
| Paula Cammorata | U.S. EPA | Holiday Inn (201) 355-1700 x 1302 |

**AND:**
Susan Lenczyk

**DISCUSSION:**

I asked Paula about whether or not there were any storm drains on site. She said that she knows of one in the support zone next to the decon trailer, but she does not know whether there are any others. She also is unaware of where it may lead to.

I asked whether the leaking drums on site were leaking onto pavement or onto exposed soil. She said many were leaking onto exposed soil.

I then inquired about the capacities and contents of the tanks and nondrum containers on site. She said that they are currently conducting a tank investigation. There are 63 outdoor tanks that range in capacity from 75 gallons to 20,000 lbs. Some of the tanks are in poor condition. Materials contained in the tanks include

**ACTION ITEMS:**

hydrochloric acid, bromine, phosphorous trichloride, acetyl chloride, acetic acid, and sodasoil chloride. There are also many indoor tanks – those have not yet been inventoried. She said that if I call back next week, she'd probably have more info for me. Total tanks on site, including outdoor and indoor, is estimated to be 100.

(continued)

**NUS CORPORATION AND SUBSIDIARIES** — **TELECON NOTE**

| CONTROL NO: | DATE: | TIME: |
|---|---|---|
| 02-9010-19/NJHIBA | November 19, 1990 | 0935 |

**DISTRIBUTION:** Page 2 of 2

White Chemical Corp.

| BETWEEN: | OF: | PHONE: |
|---|---|---|
| Paula Cammarata | U.S. EPA | (201) 355-1700 x 1302 |

**AND:** Susan Lenczyk

**DISCUSSION:**

My last question concerned population figures. I mentioned that the background info was inconsistent: some documents said that the population living within one-quarter mile of the site was 12,000; others said that it was considerably less. Paula said that the City of Newark had estimated the figure at between 4000 and 6,000 residents and 6,000 to 8,000 workers. Therefore, she came up with the figure of 12,000. There are some large senior citizen homes within one-quarter mile, and some public housing. The City is concerned that they would not be able to evacuate the senior citizens in case of an emergency.

Paula also mentioned an elementary school in the area, but did not know whether it was located within one-quarter mile of the site.

**ACTION ITEMS:**

One final note: The EPA is particularly concerned about the phosphorous trichloride. It is highly reactive and a release can affect people within 3 miles of the site.

REFERENCE NO. 15

# COMMUNITY RELATIONS PLAN
# WHITE CHEMICAL SITE
# CITY OF NEWARK, ESSEX COUNTY, NEW JERSEY

Issued: September, 1990

Prepared by:

Roy F. Weston, Inc.
Region II, Technical Assistance Team
Edison, New Jersey

AND

Emergency and Remedial Response Division
Removal Action Branch
U.S. Environmental Protection Agency
Edison, New Jersey 08837

## 1.0 BACKGROUND

### 1.1 Site Description

The White Chemical Company occupies Block 3728, Lot 109 of a heavily populated and industrialized section located at 660 Frelinghuysen Avenue, Newark, New Jersey. The facility, now in Chapter 11, is operated by Mr. James White (President) on property owned by the Lancaster Chemical Corporation which operated at the same location prior to 1983. Lancaster is, in turn, owned by AZS Corporation of Atlanta, Georgia.

White Chemical Company was an acid chloride manufacturer. Although the company is in Chapter 11, management personnel are still working on site.

The site is located on Frelinghuysen Avenue, a major thoroughfare with significant residential and commercial populations, as well as major industry, an international airport, Amtrak and Conrail lines, and U.S. Route 1 and 9, all within one - half mile of the site. The White Chemical facility is immediately adjacent to three (3) large commercial facilities which lie to the north, south and west along Frelinghuysen. These businesses and warehouses are reported to employ approximately 6,000 - 8,000 people. There are densely populated neighborhoods within a one quarter mile radius whose populations are reported to exceed 3,000 according to the Newark Office of Emergency Management. This includes retirement housing, public housing projects and a Hotel.

Anheuser-Busch Brewing Company has a major facility situated approximately 1000 yards east of the site and employs 1500 people. Newark International Airport is approximately 700 yards east of Anheuser-Busch, or one mile from White Chemical. U.S. Route 1 and 9 and Conrail's major eastern corridor lies less than fifty feet from White Chemical's property line which contain numerous toxic materials.

### B. Site History

NJDEP has been inspecting the White Chemical facilty since 1983 and has found numerous RCRA hazardous waste violations. White Chemical has been charged with improper drum management, leaking drums, open containers and inadequate aisle spaces. A NJDEP reinspection conducted on September 22, 1989, noted that the facility had attained only partial compliance and as a result, an Administrative Order and penalty of $86,500 was issued on March 15, 1990.

C. Quantity and Type of Substances Present

A drum inventory was conducted in March of 1990 by NJDEP. The NJDEP found general improvement in the management of drums on site, but many containers of unknowns remain stored improperly and in excess of the 90-day limit for the storage of hazardous waste without a permit. The March inventory accounted for 9,063 drums in storage, included were 2,005 containing hazardous materials and 342 which potentially contained hazardous materials. Many of the drums were stacked with debris and in a haphazard and precarious manner. The NJDEP has taken photographs of large clouds that formed during inclement or humid weather as a result of fuming drums, due to the interaction with moisture in the air. During this NJDEP inspection a Notice of Violations (NOV) under the N.J. Spill Compensation and Control Act were ordered to effectively remediate spills and improper drum storage.

Among the chemicals found on site were acids, poisons, corrosives, flammable liquids, oxidizers, air/water reactives and lab reagents. The following provides a brief description of the drum inventory found on site:

| | |
|---|---|
| 93 | valaroyl chloride |
| 11 | lauroyl chloride |
| 9 | butroyl chloride |
| 87 | Capyroyl Chloride |
| 10 | Isanaonoyl Chloride |
| 34 | valoric Acid |
| 45 | Phenyl Ethyl Bromide |
| 179 | Pivaloyl Chloride |
| 5 | Sulfuric Water |
| 1 | Isoprol Bromide |
| 4 | Heptanoyl Chloride |
| 30 | Acetic Acid (possible) |
| 19 | Adipoyl Chloride |
| 6 | Garbage |
| 18 | Benzyl Bromide |
| 76 | Acetone (possible) |
| 8 | Bufural |
| 20 | Bromo Acetic Acid |
| 14 | Bromo Acetal Bromide |
| 31 | Toluene |
| 23 | Steryl Bromide |
| 8 | Boiler Treatment Chemical |
| 3 | Provalyl Chloride |
| 39 | Methyl Butalate |
| 4 | Allyl Bromide |
| 11 | Buteric Acid |
| 2 | Salt water |
| 48 | Process Waste |
| 52 | assorted acid chlorides |
| 1 | Hysol Solvent |
| 7 | Ethyl glycol |

| | |
|---|---|
| 18 | Waste oil |
| 1673 | Empty |
| 425 | HCl |
| 44 | Salt |
| 701 | Water - scrubbing solution (TCE/water & Xylene/water) |
| 128 | Pilot Plant Chemicals |
| 916 | Phosphorous Acid |
| 1 | Hypo Phosphorous Acid |
| 28 | Propanoyl Chloride |
| 337 | Xylene |
| 251 | Hydrogen Bromide |
| 1 | Decanoyl Chloride |
| 109 | Unknown |
| 5 | Water Treatment Chemicals |
| 214 | TCE/water |
| 3 | Spent H2SO4 |
| 755 | Flame Retardents |
| 156 | C8Cl (possible) |
| 2 | Column Packing |
| 264 | Fatty Acids |
| 8 | Bromide |
| 1 | Lab Waste |
| 23 | Hydriatic Acid (HI) |
| 407 | EDC Ethylene dichloride |
| 3 | Pentanol water |
| 4 | Hexal Bromide |
| 80 | Sulfuric Acid |
| 9 | Empty gas cylinders of Trimethanylamine Anhydrous |
| 608 | possible non-hazardous DPX filter cakes |
| 16 | Propianic Acid |
| 4 | Isopropayl virgin |
| 4 | Phenethyl Alcohol |
| 4 | Diamonios Phosphate |
| 4 | Amonia |
| 8 | Diphenyl Oxode |
| 16 | Dimethyl Oxylate |
| 1 | Hexenayl Chloride |
| 1 | Caprylic Acid |
| 14 | Methalyne Chloride |
| 2 | Methanol |

8,148 Total Drums

## 1.2 National Priorities List Designation

The White Chemical site is not on the National Priorities List (NPL).

## 2.0 THREAT

## 2.1 Threat of Public Exposure

The site is situated in a heavily populated and highly industrialized area of Newark. The four (4) acre property is located behind two active manufacturing facilities and adjacent to the north of another large clothing manufacturer along Frelinghuysen Ave., Newark, New Jersey. The site is currently secured through NJDEP as long as funding is available. However, the site poses an imminent threat of direct contact with hazardous substances by nearby workers. There is concern for the three large manufacturing facilities adjacent to the facility along with the Major Eastern Corridor of Conrail directly east of the facility which in the case of fire would have to be closed down.

Due to the large volume of materials (9,000 drums, carboys, cylinders) this fire would be difficult to control.

In this area, prevailing winds blow to the east. This could lead to a catastrophic event since during the day, there are approximately 8,000 people working within a 1/4 mile radius of the site. In addition there are approximately 4,000 people living in the area, for a population total of 12,000 which could be affected by this one facility.

Any one of a number of scenarios, to include human error could cause a chain of uncontrollable chemical reactions resulting in fire and the release of lethally toxic fumes.

The inventory of chemicals at the site includes, OSHA Class 1 flammable liquids, flammable solids, poisons, oxidizers, acids, and air/water reactives. These materials are not segregated, and are incompatible and interactive materials are haphazardly stored in conjunction with one another. Containers were noted to be in various stages of deterioration, as indicated by corrosion and/or leakage. Numerous chemicals on site are exothermic upon reaction. As documented in the support documents, a combination of any two of a majority of chemicals found at the site could cause a violent or explosive reaction.

B. Threats to the Environment

During the initial preliminary assessment on September 7, 1990, by USEPA and TAT, numerous hazardous conditions were noted which in themselves could create a disaster at the site:

1) As noted in Appendix A, water reactive chemicals have been identified in great numbers at the site. During periods of rain, NJDEP has stated the entire site fumes toxic vapors. (The fumes emanating from the drums have been photographed).

2) Storage is haphazard and precarious. Thus, there is a grave danger of materials inadvertently falling/breaking with minimal physical contact.

3) Should a reaction take place, depending upon wind direction and velocity, numerous personnel from adjacent properties would be in direct contact with toxic chemicals through skin absorbtion and inhalation.

An uncontrolled chemical reaction at this site could also cause one or more explosions.

In the event of fire and/or explosion, toxic fumes could present a significant threat to residents in nearby densely populated areas. A toxic plume could threaten travelers along U.S. Route 1 and 9 which is a heavily used highway for commercial vehicles. The plume could also affect Anheuser Busch Brewery with an estimated 1500 employees, a county park, senior housing, public housing projects and three large adjacent manufacturing facilities. The wind could also move the plume as far as Newark International Airport. A fire and/or explosion of this magnitude could force the closure of the Conrail lines into New York, possibly restricting traffic in and out of several cities.

2.2 Evidence of Extent of Release

During the EPA assessment of September 7, 1990, EPA and TAT found numerous CERCLA and RCRA violations on site. There were approximately 9,000 drums of hazardous materials improperly stored and precariously stacked throughout the four (4) acre site. Drums and containers were in various stages of deterioration and leaking into the soil. Numerous stains were observed on the soil. Corrosive drums were deteriorating the pallets they were placed upon. Many drums were found to be fuming and are in an unstable condition. Thousands of water reactive materials were found stored outside where inclement weather may cause releases due to rain or humidity. Corrosives were found stored next to flammables. Drums appear to have been used several times by the number of labels they displayed. Some of the drums were considered unknowns due to the numerous labels displayed or the lack of labeling. Other containers were marked "Salvage - Hazardous Waste Rejected".

## 2.3 Previous Actions to Abate Threat

For at least one year, White Chemical has been a recipient of Notices of Violations from the New Jersey Department of Environmental Protection (NJDEP). Violations included: Improper drum management, leaking drums, open containers and inadequate aisle spaces. They were also cited for improperly storing hazardous materials for longer than 90 days, and improper handling of hazardous materials without a permit.

As of August 27, 1990, the following hazardous wastes have been removed from White Chemical as a result of the Metro Bureau of Field Operations Spill Fund Cleanup:

1. 90 drums of flammables (xylene, toluene, acetone) bulked out via tanker (6/14/90).
2. 40 overpacked drums of flammables and flammable sludges transported off-site 6/29/90.
3. 389 drums of ethylene dichloride bulked out, 6/14/90, 6/15/90, 7/2/90.
4. 161 drums of TCE/water bulked out 7/23/90, 7/26/90, 7/31/90.
5. 376 drums of filter cake bulked out via dumpster on the following dates; 7/25/90, 7/26/90, 7/27/90, 7/31/90, 8/2/90.

No additional wastes have been removed since 8/2/90 because of the difficulty in disposing of the TCE/water waste stream. High bromide levels were detected by the disposal facility during incineration of the first TCE load causing subsequent shipments to be rejected. Because the disposal cost for the TCE at an alternate facility may be significantly higher, it was the decision of Metro not to commit additional Spill Fund monies until a firm disposal price was received. The alternate arrangements are expected to be completed shortly. 145 drums of TCE/water, 33 drums of filter cake and 320 drums of fatty acids remain on-site out of the originally-targeted waste.

In addition to the 1016 drums of hazardous waste bulked out and the 40 drums physically removed, Metro has arranged for the removal of 160 empty drums. White Chemical has removed 746 empties, bringing the total number of empty drums removed from the site to 906. White Chemical has made numerous attempts at empty drums removal but has not yet met the terms of Supplement/ Directive #1 which required the removal of 300 empties per week. White, therefore, has not yet arranged for the removal and disposal of material in Building 35, as required by the initial directive.

During the September 7, 1990, preliminary assessment and emergency stabilization, EPA requested verbal approval $249,900 of which $150,000 was for contract mitigation to overpack eleven (11) fuming drums of water reactives. This verbal approval by the Director of Emergency and Remedial Response Division has led to an additional request, for further funding, so that a full removal action will eliminate the remaining threat to public health and welfare and the environment.

## 2.4 Current Actions to Abate Threat

At the present time, EPA is currently trying to obtain an access agreement with the owner(s) operator of White Chemical to perform a removal action at the facility. NJDEP is currently employing twenty-four (24) hour security at the site.

# 3.0 PROPOSED PROJECT

## 3.1 Objective of the Project

The objective of the proposed project is to remove the threat of fire and explosion and the threat of direct contact with hazardous substances at this site. These objectives are best accomplished by stabilizing the site, along with segregating and staging compatible materials based upon sampling and chemical analyses. Off-site disposal is the last phase of this objective. Site security will be maintained throughout site operations.

## 3.2 Project Tasks

EPA will supervise completion of the following tasks:

- Securing the facility;
- Inventorying hazardous materials and wastes on site;
- Overpacking leaking or damaged containers;
- Segregating and staging and materials based upon compatibility;
- Sampling materials;
- Analyzing for compatibility;
- Bulking like materials;
- Analyzing for Disposal characteristics;
- Disposing of materials off-site, per RCRA Off-Site Disposal Regulations.

## 3.3 Objectives of the Community Relations Plan

- Provide accurate and concise information to interested parties including the public, elected officials and news media.
- Coordinate local, state and federal response efforts
- Assist public acceptance of the chosen response action.
- Enlist the assistance of local officials as needed.

The groups to whom the plan is directed include; the public at large; citizen groups, school principals, local businesses, local officials, and local, State, and Federal agencies working in conjunction with the EPA.

Community relations information will be supplied by EPA's Office of External Programs (OEP) with the knowledge of the Office of the Regional Administrator.

3.4 Community Relations Activities

| Date(s) | Activities | Objective | Staff |
|---|---|---|---|
| As needed | Meetings with State, county, and local officials | To develop local contingency plans | OSC<br>OEP Rep. |
| As needed | Press releases | To brief the community and press on site status | OSC<br>OEP Rep. |
| As needed | Fact sheets | To provide removal activity information to the public | OSC<br>OEP Rep. |
| As needed | Briefings | To inform state and local officials about on-going developments at the site | OSC<br>OEP Rep. |
| As needed | Public meetings | To discuss the need for response, review key decision points, explain clean-up methods and respond to public concern | OSC<br>OEP Rep. |

To date, community relations activities have included a meeting held at the .....****

## 3.5 Key Officials and Contacts

### 3.5.1 Federal Agencies

Paula A. Cammarata
On-Scene Coordinator
EPA Region II,
Removal Action Branch
Edison, New Jersey 08837
201-906-6906
FTS: 340-6906

Edward Makarewicz
Alternate On-Scene Coordinator
EPA Region II
Removal Action Branch
Edison, New Jersey 08837
201-906-6933
FTS: 340-6933

Richard Cahill
EPA Region II,
Office of External Programs
26 Federal Plaza
New York, NY 10278
212-264-2515

### 3.5.2 Federal Officials

Senator Bill Bradley
731 Senate Office Building
Washington, DC 20510-3202
202-224-3224

or

Box 1720
Union, NJ 07083
201-688-0960

Senator Frank Lautenberg
717 Senate Office Building
Washington, DC 20510-3201
202-224-4744

or

970 Broad St.
Newark, NJ 07102
201-645-3030

Assemblyman Donald M. Payne
417 Longworth House Office Building
Jersey & Independence Aves. S.E.
Washington, DC
202-225-3436

or

1089 Bergen St.
Newark, NJ
201-645-3213

### 3.5.3 New Jersey State Agencies

John J. Trela
New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Metro Regional Office
2 Babcock Place
West Orange, NJ 07052
201-669-3960

### 3.5.4 New Jersey State Officials

Senator Wynona Lipman
50 Park Place, Suite 1035
Newark, NJ 07102
201-622-0007

Assemblyman Willie Brown
1081 Bergen St.
Newark, NJ 07112
201-926-4494

Assemblyman Jackie Mattison
1072 Bergen St.
Newark, NJ 07112
201-705-3595

### 3.5.5 Essex County Officials

Nicholas R. Amato
County Executive
Hall of Records, Room 405
Newark, NJ 07102
201-621-4400

### 3.5.6 City of Newark Officials

Mayor Sharpe James
City Hall
920 Broad Street
Newark, NJ
201-733-6400

Robert Marasco,
Clerk
920 Broad Street
Newark, NJ
201-733-3669

Robert Swales, Coordinator
Newark Office of Emer. Mgmt.
35 Manor Drive
Newark, NJ 07106
201-733-3664

Capt. Nicholas Gesualdo
East Dist. Precinct Comm.
Newark Police Department
649 Market Street
Newark, NJ 07106
201-733-6190

Paul Butler,
Senior Env. Specialist
City of Newark
Department of Engineering
920 Broad Street
Newark, NJ 07102
201-733-7994

### 3.5.7 Media

Al Frank
Star Ledger
1 Star Ledger Plaza
Newark, NJ 07105
201-877-4141

### Organizations

Arnold Cohen
Ironbound Committee
Against Toxic Waste
95 Fleming Avenue
Newark, NJ 07105
201-589-4668

SUGGESTED LOCATIONS FOR
INFORMATION REPOSITORIES AND PUBLIC MEETINGS

City Hall
920 Broad St.
Newark, NJ 07102
201-733-3669

Hours: 8:00 AM to 4:30 PM Monday - Friday
Contact: Robert Marasco, City Clerk

Copying facilities are available at a nominal charge.

Public meetings may be arranged at the City Council Chambers. Accommodations can be made for meetings after 4:30 PM. (There may be a charge if staff is required to work overtime.)

Capacity: 250 (approximately)
Contact: Maria Dios or Mary Mazak Phone 201-733-3669
201-733-3679

Newark Public Library
5 Washington St.
Newark, NJ
201-733-7784
201-733-7800

Hours: 9:00 AM to 9:00 PM Monday, Wednesday and Thursday
9:00 AM to 5:30 PM Tuesday and Friday
9:00 AM to 5:00 PM Saturday
1:00 PM to 5:00 PM Sunday

Copying facilities are available at a nominal charge

Public meetings may be scheduled to occur during library hours in the Auditorium or Centennial Room.

Capacity: Auditorium 150
Centennial Room 250

Contact: Barbara Ingrams Phone 201-733-7793

REFERENCE NO. 16

Bullets for Week Ending - November 1, 1990

White Chemical Site, Newark, New Jersey - P. Cammarata/E. Makarewicz

On Monday, EPA set up the Command Post at the Holiday Inn Jetport due to the recommendations from Occupational Physician for all personnel to remain off-site until symptoms have disipated.

Limited site activity was conducted this week due to the recent air monitoring results which were received on Friday, October 27th. ERCs continued securing the fence line and constructing the emergency egress near Cooper Sportswear Manufacturing. OSC discontinued the collection of empties for the week until full on-site activities resume.

In addition, ERCs subcontracted a CIH on-site to provide an evaluation of the current air problem experienced on-site. It was determined that each trailer (4) will have a three (3) phase filtration system designed within the ventilation system to eliminate contaminants from entering the trailers. In addition, a Mechanical Engineer, P.E. with subsatntial experience in ventilation systems has been requested to be subcontracted to work wtith the CIH in establishing the required specs and design. The ME is scheduled to be on-site on Monday, November 5th.

The two (2) Office Trailers on-site which were found to have high levels of formaldehyde were removed and replaced with older trailers. ERT continued their air sampling efforts on Thursday, on November 1st, to test for inorganic acids, formaldehyde in all four (4) trailers on-site and Vocs. Sampling will also take place on the perimeter of the site.

Breakins continue to be a problem on-site. Site Security reported numerous tresspassing incidents during the evening hours.

A meeting was held on Wednesday, October 31st with OEM. EPA provided OEM with a copy of the current contingency plan and requested their review. A meeting will be scheduled on a weekly basis with OEM to provide them with updates on site activities.

The Fact Sheet went out in Spanish and Chinese on Monday, October 29th to the surrounding businesses.

ERCs, OSCs and ERT finalized the plans for the design and construction of the transfer unit for drum transfer. This unit will be constructed in Ohio and mobed to the site. Construction completion is due in two weeks.

OSC has requested ERCs to formalize a work plan to address the full scope of the removal action. OSC has drafted a twelve month and $2 million dollar exemption request and in is currently drafting a detailed cost estimate of the entire removal project. A copy of the draft will be provided to RAB Chief for review next week.

FOURTH QUARTER MANAGEMENT MEMO*
WHITE CHEMICAL, NEWARK, NJ

On August 24, 1990, EPA received a letter requesting EPA to consider the undertaking of a removal action at the White Chemical Site in Newark, New Jersey. On site are over 8,000 drums and thousands of other containers that have acids, flammables, air and water reactives and other hazardous substances in them. Removal activities were initiated on September 19, 1990, and expanded on October 1, 1990 when $1,995,000 was approved to provide security and to stabilize the site. On October 22nd, a Federal District Court judge issued a preliminary injunction denying entrance to Mr. White pending completion of the response activities.

* As of 10/24/90

Bullets for the Week of October 15, 1990 - P. Cammarata

1. White Chemical Company Site, Newark, New Jersey

During the week ERCs continued to collect and stage empty drums for removal off-site. A total of 1500 empties have been collected so far. A total of 433 empty drums were removed off-site.

In addition, site preparation continues. All four buildings were inspected for utilities and hazards. Electricians were brought into the site to disconnect the unecessary power to the buildings.

EPA and ATSDR met with EMS personnel from University Hospital to discuss our needs for emergency transportation should an incident occur. The Site Specific Interface Contingency Plan for White Chemical has been drafted. A copy has been prvided to ATSDR to establish action levels for adjacent facilities to be used for any uncontrolled releases which may migrate off-site. These action levels will be provided in an Addendum of the Contingency Plan. As more chemical are identified new action levels will be established for these chemicals.

Suburban Propane took back twelve (12) of their propane cylinders from the facilty on Wednesday, 10/17/90.

MIRAN testing conducted last Thursday, October 11, indicated the presence of amines on site. Further air sampling will be conducted by ERT on Monday, Oct. 22 through Wednesday Oct. 23. Sampling will take place outside within the hot zone and also within the trailers where there has been evidence of eye and throat irritation.

On Thursday, October 18th, Hank Habicht and numerous EPA officials were present on site to conduct a Press Conference with all major network and N.J. stations on the present conditions at White Chemical and an overview of the Removal Program within this region.

Next week several meetings are planned with the local Haz Mat Fire Teams and the Office of Emergency Management.

IMPORTANT TO: GEORGE
FROM: PAULA C.

Bullet for Habicht on White Chemical

On August 24, 1990, EPS received a memo requesting CERCLA consideration for the White Chemical Site located in Newark, Essex County, New Jersey. The site contains over 8,000 drums and hundreds of cylinders, carboys, vats, boxes, and lab pack size materials.

Materials found on-site include; acids, flammables, corrosives, caustics, air and water reactives. These materials were found in with incompatibles stored in close proximity in unstable and in very poor condition.

On October 1, 1990, OSC received funding approval of $1,995,000 to provide security and to stabilize the site. This effort will take approximately 3-6 months. Further funding request to continue site stabilization, sampling, and analysis and off-site disposal. This removal action is scheduled for eighteen months.

REFERENCE NO. 17

SEP 6 1990

Request for Assignment of Attorney for the White Chemical site, Newark, Essex County, New Jersey

Richard C. Salkie, Associate Director for
Removal and Emergency Preparedness Programs

Delmar Karlen, Chief
New Jersey Superfund Branch

The New Jersey Department of Environmental Protection (NJDEP) has formally requested the USEPA to perform a removal action at the above mentioned site by mitigating the threats posed by approximately ten thousand (10,000) improperly stored, leaking drums containing flammable liquids, flammable acids, acid chlorides and flame retardant compounds.

The proposed removal action will include site security, the removal of all containers found on-site (drums, tanks, and lab pack materials).

White Chemical Company is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated industrial area of Newark, (see attached NJDEP memo of request). White Chemical is currently facing Chapter 11 proceedings and has ceased operation. However, Management personnel continue to work. In addition, there are two employees continuing laboratory research on non-halogenated flame retardant compounds.

A cursory inspection of the facilty indicated odors migrating off-site as well as reports from adjacent facilities of acidic odors. This is probably due to the fact that the drums are currently staged outside throughout the facility and are as close as 50 feet from adjacent properties.

A detailed assessment is scheduled for Friday, September 7, 1990, with NJDEP. At this time air samples will be taken and a detailed assessment of the facility will be made.

Therefore, this memo is to request assistance from your Office in assigning an individual to join in the enforcement process at this site. We would appreciate the assigned staff member to contact Ms. Paula Cammarata of my staff at FTS: 340-6906 as soon as possible.

Your assistance in this matter is greatly appreciated.

Attachment

| ERR-RAB | ERR-RAB | ERR-ADREPP |
|---|---|---|
| CAMMARATA | ZACHOS | SALKIE |
| 9-5-90 | | 9/5/90 |

REFERENCE NO. 18

State of New Jersey
DEPARTMENT OF HEALTH
CN 360, TRENTON, N.J. 08625-0360

Lisa Voice
ATSDR Representative
US EPA Region 2
2890 Woodbridge Ave.
Bldg 209
Edison, NJ 08837

October 17, 1990

Dear Ms. Voice:

We were invited to visit Personality Corporation in Newark, NJ by the International Ladies Garment Workers Union and the Plant Manager, Alfredo Castro, to address the health concerns of the employees. Prior to our visit, we were told that employees had reported symptoms that they thought might be related to working in close proximity to the White Chemical site which is in the process of remediation.

On the day before our visit I spoke with Paula Camarata of the EPA and learned that the EPA had recently taken over the remediation efforts and that ATSDR would be involved in the health evaluation of the workers in the area surrounding White Chemical, including Personality Corporation.

We visited Personality Corporation and met with the employees as a group to address general concerns about the chemicals and their effects on health. We met individually with several employees to discuss specific concerns regarding symptoms and signs of illness. We found the employees interested and concerned. We heard complaints about irritative symptoms including burning eyes, irritated nose and throat, cough and chest discomfort, and itchy skin. Individuals complained of their cough persisting until they went home often waking them from sleep. One woman complained that her asthma had been much worse since she began working at Personality Corporation one year ago necessitating the addition of several medications to control her symptoms. Employees complained of frequent odors which they felt made them sick. Some individuals complained of becoming nauseous on several occasions as a result of these odors.

Our own experience corroborated these complaints. Within minutes of arrival at the Personality Corporation, we both experienced burning and tearing of our eyes and irritation of our throat. These symptoms worsened while we remained in the building and persisted well after leaving the company. We noted an odor which had an acid-like quality outside the building.

*New Jersey Is An Equal Opportunity Employer*

We realize that the perimeter air samples for the White Chemical site have on occasion shown sulfuric acid levels that approach the TLV of 1 ppm. The EPA workers on the site have considered installing a filter on their trailor ventilation systems if the high levels of acids in the air continue to be recorded. We believe that if this approach is found to be necessary to adequately protect EPA workers, similar recommendations should be made to the management of Personality Corporation so that they can adequately protect their workers.
In addition, we found that the air intake for the ventilation system of Personality Corporation was located on the roof near the White Chemical site. There is not more than 50 feet between the drums and the Personality Corporation building. Given the proximity of the source of air contamination, those with a background in ventilation engineering should evaluate the potential benefit of moving the air intake for the building or of other strategies to limit exposure.

We understand that you are already addressing the emergency response issues for this site. Although emergency preparation is critical, we urge you to address the current and on-going irritative symptoms that are effecting these workers. It is unfair and unwise to continue to allow workers to work in an environment in which they are continually assaulted by the irritative fumes emanating from drums less than 50 feet away from their workplace.

We look forward to working with you in any way that we can be of assistance. Thank you for considering our comments and offering a reply.

Sincerely,

Robert Boesch

Robert R. Boesch, MD
Occupational Health Service

Marilyn V. Howarth

Marilyn V. Howarth, MD
Occupational Health Service

c: Jim Pasqualo, ATSDR New Jersey Department of Health
Paula Camarata, On-scene Coordinator, EPA
Alfredo Castro, Plant Manager Personality Corporation
Eli Charne, International Ladies Garment Workers Union

REFERENCE NO. 19

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: September 28, 1990

Region II
Response and Prevention Branch
Edison, New Jersey 08837

(201) 548-8730 - Commercial and FTS
24 Hour Emergency

TO: R. Caspe, 2ERRD
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Marshall, 2OEP
J. Frisco, 2ERR-ADNJP
ERD, Washington,
(E-MAIL)
B. Aber, 2ORC-NJSUP
S. Becker, 2PSB
J. Trela, NJDEP
D. Oster, NJDEP
R. Swales, OEM
A. Zach, City of Newark
TAT

| | |
|---|---|
| POLREP NO.: | Three (3) |
| INCIDENT NAME: | White Chemical Company |
| SITE NO.: | 6J |
| POLLUTANT: | Acids, Corrosives, Flammable Liquids, Lab Reagents |
| CLASSIFICATION: | Major |
| SOURCE: | White Chemical Company |
| LOCATION: | 9000 Drums and numerous cylinders, tanks and labpack material |
| WATER BODY: | Port Newark |

1. SITUATION:

A. See previous Polrep

2. ACTION TAKEN:

Monday, September 24, 1990:

A. OSC completed a draft of the Community Relations Plan and provided a copy to the Office of External Programs for their review. A deadline of 9/28 was requested for comments to be submitted.

B. In addition, OSC received a verbal from Office of Regional Counsel that site access was granted by Mr. White, owner of White Chemical to perform the necessary assessments and planning to conduct the CERCLA removal action.

Tuesday, September 25, 1990:

C. OSC tried contacting ATSDR to request a Health Consultation of the site. ATSDR could not be reached at this time.

D. OSC contacted TAT and requested them to perform air sampling at the site in pm after the rain to determine if releases were migrating off-site. OSC reported Drager tubes which are pumped 10x for a reading had only been pumped once and the acid concentrations blew the tubes indicating greater than 100 ppm of various acids migrating from the drums.

Wednesday, September 26, 1990:

E. OSC continues to speak with ORC awaiting the written approval for access to the site from White Chemical.

F. ERT is contacted to discuss real time measurementation of acid releases and the type of sampling available. Options are discussed.

Thursday, September 27, 1990:

G. OSC contacts ATSDR and meets with Regional Representative to discuss the request for ATSDR to perform an assessment of the site for a Health Consultation. ATSDR plans to have a representative from the Atlanta Office arrive in Edison in evening. An assessment is planned for Friday morning.

H. OSC receives verbal from TAT on air sampling results taken on September 7th during the initial preliminary assessment. It appears the blank and sampling results cannot be used due to interference. Air re-sampling will be taken by ERT next week.

Friday, September 28, 1990:

I. OSC receives funding approval of $1,995,000 for a total project ceiling to commence the removal action at White Chemical.

J. ATSDR and EPA perform assessment of White Chemical. ATSDR concludes in a written Health Consultation memorandum that the White Chemical site poses an imminent and substantial threat to the health and safety of residents and workers near the site.

K. ATSDR and EPA meet with Handcraft facility, which is adjacent to the White Chemical site to confirm reports of workers being sick from fumes emananting from White. President, principal and Manager met to discuss their grave concern over the site and the health of their workers. On two occasions, Handcraft had to close due to the fumes in June of this year from White Chemcial. Employees complained of headaches, nausea, vomiting, eye irritation, etc. Handcraft is scheduling testing of all employees on October 23rd due to the on-going releases at White Chemical.

L. OSC contacts ERCs contractor and schedules mobilization of key personnel on Monday at the site to acclamate OHM to the site.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. At the present time, ORC remains in negotiation with White Chemical's legal staff for a continuing access agreement and for EPA to perform a removal action of all wastes on site.

B. The Office of Regional Counsel (ORC) has reported to the September 5, 1990 request of attorney assignment and that attorney has been in contact with White Chemical for the purpose of enabling EPA to conduct a Removal Action, including disposal of on-site materials.

C. The EPA will respond to NJDEP's August 24, 1990 request for a CERCLA Removal Action.

D. A PRP search is actively in progress.

4. FINANCIAL STATUS:

| | | |
|---|---|---|
| A. | Total Project Ceiling Authorized as of 09/28/90 | $1,995,000 |
| B. | Total Funds Authorized for Mitigation Contracting as of 09/28/90 | $1,725,000 |
| C. | Expenditures for Mitigation Contracts | |
| | 1.a. Total amount obligated | $1,725,000 |
| | 1.b. Estimated Expenditures as of 09/28/90 | $ 9,897 |
| | 1.c. Balance Remaining | $ 140,103 |
| D. | Unobligated Balance Remaining | $ -0- |

| | | |
|---|---|---|
| E. | Estimate of Total Expenditures to Date for all Mitigation Contracts | $ 9,897 |
| F. | Other Extramural Costs | |
| | 1.a. TAT Salary/Travel as of 09/28/90 | $ 9,115 |
| | 1.b. TAT Analytical | $ 4,300 |
| G. | Intramural Removal Costs | |
| | 1.a. EPA Travel/Salary as of 09/28/90 | $ 18,636 |
| Total Project Expenditures | | $ 41,948 |
| % of Project Ceiling | | 2% |
| % of $2 million | | 2% |

FINAL POLREP_____ FURTHER POLREPS FOURTHCOMING__X___

SUBMITTED BY Paula A Cammarata
Paula A. Cammarata, OSC
Removal Action Branch

DATE OF RELEASE: 10-1-90

REFERENCE NO. 20

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: October 12, 1990

Region II
Removal Action Branch
Edison, New Jersey 08837

(201) 548-8730 - Commercial and FTS
24 Hour Emergency

TO: R. Caspe, 2ERRD
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Marshall, 2OEP
J. Frisco, 2ERR-ADNJP
ERD, Washington,
(E-MAIL)
B. Aber, 2ORC-NJSUP
S. Becker, 2PSB
J. Trela, NJDEP
D. Oster, NJDEP
R. Swales, OEM
A. Zach, City of Newark
TAT

POLREP NO.: Five (5)
INCIDENT NAME: White Chemical Company
SITE NO.: 6J
POLLUTANT: Acids, Corrosives, Flammable Liquids, Lab Reagents
CLASSIFICATION: Major
SOURCE: White Chemical Company
LOCATION: 9000 Drums and numerous cylinders, tanks and labpack material
WATER BODY: Port Newark

1. SITUATION:

A. See original Polrep.

2. ACTIONS TAKEN:

Monday, October 8, 1990:

A. First day of site work. ERCS continues site preparation throughout the day and into the week.

B. Trailers arrive on-site. EPA tasks TAT to explore the possibilities of obtaining a weather station for our daily needs. An assessment of our requirements are made and ERCS is requested to purchase a station.

Tuesday, October 9, 1990:

C. DOJ files a motion in Federal District Court against White Chemical. This motion is to permanently vacate White from the premises.

D. Rained heavily throughout the night. Upon arrival to site, parking lot was found to be flooded with 2"-3" of water. OSCs instructed ERCS to modify parking lot area by filling holes with crushed stone and repaving the areas to divert the run-off.

E. OSC has conference call with ATSDR and their efforts with the development of the Health Advisory. OSC express-mails all inventory lists compiled from NJDEP, White's Title III submission, and the Newark Fire Department and sampling data.

F. During AM walk-through, TAT locates eight (8) fuming drums. Drums are marked and noted for future handling. Draegers reveal 8 ppm of hydrochloric acid in the air near drums and 10 ppm of chlorine.

Wednesday, October 10, 1990:

G. AM walk-through reveals another nine (9) fuming drums on-site today. These drums were located between buildings. TAT marked and noted location of drums.

H. The State DOH and ATSDR visit the site for an evaluation. The State will work with ATSDR and their efforts on developing the Health Advisory.

I. A meeting was held with the City of Newark's Office of Emergency Management (OEM) to start the compilation of a Contingency Plan for the local neighboring facilities.

J. TAT obtained copies of White's Title III Extremely Hazardous Substances report which listed 20,000 lbs. of bromine, 20,000 lbs. of chlorine, 1,000 lbs. of phosphorus (red), and 40,000 lbs. of phosphorus trichloride. This information will be verified.

K. OSC contacts ERT to discuss air sampling options with regard to odors emanating from site. ERT advises to continue the gillian pumps and draegers currently in use.

L. OSC requests TAT to bring MIRAN instrument to field on Thursday, 10/11/90 to confirm amine type odors.

M. OSCs meet with Newark Police Department to discuss the timeframe of work, scope of work, and characterization of site.

N. Associate Director Salkie and Director Caspe conduct a site visit.

Thursday, October 11, 1990:

O. TAT conducts MIRAN sampling for amines, ammonia, and hydrocarbons.

P. ERCS continues to conduct site preparation. A fence inspection is conducted and modification of the fence line for emergency egress is initiated. Fence contractors are contacted for bids.

Q. Maloney Site Control begins today. Previous security firm did not have the required OSHA training nor did any other firm contacted. Therefore, Maloney was called and the bid accepted due to the need for total site security and the nature of the site.

R. ERCS gathered, secured, and staged all compressed gas cylinders on-site. Twelve propane cylinders from Suburban Propane were found and returned to Suburban on Friday, 10/12/90.

S. The Director of External Programs visits to discuss an on-site press event scheduled for Thursday, October 18th. OSCs and TAT will assist in the preparation of this event.

Friday, October 12, 1990:

T. Four hundred and eighty-eight (488) empty drums are shipped off-site for re-cycling. The firm selected will incinerate, shred and re-use steel for the production of new drums.

U. ERCS electricians are on-site to develop a work plan for lighting of office trailers and the reduction of electricity to portions of the site. At the present time, Bldg 33 must continue to have electricity for the laboratory refrigeration and storage room ventilation systems.

Saturday, October 13 and Sunday, October 14, 1990:

V. No site work is conducted.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. At the present time, ORC and DOJ remain in negotiation with White Chemical's legal staff.

B. Site preparation will continue. All safety equipment will continue to be brought on-site and electricians will disconnect appropriate electricity from the buildings.

C. EPA and TAT will complete the Contingency Plan and OSCs and TAT will meet with OEM, Fire and Police to discuss this plan.

D. Site preparation will be completed and drum staging will begin.

E. ATSDR, ERCS, TAT and EPA will meet with and provide a list of on-site chemicals to University Hospital and the Newark Police Department.

4. FINANCIAL STATUS:

| | | |
|---|---|---|
| A. | Total Project Ceiling Authorized as of 10/28/90 | $1,995,000 |
| B. | Total Funds Authorized for Mitigation Contracting as of 10/12/90 | $1,725,000 |
| C. | Expenditures for Mitigation Contracts | |
| | 1.a. Total amount obligated | $1,725,000 |
| | 1.b. Estimated Expenditures as of 10/12/90 | $ 37,000 |
| | 1.c. Balance Remaining | $1,688,000 |
| D. | Unobligated Balance Remaining | $ -0- |
| E. | Estimate of Total Expenditures to Date for all Mitigation Contracts | $ 37,000 |
| F. | Other Extramural Costs | |
| | 1.a. TAT Salary/Travel as of 10/12/90 | $ 12,488 |
| | 1.b. TAT Analytical | $ 4,300 |

| | | |
|---|---|---|
| G. | Intramural Removal Costs | |
| | 1.a. EPA Travel/Salary as of 10/12/90 | $ 39,291 |
| H. | Total Project Expenditures | $ 88,779 |
| | % of Project Ceiling | 4.5% |
| | % of $2 million | 4.4% |

FINAL POLREP_____ FURTHER POLREPS FORTHCOMING__X___ SUBMITTED BY Paula A. Cammarata

Paula A. Cammarata, OSC
Removal Action Branch

DATE OF RELEASE: 10-15-90

REFERENCE NO. 28

# PRELIMINARY ASSESSMENT
# OFF SITE RECONNAISSANCE
# INFORMATION REPORTING FORM

Date: November 1, 1990

Site Name: White Chemical Corp. TDD: 02-9010-19

Site Address: 660 Frelinghuysen Avenue
Street, Box, etc.

Newark
Town

Essex
County

New Jersey
State

NUS Personnel:

| Name | Discipline |
|---|---|
| Pat Hastings | Environmental Scientist |
| Susan Lenczyk | Environmental Scientist |
| | |

Weather Conditions (clear, cloudy, rain, snow, etc.):

Partly cloudy, approx. 65°, humid

Estimated wind direction and wind speed: 0-5

Estimated temperature: 65°

Signature: Susan Lenczyk Date: November 1, 1990

Countersigned: P. K. Hastings Date: November 1, 1990

**PRELIMINARY ASSESSMENT**

**INFORMATION REPORTING FORM**

**Date:** November 1, 1990

**Site Name:** White Chemical Corp. **TDD:** 02-9010-19

**Site Sketch:**

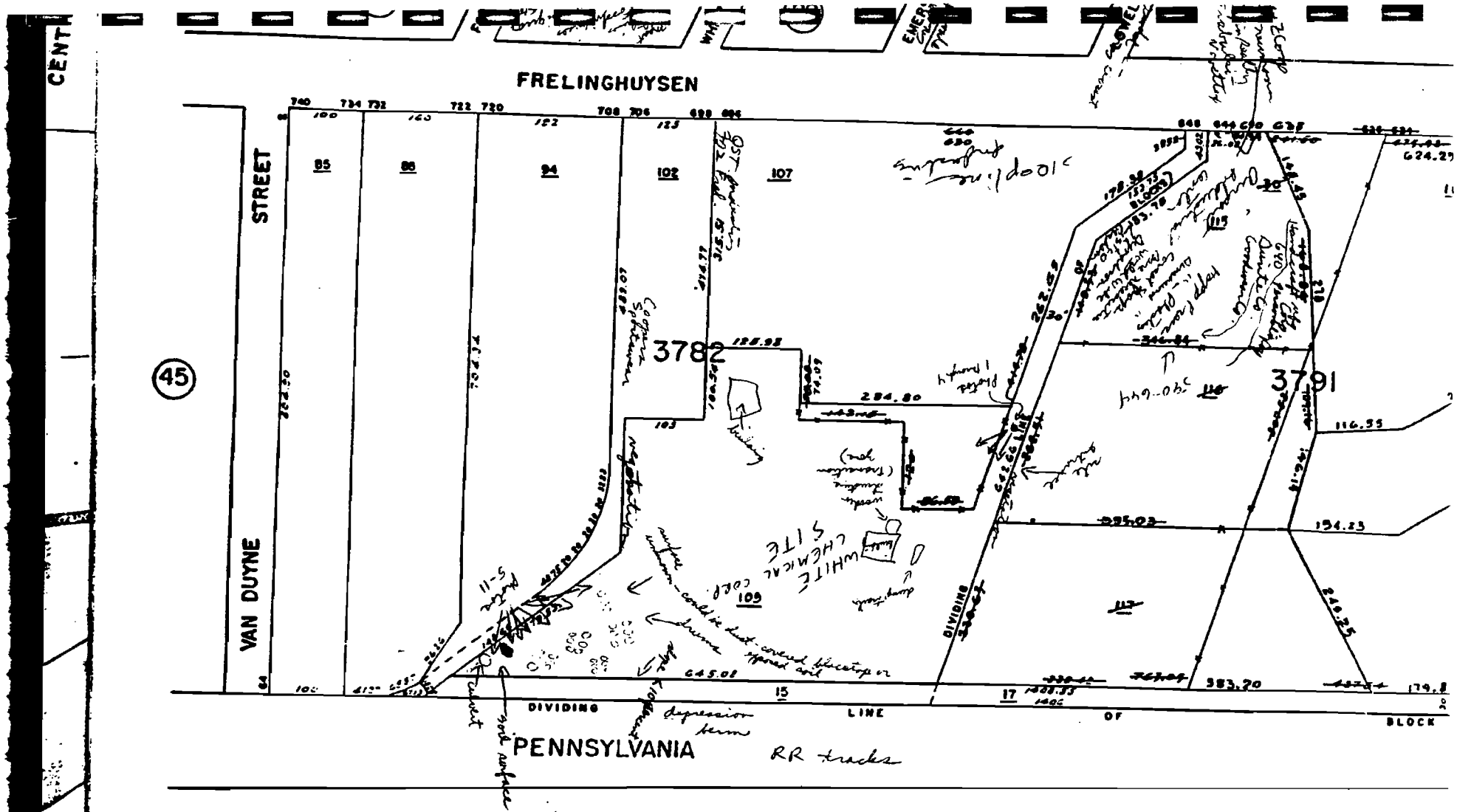
**Indicate relative landmark locations (streets, buildings, streams, etc.). Provide locations from which photos are taken.**

It is not possible to draw an accurate site map from our vantage point. We will use tax map and maps from other work done on site.

See attached map.

**Signature:** Susan Levenyk **Date:** November 1, 1990

**Countersigned:** [signature] **Date:** November 1, 1990




SEE VOLUME - 12.

**PRELIMINARY ASSESSMENT**

**INFORMATION REPORTING FORM**

Date: November 1, 1990

Site Name: White Chemical Corp. TDD: 02-9010-19

Notes (Periodically indicate time of entries in military time):

1214 Arrived at driveway that appears to be the entrance to White Chemical Corp. Site is secured by Maloney Site Control. A guard comes to inspect cars and sign people in and out. It is difficult to make out many details from our vantage point, but we can clearly see the 2 faces of one building, ≈ 11/2 2-story One stack observed on roof of one building that in the area, i.e., from gate to building, ≈ 1/2 belongs to White Property appears to be almost all covered with blacktop. Site slope relatively flat — very slight slope toward southeast (toward building) ≈ 11/2 There appears to be an above ground tank behind the building.

Fence around property approx 8 feet high with barbed wire to the limit of bar line of right ≈ 1/2 Only vegetation observed is on site perimeter.

Yellow Poly overpacks are on the blacktop, near the N/NW face of the building as part of the EPA's removal action.

There is a trailer for showers, & a dump trailer on northern side of building.

Area past wooden structure is off limits — hot zone will be permanent. Anything before wooden structure, on western side of building, is transition zone.

Spoke to Eugene Di Santo, OHM, who gave us this info.

Signature: Susan Lenczyk Date: November 1, 1990

Countersignature: _____ Date: _____

**PRELIMINARY ASSESSMENT**

**INFORMATION REPORTING FORM**

Date: November 1, 1990

Site Name: White Chemical Corp. TDD: 02-9010-19

Notes (Cont'd):

south-southwest on Frelinghuysen Ave. sl 11/2

1234 - Driving to a different vantage point.
Storm drain on Frelinghuysen Ave. on eastern side.
1237 - Arrived at back of Coopers Sportswear. From here we can see the southwest corner of the property. sl 11/2/90
Drums on White property are stacked two high. Mixture of poly drums + carbon steel - many rusting. One drum is bulging. Some stacked on Exposed Ground. A culvert exposed as it nears the eastern property boundary. Possible surface water runoff pathway. sl 11/2
Wood pile on site - Jeff Body, OHM employee participating in removal action, had mentioned that wood on site would be cut up. Possibly this is from that activity.
Area is fenced. Property slopes here very slightly to the east-southeast, toward the active railroad tracks, which are elevated. There appears to be a slight depression before the berm on which the tracks run.
Looking north we can see the face of one of the buildings on the White Chemical property (Photo No. 11). This building is within 50 feet of the Coopers Sportswear building.
1255 Drove back out to Frelinghuysen Avenue. Noted (over)

**Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.**

Signature: Susan Lencyk Date: 11/01/90

Countersignature: [signature] Date: 11/01/90

a liquor store, Chinese restaurant, and a meat center across the street. Beyond them were two high-rises. Entire area is densely populated with businesses, private homes, and apartments. The nearest private homes appear to be on Lowell Street and Emerson St., which run from Frelinghuysen Avenue to the northwest, toward Weequahic Park. The homes are approximately 1,000 feet from the site.

1305 Proceeded to Haynes Avenue to see whether we could get a view of the White Chemical Site from a different angle, but this was not possible.

We noted that Weequahic Park, northwest of the site, was at a slightly higher elevation than Frelinghuysen Avenue. Therefore, any surface water runoff from the site would not be able to find its way to Weequahic Lake.

## PRELIMINARY ASSESSMENT

## INFORMATION REPORTING FORM

Date: November 1, 1990

Site Name: White Chemical Corp. TDD: 02-9010-19

Photolog:

| Frame/Photo Number | Date | Time | Photographer | Description |
|---|---|---|---|---|
| 1 | 11/1/90 | 1224 | Sue Lenczyk | Facing southeast, picture of White Chem Corp. Building |
| 2,3,4 | 11/1/90 | 1226 | " | Facing south to southeast to east Panoramic view of site, showing secure fence, vegetation on perimeter, poly overpacks, administrative trailers, and possibly decon trailer |
| 5,6,7,8,9,10 | 11/1/90 | 1241 | " | Facing east to ne, panoramic view of drums, carboys on White aspect |
| 10 | 11/1/90 | 1249 | " | Shot of one bulk liquid on site. southwest corner of site. |

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: Susan Lenczyk Date: 11/01/90

Countersignature: [signature] Date: 11/01/90

REFERENCE NO. 29

**NUS CORPORATION** — TELECON NOTE

| CONTROL NO: | DATE: | TIME: |
|---|---|---|
| 02-8905-06 | JUNE 27 1989 | 16:13 |

**DISTRIBUTION:**

TO FILE; ORBIS PRODUCTS CORP.

| BETWEEN: | OF: | PHONE: |
|---|---|---|
| MR. TIVILLYES ENGR. | NEWARK CITY WATER DEPT. | (201) 733-8414 |

**AND:**

PAUL BAUER (NUS)

**DISCUSSION:**

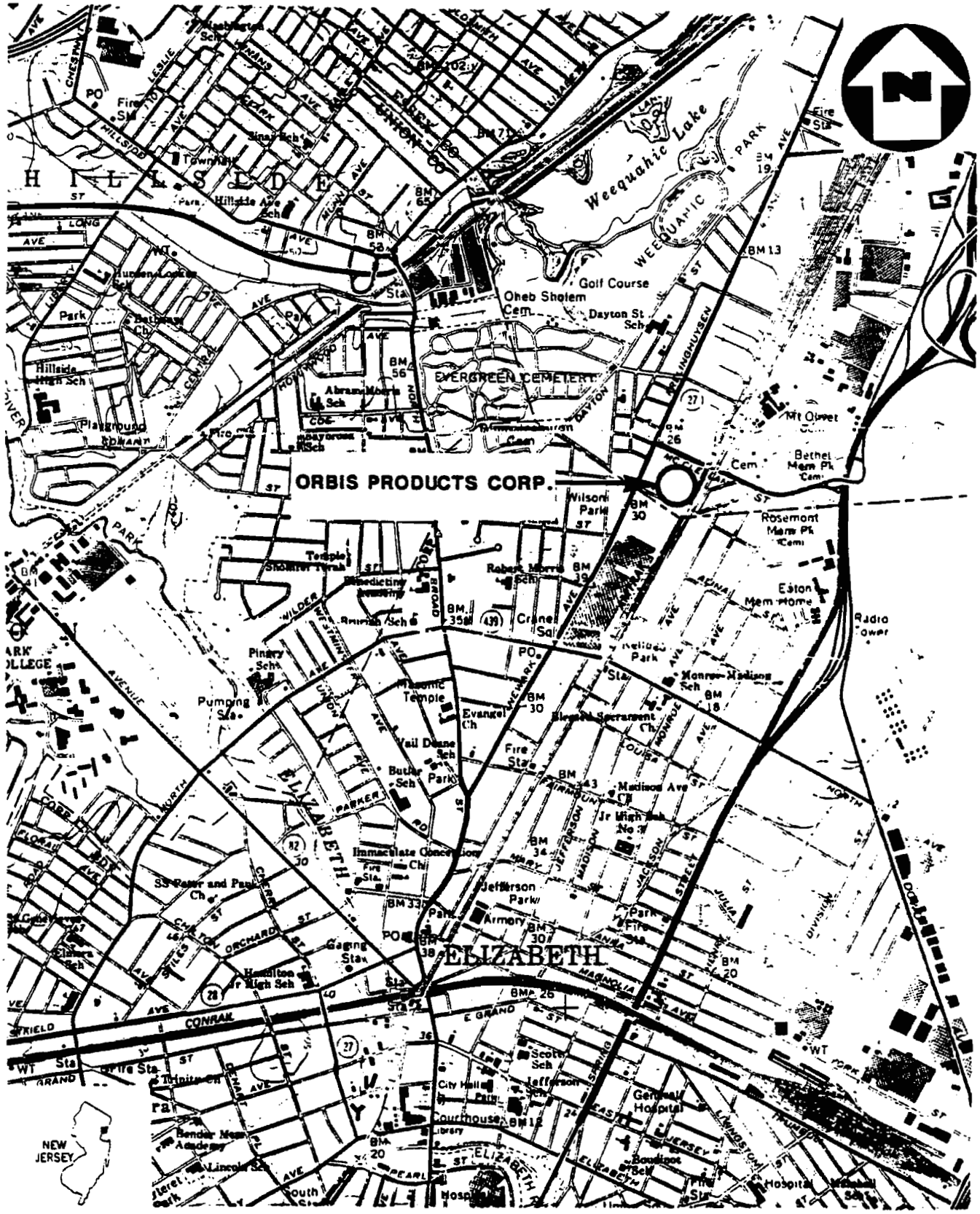
MR. TIVILLYES SAID THAT STORM SEWERS AND SEWAGE LINES ARE CONNECTED IN THE AREA OF THE SITE. SPECIFICALLY, ALONG MCCLELLAN STREET AND VIRGINIA STREET. THEY TRAVEL TO A PUMPING STATION NEAR MCCLELLAN STREET BRIDGE AND THEN TO THE PASSIAC VALLEY SEWAGE TREATMENT PLANT.

Paul Bauer

**ACTION ITEMS:**

NUS 067 REVISED 0681

Rev. No. 0




(QUAD) ELIZABETH, N.J.

FIGURE 1

## SITE LOCATION MAP

## ORBIS PRODUCTS CORP., NEWARK, N.J.

SCALE: 1" = 2000'

NUS CORPORATION

REFERENCE NO. 32

Paula

DECLARATION OF YACOUB YACOUB

1. I am employed by the New Jersey Department of Environmental Protection, ("DEP" or the "Department"), in the Division of Hazardous Waste Management. I am Chief of the Bureau of Metro Field Operations. I am thoroughly familiar with DEP's involvement with White Chemical at its site at Block 107, Lot 3787 in Newark, New Jersey.

2. White Chemical Corporation is a manufacturer of acid chlorides and flame-retardant compounds located at Block 107, Lot 3782 in an industrial section of Newark, Essex County. The facility, now in Chapter 11 bankruptcy proceedings, is located on property owned by Lancaster Chemical Corp. Lancaster Chemical Corp., which operated at this location prior to 1983, is in turn owned by AZS Corp. AZS, in turn, is owned by TOSOH U.S.A.

3. In January of 1984 White Chemical began manufacturing operations at the above location in Newark. White Chemical's manufacturing process involves the following:

a. Acid chloride manufacturing - organic acids (pthalic, steric, lauric, caprilicc, and acetic, also known as "fatty" acids) are reacted with phosphorous trichloride through distillation. One high vacuum and two fractionating stills are located on-site. The resultant material is an acid chloride layer and a phosphorous acid layer (products). Still bottoms are converted back into acid by hydrolysis with water. Those that cannot be converted back are classified as a waste by White Chemical. Products consisting of acid chlorides and phosphorous

acids are distributed in bulk or drum form. The primary markets for these products are the agricultural and pharmaceutical industries.

b. Brominated Flame Retardant - Diphenyloxide brominated in a solvent is reacted with ethylene di-chloride (EDC). White uses one reactor on site as well as an additional reactor off-site to filter material from and for storage. The by-product from this operation is hydrochloric acid which is sold as product to companies such as U.S. Steel and Madison Industries. The resultant product is decaborodiphenyl oxide, a flame retardant material. This material was distributed in drums and bulk to customers such as American Hoechst, Collins and Ackman located in the southern portion of the United States. Wastes generated from this process are still bottoms (containing EDC, HCL, and decaborodiphenyl oxide) which White reclaims further, and an off-spec decaborodiphenyl oxide and ethylene di-chloride (EDC) waste stream. The still bottoms are treated as a hazardous waste, except for the EDC, which is reclaimed on site and reused in the process.

c. Specialty Chemicals - White Chemical also performs custom blending and repackaging of various chemicals for customers utilizing the processes on site.

4. On September 8, 1989, the Department conducted a RCRA compliance inspection at White Chemical. During the inspection, numerous hazardous waste violations were noted, and the company was issued appropriate Notices of Violations (NOV's). The NOV's

were primarly for improper drum management, and referenced many leaks, open containers, and lack of aisle space. Upon reinspection on September 22, 1989, the facility had not attained compliance. As a result, an administrative order (AO) and penalty in the amount of $86,500 was issued to White Chemical on March 15, 1990.

5. From March 27 to March 29, 1990, the Department reinspected White Chemical, and completed an inventory of drums on site. Many containers of unknown and hazardous wastes continued to be stored improperly, were leaking, were open, or exceeded the 90-day limit for hazardous waste storage without a permit. Again, there was inadequate aisle space. The inventory showed that 8,148 drums were currently in storage, including 2,005 drums containing hazardous waste, and 342 drums which possibly contained hazardous waste. 3,411 drums contained products or intermediates, i.e., end products or materials awaiting further processing. These materials themselves constitute hazardous substances. Upon the completion of the inventory, White Chemical was issued a Notice of Violation (NOV) under the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., and ordered to immediately remediate spillage and improper drum storage.

6. During the month of April 1990, the Department inspected the site weekly, monitoring the progress of the remediation performed by White. Unsatisfied with White's progress, the Department rescinded its Administrative Order and

penalty assessment (issued on March 15, 1990) and, as noted below, issued a Spill Fund Directive to White Chemical, AZS, Lancaster and Tosoh ordering those companies to pay the Department $241,133.15 for the necessary site stabilization.

7. White Chemical did not have the assets to pay for the stabilization of the site, much less its remediation. White Chemical had already filed for protection under subchapter 11 of the Federal Bankruptcy Code. AZS, Lancaster and Tosoh have refused to comply with the Directive. Therefore, the Department utilized public monies for the site stabilization.

8. During April, the Department discussed with the United States Environmental Protection Agency (USEPA) consideration of this site for CERCLA action. EPA indicated that this site would probably qualify as a candidate for CERCLA action, but all of EPA's resources at that time were committed to other sites. Thus, EPA would not be able to begin work on this site immediately.

9. During this April discussion with EPA, DEP agreed to begin stabilization and provide security at this site until EPA's resources would become available.

10. As noted above, on May 8, 1990, the Department issued to White Chemical, AZS Corporation, Lancaster Chemical Corporation and TOSOH U.S.A. a Spill Fund Directive ordering the respondents to pay the Department for stabilization of the site in the amount of $241,133.15.

11. AZS Corporation, Lancaster Chemical Corporation and

TOSOH responded that they were not responsible parties. White Chemical responded that it could not pay the directed amount due to its bankruptcy proceedings.

12. On June 15, 1990, the Department issued to White Chemical, AZS Corporation, TOSOH and Lancaster Chemical Corporation a second directive (supplemental Directive #1) ordering the respondents to remove and properly dispose of all empty drums within 65 calendar days.

13. White Chemical removed only 746 empty drums. Approximately 2500 empty drums remain on site. AZS Corporation, TOSOH and Lancaster Chemical Corporation responded that they were not responsible for the conditions at the site.

14. On July 18, 1990, the Department issued to White Chemical, AZS Corporation, Lancaster Chemical and TOSOH a directive ordering the respondents to pay the Department for further stabilization costs of $518,964.24.

15. AZS Corporation, Lancaster Chemical Corporation, and TOSOH responded that they were not responsible parties. White Chemical responded that it could not pay the directed amount due to its bankruptcy proceedings.

16. On August 24, 1990, after further discussions with EPA, the NJDEP formally submitted the White Chemical site to USEPA as a candidate for CERCLA action. The DEP requested that EPA further secure and stabilize the site by disposing of all remaining hazardous substances on site, and by continuing the site security measures already instituted by DEP during the

CERCLA action.

17. The Department began providing 24-hour security at this site beginning May 8, 1990, and continued that security until October 2, 1990, when EPA took over.

18. Between May 8 and October 2, 1990, the DEP overpacked, staged and removed for incineration 37,400 gallons of ethylene dichloride, toluene, acetone and xylene.

19. In addition, DEP overpacked, staged and removed 11,275 gallons of TCE, and has ready staged another 5,000 gallons for removal.

20. DEP also staged and removed 152,000 pounds of DPX filtercake and disposed of it in a secure, licensed, hazardous waste landfill.

21. White, pursuant to instructions of DEP, and under the supervision of the Newark Fire Department, segregated laboratory chemicals found in a storage area in Building 35 and placed them in an explosion-proof locker.

22. DEP and White together removed approximately 906 empty drums from the site.

23. In summary, between May 8 and October 2, 1990, DEP segregated the most hazardous substances on site, leaving 4,500 drums of intermediates and products to be dealt with later. However, as noted, these intermediates and products themselves constitute hazardous substances which must be dealt with.

24. These 4,500 drums of intermediates and products have begun to show signs of deterioration, and should be dealt with as

soon as possible. DEP has overpacked a number of these drums, but a more comprehensive approach is now needed. The drums pose a potential threat to groundwater and soil, and an immediate health threat to air quality, should their contents be released.

25. Due to the magnitude of the cost of disposal of both the remaining staged 558 drums of flammables, fatty acids, and filtercake, and the 4,500 drums of intermediates and products, DEP has requested EPA to institute this CERCLA action and continue the stabilization and remediation of the site.

26. A summary of DEP's disposal efforts is attached hereto as Exhibit A.

27. The Department has spent to date, October 4, 1990, $673,215.68 dollars on this site.

I declare under penalty of perjury that the foregoing statements are true and correct.

_____
Yacoub Yacoub

Dated:_____

REFERENCE NO. 33

# Alkyl Bromides

## R–Br

| NAME | FORMULA | M.W. | B.P.°C | DENSITY $d_4^{20}$ | REFRACTIVE INDEX $n_D^{20}$ |
|---|---|---|---|---|---|
| Allyl Bromide | $CH_2 = CHCH_2Br$ | 121.0 | 70 | 1.398 | 1.4690 |
| n-Propyl Bromide | $CH_3CH_2CH_2Br$ | 123.0 | 71 | 1.354 | 1.4336 |
| Isopropyl Bromide | $(Ch_3)_2CHBr$ | 123.0 | 59 | 1.310 | 1.4252 |
| n-Butyl Bromide | $CH_3(CH_2)_2CH_2Br$ | 137.0 | 102 | 1.276 | 1.4390 |
| Isobutyl Bromide | $(CH_3)_2CHCH_2Br$ | 137.0 | 91 | 1.260 | 1.4350 |
| Sec. butyl Bromide | $CH_3CHBrCH_2CH_3$ | 137.0 | 91 | 1.255 | 1.4369 |
| Tert. butyl Bromide | $(CH_3)_3CBr$ | 137.0 | 73 | 1.189 | 1.4279 |
| n-Amyl Bromide | $CH_3(CH_2)_3CH_2Br$ | 151.1 | 130 | 1.218 | 1.4436 |
| Isoamyl Bromide | $(CH_3)_2CHCH_2CH_2Br$ | 151.1 | 121 | 1.261 | 1.4409 |
| n-Hexyl Bromide | $CH_3(CH_2)_4CH_2Br$ | 165.1 | 156 | 1.176 | 1.4475 |
| Heptyl Bromide | $CH_3(CH_2)_5CH_2Br$ | 179.1 | 180 | 1.140 | 1.4499 |
| Octyl Bromide | $CH_3(CH_2)_6CH_2Br$ | 193.1 | 201 | 1.118 | 1.4518 |
| Decyl Bromide | $CH_3(CH_2)_8CH_2Br$ | 221.2 | 238 | 1.066 | 1.4560 |
| Lauryl Bromide | $CH_3(CH_2)_{10}CH_2Br$ | 249.2 | 275 | 1.038 | 1.4580 |
| Myristyl Bromide | $CH_3(CH_2)_{12}CH_2Br$ | 277.3 | — | 0.932 | 1.4600 |
| Cetyl Bromide | $CH_3(CH_2)_{14}CH_2Br$ | 305.4 | — | 0.999 | 1.4608 |
| Benzyl Bromide | $C_6H_5CH_2Br$ | 171.0 | 198 | 1.438 | 1.5752 |
| Phenethyl Bromide | $C_6H_5CH_2CH_2Br$ | 185.1 | 220 | 1.355 | 1.5563 |
| Cyclo hexyl Bromide | $C_6H_{11}Br$ | 163.1 | 166 | 1.324 | 1.4950 |

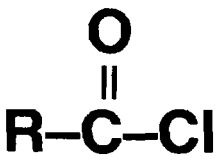
*The compounds listed above are available from White Chemical in developmental and commercial quantities. Should there be interest in specific compounds not listed, we will be happy to investigate the possibility of supplying your needs. Contract manufacture is available.*

*Technical data sheets on individual products are available on request.*

**WHITE CHEMICAL CORPORATION**

***Quality Products Made in the U.S.A.***

# Acid Chlorides



| NAME | FORMULA | M.W. | B.P.°C | DENSITY $d_4^{20}$ | REFRACTIVE INDEX $n_D^{20}$ |
|---|---|---|---|---|---|
| Acetyl Chloride | $CH_3CO\,Cl$ | 78.5 | 51-52 | 1.104 | 1.3898 |
| Propionyl Chloride | $CH_3CH_2CO\,Cl$ | 92.5 | 79-80 | 1.065 | 1.4032 |
| Butyroyl Chloride | $CH_3(CH_2)_2COCl$ | 106.6 | 102 | 1.026 | 1.4111 |
| Isobutyroyl Chloride | $(CH_3)_2\,CH\,COCl$ | 106.6 | 91-93 | 1.017 | 1.4073 |
| Pivaloyl Chloride | $(CH_3)_3C\,COCl$ | 120.6 | 103-106 | 0.983 | 1.4120 |
| Hexanoyl Chloride | $CH_3(CH_2)_4\,CO\,Cl$ | 134.6 | 153 | 0.975 | 1.4263 |
| Heptanoyl Chloride | $CH_3(CH_2)_5\,CO\,Cl$ | 148.6 | 173 | 0.962 | 1.4300 |
| Octanoyl Chloride | $CH_3(CH_2)_6\,CO\,Cl$ | 162.7 | 195-196 | 0.953 | 1.4350 |
| 2 Ethyl Hexanoyl Chloride | $CH_3(CH_2)_3CH(C_2H_5)CO\,Cl$ | 162.7 | 67-68 (11 mm) | 0.939 | 1.4335 |
| Pelargonoyl Chloride | $CH_3(CH_2)_7CO\,Cl$ | 176.7 | 108 (22 mm) | 0.942 | 1.4377 |
| Decanoyl Chloride | $CH_3(CH_2)_8COCl$ | 190.7 | 95 (5 mm) | 0.935 | 1.4410 |
| Lauroyl Chloride | $CH_3(CH_2)_{10}COCl$ | 218.8 | 145 (18 mm) | 0.927 | 1.4459 |
| Myristoyl Chloride | $CH_3(CH_2)_{12}COCl$ | 246.8 | (M.P.1°C) | 0.920 | 1.4490 |
| Palmitoyl Chloride | $CH_3(CH_2)_{14}COCl$ | 274.9 | (M.P.12°C) | 0.915 | 1.4520 |
| Stearoyl Chloride | $CH_3(CH_2)_{16}COCl$ | 302.9 | (M.P.23°C) | 0.910 | — |
| Terephthaloyl Chloride | $C_6H_4(COCl)_2$ 1,4 | 203.0 | (M.P.81°C) | — | — |
| Isophthaloyl Chloride | $C_6H_4(COCl)_2$ 1,3 | 203.0 | M.P.42°C) | — | — |

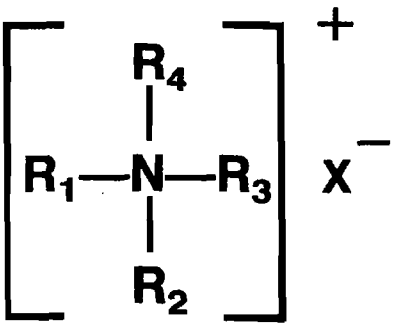
*The compounds listed above are available from White Chemical in developmental and commercial quantities. Should there be interest in specific compounds not listed, we will be happy to investigate the possibility of supplying your needs. Contract manufacture is available.*

*Technical data sheets on individual products are available on request.*

**WHITE CHEMICAL CORPORATION**

***Quality Products Made in the U.S.A.***

# Quaternary Ammonium Salts




| NAME | FORMULA | M.W. | M.P. °C OF 100% ACTIVE PRODUCT |
|---|---|---|---|
| Tetra Ethyl Ammonium Bromide (TEAB) | $(C_2H_5)_4N\,Br$ | 210.2 | 285-287 (dec) |
| Tetra Propyl Ammonium Bromide (TPAB) | $(C_3H_7)_4N\,Br$ | 266.3 | 270 (dec) |
| Tetra Butyl Ammonium Bromide (TBAB) | $(C_4H_9)_4N\,Br$ | 322.4 | 103-104 |
| Benzyl Trimethyl Ammonium Chloride (BTMAC) | $C_6H_5CH_2N(CH_3)_3Cl$ | 185.7 | 239° (dec) |
| Benzyl Triethyl Ammonium Chloride (BTEAC) | $C_6H_5CH_2N(C_2H_5)_3Cl$ | 227.8 | 185° (dec) |
| Myristyl Trimethyl Ammonium Bromide (MTAB) | $CH_3(CH_2)_{13}N(CH_3)_3Br$ | 336.4 | 245-250 |
| Cetyl Trimethyl Ammonium Bromide (CTMAB) | $CH_3(CH_2)_{15}N(CH_3)_3Br$ | 364.5 | 135° (dec) |
| Cetyl Pyridinium Bromide (CPB) | $CH_3(CH_2)_{15}NC_5H_5\,Br$ | 384.2 | 64-68 |

*Some products typically supplied as 50% aqueous solution*

*The compounds listed above are available from White Chemical in developmental and commercial quantities. Should there be interest in specific compounds not listed, we will be happy to investigate the possibility of supplying your needs. Contract manufacture is available.*

*Technical data sheets on individual products are available on request.*

## THE PHASE TRANSFER CATALYSIS CYCLE [1]

$$Q^+CN^- + R\text{-}Br \rightarrow R\text{-}CN + Q^+Br^- \quad \text{organic phase}$$

$$\text{interfacial region}$$

$$Q^+CN^- + Na^+Br^- \rightleftharpoons Na^+CN^- + Q^+Br^- \quad \text{aqueous phase}$$

**WHITE CHEMICAL CORPORATION**

***Quality Products Made in the U.S.A.***

REFERENCE NO. 34

Memo to File

White Chemical Company
660 Frelinghuysen Ave.
Newark, N.J.

MAY 7 1990

Site Assesment Upon Request
From NJDEP

On or about May 3,1990, the NJDEP requested that EPA perform a preliminary assessment at subject facility. Purpose of this was to determine removal eligibility and overall site stability. On May 4, OSCs Fitzsimmons, Kodama and Green met with Mr. Arnold Schiff, NJDEP at facility to perform this assessment (EPA has not received formal referral from NJDEP).

OSCs met with Mr. James White, Pres.,and John White to explain the purpose of the visit. Mr. James White contacted his attorney, Mr.Ken Goodkind to apprise him of this assessment.

The assessment revealed the following facts: 6,000 drums containing mostly waste flammable liquids and waste corrosives are staged on the premises, an additional 2,000 empties are strewn throughout the facility, approximately 25% of the above are staged outside the confines of the facility in the parking lot, all drums appear to be staged precariously and without regard for compatibility and are in various stages of decomposition. Incidentally, all of the above are located outdoors. OSCs were shown a warehouse which reportedly houses their poly-brominated bi-phenyls. OSCs did not access this area. OSCs inspected the laboratory and although it appeared to be poorly maintained it did not appear to represent a fire or explosion threat. White Chemical is still an active facility producing various alkyl chlorides and employs some 25 people. Facility security is minimal. No security guards were noticed and the perimeter fence is suspect.

OSC apprised R.Salkie, B.Sprague (EPA) and L.Miller, J.Burke (DEP) of his findings and indicated that this site is removal eligible and is also considered unstable. Suggestions offered by OSC to alleviate the threat posed by the large quantity of hazardous waste are: upgrade perimeter fencing, remove all empty drums, restage all drums currently out on the parking lot to within the confines of the facility, monitor on a more routine basis the present shipments of drummed waste leaving the facility and overpack all drums that are leaking or on the verge of such (this would include most of them). R. Salkie informed DEP that a removal by EPA will not be entertained until facility has been declared abandoned.

RESPONSE AND PREVENTION BRANCH

INCIDENT RESPONSE PLAN

I. INCIDENT: White Chemical Co. Log #: _____

LOCATION: 660 Frelinghuysen Ave.

II. TYPE OF RESPONSE: Oil ___; Haz Mat X; Spill ___; Fire ___; Investigation ___;

NPL Site ___; Other _____

III. CHEMICALS INVOLVED: Reference(s): _____

| Chemical | LEL | Route of Exposure | TLV-TWA | STEL/IDLH | Reactivity/Incompatibilities | Other Hazards and Considerations |
|---|---|---|---|---|---|---|
| Acetyl Chloride | | Material stored outdoors | | | | CORR, Reac. Toxic |
| Acetone | | | | | | Ignitable |
| Phenol | | | | | | " |
| Pyridine | | | | | | " |
| Toluene | | | | | | " |
| Xylene | | | | | | " |

IV. PPE REQUIRED: Clothing Type * Level D/Boots Hard Hat APR Cartridge Type _____

V. EQUIPMENT/LOGISTICS CHECK: Vehicle/response equipment checked ___; Air monitoring equipment calibrated ___; Chemical references attached ___; Location & route verified, maps included ___

VI. STAFF RESPONDING: Fitzsimmons, Kodama, Green

OSC: Fitzsimmons (Pager #) TAT Activated: Y/N N

Backup Staff: _____ (Telephone #) (Pager #)

GOV to be used: EPA-701

VII. NOTIFICATIONS/VERIFICATIONS: CONTACT TELEPHONE NUMBER

State: _____

Local: _____

PRP: _____

VIII. WEATHER CONDITIONS: NJ: North: 212-399-2907 South: 215-597-3640 NY: NYC & LI: 212-399-2907 Upstate/East: 518-472-6586 West: 716-632-2223

Immediate: _____

Later: _____

* - Level B if entry team enters confined area
- Air monitoring will be performed at all times.

# White Chemical

Bayonne Facility

NPDES # deleted → no permit (last one was effective till 1981)

- Newark facility has no permit

RCRA → 660 Freiglyser
NJD980755623

Non-specific sources
F003, F005 } non-halogenated solvents

Commercial Products
U002, U006, U211, U077, U154, U188
U196, U209, U220, U239

| | | |
|---|---|---|
| U006 | Acetyl chloride | (Corrosive, Reactive, Toxic) |
| U002 | Acetone | (Ignitable) |
| U211 | Tetrachloromethane | |
| U077 | 1,2 dichloroethane | |
| U154 | Methyl alcohol | (Ignitable) |
| U188 | Phenol | |
| U196 | Pyridine | |
| U209 | 1,1,2,2 - Tetrachloroethane | |
| U220 | Toluene | |
| U239 | Xylene | (Ignitable) |

Request Date: 9-11-90

Aerial Photography Services Request Form

I. SITE DATA

Site Name: White Chemical Site Region: II.

Program: (circle) (Superfund) RCRA RCRA Enf. Other _____

If Superfund: Site/Spill ID# 6J

Purpose (circle): Remedial (Removal) Enf. Other _____

Geographic Coordinates: _____ Long. _____ Lat.

State: NJ County: Essex Municipality: Newark

USGS Quad Name (IMPORTANT: Attach photocopy of map showing site boundaries and/or study area): _____

Regional Project Manager P Cammarata Phone# FTS-340 [illegible] Comm. 201-[illegible]

Brief discussion of site history, specific problems at site, what you hope to accomplish through this request. Elaborate on known or suspected aspects of site operation (e.g. barrels believed dumped between 1967 and 1972 adjacent to north lagoon). Please attach background information about the site such as site descriptions, action memos, etc.

Site is approximately 4.4 acres with 3 large buildings and 1 smaller Building. There is approximately 10,000 drums, and numerous tanks, misc. cylinders on-site. These drums are improperly stored and placed throughout the site. The overflights will give us a good perspective of where to organize our efforts during the removal action since the site access is very limited.

The Historical overflight will give us an indication of pre-White Chemicals vs today's conditions.

II. STANDARD REQUEST OPTIONS- Check and complete the appropriate section for the type of service you are requesting.

~~ASAP~~ 1. CURRENT PHOTOGRAPHY ONLY (new overflight)

****Average turnaround time = 6 wks.****

a. Scale: _____ (e.g. 1:24,000)

b. Special conditions (e.g. do not fly if snow cover, leaves on, etc.)
Fly when sunny & Fly when raining (Due to water reactives) Fly Outside

c. Photo size: 9" x 9" ____ 20" x 20" ✓ Other ____

d. Are stereo pairs needed? ____ Y ____ N

e. Number of copies: 4

f. Desired delivery date: ASAP

1976-1982

____ 2. HISTORICAL PHOTOGRAPHY ONLY

***Average turnaround time = 6-10 wks.***

a. Study period (e.g. 1936-1955): "Prior to 1983"

b. Specific years desired: 1980, 1981, 1982

c. Photo size: 9" x 9" ____ 20" x 20" ✓ Other ____

d. Number of copies: 3

e. Desired delivery date: ASAP

____ 3. ANALYSIS OF CURRENT (single coverage) PHOTOGRAPHY

***Average turnaround time= 8 wks.****

a. Scale: _____ (e.g. 1:24,000)

b. Special conditions (e.g. do not fly if snow cover, leaves on, etc.)

_____

c. Photo size: 9" x 9" ____ 20" x 20" ____ Other ____

d. Number of copies: _____

e. Desired delivery date: _____

____ 4. ANALYSIS OF HISTORICAL PHOTOGRAPHY (standard site analysis package - see attachment)

***Average turnaround time = 12-24 wks.

a. Study period (e.g. 1936-1955): _____

b. Specific years of interest: _____

c. Are copies of historical photos (before analysis) needed? Y___ N___

If yes, photo size: 9" x 9" ____ 20" x 20" ____ Other ____

d. Is an interim report (unbound format, handwritten photo overlays with typed body of report) needed? Y ____ N ____

e. Number of copies of final bound report: ____

f. Desired delivery date: _____

____ 5. SURVEYING AND MAPPING- Complete and Attach Mapping Request Form

III. SPECIAL REQUEST OPTIONS: The following remote sensing services are also available for sites with conditions that warrant their use. Check off items of interest and contact your remote sensing coordinator for more information.

____ a. Land use analysis (within specified distance from site)

____ b. Fracture trace analysis

____ c. Wetland mapping/assessment

____ d. Multi-spectral scanner overflights

____ e. Thermal infrared scanner overflights

____ f. Mensuration (measurments) of features (e.g. barrel/drum count, terrain transects, building dimensions, lagoon dimensions, etc.)

REFERENCE NO. 35

# NEWARK FIRE DEPARTMENT No. 00984

## DIVISION OF FIRE PREVENTION AND LIFE SAFETY

1010-18th AVENUE — FIRE INSPECTION RECORD — TELEPHONE – 733-7495

AVE.

LOCATION OF BUILDING 660 FRELINGHUYSEN — INSPECTOR CAPT DOLAK INSP. T. BYERS
TENANT WHITE CHEMICAL CO. — DATE OF INSPECTION 10/5/90 TIME 14:15 (2:15 P.M.)
OWNER OR AGENT STEVEN L SHORIS MGR — PERSON CONTACTED
ADDRESS OF OWNER — PHONE NO.
BUILDING TYPE — NUMBER OF UNITS 12 HIGH-HAZARD

You are hereby notified the following Violations of the Fire Prevention Code exist at the above Property. Failure to correct the Violations listed below will result in a penalty being assessed in accordance with N.J.A.C. 5:18 - 2.12 et seq.

- ☐ 1-PERMITS
- ☐ 2-SMOKE DETECTORS
- ☐ 3-SPRINKLER OR SUPPRESSION SYS
- ☐ 4-EXISTS
- ☐ 5-VACANT BUILDING
- ☐ 6-FIRE EXTINGUISHERS
- ☐ 7-HEATING UNIT
- ☐ 8-ALARM SYSTEM
- ☐ 9-DETECTION SYSTEM
- ☐ 10-FIRE DOORS
- ☐ 11-RUBBISH
- ☐ 12-STORAGE
- ☐ 13-FIRE ESCAPE
- ☐ 14-CEILING OVER FURNACE
- ☐ 15-CHIMNEY & FLUE
- ☐ 16-FIRE LANES
- ☐ 17-EXIT SIGNS
- ☒ 18-HOUSE KEEPING
- ☐ 19-LIGHTING
- ☒ 20-FLAMMABLE LIQ.
- ☒ 21-HAZARDOUS MAT.
- ☐ 22-EMERGENCY LIGHTING
- ☐ 23-DUCTS
- ☐ 24-ELECTRICAL
- ☐ 25-WEEDS
- ☐ 26-WALLS & CEILINGS
- ☐ 27-ELEVATORS & SHAFTS
- ☐ 28-INCINERATORS
- ☐ 29-DRAFT CURTAINS
- ☐ 30-AISLE
- ☐ 31-SMOKING AREA
- ☐ 32-NO SMOKING SIGNS
- ☐ 33-OCCUPANCY LOAD
- ☐ 34-REFRIGERATION UNIT
- ☐ 35-OPEN FLAME
- ☒ 36-HAZARDOUS PROCESS
- ☐ 37-YARD HYDRANT
- ☐ 38-PROPER SIGNS & LABELS
- ☐ 39-FENCES & GATES
- ☐ 40-UNPROTECTED VERTICAL OPENINGS
- ☐ 41-TANKS
- ☐ 42-COMPACTOR
- ☐ 43-DUMBWAITERS
- ☐ 44-SQUATTERS
- ☐ 45-FIRE PLACE
- ☒ 46-ACTION REQUIRED BY ANOTHER CITY AGENCY — INSPECTION BY BLDG DEPT - STABILITY
- ☐ 47-OTHER (LISTED BELOW) — EPA - ONSITE FOR SAMPLING CLEAN UP.
- ☐ NO ENTRY

REINSPECTION -

**REMARKS**

~~office bldg~~ # 32 ~~2nd floor~~ STILL HAS INCOMPATIBLE STORAGE AND POOR HOUSEKEEPING. EXIT FLAMMABLE ARE LOCKED IN APPROVED CONTAINMENT - NOT TO COMPLY REAR OF SITE.

STILL HAS RUSTED ROTTEN LEAKING CONTAINERS (UNLABELED) 55 GAL DRUMS. AND SOIL CONTAMINATION.

BUILDINGS STILL HAS EXPOSED WIRING

BLD # 35 2ND FLOOR WHSE. INCOMPATABLES CORROSIVES FLAMMABLES OXYDISERS IN CLOSE PROXIMITY. SEGREGATE BY DISTANCE BARRIER OR LOCATION.

(See reverse side for time extension, appeal procedures and penalty information)

1st Notice Mailed _____ By _____

2nd Notice Mailed _____ By _____ Signed _____ RECEIVED BY _____ INSPECTOR

8/31/90
#16 RJM

# NEW ARK FIRE DEPARTMENT

## DIVISION OF FIRE PREVENTION AND LIFE SAFETY

1010-18th AVENUE

**FIRE INSPECTION RECORD**

TELEPHONE – 733-7495

**Nº 04010**

LOCATION OF BUILDING 660 Frelinghuysen Ave
TENANT White Chemical Co
OWNER OR AGENT
ADDRESS OF OWNER
BUILDING TYPE Chemical Processing & Storage

INSPECTOR Heath
DATE OF INSPECTION 5/2/90 TIME
PERSON CONTACTED
PHONE NO.
NUMBER OF UNITS

You are hereby notified the following Violations of the Fire Prevention Code exist at the above Property. Failure to correct the Violations listed below will result in a penalty being assessed in accordance with N.J.A.C. 5:18 - 2.12 et seq.

- ☐ 1-PERMITS
- ☐ 2-SMOKE DETECTORS
- ☐ 3-SPRINKLER OR SUPPRESSION SYS
- ☐ 4-EXITS
- ☐ 5-VACANT BUILDING
- ☐ 6-FIRE EXTINGUISHERS
- ☐ 7-HEATING UNIT
- ☐ 8-ALARM SYSTEM
- ☐ 9-DETECTION SYSTEM
- ☐ 10-FIRE DOORS
- ☐ 11-RUBBISH
- ☐ 12-STORAGE
- ☐ 13-FIRE ESCAPE
- ☐ 14-CEILING OVER FURNACE
- ☐ 15-CHIMNEY & FLUE
- ☐ 16-FIRE LANES
- ☐ 17-EXIT SIGNS
- ☐ 18-HOUSE KEEPING
- ☐ 19-LIGHTING
- ☐ 20-FLAMMABLE LIQ.
- ☐ 21-HAZARDOUS MAT.
- ☐ 22-EMERGENCY LIGHTING
- ☐ 23-DUCTS
- ☐ 24-ELECTRICAL
- ☐ 25-WEEDS
- ☐ 26-WALLS & CEILINGS
- ☐ 27-ELEVATORS & SHAFTS
- ☐ 28-INCINERATORS
- ☐ 29-DRAFT CURTAINS
- ☐ 30-AISLE
- ☐ 31-SMOKING AREA
- ☐ 32-NO SMOKING SIGNS
- ☐ 33-OCCUPANCY LOAD
- ☐ 34-REFRIGERATION UNIT
- ☐ 35-OPEN FLAME
- ☐ 36-HAZARDOUS PROCESS
- ☐ 37-YARD HYDRANT
- ☐ 38-PROPER SIGNS & LABELS
- ☐ 39-FENCES & GATES
- ☐ 40-UNPROTECTED VERTICAL OPENINGS
- ☐ 41-TANKS
- ☐ 42-COMPACTOR
- ☐ 43-DUMBWAITERS
- ☐ 44-SQUATTERS
- ☐ 45-FIRE PLACE
- ☐ 46-ACTION REQUIRED BY ANOTHER CITY AGENCY
- ☐ 47-OTHER (LISTED BELOW)

☐ NO ENTRY

**REMARKS**

Responded with investigators from the State D.E.P. the State Division of Criminal Justice and Federal Emergency Management Division in a raid on the White Chemical Co. I observed many bloated, rusting leaking & open drums and containers. One building used for storage contained drums stored in total disorder and arrangement. Also there were various odors some of which were irritable. In addition I saw drums that were unmarked

Because of the apparent seriousness of the problems at this site I terminated my inspection in order for the D.E.P and C.J.P. to secure the area and contents.

(See reverse side for time extension, appeal procedures and penalty information)

1st Notice Mailed _____ By _____

2nd Notice Mailed _____ By _____

RECEIVED BY
Heath #14
INSPECTOR

5/31/90
# 1 R.S.M.

# NEWARK FIRE DEPARTMENT

№ 04028

## DIVISION OF FIRE PREVENTION AND LIFE SAFETY

1010-18th AVENUE

FIRE INSPECTION RECORD

TELEPHONE - 733-7495

LOCATION OF BUILDING 660 Frelinghuysen Avenue
TENANT White Chemical Company
OWNER OR AGENT Steven L. Shopsis, Manager
ADDRESS OF OWNER same
BUILDING TYPE Brick Complex

INSPECTOR R. Heath V. Ladd
DATE OF INSPECTION 5/2/90 TIME 1300
PERSON CONTACTED N.J.C.J. Div/ Steven Shopsis
PHONE NO.
NUMBER OF UNITS High Hazard

You are hereby notified the following Violations of the Fire Prevention Code exist at the above Property. Failure to correct the Violations listed below will result in a penalty being assessed in accordance with N.J.A.C. 5:18 - 2.12 et seq.

- ☐ 1-PERMITS
- ☐ 2-SMOKE DETECTORS
- ☐ 3-SPRINKLER OR SUPPRESSION SYS
- ☐ 4-EXITS
- ☐ 5-VACANT BUILDING
- ☐ 6-FIRE EXTINGUISHERS
- ☐ 7-HEATING UNIT
- ☐ 8-ALARM SYSTEM
- ☐ 9-DETECTION SYSTEM
- ☐ 10-FIRE DOORS
- ☐ 11-RUBBISH
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- ☐ 18-HOUSE KEEPING
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- ☐ 22-EMERGENCY LIGHTING
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- ☐ 34-REFRIGERATION UNIT
- ☐ 35-OPEN FLAME
- ☐ 36-HAZARDOUS PROCESS
- ☐ 37-YARD HYDRANT
- ☐ 38-PROPER SIGNS & LABELS
- ☐ 39-FENCES & GATES
- ☐ 40-UNPROTECTED VERTICAL OPENINGS
- ☐ 41-TANKS
- ☐ 42-COMPACTOR
- ☐ 43-DUMBWAITERS
- ☐ 44-SQUATTERS
- ☐ 45-FIRE PLACE
- ☐ 46-ACTION REQUIRED BY ANOTHER CITY AGENCY
- ☐ 47-OTHER (LISTED BELOW)

☐ NO ENTRY

Page 1 of 2

REMARKS

# 3. Complete Sprinkler System Inspection and Test reports are to be submitted to the Fire Prevention & Life Safety Division. N.J.A.C. 5:18-3.2 (a) F-404.4 done 5-16-90

# 8. All Alarm Systems are to be tested and a report signed by License Electrical person. to be submitted to Fire Official. N.J.A.C. 5:18-3.2 (a) F-410.3

# 6. All Fire Extinguisher are to be properly maintained. Some not serviced as per tag and general conditions of extingushers.found heavy rust conditions. OK corrected 5-16-90
N.J.A.C. 5:18 -3.2 (a) F-409.1

10. All Fire Doors to be self closing and in working condition. ~~XXXXXXX~~ ( Building 34)
N.J.A.C. 5:18-3.2 (a) F-309.1 draft 5-16-90

# 10. Fire door Missing from Lab room 2nd floor Building # 34.
N.J.A.C. 5:18-3.2 (a) F-309.1

# 12. No Storage of any type ~~&~~x of material is allowed in any Stairwall, Hallway, ~~elevators~~, Elevator; Electrical panel room and etc. To be removed.
N.J.A.C. 5:18-3.2. (a) F-501.3

# 12. Storage ~~of~~ Poisonous gases ~~thourgh out premises~~ is in violation of fire Code.
N.J.A.C. 5:18-3.1 (a) F-2907.1 5-16-90

# 12. Storage of compress gases through out buildings and yard is in hazardous manner. ~~Remove away from heater, secure properly, separate types, limit amount in buildings.~~ 5-16-90 cz
N.J.A.C. 5:18-3.2 (a) F-2406.2

(See reverse side for time extension, appeal procedures and penalty information)

Con't on page 2

1st Notice Mailed _____ By _____

2nd Notice Mailed _____ By _____ Signed _____ INSPECTOR

RECEIVED BY

# NEWARK FIRE DEPARTMENT № 04030

## DIVISION OF FIRE PREVENTION AND LIFE SAFETY

1010-18th AVENUE — FIRE INSPECTION RECORD — TELEPHONE – 733-7495

LOCATION OF BUILDING 660 Frelinghuysen Avenue
TENANT White Chemical Company
OWNER OR AGENT Steven L. Shopsis, Manager
ADDRESS OF OWNER same
BUILDING TYPE Brick Complex

INSPECTOR Ronald Heath Vincent Ladd
DATE OF INSPECTION 5-2-90 TIME 1300
PERSON CONTACTED N.J.C.J. Div/Steven Shopsis
PHONE NO.
NUMBER OF UNITS High Hazard

You are hereby notified the following Violations of the Fire Prevention Code exist at the above Property. Failure to correct the Violations listed below will result in a penalty being assessed in accordance with N.J.A.C. 5:18 - 2.12 et seq.

- [ ] 1-PERMITS
- [ ] 2-SMOKE DETECTORS
- [ ] 3-SPRINKLER OR SUPPRESSION SYS
- [ ] 4-EXITS
- [ ] 5-VACANT BUILDING
- [ ] 6-FIRE EXTINGUISHERS
- [ ] 7-HEATING UNIT
- [ ] 8-ALARM SYSTEM
- [ ] 9-DETECTION SYSTEM
- [ ] 10-FIRE DOORS
- [ ] 11-RUBBISH
- [ ] 12-STORAGE
- [ ] 13-FIRE ESCAPE
- [ ] 14-CEILING OVER FURNACE
- [ ] 15-CHIMNEY & FLUE
- [ ] 16-FIRE LANES
- [ ] 17-EXIT SIGNS
- [ ] 18-HOUSE KEEPING
- [ ] 19-LIGHTING
- [ ] 20-FLAMMABLE LIQ.
- [ ] 21-HAZARDOUS MAT.
- [ ] 22-EMERGENCY LIGHTING
- [ ] 23-DUCTS
- [ ] 24-ELECTRICAL
- [ ] 25-WEEDS
- [ ] 26-WALLS & CEILINGS
- [ ] 27-ELEVATORS & SHAFTS
- [ ] 28-INCINERATORS
- [ ] 29-DRAFT CURTAINS
- [ ] 30-AISLE
- [ ] 31-SMOKING AREA
- [ ] 32-NO SMOKING SIGNS
- [ ] 33-OCCUPANCY LOAD
- [ ] 34-REFRIGERATION UNIT
- [ ] 35-OPEN FLAME
- [ ] 36-HAZARDOUS PROCESS
- [ ] 37-YARD HYDRANT
- [ ] 38-PROPER SIGNS & LABELS
- [ ] 39-FENCES & GATES
- [ ] 40-UNPROTECTED VERTICAL OPENINGS
- [ ] 41-TANKS
- [ ] 42-COMPACTOR
- [ ] 43-DUMBWAITERS
- [ ] 44-SQUATTERS
- [ ] 45-FIRE PLACE
- [ ] 46-ACTION REQUIRED BY ANOTHER CITY AGENCY
- [ ] 47-OTHER (LISTED BELOW)
- [ ] NO ENTRY

Page 2 of 2

REMARKS

# 21. Materials in labs that is old and ~~an~~ is in defective conditions to be removed properly. Including leaking material N.J.A.C. 5:18-3.2 (a) F-2901.3

# 21 All materials (Flammable, Acids, Gases, Poisons, Oxidize and etc.) are to be ~~XX~~ properly stored. Storage Room Building 34 is a Immenit Hazard and to be Cleaned of inproper material storage. Also other buildings.
N.J.A.C. 5:18-3.1 (a) F-2901.2

# 1. There are no permits for ~~XXX~~ the following: Welding Cutting
Propane storage/use
Compress gases =
Poisons

# 38. Hazardous Material signs not on lab doors and buildings as per 5-16-90 abated
N.J.A.C. 5:18-2.1 (a) F-2900.0 Etal

# 41. All tank installation in yard on outside of building to be properly protected and hook-up. N.J.A.C. 5:18-3.2 (a) F-2401.9

# 26. Ceiling tiles throughout labs are broken and missing.
N.J.A.C. 5:18-2.9 (a) #1.

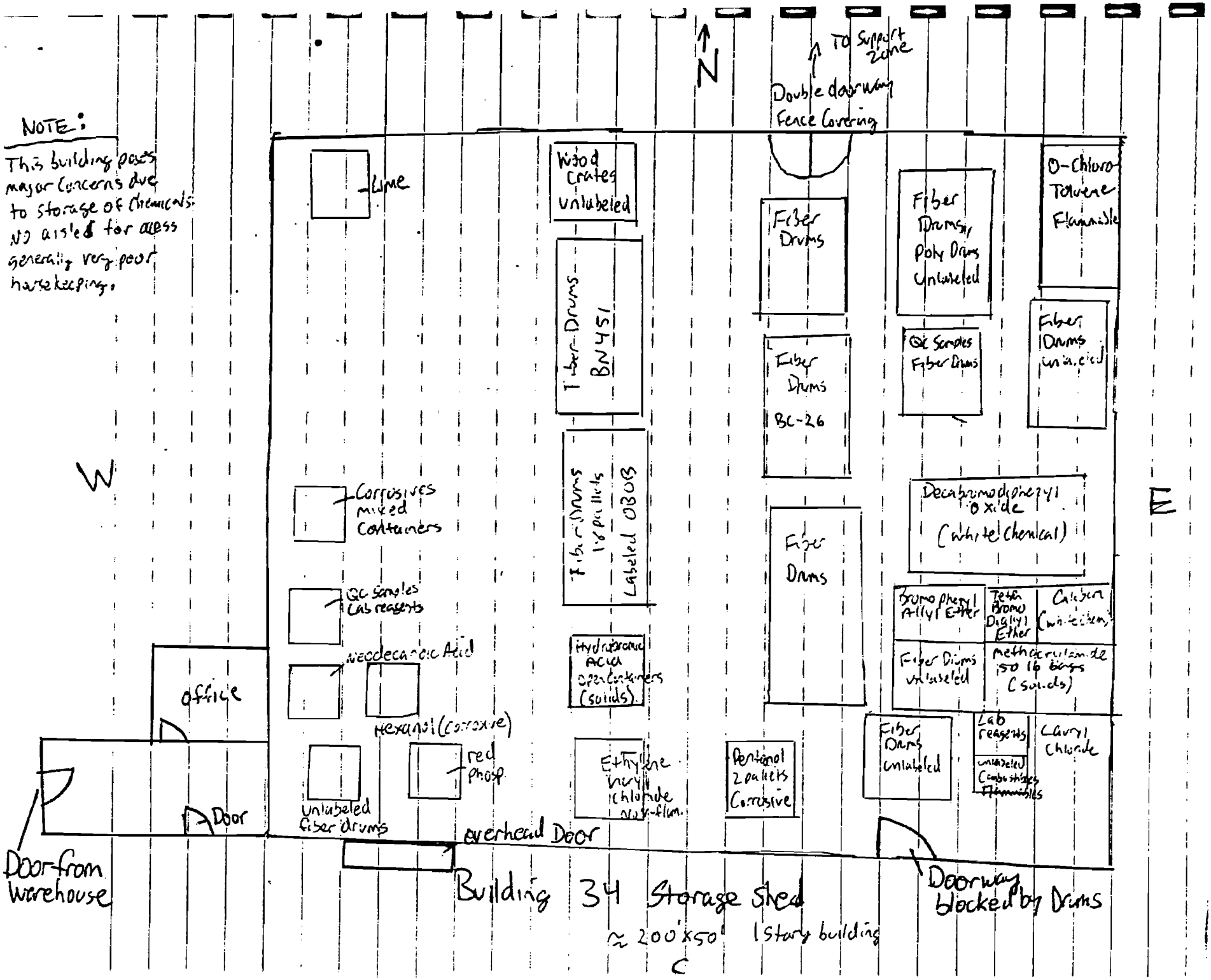
THE ABOVE FIRE CODE VIOLATIONS ARE TO BE ABATED BY May 9, 1990 OR PENALTIES SHALL BE ASSESED.

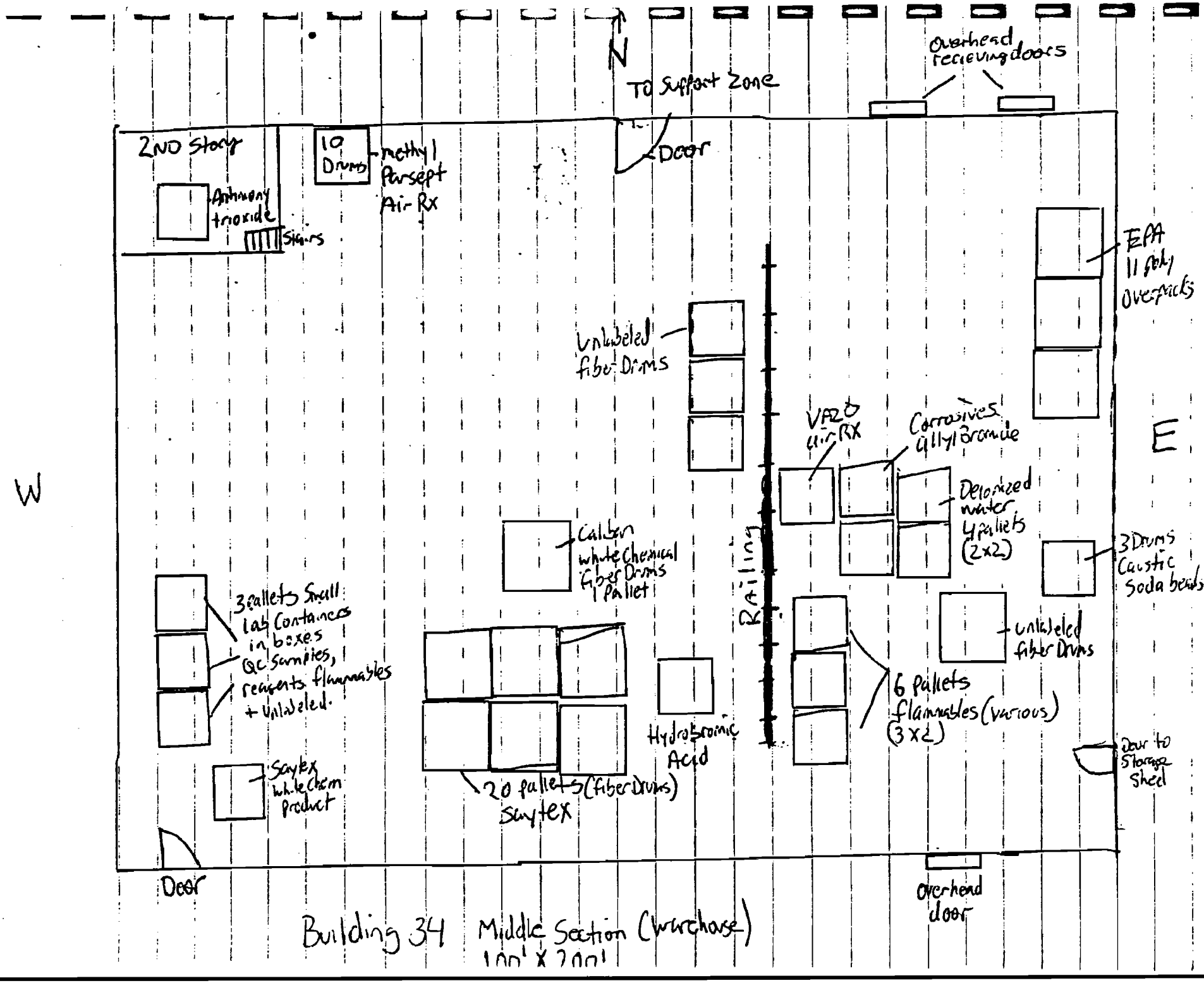
(See reverse side for time extension, appeal procedures and penalty information)

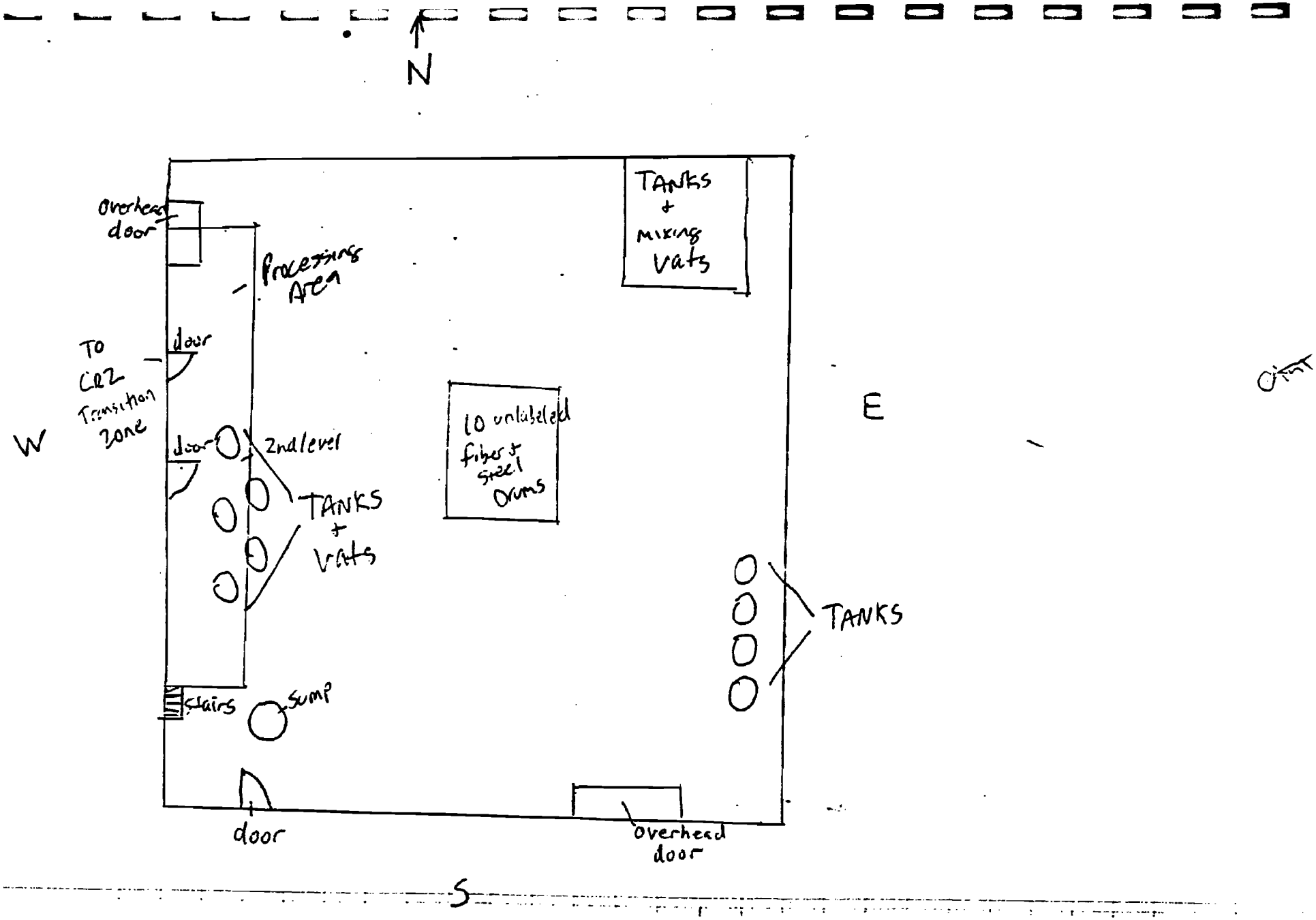
1st Notice Mailed _____ By _____ RECEIVED BY

2nd Notice Mailed _____ By _____ INSPECTOR

REFERENCE NO. 36

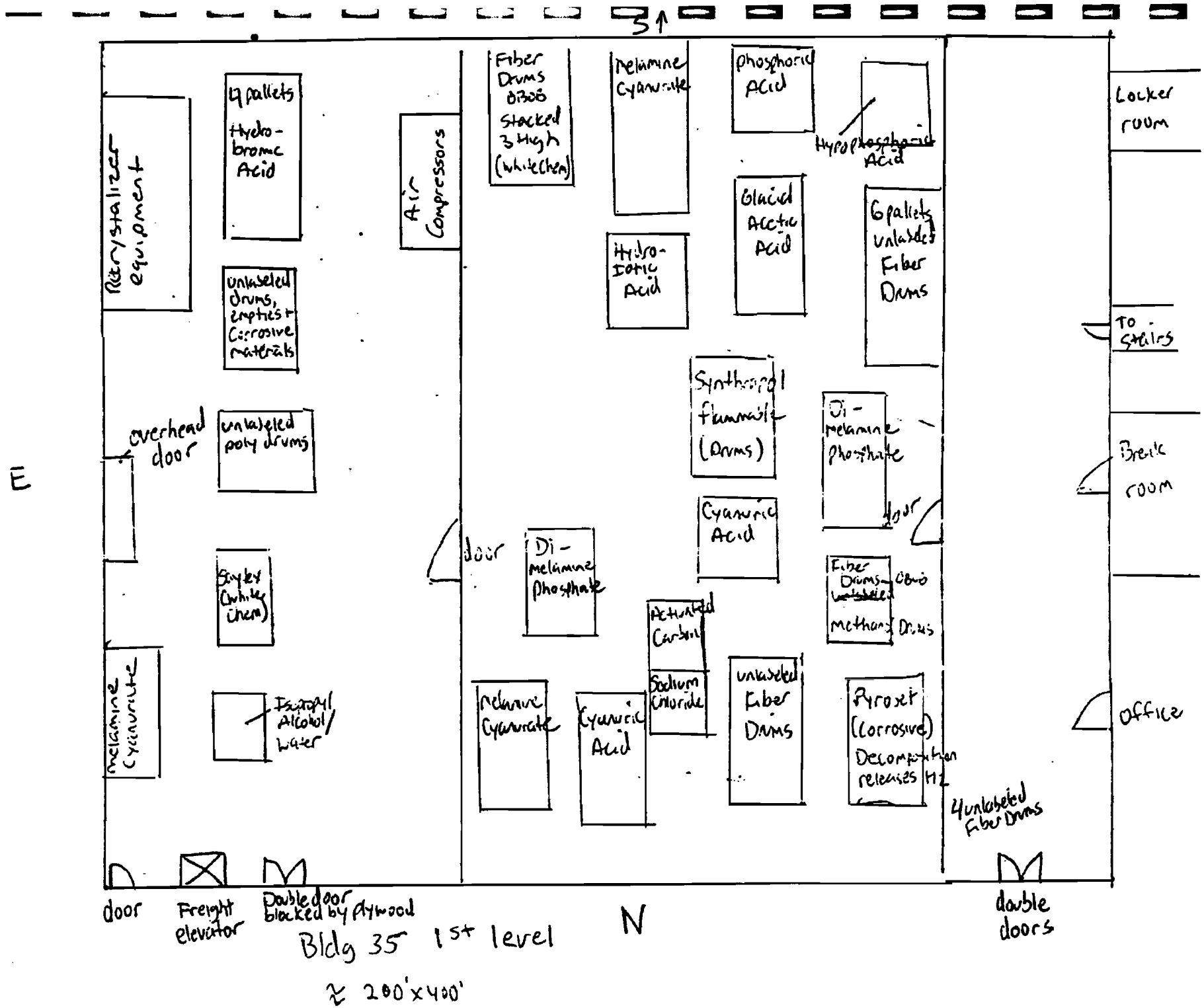

NOTE:
This building poses major concerns due to storage of chemicals. NO aisles for access generally very poor housekeeping.
N
To Support Zone
Double doorway Fence Covering
W
E
Lime
Wood Crates unlabeled
Fiber Drums
Fiber Drums Poly Drums Unlabeled
O-Chloro Toluene Flammable
Fiber Drums BN451
QC Samples Fiber Drums
Fiber Drums unlabeled
Fiber Drums BC-26
Corrosives mixed Containers
Fiber Drums 16 pallets Labeled 0808
Decabromodiphenyl Oxide (white chemical)
Fiber Drums
QC samples Lab reagents
Bromophenyl Allyl Ether
Tetra Bromo Diallyl Ether
Calcium Chloride
Hydrobromic Acid open containers (solids)
Fiber Drums unlabeled
Methacrylamide ISO 16 bags (solids)
office
Hexanol (corrosive)
Lab reagents
unlabeled Combustibles Flammables
Cumyl Chloride
Ethylene Vinyl Chloride
Pentanol 2 pallets Corrosive
Fiber Drums unlabeled
red phosp
Door
Unlabeled fiber drums
overhead Door
Door from Warehouse
Doorway blocked by Drums
Building 34 Storage Shed
≈ 200' x 50' 1 story building
C

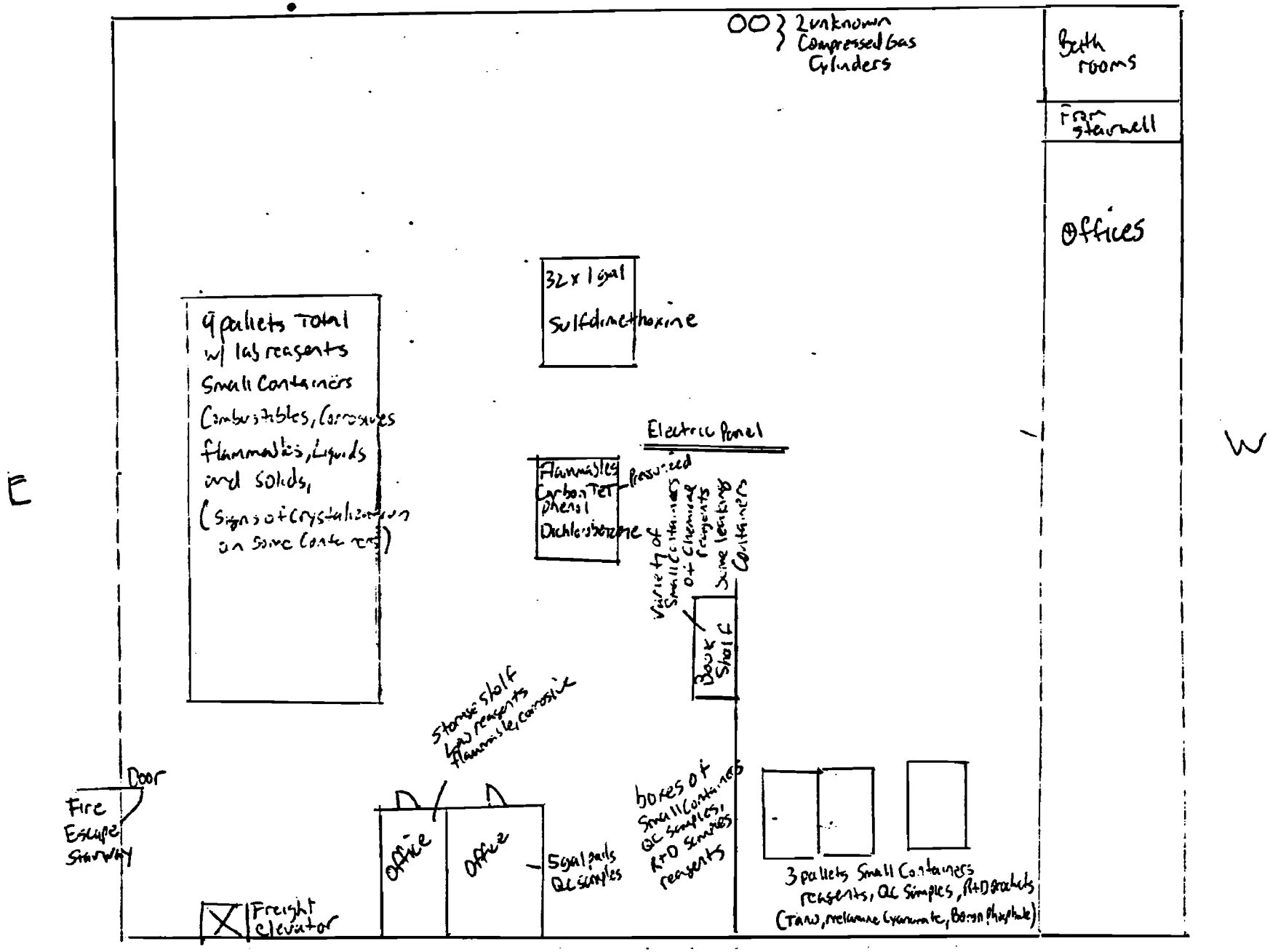

N
To Support Zone
Overhead receiving doors
2ND Story
10 Drums
methyl Parsept Air Rx
Door
Antimony trioxide
Stairs
EPA 11 fatty Overpacks
Unlabeled fiber Drums
VAZO air RX
Corrosives Allyl Bromide
Deionized water 4 pallets (2x2)
E
W
Railing
Calcium white Chemical fiber Drums 1 Pallet
3 Drums Caustic Soda beads
3 pallets Small lab Containers in boxes QC samples, reagents flammables + Unlabeled.
unlabeled fiber Drums
6 pallets flammables (various) (3x2)
Hydrobromic Acid
20 pallets (fiber Drums) Saytex
Saytex white Chem product
door to Storage Shed
Door
overhead door
Building 34 Middle Section (warehouse)
100' x 200'

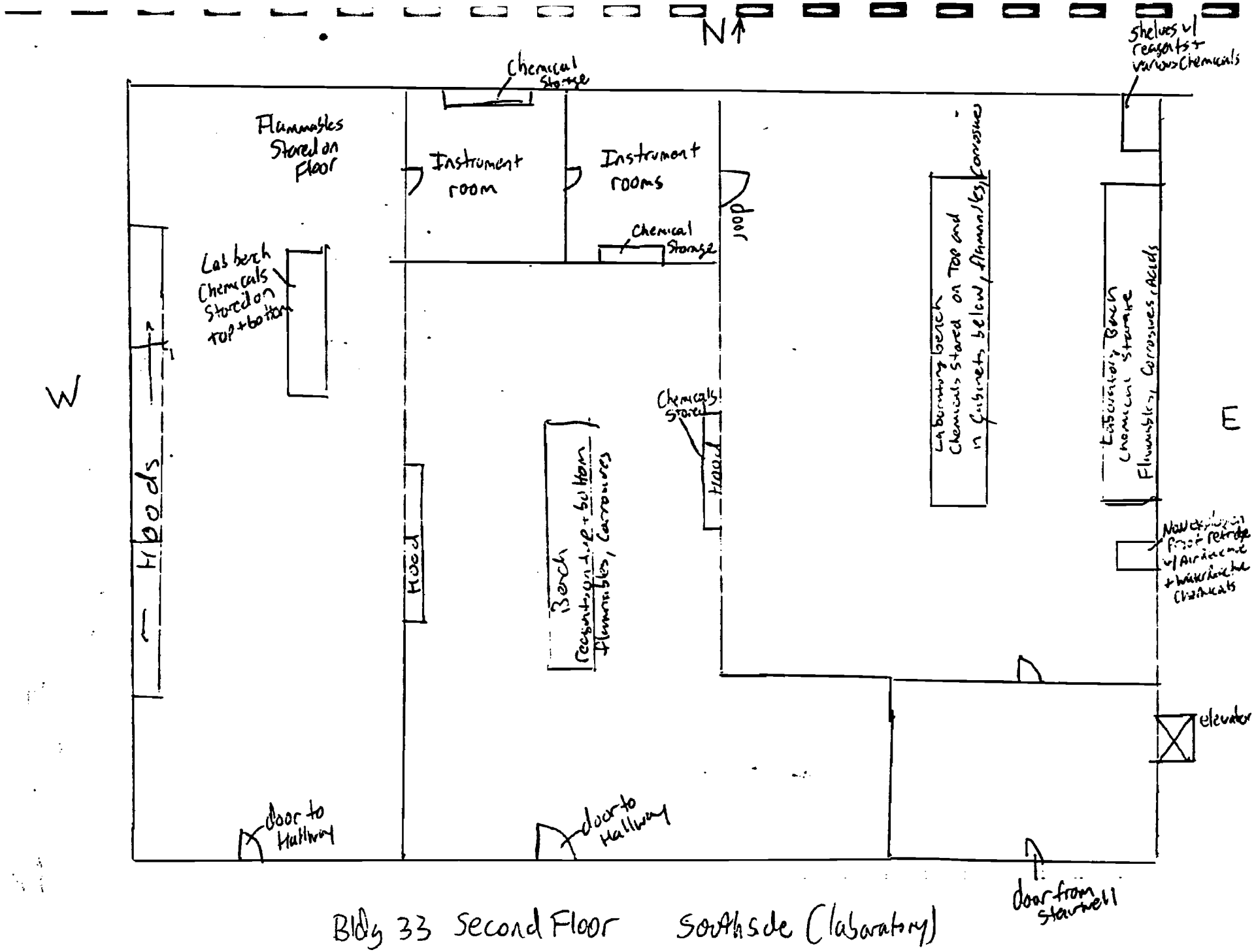



Bldg 34 TANO Processing Area

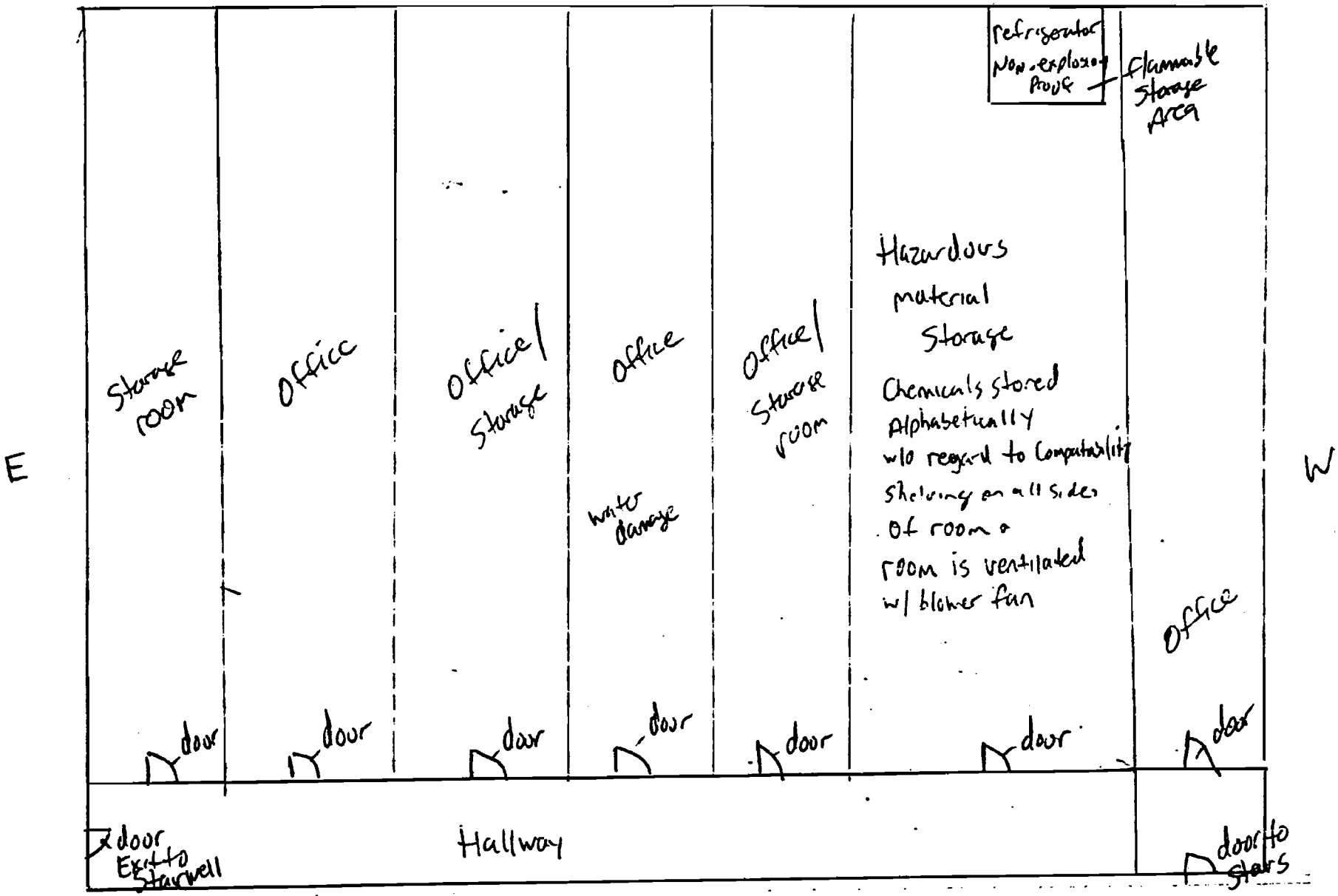
1 Level structure


S
E
N
Recrystalizer equipment
4 pallets Hydro-bromic Acid
unlabeled drums, empties + Corrosive materials
overhead door
unlabeled poly drums
Saytex (White Chem)
Melamine Cyanurate
Isopropyl Alcohol/ Water
Air Compressors
door
Fiber Drums 0306 Stacked 3 High (White Chem)
Melamine Cyanurate
Hydro-Iotic Acid
Phosphoric Acid
Hypophosphoric Acid
Glacial Acetic Acid
6 pallets unlabeled Fiber Drums
Synthropol flammable (Drums)
Di-melamine Phosphate
door
Cyanuric Acid
Di-melamine Phosphate
Activated Carbon
Sodium Chloride
Melamine Cyanurate
Cyanuric Acid
unlabeled Fiber Drums
Fiber Drums 0306 Methanol Drums
Pyroset (Corrosive) Decomposition releases H2
4 unlabeled Fiber Drums
Locker room
To stairs
Break room
Office
door
Freight elevator
Double door blocked by Plywood
double doors
Bldg 35 1st level
≈ 200'x400'


00 } 2 unknown Compressed Gas Cylinders
Bath rooms
Fire Stairwell
Offices
32 x 1 gal Sulfdimethoxine
4 pallets total w/ lab reagents Small Containers Combustibles, Corrosives flammables, Liquids and Solids, (Signs of crystalization on some Containers)
Electric Panel
Flammables Carbon Tet Phenol Dichlorobenzene
pressured
Variety of Small Containers of Chemical reagents
Some leaking Containers
Bench Shelf
Storage shelf Low reagents flammable/corrosive
Door
Fire Escape Stairway
Office
Office
5 gal pails QC samples
boxes of Small Containers QC samples, R+D samples reagents
3 pallets Small Containers reagents, QC Samples, R+D samples (TRAW, melamine cyanurate, Boron Phosphate)
Freight elevator
E
W
N
Bldg 35 2nd level




Bldg 33 Second Floor Southside (Laboratory)




Bldg 33 upper level - Northside

REFERENCE NO. 37

HM-042-90

07-14-83

Jeff

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408

15 MAR 1990

**CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

White Chemical Corporation
660 Frelinghuysen Avenue
P.O. Box 2500
Newark, NJ 07114

ATTENTION: James White, President

Dear Mr. White:

There is enclosed for service upon you an **ADMINISTRATIVE ORDER AND NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT** issued by the New Jersey Department of Environmental Protection pursuant to the provisions of the Solid Waste Management Act.

The Department is available to meet with the principals of the case to discuss the enclosed enforcement document. Should you desire such a meeting please contact Christina H. Purcell within 20 calendar days of receipt of this letter. This does not affect the time frame within which you may request an administrative hearing, under the Notice of Right to a Hearing provisions of the enclosed document.

Should you have any questions concerning this matter, please contact Ms. Purcell at (609) 633-0708.

Sincerely,

Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

WCH/cp
Enclosure(s)
cc Health Department
Mayor's Office
Bureau of Compliance and Technical Services
Regional Field Office

mm-048-90

# State of New Jersey


DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408


15 MAR 1990

| | | |
|---|---|---|
| **IN THE MATTER OF** | : | **ADMINISTRATIVE ORDER** |
| WHITE CHEMICAL CORPORATION | : | **AND** |
| 660 FRELINGHUYSEN AVENUE | : | **NOTICE OF CIVIL ADMINISTRATIVE** |
| NEWARK, NJ 07114 | : | **PENALTY ASSESSMENT** |
| P.O. BOX 2500 | : | |

This Administrative Order and Notice of Civil Administrative Penalty Assessment is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1B-4.

## FINDINGS

1. The Department has determined that White Chemical Corporation (hereinafter "White Chemical" ) is a generator of hazardous waste (EPA ID# NJD 980755623) as defined in N.J.A.C. 7:26-1.4 and is located at Block 107, Lot 3782, 660 Frelinghuysen Avenue, Newark, Essex County, State of New Jersey.

2. An inspection was conducted on September 8, 1989 and the Department determined White Chemical to be in violation of the following;

   a. White Chemical failed to ship hazardous waste off-site to an authorized facility or place in an on-site authorized facility, as defined at N.J.A.C. 7:26-1.4, within ninety (90) days or less. Specifically, White Chemical stored twenty-four (24) drums of ethylene dichloride in the processing area and over one thousand (1000) drums of hazardous waste in the waste storage area for over ninety (90) days, in violation of N.J.A.C. 7:26-9.3(a)1.

   b. White Chemical failed to mark clearly and make visible for inspection the date upon which each period of accumulation begins and label with the words "Hazardous Waste" on each container. Approximately twenty-four (24) drums of ethylene dichloride in the process areas were not labeled, in violation of N.J.A.C. 7:26-9.3(a)3.

c. White Chemical failed to transfer hazardous waste in a container that is not in good condition to a container that is in good condition. Approximately, one thousand (1000) drums of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks, were corroded and waste was not transferred to containers in good condition, in violation of N.J.A.C. 7:26-9.4(d)2.

d. White Chemical failed to securely close drums of hazardous waste so that there was no escape of hazardous waste or its vapors. Approximately one thousand (1000) drums of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks, were missing tops and emitted fumes, in violation of N.J.A.C. 7:26-9.4(d)4i.

e. White Chemical opened, handled, or stored containers holding hazardous waste in a manner which caused the containers to rupture or caused them to leak. Specifically, there are many leaking and ruptured drums of hazardous waste and is evidence of spillage throughout the eastern end of the property, adjacent to the railroad tracks, in violation of N.J.A.C. 7:26-9.4(d)4iii.

f. White Chemical failed to arrange every container so that its identification label is visible. Specifically, all drums of hazardous waste located in the eastern end of the property, adjacent to the railroad tracks, were not labeled, in violation of N.J.A.C. 7:26-9.4(d)4v.

g. White Chemical failed to inspect areas where containers are stored, at least daily, looking for leaks and for deterioration caused by corrosion or other factors, in violation of N.J.A.C. 7:26-9.4(d)5.

h. White Chemical failed to store containers holding ignitable or reactive waste at least 50 feet (15 meters) from the facility's property line. Specifically, drums containing various types of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks are stored less than 50 feet from the facility's property line, in violation of N.J.A.C. 7:26-9.4(d)6.

i. White Chemical failed to maintain records of job titles of each position at the facility related to hazardous waste management, and the name of the employee filling each job, in violation of N.J.A.C. 7:26-9.4(g)6i.

j. White Chemical failed to maintain documents of the written job description for each position related to hazardous waste management, in violation of N.J.A.C. 7:26-9.4(g)6ii.

k. White Chemical failed to maintain records of the written description of the type and amount of both introductory and continuing training that will be given to each person filling a position related to hazardous waste management, in violation of N.J.A.C. 7:26-9.4(g)6iii.

1. White Chemical failed to maintain training records on current personnel and training records of former employees for at least three years from the date the employee last worked at the facility, in violation N.J.A.C. 7:26-9.4(g)7.

m. White Chemical failed to maintain proper aisle space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation. Specifically, proper aisle space was not maintained between hazardous waste drums at the eastern end of the property, adjacent to the railroad tracks, in violation of N.J.A.C. 7:26-9.6(e).

n. White Chemical failed to make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or discharges at the facility, in violation of N.J.A.C. 7:26-9.6(f)4.

o. White Chemical failed to make arrangements to have the local fire department inspect the facility on a regular basis with at least two (2) inspections annually, in violation of N.J.A.C. 7:26-9.6(f)5.

p. White Chemical failed to describe in its contingency plan, pursuant to N.J.A.C. 7:26-9.7(a) and 9.3(a)4, the actions facility personnel shall take to comply with paragraphs N.J.A.C. 7:26-9.7(a), 9.7(b), and 9.7(e) in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water at the facility, in violation of N.J.A.C. 7:26-9.7(c).

q. White Chemical failed to include in the contingency plan a list of all emergency equipment at the facility where this equipment is required, in violation of N.J.A.C. 7:26-9.7(g).

r. White Chemical caused, suffered, allowed or permitted the construction, installation, modification, or operation of a hazardous waste faciltiy without being authorized by the Department to operate as a hazardous waste facility and without being exempt from the requirement to have a permit. Specifically, White Chemical is distilling spent ethylene dichloride, without receiving a permit authorizing them as an existing facility or without being exempt from the permit requirement, in violation of N.J.A.C. 7:26-12.1(a).

3. A reinspection was conducted on September 22, 1989, and the Department determined that White Chemical has attained compliance with the following provisions: N.J.A.C. 7:26-9.3(a)3, 9.4(d)5, 9.4(g)6i, 9.4(g)6ii, 9.4(g)6iii, 9.4(g)7, 9.6(e), 9.6(f)4, 9.6(f)5, 9.7(c) and 9.7(g).

4. During the above mentioned reinspection, it was also noted that White Chemical had not attained compliance with the following provisions: N.J.A.C. 7:26-9.3(a)1, 9.4(d)2, 9.4(d)4i, 9.4(d)4iii, 9.4(d)4v, 9.4(d)6, and 12.1.(a).

5. Based on the facts set forth in these **FINDINGS**, the Department has determined that White Chemical has violated the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and the regulations promulgated pursuant thereto, N.J.A.C. 7:26-1 et seq., specifically N.J.A.C. 7:26-9.3(a)1, 9.3(a)3, 9.4(d)2, 9.4(d)4i, 9.4(d)4iii, 9.4(d)4v, 9.4(d)5, 9.4(d)6, 9.4(g)6i, 9.4(g)6ii, 9.4(g)6iii, 9.4(g)7, 9.6(e), 9.6(f)4, 9.6(f)5, 9.7(c), 9.7(g), and 12.1.(a).

## ORDER

**NOW, THEREFORE, IT IS HEREBY ORDERED THAT WHITE CHEMICAL SHALL:**

6. Within twenty (20) calendar days upon receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment submit the enclosed **VERIFICATION OF COMPLIANCE** by certified mail, return receipt requested or by hand delivery to the address below, indicating that you have corrected the violations referenced in paragraph 4 above.

New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Bureau of Compliance and Technical Services
CN 028
Trenton, NJ 08625
Attention: Christina H. Purcell

**THIS ORDER SHALL BE EFFECTIVE UPON RECEIPT.**

## NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT

7. Pursuant to N.J.S.A. 13:1E-9e and based upon the above **FINDINGS**, the Department has determined that a civil administrative penalty should be assessed against White Chemical in the amount of $86,500.00.

8. Payment of the penalty is due when a final order is issued by the Commissioner subsequent to a hearing, if any, or when this Notice of Civil Administrative Penalty assessment becomes a final order (see following paragraph). Payment shall be made by certified check payable to "Treasurer, State of New Jersey" and shall be submitted to:

New Jersey Department of Environmental Protection
Division of Financial Management Planning and General Services
Bureau of Revenue
CN 402
Trenton, NJ 08625

9. If no request for a hearing is received within twenty (20) calendar days *from* receipt of this Notice of Civil Administrative Penalty Assessment, it shall become a final order upon the twenty-first calendar day following its receipt and the penalty shall be due and payable.

## NOTICE OF RIGHT TO A HEARING

10. Pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.S.A. 13: 1E-9, White Chemical is entitled to an administrative hearing. Any hearing request shall be delivered to the address below within twenty (20) calendar days from receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment.

    Assistant Director for Enforcement
    Division of Hazardous Waste Management
    401 East State Street
    CN 028
    Trenton, New Jersey 08625
    Attention: Wayne C. Howitz, Assistant Director

11. White Chemical shall, in its request for a hearing, furnish NJDEP with the following:

    a. A statement of the legal authority and jurisdiction under which the hearing or action to be taken is to be held;

    b. A reference to the particular sections of the statute and rules involved;

    c. A short and plain statement of the matters of fact and law asserted; and

    d. The provisions of this Administrative Order and Notice of Civil Administrative Penalty Assessment to which White Chemical objects, the reasons for such objections, and any alternative provisions proposed.

## GENERAL PROVISIONS

12. This Administrative Order and Notice of Civil Administrative Penalty Assessment is binding on White Chemical, its principals, directors, officers, agents, successors, assigns, any trustee in bankruptcy or other trustee, and any receiver appointed to a proceeding in law or equity.

13. Notice is given that violations of any statutes, rules or permits other than those herein cited may be cause for additional enforcement actions, either administrative or judicial. By issuing this Administrative Order and Notice of Civil Administrative Penalty Assessment the Department does not waive its right to initiate additional enforcement actions.

14. No obligations imposed by this Administrative Order and Notice of Civil Administrative Penalty Assessment (with the exception of paragraph (7) above) are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of New Jersey, intended to protect the public health, safety, welfare, and environment.

15. Notice is given that pursuant to N.J.S.A. 13:1E-9e, the Department is authorized to assess a civil administrative penalty of not more than $25,000 for each violation and additional penalties of not more than $2,500 for each day during which the violation continues.

16. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violates N.J.S.A. 13:1E-1 et seq. or any code, rule, or regulation promulgated thereunder shall be liable to a penalty of not more than $50,000 per day of such violation, and each day's continuance of the violation shall constitute a separate violation.

17. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violates an administrative order issued pursuant to N.J.S.A. 13:1E-9c, or a court order issued pursuant to N.J.S.A. 13:1E-9d, or who fails to pay a civil administrative penalty in full after it is due shall be subject upon order of a court to a civil penalty not to exceed $100,000 per day of such violation and each day's continuance of the violation shall constitute a separate violation.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Wayne C. Howitz

Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

WCH/chp

REFERENCE NO. 38

07-14-83


WHITMAN & RANSOM

200 PARK AVENUE
NEW YORK, N.Y. 10166
212-351-3000

100 FIELD POINT ROAD
GREENWICH, CONNECTICUT 06830
203-869-3800

11 WATERLOO PLACE
LONDON SW1Y 4AU, ENGLAND
01-839-3226

JANSON BAUGNIET & ASSOCIES
AVENUE FRANKLIN D. ROOSEVELT 56
B-1050 BRUSSELS, BELGIUM
02-649-91-10

ONE GATEWAY CENTER
NEWARK, N.J. 07102-5398
201-621-2230
212-724-3400
TELECOPIER: 201-623-4640

RESIDENT PARTNERS

MICHAEL L. ALLEN
DAVID R. SIMON
ANDREW MUSCATO
JOHN M. SCAGNELLI

444 SOUTH FLOWER STREET
LOS ANGELES, CA 90071
213-485-1060

435 TASSO STREET
PALO ALTO, CA. 94301
415-323-6666

1121 L STREET
SACRAMENTO, CA. 95814
916-441-4242


May 2, 1990

MAY - 4 1990

Arnold Schiff
Principal Environmental Specialist
State of New Jersey
Department of Environmental Protection
Division of Hazardous Waste Management
Metro Regional Office
Two Babcock Place
West Orange, New Jersey 07052

Re: White Chemical Co., 660 Frelinghuysen Avenue, Newark, New Jersey - Notice of Violation

Dear Mr. Schiff:

We represent AZS Corporation ("AZS") of Atlanta, Georgia and are responding to the Notice of Violation which you issued to AZS relating to discharges of hazardous substances by White Chemical Co. at 660 Frelinghuysen Avenue, Newark, New Jersey. AZS received the Notice of Violation on April 21, 1990.

One of the two violations listed is for non-notification of discharges of hazardous substances at the White Chemical Co. facility. The New Jersey Department of Environmental Protection ("NJDEP") Division of Hazardous Waste Management in Trenton has apparently been aware of discharges of hazardous substances relating to White Chemical leaking and ruptured drums

of hazardous waste since at least as early as September 8, 1989. We have learned that on March 15, 1990 the Division issued an Administrative Order and Notice of Civil Penalty Assessment to White Chemical citing them for numerous violations of hazardous waste laws. A copy of the March 15, 1990 Administrative Order is enclosed.

As you may know, White Chemical is now operating under Chapter 11 bankruptcy protection. AZS learned of the leaking drums from information which White Chemical provided to the Bankruptcy Court and from a Bankruptcy Court ordered environmental inspection. The Company, as a result of this information, became concerned regarding potential safety and health hazards and immediately notified the authorities. On March 30, 1990, our firm, on AZS' behalf, telephoned the Spill Act Hotline and the Newark Fire Department and advised them of the potential for serious fire, explosion and health hazards. To our knowledge, the Newark Fire Department visited the site on March 30, was told that NJDEP was handling the problem, and took no action.

Based upon these facts, there should be no citation of violation to AZS for non-notification of the discharges.

The second of the two violations listed, for discharge of hazardous substances, does not and should not apply to AZS. The discharges from White Chemical's leaking and ruptured drums relate only to White's operations; AZS has no knowledge of, or involvement in, White's operations. There is also no specification of the discharges involved nor the remedial actions required.

AZS has done everything possible to bring the potential seriousness of the threat to the public health and safety to the attention of NJDEP and the appropriate authorities. We urge you to confer with the Division of Hazardous Waste Management and other concerned agencies and take action against White Chemical, the responsible party, to avoid a potential environmental disaster.

Sincerely,

John M. Scagnelli

JMS:pmmn

HM-048-90

P.2/7

# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408

15 MAR 1990

| | | |
|---|---|---|
| IN THE MATTER OF<br>WHITE CHEMICAL CORPORATION<br>660 FRELINGHUYSEN AVENUE<br>NEWARK, NJ 07114<br>P.O. BOX 2500 | :<br>:<br>:<br>:<br>: | ADMINISTRATIVE ORDER<br>AND<br>NOTICE OF CIVIL ADMINISTRATIVE<br>PENALTY ASSESSMENT |

This Administrative Order and Notice of Civil Administrative Penalty Assessment is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and duly delegated to the Assistant Director for Enforcement of the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1E-4.

## FINDINGS

1. The Department has determined that White Chemical Corporation (hereinafter "White Chemical" ) is a generator of hazardous waste (EPA ID# NJD 980755623) as defined in N.J.A.C. 7:26-1.4 and is located at Block 107, Lot 3782, 660 Frelinghuysen Avenue, Newark, Essex County, State of New Jersey.

2. An inspection was conducted on September 8, 1989 and the Department determined White Chemical to be in violation of the following;

   a. White Chemical failed to ship hazardous waste off-site to an authorized facility or place in an on-site authorized facility, as defined at N.J.A.C. 7:26-1.4, within ninety (90) days or less. Specifically, White Chemical stored twenty-four (24) drums of ethylene dichloride in the processing area and over one thousand (1000) drums of hazardous waste in the waste storage area for over ninety (90) days, in violation of N.J.A.C. 7:26-9.3(a)1.

   b. White Chemical failed to mark clearly and make visible for inspection the date upon which each period of accumulation begins and label with the words "Hazardous Waste" on each container. Approximately twenty-four (24) drums of ethylene dichloride in the process areas were not labeled, in violation of N.J.A.C. 7:26-9.3(a)3.

position
N.J.A.C.

New Jersey is an Equal Opportunity Employer

c. White Chemical failed to transfer hazardous waste in a container that is not in good condition to a container that is in good condition. Approximately, one thousand (1000) drums of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks, were corroded and waste was not transferred to containers in good condition, in violation of N.J.A.C. 7:26-9.4(d)2.

d. White Chemical failed to securely close drums of hazardous waste so that there was no escape of hazardous waste or its vapors. Approximately one thousand (1000) drums of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks, were missing tops and emitted fumes, in violation of N.J.A.C. 7:26-9.4(d)4i.

e. White Chemical opened, handled, or stored containers holding hazardous waste in a manner which caused the containers to rupture or caused them to leak. Specifically, there are many leaking and ruptured drums of hazardous waste and is evidence of spillage throughout the eastern end of the property, adjacent to the railroad tracks, in violation of N.J.A.C. 7:26-9.4(d)4iii.

f. White Chemical failed to arrange every container so that its identification label is visible. Specifically, all drums of hazardous waste located in the eastern end of the property, adjacent to the railroad tracks, were not labeled, in violation of N.J.A.C. 7:26-9.4(d)4v.

g. White Chemical failed to inspect areas where containers are stored, at least daily, looking for leaks and for deterioration caused by corrosion or other factors, in violation of N.J.A.C. 7:26-9.4(d)5.

h. White Chemical failed to store containers holding ignitable or reactive waste at least 50 feet (15 meters) from the facility's property line. Specifically, drums containing various types of hazardous waste located at the eastern end of the property, adjacent to the railroad tracks are stored less than 50 feet from the facility's property line, in violation of N.J.A.C. 7:26-9.4(d)6.

i. White Chemical failed to maintain records of job titles of each position at the facility related to hazardous waste management, and the name of the employee filling each job, in violation of N.J.A.C. 7:26-9.4(g)6i.

j. White Chemical failed to maintain documents of the written job description for each position related to hazardous waste management, in violation of N.J.A.C. 7:26-9.4(g)6ii.

k. White Chemical failed to maintain records of the written description of the type and amount of both introductory and continuing training that will be given to each person filling a position related to hazardous waste management, in violation of N.J.A.C. 7:26-9.4(g)6iii.

[illegible]

l. White Chemical failed to maintain training records on current personnel and training records of former employees for at least three years from the date the employee last worked at the facility, in violation N.J.A.C. 7:26-9.4(g)7.

m. White Chemical failed to maintain proper aisle space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation. Specifically, proper aisle space was not maintained between hazardous waste drums at the eastern end of the property, adjacent to the railroad tracks, in violation of N.J.A.C. 7:26-9.6(e).

n. White Chemical failed to make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or discharges at the facility, in violation of N.J.A.C. 7:26-9.6(f)4.

o. White Chemical failed to make arrangements to have the local fire department inspect the facility on a regular basis with at least two (2) inspections annually, in violation of N.J.A.C. 7:26-9.6(f)5.

p. White Chemical failed to describe in its contingency plan, pursuant to N.J.A.C. 7:26-9.7(a) and 9.3(a)4, the actions facility personnel shall take to comply with paragraphs N.J.A.C. 7:26-9.7(a), 9.7(b), and 9.7(e) in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water at the facility, in violation of N.J.A.C. 7:26-9.7(c)..

q. White Chemical failed to include in the contingency plan a list of all emergency equipment at the facility where this equipment is required, in violation of N.J.A.C. 7:26-9.7(g).

r. White Chemical caused, suffered, allowed or permitted the construction, installation, modification, or operation of a hazardous waste facility without being authorized by the Department to operate as a hazardous waste facility and without being exempt from the requirement to have a permit. Specifically, White Chemical is distilling spent ethylene dichloride, without receiving a permit authorizing them as an existing facility or without being exempt from the permit requirement, in violation of N.J.A.C. 7:26-12.1(a).

3. A reinspection was conducted on September 22, 1989, and the Department determined that White Chemical has attained compliance with the following provisions: N.J.A.C. 7:26-9.3(a)3, 9.4(d)5, 9.4(g)6i, 9.4(g)6ii, 9.4(g)6iii, 9.4(g)7, 9.6(e), 9.6(f)4, 9.6(f)5, 9.7(c) and 9.7(g).

4. During the above mentioned reinspection, it was also noted that White Chemical had not attained compliance with the following provisions: N.J.A.C. 7:26-9.3(a)1, 9.4(d)2, 9.4(d)4i, 9.4(d)4iii, 9.4(d)4v, 9.4(d)6, and 12.1.(a).

5. Based on the facts set forth in these FINDINGS, the Department has determined that White Chemical has violated the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and the regulations promulgated pursuant thereto, N.J.A.C. 7:26-1 et seq., specifically N.J.A.C. 7:26-9.3(a)1, 9.3(a)3, 9.4(d)2, 9.4(d)4i, 9.4(d)4iii, 9.4(d)4v, 9.4(d)5, 9.4(d)6, 9.4(g)6i, 9.4(g)6ii, 9.4(g)6iii, 9.4(g)7, 9.6(e), 9.6(f)4, 9.6(f)5, 9.7(c), 9.7(g), and 12.1.(a).

## ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED THAT WHITE CHEMICAL SHALL:

6. Within twenty (20) calendar days upon receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment submit the enclosed VERIFICATION OF COMPLIANCE by certified mail, return receipt requested or by hand delivery to the address below, indicating that you have corrected the violations referenced in paragraph 4 above.

New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Bureau of Compliance and Technical Services
CN 028
Trenton, NJ 08625
Attention: Christina H. Purcell

THIS ORDER SHALL BE EFFECTIVE UPON RECEIPT.

## NOTICE OF CIVIL ADMINISTRATIVE PENALTY ASSESSMENT

7. Pursuant to N.J.S.A. 13:1E-9e and based upon the above FINDINGS, the Department has determined that a civil administrative penalty should be assessed against White Chemical in the amount of $86,500.00.

8. Payment of the penalty is due when a final order is issued by the Commissioner subsequent to a hearing, if any, or when this Notice of Civil Administrative Penalty assessment becomes a final order (see following paragraph). Payment shall be made by certified check payable to "Treasurer, State of New Jersey" and shall be submitted to:

New Jersey Department of Environmental Protection
Division of Financial Management Planning and General Services
Bureau of Revenue
CN 402
Trenton, NJ 08625

9. If no request for a hearing is received within twenty (20) calendar days from receipt of this Notice of Civil Administrative Penalty Assessment, it shall become a final order upon the twenty-first calendar day following its receipt and the penalty shall be due and payable.

## NOTICE OF RIGHT TO A HEARING

10. Pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.S.A. 13: 1E-9, White Chemical is entitled to an administrative hearing. Any hearing request shall be delivered to the address below within twenty (20) calendar days from receipt of this Administrative Order and Notice of Civil Administrative Penalty Assessment.

Assistant Director for Enforcement
Division of Hazardous Waste Management
401 East State Street
CN 028
Trenton, New Jersey 08625
Attention: Wayne C. Howitz, Assistant Director

11. White Chemical shall, in its request for a hearing, furnish NJDEP with the following:

a. A statement of the legal authority and jurisdiction under which the hearing or action to be taken is to be held;

b. A reference to the particular sections of the statute and rules involved;

c. A short and plain statement of the matters of fact and law asserted; and

d. The provisions of this Administrative Order and Notice of Civil Administrative Penalty Assessment to which White Chemical objects, the reasons for such objections, and any alternative provisions proposed.

## GENERAL PROVISIONS

12. This Administrative Order and Notice of Civil Administrative Penalty Assessment is binding on White Chemical, its principals, directors, officers, agents, successors, assigns, any trustee in bankruptcy or other trustee, and any receiver appointed to a proceeding in law or equity.

13. Notice is given that violations of any statutes, rules or permits other than those herein cited may be cause for additional enforcement actions, either administrative or judicial. By issuing this Administrative Order and Notice of Civil Administrative Penalty Assessment the Department does not waive its right to initiate additional enforcement actions.

14. No obligations imposed by this Administrative Order and Notice of Civil Administrative Penalty Assessment (with the exception of paragraph (7) above) are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of New Jersey, intended to protect the public health, safety, welfare, and environment.

15. Notice is given that pursuant to N.J.S.A. 13:1E-9e, the Department is authorized to assess a civil administrative penalty of not more than $25,000 for each violation and additional penalties of not more than $2,500 for each day during which the violation continues.

16. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violates N.J.S.A. 13:1E-1 et seq. or any code, rule, or regulation promulgated thereunder shall be liable to a penalty of not more than $50,000 per day of such violation, and each day's continuance of the violation shall constitute a separate violation.

17. Notice is further given that pursuant to N.J.S.A. 13:1E-9f, any person who violates an administrative order issued pursuant to N.J.S.A. 13:1E-9c, or a court order issued pursuant to N.J.S.A. 13:1E-9d, or who fails to pay a civil administrative penalty in full after it is due shall be subject upon order of a court to a civil penalty not to exceed $100,000 per day of such violation and each day's continuance of the violation shall constitute a separate violation.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
Wayne C. Howitz
Assistant Director
Hazardous Waste Enforcement

REC'D:
TO DRMCH/chp
WITHD:
DKT. #:
DATE OF HEARING:
DATE DUE TO OAL:
COMMENTS:

WHITMAN & RANSOM

ONE GATEWAY CENTER
NEWARK, N.J. 07102-5398
201-621-2230
212-724-3400
TELECOPIER: 201-623-4640

RESIDENT PARTNERS

MICHAEL L. ALLEN
DAVID R. SIMON
ANDREW MUSCATO
JOHN M. SCAGNELLI

900 PARK AVENUE
NEW YORK, N.Y. 10166
212-381-3000

100 FIELD POINT ROAD
GREENWICH, CONNECTICUT 06830
203-862-3600

11 WATERLOO PLACE
LONDON SW1Y 4AU, ENGLAND
01-839-3826

JANSON BAUGNIET & ASSOCIES
AVENUE FRANKLIN D. ROOSEVELT 86
B-1050 BRUSSELS, BELGIUM
02-649-91-10

444 SOUTH FLOWER STREET
LOS ANGELES, CA 90071
213-488-1080

435 TASSO STREET
PALO ALTO, CA. 94301
415-323-6686

1121 L STREET
SACRAMENTO, CA. 95814
916-441-4242

April 4, 1990

Martin McHugh, Esq.
New Jersey Department
of Environmental Protection
Division of Regulatory
Affairs
401 E. State Street
7th Floor - CN402
Trenton, New Jersey 08625

Re: White Chemical Corporation
660 Frelinghuysen Avenue
Newark, New Jersey

Dear Mr. McHugh:

In accordance with the New Jersey Public Records Law, N.J.S.A. 47:1A-1 et. seq., we request a copy of the Administrative Order issued by the Department to White Chemical Corporation. I would appreciate it if you would fax a copy of the Order to me (201-623-4640), and also send a copy by regular mail to my attention at our Newark, New Jersey office.

Thank you for your cooperation.

Very truly yours,

David A. Roth

DAR:ak

VIA TELECOPY

bcc: John M. Scagnelli, Esq.
Lee A. Braga, Esq.

REFERENCE NO. 39

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960
*John J. Trela, Ph.D., Director*

M E M O R A N D U M

TO: Bruce Venner, Chief
Bureau of Compliance and Technical Services

THROUGH: Yacoub E. Yacoub, Chief
Metro Bureau of Field Operations

FROM: David Oster, Acting Section Chief
Metro Bureau of Field Operations

**SUBJECT: Request for $35,567 Funding Reauthorization to continue guard service at White Chemical, Newark**

Date: June 4, 1990

On May 9, 1990, Metro Bureau of Field Operations requested funding authorization to provide 24-hour, 7 day a week guard service for a four-week period at White Chemical Corp., 660 Frelinghuysen Avenue, Newark, Essex County, New Jersey. Funding was subsequently approved, and guard service was initiated utilizing the X-549 contract mechanism.

Funds remaining in the authorization will now cover guard service through June 7, 1990. A funding reauthorization of $35,567 is therefore requested to cover guard service for an additional four week period.

Metro Bureau of Field Operations is currently engaged in a publicly-funded cleanup action at the subject facility. 781 drums of hazardous waste have been staged for disposal, and numerous additional drums must be addressed. Continued guard service at White Chemical is warranted due to the large quantity of hazardous waste and hazardous substances on-site and the potential threat to human health and the environment. An itemized cost estimate is attached.

Please note that the current $35,567 funding reauthorization request exceeds the previous funding authorization of $29,126 due to additional mobilization costs not computed into the latter total. However, guard service may not be required for the full four-week period depending on progress of the site stabilization/removal action.

This is a post-Spill Act discharge. This site is not on the National Priorities List.

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*Recycled Paper*

**Request for $35,567 Funding Reauthorization to continue guard service at White Chemical.**

## C O S T  E S T I M A T E

| | | | |
|---|---|---|---|
| Daily mobilization M-F | | $300 | |
| Guard, 12 a.m. - 8 a.m. - 8hrs @ $35 hr | | 280 | |
| Guard, 8 a.m. - 4 p.m. - 8hrs @ $27 hr | | 216 | |
| Guard, 4 a.m. - 12 a.m. - 8hrs @ $35 hr | | 280 | |
| | | $1,076 | per weekday |
| | X 5 weekdays | $5,380 | |
| Mobilization, Saturday | | $ 300 | |
| Guard, 12 a.m. - 8 a.m. - 8 hrs @ $35 hr | | 280 | |
| Guard, 8 a.m. - 4 p.m. - 8 hrs @ $35 hr | | 280 | |
| Guard, 4 p.m. - 12 a.m. - 8 hrs @ $35 hr | | 280 | |
| | | $1,140 | Saturday |
| Mobilization, Sunday | | 300 | |
| Guard, 12 a.m. - 8 a.m. - 8 hrs @ $38 hr | | 304 | |
| Guard, 8 a.m. - 4 p.m. - 8 hrs @ $38 hr | | 304 | |
| Guard, 4 p.m. - 12 a.m.- 8 hrs @ $38 hr | | 304 | |
| | | $1,212 | Sunday |
| Cost per week | | $7,732 | |
| X 4 weeks | | $30,928 | |
| Plus 15% Contingency | | 4,639 | |
| | | $35,567 | |

The above cost estimate is based on a "worst case" scenario. the 15% contingency would provide for additional guard service or placement of a guard house, telephone, or other equipment/services as may be determined necessary.

DWO:jap

REFERENCE NO. 40

07-14-83

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960

*John J. Trela, Ph.D., Director*

M E M O R A N D U M

TO: Wayne Howitz, Assistant Director
Hazardous Waste Enforcement

T-Y-

THOROUGH: Yacoub E. Yacoub Chief
Metro Bureau of Field Operations

DE

FROM: David Oster, Acting Section Chief
Metro Bureau of Field Operations

**SUBJECT: Update on White Chemical**

DATE: June 19, 1990

On May 9 and 10, 1990 , Metro Bureau of Field Operations requested funding authorization of $270,259.15 to provide site stabilization and 24-hour guard service at White Chemical, 660 Frelinghuysen Avenue, Newark, Essex County. Guard service was initiated on May 8, 1990, and has continued uninterrupted since that date. It is anticipated that guard service will continue until site conditions no longer require outside security.

Pursuant to the above funding request, Metro Bureau of Field Operations also engaged S&D Engineering to perform sampling, staging and disposal of hazardous wastes at White Chemical. Sampling was performed on May 17, 1990; staging operations began on May 21, 1990 and required several weeks due to the large number of drums involved, poor or nonexistent labeling, and the fact that waste types were stored haphazardly throughout the facility.

The initial staging action involved 120 drums of flammables, 381 drums of ethylene dichloride (EDC) and 289 drums of TEC/water. Removal actions commenced on June 14, 1990, when 90 drums of flammables (xylene, toluene, acetone) and 70 drums of EDC were pumped out and transported off-site for disposal via tanker. On June 15, 1990, an additional 190 EDC drums were pumped out and transported off-site. The above waste types are flammable corrosives and require incineration. 121 drums of EDC, 20 drums of flammables and the 289 drums of TCE/water remain staged for disposal.

The above activities, including guard service through June 19, 1990, will require expenditure of $201,624.34. $68,634.81 will therefore remain in the funding authorization. This latter amount will cover removal of the 20 remaining flammable drums, flammable sludges, and the empty EDC drums (as hazardous waste). These actions will be scheduled by the week of June 25, 1990.

Removal of additional wastes and continued guard service will require additional funding authorization. Metro is currently drafting such a request. Assuming approval, the following plan of action is proposed for White Chemical:

1) Pump out remaining 121 EDC drums. This can be scheduled for week of June 25.
2) Pump out 289 drums of TCE/water. This can be scheduled within 1-2 weeks.
3) Stage and dispose of 600+ drums of xylene filter cake.
4) Stage and pump out 264 drums of fatty acids and 916 drums of phosphorus acid.

Following these actions, the need to remove additional materials will be assessed. This will depend at least in part on White's financial status at the time. Although White has agreed to remove 300 empty drums per week, resources may not be available for this action. Therefore Metro is prepared to remove all empty drums from the site. These may be disposed of as hazardous or non-hazardous, depending on former contents.

DWO:jap

REFERENCE NO. 41

United States
Environmental Protection Agency
Region 2: New Jersey, New York, Puerto Rico, Virgin Islands
26 Federal Plaza, NY, NY 10278

# FACTS

OCTOBER 1990

## SUPERFUND REMOVAL ACTION AT WHITE CHEMICAL IN NEWARK, NJ

### CURRENT ACTION

The U.S. Environmental Protection Agency (EPA) has begun ~~sorting~~ Site preparation drums of chemicals at the White Chemical Company building at 660 Frelinghuysen Avenue in Newark, New Jersey. EPA will be reducing the risks posed by the large quantities of toxic and hazardous substances improperly stored at the site. Since the week of ~~September 14th~~ October 1st, EPA has provided for 24-hour security at the site ~~building where acids and flame retardant compounds were manufactured until recently~~.

The site is potentially dangerous to public health. Access is restricted to authorized personnel only. Plans are being developed with local authorities which will ensure the safety of the public in the immediate area of the site during EPA's emergency action. Those residents and workers will receive ample notice if any temporary vacate action is deemed necessary.

EPA's action is response to an August 24th request from the New Jersey Department of Environmental Protection (NJDEP) to continue stabilization of the site. Superfund is the federal program to address sites that pose a chemical hazard to the public and/or the environment.

### FUTURE ACTIONS

Due to the quantities of the hazardous materials involved, EPA's action will be done in phases. The first phase will be to continue site security and stabilization at the site which will take a minimum of three months. Future efforts will focus on the sampling and disposal of the hazardous materials

### PAST ACTIONS

On May 15, 1990, the NJDEP began a removal action at the site. This action resulted from a discussion with EPA and an agreement that NJDEP would undertake initial site stabilization efforts. By August 1990, after NJDEP had removed approximately 1,000 drums, the project ceiling of $675,000 was reached causing the

cleanup to be halted. As a result, the State called in EPA for assistance.

During EPA's preliminary assessement of the site in early September, Agency inspectors observed fuming drums of water reactive materials which indicated a continuing process of degradation of the storage containers. The Agency continued the process begun by NJDEP by overpacking several of the drums to protect them from the weather.

United States Bankruptcy Judge Daniel J. Moore ruled yesterday, in U.S. Federal Bankruptcy Court in Newark, that the Environmental Protection Agency (EPA) has access to the White Chemical Company on Frelinghuysen Avenue, a former manufacturer of acids and flame retardant compounds, now in Chapter 11.

Judge Moore also ordered White Chemical Company owner James White, who operates the facility, to vacate the building and premises. ~~The building, at 660 Frelinghuysen Avenue, is owned by the Lancaster Chemical Corporation.~~

EPA is currently maintaining twenty-four hour security at the site.

SITE DESCRIPTION

The site contained over 8,000 55-gallon drums, several hundred cylinders, tanks and vats, and two laboratories containing up to a thousand lab.pack size materials. NJDEP reported and EPA confirmed that White's improper management of the stored material had resulted in numerous open containers, damaged, bulging, unlabelled containers, numerous spills and incompatible materials being improperly stored together.

REFERENCE NO. 42

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Lance R. Miller, Acting Director
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408

AUG 2 4 1990

Richard Caspe, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Dear Director Caspe:

Re: Removal Request - White Chemical
600 Frelinghuysen Avenue
Newark, New Jersey

The New Jersey Department of Environmental Protection hereby submits the White Chemical site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

White Chemical is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by James White (President) on property owned by the Lancaster Chemical Corp which operated at 660 Frelinghuysen Avenue prior to 1983. Lancaster Chemical is in turn owned by AZS Corp. of Atlanta, Georgia.

On September 8, 1989, the NJDEP, Metro Bureau of Enforcement conducted a RCRA compliance inspection at White Chemical which resulted in the issuance of NOVs for a number of hazardous waste violations including improper drum management, leaking drums, open containers and inadequate isle space. A reinspection conducted on September 22, 1989 noted that the facility had attained only partial compliance and, as a result, an Administrative Order and penalty in the amount of $86,500 was issued on March 15, 1990.

From March 27 to March 29, 1990, the NJDEP, Metro Bureau of Enforcement reinspected White Chemical and took a complete inventory of drums on site. Although some improvement in drum management was noted, many containers of unknown and hazardous wastes continued to be stored improperly and in excess of the 90-day limit for storage of hazardous waste without a permit. The inventory showed that 9,063 drums are currently in storage, including 2,005 hazardous and 342 possibly hazardous drums. According to White Chemical, 3,411 drums are product, intermediates or reusable. During the March 27 to March 29 inspection, White Chemical was issued NOVs under the N.J. Spill Compensation and Control Act and ordered to effectively remediate spills and improper drum storage.

White Chemical was issued a Directive on May 8, 1990 under the N.J. Spill Compensation and Control Act to secure the perimeter of the facility, supply 24 hour per day security and conduct stabilization of the 9,063 drums on site. Supplemental Directive #1 was issued on June 15, 1990 directing White Chemical to remove 2,500 empty drums as part of site stabilization. Supplemental Directive #2, issued on July 18, 1990, directed White Chemical to remove 1,282 drums containing hazardous substances including, but not limited to, ethylene dichloride, TCE/water mixture, fatty acids and xylene filter cakes.

On May 8, 1990, the Department initiated a publicly funded clean-up under the N.J. Spill Compensation and Control Act which resulted in the removal of 130 drums of xylene, acetone and toluene; 389 drums of ethylene dichloride (EDC); 161 drums of TCE and 376 drums of contaminated filter cake. There are presently 526 drums of hazardous waste staged for disposal, which include fatty acids, TCE/water, filter cake, EDC and flammables.

To date, White Chemical has failed to comply with the requirements of the issued Directives. It is, furthermore, doubtful that compliance will ever be attained due to the large number of drums involved and the questionable financial status of White Chemical. Additionally, the facility has ceased operations, and production staff and other personnel were layed off on July 31, 1990. According to White Chemical employees, this is a temporary layoff with employment possibly being reactivated by September 4, 1990; however, this layoff may be an indication of the permanent cessation of operations. Accordingly, White Chemical may not realistically be able to utilize certain "intermediates" or "reusables". These may in fact be considered additional wastes.

Any discharge, fire, explosion or air release involving stored material at White Chemical may threaten local residents, as the facility is located adjacent to other commercial facilities, is across Frelinghuysen Avenue from a County park and is approximately one-half mile from a public housing project.

The Department requests that the EPA secure and stabilize the site by posting signs warning of hazardous waste, by disposing of all hazardous substances on site and by providing site security during the removal.

Should your staff require additional information please have them contact David Triggs of the Bureau of Planning and Assessment at (609) 984-3016.

Very truly yours,

Lance R. Miller
Director

LM:sc

c: Assistant Director Howitz, Hazardous Waste Enforcement Element
Chief Yacoub, Metro Bureau of Enforcement
Richard Salkie, USEPA

REFERENCE NO. 43

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028
Trenton, N.J. 08625-0028
(609) 633-1408
Fax # (609) 633-1454

Bruce
Note it's
unsigned—
RO

Stephen Luftig, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Dear Director Luftig:

Re: Removal Request - White Chemical Corporation
660 Frelinghuysen Avenue
Newark, New Jersey

The New Jersey Department of Environmental Protection hereby submits the White Chemical Corp. site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

White Chemical Corporation is a manufacturer of acid chlorides and flame-retardant compounds located at Block 107, Lot 3782 in an industrial section of Newark, Essex County. The facility, now in Chapter 11, is operated by James White (President) on property owned by Lancaster Chemical Corp. Lancaster Chemical Corp., which operated at this location prior to 1983, is in turn owned by AZS Corp., 6025 Sandy Springs Circle, Suite 313, Atlanta, Georgia.

On September 8, 1989, the Department conducted a RCRA Compliance inspection at White Chemical. During the inspection numerous hazardous waste violations were noted and the company was issued appropriate NOVs. Violations included improper drum management, e.g., leaks, open containers, no aisle space. Upon reinspection on September 22, 1989, the facility had attained only partial compliance and, as a result, an Administrative Order and penalty in the amount of $86,500 was issued to White on March 15, 1990.

On March 27 to March 29, 1990, the Department reinspected White Chemical and completed an inventory of drums on site (copy attached). Although some improvement in drum management was noted, many containers of unknown and hazardous wastes continued to be stored improperly, and in excess of the 90-day limit for storage of hazardous waste without a permit. The inventory showed that 8,148 drums are currently in storage, including 2,005 hazardous

drums and 342 possibly hazardous drums; 3,411 drums are product, intermediates or reusable, according to White Chemical. Following the inspection, White Chemical was issued NOVs under the New Jersey Spill Compensation and Control Act, and ordered to effectively remediate spillage and improper drum storage. A Spill Act Directive was also requested.

To date White Chemical has not complied with the requirements of the enforcement documents. It is furthermore doubtful if compliance will ever be attained, due to the large number of drums involved and the questionable financial status of White Chemical. Additionally, the facility has downgraded its manufacturing process, and may not realistically be able to utilize certain "intermediates" or "reusables." These may in fact be considered additional waste.

The potential for fire or explosion and subsequent air release is of primary concern as the facility is located adjacent to other commercial facilities, directly across from a county park and approximately one-half mile from a public housing project.

Due to the hazardous, flammable, incompatable, and possibly, reactive nature of the abandoned material it is requested that EPA remove the aforementioned material to eliminate any potential for fire or explosion. It is further recommended that site security be provided immediately and until the actual removal of material is completed.

Should your staff require additional information, please have them contact Kenneth Kloo of the Bureau of Planning and Assessment at (609) 633-2219. Thank you again for your continued cooperation.

Very truly yours,

Lance R. Miller
Acting Director

KK:mz
Enclosure

c: Assistant Director Howitz, Hazardous Waste Enforcement Element
Chief Yacoub, Metro Bureau of Enforcement
Richard Salkie, USEPA

REFERENCE NO. 44

NEW JERSEY DEPARTMENT OF HEALTH

A BETTER STATE OF HEALTH

# MEMO

TO: Chris Milne, Program Manager

FROM: Jim Pasqualo, ATSDR Project Manager

SUBJECT: White Chemical Company

DATE: October 11, 1990

As you are aware, I have been requested by ATSDR Region 2 to assist in recent activities associated with the Whit Chemical Company site, located on 660 Frelinghuysen Ave., Newark.

On October 10, NJDOH staff (Pasqualo, Tranotti) performed a level B entry of the site accompanied by USEPA TAT and ATSDR personnel. This site has been classified as an imminent health threat by ATSDR and is currently undergoing emergency stabilization and characterization of an estimated 8,000 drums and an on-site laboratory. Personal observations confirm the deteriorated condition of most of the drums; many were apparently leaking and several were observed to be fuming. Approximately 12,000 persons reside within a 1/4 mile of the site, and a primary AMTRAC rail line is located immediately adjacent to the site boundary, approximately 50 feet from the drum storage area. Slides and video of current site conditions are available for your review.

I will continue to assist ATSDR and USEPA as required in their efforts to formulate an emergency response plan for the site, and address the public health implications associated with remedial activities.

cc:

John Tranotti, NJDOH/PEOSH
Dr. R. Zagraniski, Assistant Commissioner; NJDOH/DOEH
C.J. Walters Jr., ATSDR Region 2

Central File: H-149-90

10/18/90

Paula -

lots of air emissions of skin + eye irritants in the neighborhood.

Heubach, Kingsland, Koppers, Penick ~~Stacor~~ and maybe the sewers (if they vent near ~~the~~ site) could be contributing to your problem.

Penick reported 11,000 lbs. of ammonia fugitive air emissions in '88. Several firms put out chlorine, HCl, xylene, acetone, $H_2SO_4$, toluene; other chemicals include methanol, aniline, ethylene glycol, lead, antimony, nitric acid, napthalene, anthracene, etc.

201-321-4365

See mark-up. Call at 906-6931 with questions. This printout is voluntary reporting, and estimates only. Don't take it as gospel.

Lisa Voyce

"10/25/90"
2 p.m.

Paula,

The preliminary data on formaldehyde came in, and the average of 0.52 exceeds the OSHA 0.5 action level*

This is not QA/QCd yet - hopefully tomorrow. But it may be a factor in your symptoms - and I expect your plans to use, and keep up those trailers. Your smokers probably shouldn't be smoking in there, either.

Call me when you get back - we obviously need to go over the results - and what to do about it.

"TANKER MOVED"

Lisa

REFERENCE NO. 45

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960

*John J. Trela, Ph.D., Director*

July 27, 1990

White Chemical
660 Frelinghuysen Avenue
Newark, NJ 07119

Subject: Hazardous Waste Accumulation

Dear Mr. White:

This is a written follow-up to the conversation of July 20, 1990. As I stated in our meeting, the Department has reservations concerning the continued generation of hazardous waste at your facility while a publicly funded cleanup is being conducted. In order for the Department to allow the further generation of hazardous waste, the following procedures must be followed;

1) All hazardous waste when generated must be placed in sturdy, non leaking drums.
2) All drums must be properly marked as hazardous waste with waste code and accumulation start date visible for inspection. The markings may be stenciled or marked with water proof paint pen in letters three inches high.
3) The drums must be staged and stored next to the northeast corner of building number 34. This area has already been discussed with Mr. Steve Shopsis.
4) Hazardous waste must be shipped off site via manifest to a permitted disposal facility within 90 days of the accumulation start date.
5) White Chemical must comply with all other applicable regulations regarding generation, storage or disposal of hazardous waste.

If White Chemical is unable to comply with the above conditions, the Department will take action to close White Chemical in order to stop the further production of hazardous waste at this facility.

Sincerely,

Gary Greulich
Environmental Specialist

Receipt acknowledged,
7-30-90

CC: jap
c: Steve Shopsis
Yacoub E. Yacoub
File

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*Recycled Paper*

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960
*John J. Trela, Ph.D., Director*

# M E M O R A N D U M

TO: Wayne Howitz, Assistant Director
Hazardous Waste Enforcement Element

THOROUGH: Yacoub E. Yacoub, Bureau Chief
Metro Bureau of Field Operations

David Oster, Acting Section Chief
Metro Bureau of Field Operations

FROM: Gary Greulich, Environmental Specialist
Metro Bureau of Field Operations

**SUBJECT: Removal of empty drums by White Chemical**

DATE: July 27, 1990

To date White Chemical has removed 746 empty drums from the site. These drums were removed over a period of seven week, June 6, 1990 to July 27, 1990. This is an average of 107 drums per week. White Chemical is under a directive to remove 300 empty drums per week. This memorandum is to notify you that White Chemical has failed to comply with the terms of the directive regarding drum removal.

GG:jap

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F.Y.I

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960

# M E M O R A N D U M

TO: Wayne Howitz, Assistant Director
Hazardous Waste Enforcement Element

THROUGH: Yacoub E. Yacoub, Chief
Metro Bureau of Field Operations

FROM: David Oster, Acting Section Chief
Metro Bureau of Field Operations

**SUBJECT: Update on White Chemical**

DATE: August 8, 1990

To date the following waste types have been removed from White Chemical as a result of the Metro Bureau of Field Operations Spill Fund cleanup. All material were bulked out (tanker truck for liquids, dumpster for filter cake) except where otherwise noted:

1) 90 drums of flammables (xylene, toluene, acetone), 6/14/90. 40 overpacked drums of flammables and flammable sludges, 6/29/90.
2) 389 drums of ethylene dichloride, direct to ENSCO, Arkansas, 6/14/90, 6/15/90, 7/2/90.
3) 376 drums of xylene filter cake 7/25/90, 7/26/90, 7/27/90, 7/31/90, 8/2/90.

   33 drums of filter cake will be transported off-site as soon as the appropriate trucks and dumpsters can be scheduled.
4) 161 drums of TCE/water, 7/23/90, 7/26/90, 7/31/90. 2000 gallons of this material is stored at S&W, the reminder was sent to a TSD for disposal.

Metro was notified on 8/1/90 that the selected disposal facility rejected the most recent load of TCE because of high bromide levels. Metro is working with S&D Engineering and S&W Waste to identify an alternate disposal facility. Pending transport to the alternate facility, the rejected TCE/water will be stored at S&W, together with the 2000 gallons already in storage. 145 drums of TCE/water remain at White.

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August 2, 1990

**Update on White Chemical**

Page 2

Summarily, 1056 drums of hazardous waste have been emptied or physically removed from White. In addition to the 145 TCE/water, 33 drums of filter cake and 320 drums of fatty acids remain on-site, out of the originally-targeted wastes.

To date White has removed 705 empty drums from the site. Metro arranged for removal of 160 empties. Added to the 40 overpacked drums removed on 6/29/90, this represents 905 drums actually removed from White. Approximately 1700 empty drums remain on-site.

Once the TCE/water is removed to an alternate disposal facility, Metro will utilize remaining funding to dispose of fatty acids, remaining filter cake, and empties as determined to be necessary. Metro is also continuing to provide 24-security at the site, and is now utilizing the X-419 Hazardous Site Mitigation contract rather than the X-549 emergency service contract. Use of the X-419 contract will provide substantial savings.

As of 8/1/90, White Chemical has dismissed most if not all employees. Managerial personnel remain for the time being. White has not arranged for disposal of materials in Building 35, as required in the Directive. However, these were previously overpacked by White and are properly stored. As White appears to be ceasing operations, it is recommended that action be taken before the bankruptcy court to request allocation of funds for removal of Building 35 material and empties as required in the Directive to White. In addition, if White does cease operations the site would meet EPA criteria for removal candidate. A referral to EPA would then be recommended.

DWO:jap

REFERENCE NO. 46

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

DATE: October 7, 1990

Region II
Removal Action Branch
Edison, New Jersey 08837

(201) 548-8730 - Commercial and FTS
24 Hour Emergency

TO: R. Caspe, 2ERRD
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Marshall, 2OEP
J. Frisco, 2ERR-ADNJP
ERD, Washington, (E-MAIL)
B. Aber, 2ORC-NJSUP
S. Becker, 2PSB
J. Trela, NJDEP
D. Oster, NJDEP
R. Swales, OEM
A. Zach, City of Newark
TAT

POLREP NO.: Four (4)
INCIDENT NAME: White Chemical Company
SITE NO.: 6J
POLLUTANT: Acids, Corrosives, Flammable Liquids, Lab Reagents
CLASSIFICATION: Major
SOURCE: White Chemical Company
LOCATION: 9000 Drums and numerous cylinders, tanks and labpack material
WATER BODY: Port Newark

1. SITUATION:

A. See previous Polrep

2. ACTION TAKEN:

Monday, October 1, 1990:

A. ERCs mobilizes to site to commence assessment of site conditions and the quantities and types of materials found.

B. Regional Administrator and Associate Director for Removal and Emergency Preparedness Programs visit the site for an assessment.

C. OSC and ATSDR representative visit Cooper Sportswear to notify the plant manager of EPA's commencement of a CERCLA removal action at the White Chemical facility and how this removal may affect them since they are located adjacent to the facility. Cooper was notified that a Contingency Plan would be developed and the information provided to them in case of a release.

D. OSC provided ERCs with preliminary instructions regarding the creation of access gates and site security.

E. EPA takes over twenty-four hour security from NJDEP at noon.

F. ATSDR and EPA meet to confer about Health Consultation recently issued on Friday, September 28th and the commencement of a Health Advisory.

G. OSC meets with ERCs Managers regarding the development of safety plans and staff utilization.

H. OSC, ADREPP, and RAB Chief confer with ORC on current on-site situation with regard to White's presence on-site.

Tuesday, October 2, 1990:

I. EPA and TAT arrive on-site to conduct an initial preliminary assessment of the laboratories on-site in Buildings 33 and 35.

J. Laboratory assessment reveals incompatible materials stored improperly and in close proximity to each other. Labs indicate poor housekeeping and very poor lab practices. Chemicals are found cluttering each lab bench of all the lab rooms with incompatibles stored together. Labs are highly pitted and corroded by acids.

Wednesday, October 3, 1990:

K. No site activities were planned for the day. OSCs and ATSDR meet to confer on the findings of the laboratories.

Thursday, October 4, 1990:

L. OSCs, TAT, ATSDR, and ERCs arrive on-site to continue laboratory assessment and to further inventory materials on-site.

M. ORC and DOJ representatives arrive at Edison facility to commence the preparation of affidavits of key witnesses.

N. White's Plant Manager reports to OSC that the Bankruptcy Judge orders White to vacate the premises immediately.

Friday, October 5, 1990:

O. Site preparation continues on-site today. OSC meets with DOJ in afternoon to continue affidavit.

Saturday, October 6 and Sunday, October 7, 1990:

P. OSC continues to work with DOJ representatives throughout the weekend.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. At the present time, ORC and DOJ remain in negotiation with White Chemical's legal staff. DOJ will file a motion in Federal District Court on Tuesday, October 9th.

B. A PRP search is actively in progress.

4. FINANCIAL STATUS:

| | | |
|---|---|---|
| A. | Total Project Ceiling Authorized as of 09/28/90 | $1,995,000 |
| B. | Total Funds Authorized for Mitigation Contracting as of 09/28/90 | $1,725,000 |
| C. | Expenditures for Mitigation Contracts | |
| | 1.a. Total amount obligated | $1,725,000 |
| | 1.b. Estimated Expenditures as of 09/28/90 | $ 12,194 |
| | 1.c. Balance Remaining | $1,712,806 |
| D. | Unobligated Balance Remaining | $ -0- |
| E. | Estimate of Total Expenditures to Date for all Mitigation Contracts | $ 12,194 |
| F. | Other Extramural Costs | |
| | 1.a. TAT Salary/Travel as of 10/07/90 | $ 12,168 |
| | 1.b. TAT Analytical | $ 4,300 |

G. Intramural Removal Costs

| | | |
|---|---|---|
| 1.a. EPA Travel/Salary as of 10/07/90 | $ | 28,636 |
| Total Project Expenditures | $ | 52,998 |
| % of Project Ceiling | | 2% |
| % of $2 million | | 2% |

FINAL POLREP_____ FURTHER POLREPS FOURTHCOMING__X___

SUBMITTED BY_____
Paula A. Cammarata, OSC
Removal Action Branch

DATE OF RELEASE:_____

REFERENCE NO. 47

United States
Environmental Protection Agency
Region 2: New Jersey, New York
Puerto Rico, Virgin Islands
26 Federal Plaza, NY, NY 10278

NEWS

90( 175 ) Rich Cahill (212) 264-2515

FOR RELEASE: Friday, October 5, 1990

COURT GRANTS EPA ACCESS TO WHITE CHEMICAL IN NEWARK, N.J., $2 MILLION SUPERFUND ACTION UNDERWAY

NEW YORK, N.Y. ---United States Bankruptcy Judge Daniel J. Moore ruled yesterday, in U.S. Federal Bankruptcy Court in Newark, that the Environmental Protection Agency (EPA) has access to the White Chemical Company on Frelinghuysen Avenue, a former manufacturer of acids and flame retardant compounds, now in Chapter 11. The ruling clears the way for EPA to use up to $2 million in Superfund to respond to a request from the New Jersey Department of Environmental Protection (NJDEP) to continue stabilization of the site," according to EPA Regional Administrator Constantine Sidamon-Eristoff.

The site contained over 8,000 55-gallon drums, several hundred cylinders, tanks and vats, and two laboratories containing up to a thousand lab pack size materials. NJDEP reported, and EPA confirmed, that White's improper management of the stored material had resulted in numerous open containers, damaged, bulging, unlabelled containers, numerous spills and incompatible materials being improperly stored together.

By August 1990, after NJDEP had removed approximately 1,000 drums, their project ceiling of $675,000 was reached causing the cleanup to be halted. As a result, the State called in EPA for assistance. EPA is currently maintaining twenty-four hour security at the site.

###

REFERENCE NO. 54

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

| | |
|---|---|
| In the Matter of | |
| White Chemical Corporation and Mr. James White | ADMINISTRATIVE ORDER DIRECTING COMPLIANCE WITH REQUEST FOR ACCESS |
| Proceeding under Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9604(e). | Index No. II CERCLA-00117 |

JURISDICTION

1. The following Administrative Order is issued to James White ("Respondent") and White Chemical Corporation pursuant to the authority vested in the President of the United States by §104(e)(5) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §9604(e)(5), which authority was delegated to the Administrator of the United States Environmental Protection Agency ("EPA") on January 23, 1987, by Executive Order 12580, and further redelegated to the Regional Administrator of EPA on April 17, 1987.

PARTIES BOUND

2. This Order shall apply to and be binding upon the Respondent, and each and every agent of the Respondent and upon all other persons and entities who are under the direct or indirect control of the Respondent.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

3. Respondent, James White, is a person as that term is defined in §101(21) of CERCLA, 42 U.S.C. §9601(21).

4. Respondent is a tenant in possession of real property ("property") located at Block 3782, Lot 107, 660 Frelinghusysen Avenue, Newark, New Jersey.

5. Respondent is an "operator," as that term is defined in §101(20)(A) of CERCLA, 42 U.S.C. §9601(20)(A), of the White Chemical Corporation, a manufacturer of acid chlorides, alkyl bromides, and flame retardant compounds.

6. The Respondent's property and corporation constitute a "facility" as that term is defined in § 101(9) of CERCLA, 42 U.S.C. §9601(9).

7. The property on which Respondent operates is owned by Lancaster Chemical Corporation, a division of AZS Corporation. AZS Corporation is located at 6025 Sandy Springs Circle, Atlanta, Georgia. Tosch ("U.S.A."), formerly Toyo Soda Corporation, (hereinafter "Tosch"), is the parent corporation of AZS and is located at 1700 Water Place, Atlanta, Georgia.

8. On September 8, 1989, the New Jersey Department of Environmental Protection ("NJDEP") conducted an inspection at Respondent's facility pursuant to the Resource Conservation and Recovery Act of 1976 ("RCRA") and issued Notice of Violations for the following hazardous waste violations: improper drum management, leaking drums, open containers, and inadequate aisle space. A reinspection of the facility on September 22, 1989, noted that the facility had attained only partial compliance, and as a result, an Administrative Order and penalty in the amount of $86,500 was issued on March 15, 1990. According to NJDEP, the respondent has not complied with the order and has not paid the amount requested.

9. On March 27 through 29, 1990, the NJDEP reinspected the facility and took a complete inventory of drums at the site. The inventory showed 9,063 improperly stored, ruptured and leaking drums, containing flammable liquids, acids, and flame retardant compounds, including but not limited to toluene, xylene, acetone, ethylene-dichloride, and trichloroethylene ("TCE"). These substances are "hazardous substances" as defined in §101(14) of CERCLA, 42 U.S.C. §9601(14).

10. During NJDEP's visit of March, 1990, many drums containing unknown substances and hazardous wastes were observed to be improperly stored and in excess of the RCRA 90-day limit for storage of hazardous waste without a permit. As a result, the NJDEP issued Notice of Violations ("NOVs") under the New Jersey

Spill Compensation and Control Act and ordered Respondent to immediately remediate the spills and improper drum storage. According to the NJDEP, the Respondent has failed to comply with these NOVs.

11. On May 8, 1990, NJDEP issued a Directive to the Respondent pursuant to the N.J. Spill Compensation and Control Act, in order to secure the perimeter of the facility, supply 24 hour per day security, and stabilize the 9,063 drums at the site. Supplemental Directives were issued on June 15, 1990, and July 18, 1990, ordering Respondent to remove 2,500 empty drums as part of site stabilization, and remove 1,282 drums containing hazardous substances. According to the NJDEP, the Respondent has failed to comply with the requirements of the issued directives.

12. Also on May 8, 1990, the NJDEP initiated a publicly funded cleanup pursuant to the N.J. Spill Compensation and Control Act which resulted in the removal of the following CERCLA hazardous substances: 130 drums of toluene, xylene, acetone; 389 drums of ethylene-dichloride; 161 drums of TCE; and 376 drums of contaminated filter cake.

13. On September 7, 1990, at NJDEP's request, EPA accompanied NJDEP to conduct an initial assessment of the site for removal consideration under CERCLA, and the National Contingency Plan ("NCP") §300.412.

14. EPA's inspection of Respondent's facility confirmed that extremely dangerous and highly volatile chemical compounds exist in an unsecured state, and that an imminent and substantial danger is posed to the health and safety of Respondent's employees who remain at the facility, employees at adjacent commercial facilities, residents who reside in several large public housing projects and a senior citizens' home, both located within a quarter mile of the site, persons who recreate in the county park across the street from the facility, and others who are in close proximity to the facility.

15. During EPA's inspection of Respondent's facility, EPA conducted air sampling which indicated that sulphuric acid is migrating off-site, posing a health risk to employees of adjacent facilities, and the aforementioned persons who reside within close proximity to the site.

16. In addition, EPA observed and verified NJDEP's current inventory list of approximately 9000 fifty-five gallon drums. About 90% of the drums were stored on the Respondent's property outside of the buildings where the Respondent worked, in close proximity to adjacent facilities and the aforementioned persons. Several thousand of these drums contain air and water reactive chemicals which are stored in open containers and deteriorated and ruptured drums. NJDEP submitted photos to EPA which offer

proof that large toxic vapor clouds form during inclement and humid weather due to nature of the air and water reactive chemicals in the open containers and drums. In addition, EPA observed over 100 cylinders, tanks, vats, carboys, boxes, many of which are in deteriorating and leaking condition.

17. Specific observations of EPA regarding the facility's inventory of drums, containers, cylinders, tanks, vats, carboys, and boxes, support a determination that Respondent and all associated employees and personnel must evacuate the facility during removal activities. These observations are as follows:

1) unsegregated, incompatible chemicals (e.g., corrosives and flammables) stored in close proximity, thereby creating a risk of a fire or explosion in the event of chemical interaction during removal;

2) unlabeled and multilabeled drums and containers, creating confusion as to the drums and containers contents; this uncertainty could result in a mishandling of the drums and containers during removal, thereby increasing the risk of a fire or explosion.

3) storage of ignitable waste within 50 feet of the property line;

4) open containers emitting fumes and open containers consisting of multiphased hazardous waste;

5) numerous spills of hazardous substances on the ground;

6) numerous overpaked drums labeled, "salvage hazardous waste rejected".

18. Approximately 1000 lab pack size containers of hazardous waste material, some appearing to have crystalized (e.g., shock sensitive) materials, are present in two active laboratories at the facility. The extremely volatile nature of the crystalized materials warrants a complete evacuation of the lab during EPA's removal activities in the laboratories, and cessation of Respondent's business operations until removal activities are completed.

19. According to the City of Newark's Office of Emergency Management ("OEM"), the Newark Fire Department and NJDEP's Emergency Response Team has been called to the site numerous times as a result of complaints from employees of adjacent commercial facilities concerning noxious fumes emanating from the site, and spills occurring at the site. According to OEM, on at least two occasions a commercial manufacturer, adjacent to the northern portion of the site, had to close business operations due to its worker's experiencing sickness and nausea from fumes being released from Respondent's site.

20. On September 26, 1990, EPA drafted a first Action Memorandum for CERCLA removal under its response authority of Section 104(a)(1) of CERCLA, 42 U.S.C. §104)a)(1), requesting funds for CERCLA removal activities at the site.

21. The Respondent's Property is, for the purposes of §104(e)(1)(3)(4) of CERCLA, 42 U.S.C. §9604(e)(1)(3)(4), a place where entry by and on behalf of EPA is necessary to determine the need for further response action(s) or the appropriate response action(s) and to effectuate a response action(s) under CERCLA. Specifically, EPA needs full and unrestricted access to the Respondent's site, including but not limited to, chemical manufacturing laboratories inside the Respondent's buildings, and areas outside the buildings for the purpose of conducting response activities which EPA deems necessary to address the threat to the public health, welfare or the environment posed by releases or threatened releases of hazardous substances at the site, from the day of commencement of the removal action and for such time as is reasonably necessary to complete such activities.

22. On September 26, 1990, EPA received from Respondent a written Consent for Access form which allows EPA to perform the following: implement site security (fence and gate), collect and analyze soil, water and air samples, stabilization of the site by performance of removal activities, and recycling and disposal of hazardous and non-hazardous materials.

23. On September 28, 1990, the Agency for Toxic Substances and Disease Registry (ATSDR), at the request of EPA, entered the facility to perform a health consultation and assess the threat of endangerment which Respondent's facility poses to the health and safety of the employees at adjacent commercial facilities. ATSDR concurred with EPA's determination that Respondent's facility poses an imminent and substantial danger to the health and safety of employees at adjacent facilities. During this walk-thru of Respondent's facility, both EPA and ATSDR observed numerous fuming drums and experienced noxious odors emanating from the facility.

## DETERMINATION

24. Based on the FINDINGS and CONCLUSIONS set forth above and the entire administrative record, the Regional Administrator has determined that there is a reasonable basis to believe (i) that there may be a release or threat of release of a hazardous substance or pollutant or contaminant; (ii) that full and unrestricted access to the property is needed in order for EPA to take response actions necessary to address the threat to public health, welfare or the environment posed by the releases or threatened releases of hazardous substances at the site, from the day of commencement of the removal action and for such time as is reasonably necessary to complete such activities; (iii) that EPA is authorized to enter the Property pursuant the statutory provisions in §104(e) of CERCLA, 42 U.S.C. §9604(e); and (iv) that due to the extremely volatile and dangerous nature of the hazardous substances at the site, and the possibility of fire or explosion occurring in the laboratories or elsewhere on the site

In addition, all potential peroxide forming material or other shock sensitive material or explosives will be assessed for safety and will be isolated, if possible. The laboratories on-site will be addressed and a determination of priority will be made, depending on the contents. The stabilization efforts may include disposal of those substances that could present explosion danger to the surrounding population.

REFERENCE NO. 55

FACT SHEET

**White Chemical Removal Actions**

**Newark, New Jersey**

**Specialty chemical facility; significant health impact**

## Background

White Chemical Company (White) is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by Mr. James White, (President), on property owned by Lancaster Chemical Corporation at 660 Frelinghuysen Avenue, Newark, New Jersey. Prior to 1983, White Chemical operated a facility located in Bayonne, New Jersey.

The White Chemical facility has numerous Resource Conservation and Recovery Act (RCRA) violations, specifically, illegal treatment of hazardous waste, and storing hazardous waste without the necessary permits. The improper management of the stored containers resulted in numerous open containers, damaged, bulging, unlabeled containers, numerous spills onto the ground, inadequate aisle space between drums, unsegregated chemicals, water reactive materials in the open yards, and the storage of ignitable waste within 50 feet of the property line. The site was unsecured and due to the volume and nature of the hazardous substances and unknown substances, there exists the potential for fire and/or explosion to occur, and a substantial risk of imminent and severe damage to the public health and safety and the environment.

On May 15, 1990, NJDEP commenced a removal action under the New Jersey Spill Compensation and Control Act. However, by August 1990, after NJDEP had removed approximately 1,000 drums, the project ceiling of $825,000 was reached causing the cleanup to be halted. As a result, on August 24, 1990, NJDEP requested EPA to assess the site for CERCLA removal consideration.

## Site Description

The four (4) acre site is located at 660 Frelinghuysen Avenue directly in back (east) of two large manufacturing facilities; a feather company and a sportswear manufacturer. To the north is a large clothing manufacturer. Further east and adjacent to the site is the Conrail line which is the major eastern corridor to New York and on the other side of the Conrail line lies the Anheuser Bush Brewery. Approximately one-half mile further east

is U.S. Highway No. 1 and Newark International Airport. The prevailing winds in the area blow toward the east. Across Frelinghuysen Avenue, within one-quarter mile, is Weequahic Park and several large housing projects. In addition, there are several high rise senior citizen homes in the area. During the day, there are approximately 12,000 people within a one-quarter mile radius of the site.

During the EPA removal assessment, numerous CERCLA and RCRA violations were uncovered. There are approximately 9,000 drums of hazardous materials improperly stored and precariously stacked throughout the four (4) acre site. Drums and containers are in various stages of deterioration and leaking into the soil. Numerous stains were observed on the soil. Corrosive drums are deteriorating the pallets which support them. Drums were found fuming and are in an unstable condition. Thousands of water reactive materials were found stored outside where the inclement weather provides an avenue of escape for on-going releases due to rain or humidity. Corrosives are found stored next to flammables. Drums appear to have been used several times by the number of labels found on them. Some of the drums are unknown due to the numerous labels or the lack of labeling. Other containers state "Salvage - Hazardous Waste Rejected".

There are also two laboratories on-site with thousands of unsegregated lab pack size materials in various stages of deterioration, stored haphazardly on shelves which are also deteriorating.

The types of chemicals found include, flammable liquids, flammable acids, corrosives, acids, oxidizers, air/water reactives and peroxide forming materials (shock sensitive).

This site clearly presents a threat to public health. Multiple pathways for the potential migration of hazardous substances off-site exist. The deteriorated condition of the drums and other containers, the clutter and proximity of incompatible materials, the local geography and close proximity of urban residential housing and industry are all contributing factors to the threat to public health and welfare.

**Incident/Release Characteristics**

During the removal assessment of White Chemical 11 drums of phosphorus tribromide were fuming. Phosphorus tribromide is a water reactive material which gives off hydrogen bromide when exposed to moisture. Verbal funding was authorized on September 7, 1990, to perform an emergency removal by overpacking these 11 drums and storing them inside of a building. It should be noted that the overpacking of these 11 drums does not contain nor stabilize the present situation of on-going releases from the

several thousand remaining water reactive materials found throughout the site. There is a considerable amount of material leaking into the soil due to the haphazard storage and packing of these drums, which is evident by spills, soil stains, corroded pallets and drums.

On several occasions, the Newark Fire Department and NJDEP's Emergency Response Team have been called to the site for releases of chemicals. For example, on June 23, 1990, a pentanol spill was reported next to a container of ammonium bromide. Newark's Hazardous Material Response Team responded along with a NJDEP contractor to clean up the spill. There are numerous reports on air releases and/or spills which have occurred on-site where either the city and/or State has responded. On two different occasions the manufacturer which is adjacent to the northern portion of the White facility has had to close for the day due to workers experiencing sickness from fumes being released from drums at the White Chemical facility.

**Enforcement actions**

White Chemical Company is currently operated by Mr. James White, (President), on property owned by the Lancaster Chemical Corporation. Lancaster Chemical Corporation which operated on this same facility location prior to 1983, is in turn owned by AZS Corporation of Atlanta, Georgia. These PRPs have not taken any action.

A Title search has been initiated to determine past history of site ownership, as well as possible liens or mortgages which may have been placed on the property. If appropriate, a financial status assessment will be performed on any companies or individuals identified by the Title search. As soon as the names and addresses of companies and/or individuals who may be themselves liable, or who may have information which could help EPA uncover other PRPs have been compiled, we will send Information Request Letters under Section 104(e) of CERCLA. Based on information received from these letters, as well as from other sources, PRPs will be informed of their potential liability and we will meet with them to determine what portion, if any, of the removal action they will perform.

On October 4, 1990, Judge Moore of the Federal Bankruptcy Court, ruled that James White owner/operator of the White Chemical Company vacate the premises.

EPA has filed for and has been granted a hearing on October 22, 1990 with the Federal District Court to injuncture White from operating the facility and allow access so that the Superfund removal action can proceed including taking hazardous materials off-site for disposal.

EPA's enforcement strategy includes identifying Potentially Responsible Parties (PRPs) early enough in the removal action so they can be given an opportunity to participate in the cleanup. Since the removal is to be conducted in phases, once the PRPs are identified, EPA can turn the action over to them at any appropriate phase.

As a separate issue, AZS has plans on petitioning the bankruptcy court to change White from a Chapter 11 to a Chapter 7. EPA plans to request the court to have the environmental agencies be represented as first creditors with the New Jersey as the lead.

**Removal Action**

The objective of the first phase of the removal action is to secure and stabilize the site. Future efforts will then address the proper sampling and disposal of all wastes.

It should be noted that due to the magnitude of the hazardous waste, the total cost for complete site hazards mitigation removal action will exceed the 12 month time limit and the $2 million funding limitation. In accordance with our enforcement strategy, the first phase stabilization efforts will include overpacking leaking containers, segregating incompatibles, disposing of extremely dangerous materials (i.e. explosives) and providing 24 hours security. The stabilization action will provide time to negotiate agreements with identified responsible parties for completing the removal action.

The Phase I activities were started on October 8, following the court ordering White Chemical to vacate the premises. The EPA Emergency Response Contractors are mobilizing for the site, preparing contingency plans and setting up facilities and equipment to address any potential release or other problem that might occur during the removal action.

Phase I will provide the information on the amount of waste currently on-site to be disposed of at a later phase of the project. When all materials have been segregated and staged, or a large enough volume has been collected, the substances will be sampled and analyzed for reprocessing or disposal in Phase II of the removal action.

Access paths will be cleared for any possible emergencies which may occur during the removal action. Contingency plans for the community will be in place in the event of a major release. Due to the magnitude of the hazardous material on the site, priority will be given to move water/air reactives into the buildings and the segregation of all other materials throughout the site.

REFERENCE NO. 56

SUBJECT: Request for Ceiling Increase and Twelve Month Exemption for White Chemical Company Site, Newark, Essex County, New Jersey - ACTION MEMORANDUM

Site No: 6J
Category of Removal: Time Critical
National Significance: No

FROM: Constantine Sidamon-Eristoff
Regional Administrator

TO: Don Clay, Assistant Administrator
Office of Solid Waste and Emergency Response

THRU: Stephen D. Luftig, Director
Office of Emergency and Remedial Response

I. PURPOSE:

To request an increase in the Project Ceiling of $2 million and also the request for a twelve month exemption to continue the removal action at the White Chemical Site, located in Newark, Essex County, New Jersey.

II. SITE CONDITIONS AND BACKGROUND

White Chemical Company is a former manufacturer of acid chlorides and flame retardant compounds located in a heavily populated/ industrial section of Newark, Essex County, New Jersey. The facility, now in Chapter 11, is operated by Mr. James White, (President), on property owned by Lancaster Chemical Corp. at 660 Frelinghuysen Ave. Prior to 1983, White Chemical operated a facility located in Bayonne, New Jersey.

The site contains over 8,000 55-gallon drums, several hundred cylinders, tanks and vats, carboys, boxes, and two laboratories containing thousands of lab pack size materials.

White's improper management of the stored containers resulted in numerous open containers, damaged or bulging, unlabeled containers, numerous spills onto the ground, inadequate isle space between drums, chemicals unsegregated, water reactive materials in the open yards, and the storage of ignitable waste within fifty (50) feet of the property line. The site has been secured as part of EPA's first phase of the removal action. However, due to the volume and nature of the hazardous substances and unknown substances, there continues to exist the potential for fire and/or explosion to occur, and a substantial risk of imminent and severe damage to the public health and safety and the environment.

On September 7, 1990, EPA performed a preliminary assessment of the White facility and found numerous air and water reactives in 55 gallon drums releasing acid gases into the ambient air. These releases and the overall condition of the site lead to a verbal approval of $150,000 to perform the overpacking of eleven drums and to secure these drums for future handling.

At the present time, EPA is in the process of stabilizing the site. This effort required the creation of a transfer mechanism which would transfer materials that are in such poor condition into new drums for staging and later disposal.

In addition there are two laboratories on site which EPA performed an assessment of on October 4th, after White was told by Bankruptcy Judge Moore to vacate the premises immediately. The types of chemicals found included; flammable liquids, corrosives, acids, oxidizers, and air/water reactives.

This site clearly continues to present a threat to public health and welfare as defined under Section 300.415 of the National Contingency Plan. Multiple pathways for the potential migration of hazardous substances off-site exist. The deteriorated condition of the drums and other containers, the clutter and proximity of incompatible materials, the local geography and close proximity of urban residential housing and industry are all contributing factors to the threat to public health and welfare.

## IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, and the environment.

## V. EXEMPTION from STATUTORY LIMITS

There is an immediate risk to public health, welfare, and the environment due to the magnitude of material presently on-site. The site contains over 8,000 drums, several hundred cylinders and tanks, fiberpacks, gallon bottles, carboys, boxes, and several hundred to a thousand lab size bottles.

A wide variety of flammables, acids, corrosives, poisons, oxidizers, air/water reactives and highly toxic chemicals were found stored together without adequate consideration of reaction potential in the event of breakage. At the present time we are staging the compatible materials together. However, this effort continues. The presence of water reactives such as phosphorus tribromide and the numerous different types of concentrated acids still present a threat to the surrounding 12,000 people within a 1/4 mile radius of the site. In addition, the air reactives such as red phosphorus increase this threat to neighboring adjacent facilities and residents.

Materials such as flammable compounds; such as acetone, xylene, alcohols and oxidizers are continually found throughout the other materials unsegregated. The oxidizers and air reactives pose a threat through the production of heat and toxic oxides in the event of a chemical reaction occurring. Many other hazardous chemicals may be found in the large volume of unknown or unlabelled containers during the removal action.

Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

The site is situated in a heavily populated and highly industrialized area of Newark. The four (4) acre property is located behind two active manufacturing facilities and adjacent to the south of another large clothing manufacturer along Frelinghuysen Ave., Newark, New Jersey. The site is currently secured, however, there have been several reports of break-ins and constant concern of material reacting due to the inability to keep vandals and vagrants off the site. The site also poses an imminent threat of direct contact with hazardous substances by nearby workers. There is concern for the three large manufacturing facilities adjacent to the facility along with the Major Eastern Corridor of Conrail and Newark International Airport directly east of the facility which in the case of fire may have to be closed until the fire could be controlled. Due to the large volume of materials (9,000 drums, carboys, cylinders) this fire would be difficult to control.

In this area, prevailing winds blow to the east. As a result, this could lead to a catastrophic event since during the day, there are approximately 8,000 people working within a one-quarter mile radius of the site.

Any one of a number of scenarios, to include human error could cause a chain of uncontrollable chemical reactions resulting in fire and the release of lethally toxic fumes.

The inventory of chemicals at the site includes, OSHA Class 1 flammable liquids, flammable solids, corrosives, poisons, oxidizers, acids, and air/water reactives. These materials are not segregated, and are incompatible and interactive materials are haphazardly stored in conjunction with one another. Containers were noted to be in various stages of deterioration, as indicated by corrosion and/or leakage. Numerous chemicals on site would liberate heat as part of any chemical reaction. As documented in the support documents, a combination of any two of a majority of chemicals found at the site could cause a violent or explosive reaction.

3. Assistance will not otherwise be provided on a timely basis

This site had been referred to the EPA by the New Jersey Department of Environmental Protection (NJDEP) in an August 24, 1990, memo requesting USEPA CERCLA removal action consideration.

This request was made due to NJDEP reaching their action ceiling of $825,000. No additional funding is available. Therefore neither State nor local government has the ability to perform the level of cleanup effort this site demands.

B. Consistency Exemption:

All actions taken will be consistent with remedial actions that would be expected to be undertaken based on site conditions. At this time, there are no remedial plans scheduled for this site.

## VI. PROPOSED ACTIONS AND ESTIMATED COSTS

### A. Proposed Actions

The objective of this second phase of the Removal action is to sample, analyze and dispose of all materials on-site.

Phase I included providing twenty-four hour security by guard service and was directed towards site stabilization. Buildings which could provide shelter for later staging and sampling were cleaned. Materials found within two of the four buildings were segregated. This task created room for the staging of a portion of the materials until they are transported for final disposal. However, due to the high volume of material found on-site not all of the segregation task has been completed.

Emergency access was also created for emergency on-site personnel. A transfer system was designed and constructed for the use of transferring material in very poor condition to new drums for further handling. Contingency plans were also developed in the event of a major release.

Due to the magnitude of volume of material, priority has been given to bring water/air reactives into the buildings and the segregation of all other materials will be continued during this second phase of the removal action.

In addition, the laboratories on site will be addressed and a lab packed for off-site disposal.

3. Project Schedule

Due to the amount of material; 8,000 drums, hundreds of cylinders, tanks, boxes, carboys, and lab size material; the total clean up of this site is estimated to be $ *** in funding. EPA's first phase was estimated to take 3 - 6 months.

4. Alternative Actions Considered

Due to NJDEP's funding ceiling being reached and further funding not being available, NJDEP had referred this site to EPA. As a result, EPA continues to address the imminent threat posed from this site to the nearby community. A removal action to stabilize and dispose of the enormous amount of hazardous waste is the only alternative.

On-site treatment of materials, such as the neutralization of some acids will be explored for cost effectiveness. Other materials will be bulked and disposed of off-site according to RCRA Off-Site Disposal Regulations.

B. Estimated Costs

Summary

| Extramural Costs | Current Ceiling | Costs to Date | Proposed Ceiling |
|---|---|---|---|
| Regional Allowance Costs: (This cost category includes OSC estimates for ERCs, subcontractors, Letter Contracts, order for services, Notices to Proceed, Alternative Technology Contracts, and IAGs. Also includes a 10-20% contingency) | $1,725,000 | $***** | $10,000,000 |
| Other Extramural Costs Not Funded From the Regional Allowance: | | | |
| Total TAT Costs: | $ 130,000 | $ | $ |
| Total ERT/REAC | | | |
| Subtotal, Extramural Costs | | | |
| Extramural Costs Contingency (20% of Subtotal) | $ | $ | $ |
| TOTAL, EXTRAMURAL COSTS AND CONTINGENCY | $ | $ | $ |

Intramural Costs:

| | | |
|---|---|---|
| Intramural Direct Costs (HQ and Region) | $ | $ |

X. RECOMMENDATION

The conditions at White Chemical continue to meet the criteria for CERCLA section 104(c) emergency exemption, and I recommend your approval of an exemption from the $2 million limitation and a ceiling increase of $ ****. The total project ceiling if approved will be $********* of which an estimated $***** will be for mitigation contractor costs.

Approved: Date:
Don Clay,

Disapproved: _____ Date: _____
Don Clay,
Regional Administrator

cc: (after approval is obtained)
C. Sidamon-Eristoff
R. Caspe, 2ERR
R. Salkie, 2ERR-ADREPP
G. Zachos, 2ERR-RAB
J. Marshall, 2OEP
D. Karlen, 2ORC-NJSUP
R. Gherardi, 2OPM-FIN
S. Anderson, PM -214F (Express Mail)
R. Cahill, 2OEP
S. Luftiq, OS-210
B. Aber, 2ORC-NJSUP
L. Miller, NJDEP
J. Trela, NJDEP
L. Grayson, NJDEP
C. Moyik, 2ERRD-PS
L. Guarneiri, OS-210
S. Becker, PSB

EXPRESS MAIL
RETURN RECEIPT

Roger A. Greenbaum, Esq.
Greenbaum Rowe Smith Raven Davis & Bergstein
Metro Corporate Campus One
P.O. Box 5600
Woodbridge, N.J. 07095-0988

Re: White Chemical Corporation Site

Dear Mr. Greenbaum:

On Friday, September 28, 1990 the United States Environmental Protection Agency, in conjunction with the Agency for Toxic Substances and Disease Registry (ATSDR), and with the written permission of Mr. White, entered the White Chemical Corporation Site (Site) to conduct further evaluations of conditions at the facility.

After a careful evaluation of the conditions at the facility, and with input from ATSDR, EPA has determined that the threat to public health and safety posed by White's facility is so imminent and substantial that the only effective way to ensure everyone's safety is to issue the enclosed Unilateral Administrative Order which requires that Mr. James White and all his personnel evacuate themselves from the facility and cease all business and any other operations. The enclosed Order has been issued to you pursuant to the authority of Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §9604(e).

Please be advised that the enclosed Order shall become effective 12:00 A.M., Tuesday, October 2, 1990.

This action is necessary in order to ensure the safety of EPA personnel and contractors, who will be performing removal activities at the facility, as well as Mr. White and his employees, employees at adjacent commercial facilities, residents who reside in close proximity to the facility, and others who are in close proximity to the facility.

during removal activities, the Respondent must cease all chemical manufacturing, work, research or other activities at the facility, and completely evacuate all personnel from the facility, from the day of commencement of the removal action, and for such time as is reasonably necessary to complete such activities.

ORDER

25. Based upon the foregoing FINDINGS AND DETERMINATION, IT IS HEREBY ORDERED that Respondent and any and all employees, agents, and all other persons under the direct or indirect control of Respondent, in accordance with paragraph 33, shall cease all chemical manufacturing, work, research or other activities at the facility, and completely evacuate all personnel from the facility, from the day of commencement of the removal action, and for such time as is reasonably necessary to complete such activities.

26. Respondent shall afford EPA, its officers, employees, or representatives, including but not limited to contractors and subcontractors, full and unrestricted access to all areas of the site for the purpose of conducting response activities which EPA deems necessary to address the release or threat of release of a hazardous substance pollutant or contaminant, from the effective date of this Order and for such time as is reasonably necessary to complete such activities.

27. Respondent and any and all employees, agents, and all other persons under the direct or indirect control of Respondent shall not interfere in any way with EPA's response activities described above, including entry onto the property unless Respondent has received written authorization from EPA, complies with all health and safety requirements, and is accompanied by a representative of EPA. Any such interference shall be deemed a violation of this Order.

28. This Order and all of its terms and provisions shall remain in effect until such time that all of the removal activities for the Site are completed and Respondent is notified of such completion in writing by the Director of the Emergency and Remedial Response Division, EPA - Region II.

29. Nothing herein shall constitute or be construed as a satisfaction or release from liability with respect to any conditions or claims arising as a result of past, current or future operations, ownership or use of the site by Respondent, its agents, contractors, successors or assigns.

30. Nothing contained in this Order shall affect any right, claim, interest, defense or cause of action of EPA with respect to Respondent or any third parties.

31. Nothing in this Order shall affect in any manner the right of EPA to issue any other Orders to the Respondent or to any other parties under CERCLA which relate to this Site.

32. Nothing herein shall preclude EPA from taking any additional enforcement actions, and/or other actions as it may deem necessary for any purposes, including but not limited to the prevention or abatement of an imminent and substantial danger to the public health, welfare or the environment arising from conditions at the Site, and recovery of costs thereof.

## NOTICE OF INTENTION TO COMPLY

33. Due to the imminent and substantial danger posed by Respondent's facility, this Administrative Order shall become effective on October 2, 1990. Respondents and all employees, agents, and all other persons under the direct or indirect control of Respondent, shall evacuate from the facility and cease operations at the facility by the effective date of this Order. On or before the effective date of this Administrative Order, Respondent shall provide written notice to EPA, certified return receipt requested, stating whether Respondent intends to comply with the terms of this Order. Such written notice shall be sent to, Bruce Aber, Assistant Regional Counsel, Office of Regional Counsel, U.S. Environmental Protection Agency, Region II, 26 Federal Plaza, Rm 309, New York, N.Y. 10278. In the event that Respondent fails to provide such notice, Respondent shall be deemed not to have complied with the terms of this Administrative Order.

## PENALTIES FOR NONCOMPLIANCE

33. Respondent is hereby advised that, pursuant to §§104(e)(5), 106(a), and 107(a) of CERCLA, as amended, 42 U.S.C. §§9604(e)(5), 9606(a) and 9607 (a), respectively, a court may assess civil penalties of up to $25,000 per day and other civil damages for each day that Respondent fails to comply with this Administrative Order or any part thereof.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Constantine Sidamon-Eristoff
Regional Administrator
U.S. Environmental Protection Agency
Region II

9/28/90
Date of Issuance

If you have any questions please feel free to contact me at (212) 264-5547.

Sincerely yours,

Bruce H. Aber
Assistant Regional Counsel

Enclosure

cc: Kenneth S. Goodkind, Esquire
Mr. James White

31. Nothing in this Order shall affect in any manner the right of EPA to issue any other Orders to the Respondent or to any other parties under CERCLA which relate to this Site.

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Constantine Sidamon-Eristoff
Regional Administrator
U.S. Environmental Protection Agency
Region II

9/28/90
Date of Issuance

EXPRESS MAIL
RETURN RECEIPT

Roger A. Greenbaum, Esq.
Greenbaum Rowe Smith Raven Davis & Bergstein
Metro Corporate Campus One
P.O. Box 5600
Woodbridge, N.J. 07095-0988

Re: White Chemical Corporation Site

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Please be advised that the enclosed Order shall become effective 12:00 A.M., Tuesday, October 2, 1990.

This action is necessary in order to ensure the safety of EPA personnel and contractors, who will be performing removal activities at the facility, as well as Mr. White and his employees, employees at adjacent commercial facilities, residents who reside in close proximity to the facility, and others who are in close proximity to the facility.

If you have any questions please feel free to contact me at (212) 264-5547.

Sincerely yours,

Bruce H. Aber
Assistant Regional Counsel

Enclosure

cc: Kenneth S. Goodkind, Esquire
Mr. James White

REFERENCE NO. 57

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007782-50-5 SIC-CODE(S): 2869 DCN: 13-87-01020443-4-NJ
CHEMICAL NAME: CHLORINE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 12 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 12 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 0 |
| OTHER OFF-SITE LOCATIONS | | | | 0 |
| ** TOTALS FOR TRANSFERS: | | | | 0 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | X REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007782-50-5 SIC-CODE(S): 2869 DCN: 13-88-02563216-3-NJ
CHEMICAL NAME: CHLORINE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 5 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 5 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 0 |
| OTHER OFF-SITE LOCATIONS | | | | 0 |
| ** TOTALS FOR TRANSFERS: | | | | 0 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | X REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007647-01-0 SIC-CODE(S): 2869 DCN: 13187-01020442-2-NJ
CHEMICAL NAME: HYDROCHLORIC ACID

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 10,804 |
| STACK/POINT AIR EMISSION | | | | 188 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 10,992 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 8,625 |
| OTHER OFF-SITE LOCATIONS | | | | 0 |
| ** TOTALS FOR TRANSFERS: | | | | 8,625 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | X BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007647-01-0 SIC-CODE(S): 2869 DCN: 13-88-02563214-8-NJ
CHEMICAL NAME: HYDROCHLORIC ACID

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 15,507 |
| STACK/POINT AIR EMISSION | | | | 90 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 15,597 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 13,320 |
| OTHER OFF-SITE LOCATIONS | | | | 0 |
| ** TOTALS FOR TRANSFERS: | | | | 13,320 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | X BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007440-36-0 SIC-CODE(S): 2869 DCN: 13-87-01020441-0-NJ
CHEMICAL NAME: ANTIMONY

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 0 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 0 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 0 |
| OTHER OFF-SITE LOCATIONS | | | | 1,000 |
| ** TOTALS FOR TRANSFERS: | | | | 1,000 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | X FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 007440-36-0 SIC-CODE(S): 2869 DCN: 13-88-02563215-1-NJ
CHEMICAL NAME: ANTIMONY

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 0 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 0 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 0 |
| OTHER OFF-SITE LOCATIONS | | | | 700 |
| ** TOTALS FOR TRANSFERS: | | | | 700 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | X FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

- releases toxic fumes when mixed with acid → $Sb H_3$ ↑

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 001330-20-7 SIC-CODE(S): 2869 DCN: 13-87-01020445-9-NJ
CHEMICAL NAME: XYLENE (MIXED ISOMERS)

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 1,362 |
| STACK/POINT AIR EMISSION | | | | 185 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 1,547 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 4,965 |
| OTHER OFF-SITE LOCATIONS | | | | 10,800 |
| ** TOTALS FOR TRANSFERS: | | | | 15,765 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | X PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 001330-20-7 SIC-CODE(S): 2869 DCN: 13-88-02563219-9-NJ
CHEMICAL NAME: XYLENE (MIXED ISOMERS)

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 738 |
| STACK/POINT AIR EMISSION | | | | 74 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 812 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 34 |
| OTHER OFF-SITE LOCATIONS | X | | | 0 |
| ** TOTALS FOR TRANSFERS: | | | | 34 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | X PROCESS AID | MANUFTR AID | ANCILLARY | | | |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 001163-19-5 SIC-CODE(S): 2869 DCN: 13-87-01020444-6-NJ
CHEMICAL NAME: DECABROMODIPHENYL OXIDE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 0 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 0 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 11,139 |
| OTHER OFF-SITE LOCATIONS | | | | 28,770 |
| ** TOTALS FOR TRANSFERS: | | | | 39,909 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | X PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 001163-19-5 SIC-CODE(S): 2869 DCN: 13-88-02563218-7-NJ
CHEMICAL NAME: DECABROMODIPHENYL OXIDE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 0 |
| STACK/POINT AIR EMISSION | | | | 0 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 0 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 5 |
| OTHER OFF-SITE LOCATIONS | | | | 17,950 |
| ** TOTALS FOR TRANSFERS: | | | | 17,955 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | X PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | PROCESS AID | MANUFTR AID | ANCILLARY | | | |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
TOXIC RELEASE INVENTORY SYSTEM



GEOGRAPHIC LOCATION REPORT FOR REGION: 02 STATE: NJ ZIP CODE: 07114

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORPORATION | 660 FRELINGHUYSEN AVENUE | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 000107-06-2 SIC-CODE(S): 2869 DCN: 13-87-01020440-8-NJ
CHEMICAL NAME: 1,2-DICHLOROETHANE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 11,687 |
| STACK/POINT AIR EMISSION | | | | 2,708 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 14,395 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 225,467 |
| OTHER OFF-SITE LOCATIONS | | | | 28,000 |
| ** TOTALS FOR TRANSFERS: | | | | 253,467 |

** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | X PROCESS AID | MANUFTR AID | ANCILLARY | | | |

| RGN | TRI-FACILITY-ID | FACILITY NAME | ADDRESS | CITY / STATE | ZIP | EPA-ID |
|---|---|---|---|---|---|---|
| 02 | 07114WHTCH660FR | WHITE CHEMICAL CORP. | 660 FRELINGHUYSEN AVE. | NEWARK NJ | 07114 | NJD980755623 |

CAS NUMBER : 000107-06-2 SIC-CODE(S): 2869 DCN: 13-88-02563217-5-NJ
CHEMICAL NAME: 1,2-DICHLOROETHANE

| TYPES OF RELEASES (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| FUGITIVE AIR EMISSION | | | | 832 |
| STACK/POINT AIR EMISSION | | | | 310 |
| DISCHARGE TO WATER | | | | 0 |
| UNDERGROUND INJECTION | | | | 0 |
| RELEASE TO LAND | | | | 0 |
| ** TOTALS FOR RELEASES: | | | | 1,142 |

| TYPES OF TRANSFERS (SUMMARY) | 00 LB. | 1-499 LBS. | 500-999 LBS. | ESTIMATE IN LBS. |
|---|---|---|---|---|
| DISCHARGE TO POTW | | | | 89 |
| OTHER OFF-SITE LOCATIONS | | | | 55,000 |
| ** TOTALS FOR TRANSFERS: | | | | 55,089 |

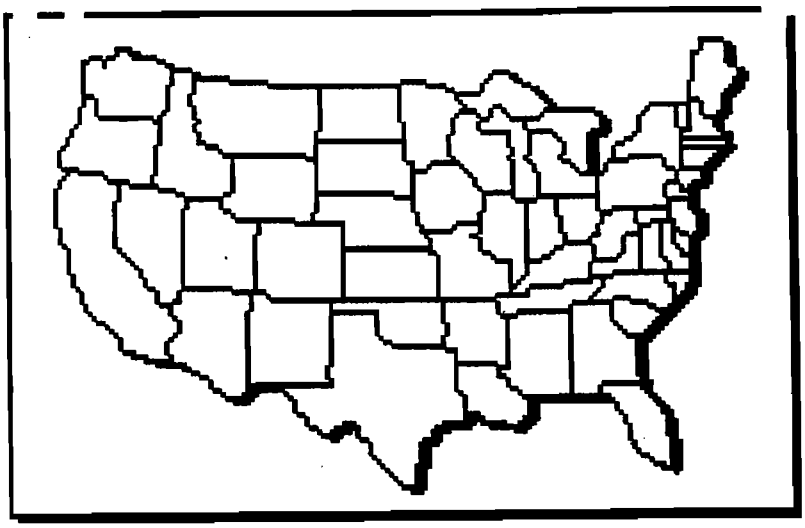
** TYPES OF ACTIVITY/USES **

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUFACTURE : | PRODUCE | IMPORT | ON-SITE USE | SALE/DISTR | BYPRODUCT | IMPURITY |
| PROCESS : | REACTANT | FORMULATION | ARTICLE | REPACKAGING | | |
| OTHERWISE USED: | X PROCESS AID | MANUFTR AID | ANCILLARY | | | |

REFERENCE NO. 58

From the U.S. Environmental Protection Agency, Office of Toxic Substances

# Toxics Release Inventory 1987



- Entire U.S. on tape
- Reporting facilities directory also on tape
- By state on diskette
- Executive Summary and National Report in paper copy

NTIS
U.S. Department of Commmerce
5285 Port Royal Rd
Springfield, VA 22161
703-487-4650

PR-859
1/90

# TOXICS RELEASE INVENTORY 1987

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as Title III) of the Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499) requires EPA to establish an inventory of routine toxic chemical emissions from certain facilities. Facilities subject to this reporting requirement are required to complete a Toxic Chemical Release Report (Form R) for specified chemicals. These reports must be submitted on or before July 1 of each year, reflecting releases during the preceding calendar year.

The purpose of this reporting requirement is to inform the public and government officials about routine releases of toxic chemicals to the environment. It will also assist in research and the development of regulations, guidelines, and standards.

The reporting requirement applies to owners and operators of facilities that have 10 or more full-time employees, that are in Standard Industrial Classification (SIC) codes 20 through 39 (i.e., manufacturing facilities) and that manufacture (including importing), process or otherwise use a listed toxic chemical in excess of specified threshold quantities. There are over 300 chemicals and categories on these lists.

The Toxic Chemical Release Report Form R for 1987, the first reporting year, includes the following information:

- the name, location and type of business
- off-site locations to which the facility transfers toxic chemicals in waste
- whether the chemical is manufactured (including importation), processed or otherwise used
- general categories of use of the chemical
- an estimate (in ranges) of the maximum amounts of the toxic present at the facility
- quantity of the chemical entering each medium - air, land, and water - annually
- waste treatment/disposal methods and efficiency of methods for each waste stream

To order **Toxic Release Inventory (TRI) 1987,** (on magnetic tape) use order number **PB89-186068.** The price is $1770 at 1600 bpi density, and $890 at 6250 bpi density.

**REFERENCE NO. 59**

U.S. EPA SUPERFUND PROGRAM

** C E R C L I S **

LIST-4: SITE ALIAS LOCATION LISTING

REPORT OPTIONS: EXTERNAL REPORT
LEVEL: REGION 02
SELECTION: INTEGRATED
SEQUENCE: REG, ST, SITE NAME, ALIAS SEQ NO.

REGION: 02

| EPA ID | SITE/ALIAS NAME<br>STREET<br>CITY<br>COUNTY NAME | STATE<br>COUNTY | ZIP<br>CODE | ALIAS SEQ. # | NAME SOURCE | FED FAC |
|---|---|---|---|---|---|---|
| NJD047504139 | WHEATON PLASTIC CONTAINERS CO<br>NEW HAMPSHIRE AV<br>LAKEWOOD TWP<br>OCEAN | NJ<br>029 | 08701 | | EPA | N |
| NJD980766810 | WHIPPANY PAPER BOARD CO INC<br>EDEN LN<br>WHIPPANY (HANOVER TWP)<br>MORRIS | NJ<br>027 | 07981 | | EPA | N |
| NJD980755623 | WHITE CHEMICAL<br>660 FRELINGHUYSEN AVE<br>NEWARK<br>ESSEX | NJ | | | | N |
| | WHITE CHEMICAL | | | 01 | | |
| | ESSEX | NJ | | | | |
| NJD001239185 | WHITE CHEMICAL CORP<br>FOOT OF E 22ND ST<br>BAYONNE<br>HUDSON | NJ<br>017 | 07002 | | EPA | N |
| NJD980770697 | WHITESVILLE ROAD<br>WHITESVILLE RD<br>DOVER<br>MORRIS | NJ<br>027 | 07801 | | EPA | N |
| | WHITESVILLE ROAD SITE | | | 01 | | |
| NJD982187429 | WILDWOOD COAL GAS SITE<br>WEST GARFIELD & LINCOLN AVES.<br>WILDWOOD<br>CAPE MAY | NJ<br>009 | 08260 | | EPA | N |
| | JCPL - FORMER GAS PLANT | | | 01 | | |
| NJD981143035 | WILDWOOD PUMP STATION<br>ROUTE 47<br>RIO GRANDE<br>CAPE MAY | NJ<br>009 | 08242 | | EPA | N |

REFERENCE NO. 60

Let's protect our earth

# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
Metro Regional Office
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3960

*John J. Trela, Ph.D., Director*

7-14-89

M E M O R A N D U M

Y.Y.

TO: Yacoub E. Yacoub, Bureau Chief
Metro Bureau of Enforcement

FROM: Arnold Schiff, Principal Environmental Specialist

RE: White Chemical investigation

DATE: March 29, 1990

On March 23, 1990 this investigator arrived at White Chemical located at 660 Frelinghysen Avenue, Newark to investigate if there were spills or discharges at the site. There were numerous spills of hazardous substances (including but not limited to phosphoric acid, sulfuric acid and ethylene dichloride (EDC).

An estimate (without actual count of the number of drums on site is 2,000 to 4,000 (this include empties, virgin product intermediates and waste.

A more accurate assessment of the number of drums should be taken.

Notices of violation were issued for the discharges and non notification.

AS:jap

**State of New Jersey**
**Department of Environmental Protection and Energy**
Division of Publicly Funded Site Remediation
CN 413
Trenton, NJ 08625-0413
Tel. # 609-984-2902
Fax. # 609-633-2360

Scott A. Weiner
*Commissioner*

Anthony J. Farro
*Director*

# M E M O R A N D U M

TO: SCOTT A. WEINER, COMMISSIONER
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

THROUGH: LANCE R. MILLER, ASSISTANT COMMISSIONER
SITE REMEDIATION PROGRAM

FROM: ANTHONY J. FARRO, DIRECTOR
DIVISION OF PUBLICLY FUNDED SITE REMEDIATION

SUBJECT: WHITE CHEMICAL CORPORATION (NEWARK) SUPERFUND SITE:
STATE SUPERFUND CONTRACT (SSC)
FUNDING AUTHORIZATION FOR STATE 10% MATCH ($2,209,600)

Attached for your signature are two documents regarding the remedial activities at the White Chemical Corporation site in Newark, Essex County. The first item attached for your approval is a state funding authorization for $2,209,600 to cover 10% of the anticipated cost of the remedial action which is the State's responsibility. Please be advised that the Contract Amendment cannot be legally approved unless the funding authorization is also approved.

The second document (two copies, executed by EPA) is the Superfund State Contract defining the relationship between USEPA and NJDEPE with regard to this site. This document complies with current protocols and covers specific remedial activities which were embodied in the Record of Decision (ROD) for Operable Unit No.1 which was issued in September 1991.

The White Chemical Corporation site is a 4.4-acre, inactive facility that formerly manufactured acid chlorides and flame retardant compounds. The site is located at 660 Frelinghuysen Avenue in a heavily populated and industrialized area of Newark, Essex County, New Jersey. The White Chemical Corporation (WCC) operated the facility from 1983 until July 1990 when it ceased most operations. In September 1990 EPA ordered WCC to discontinue all operations and evacuate the facility. EPA conducted a site assessment and recommended the site for the NPL in May 1991.

When discovered, the site had 10,900 55-gallon drums of hazardous substances, precariously stacked or otherwise improperly stored throughout the site. Following the issuance of a health consultation by the Agency for Toxic Substances and Disease Registry (ATSDR) EPA started an emergency removal action which has resulted in the removal of 4200 drums from the site, overpacking of other leaking or fuming drums, installation of a fence and provision of 24-hour security. At the same time, EPA developed a Focused Feasibility Study (FFS) which evaluated a limited number of alternatives for addressing the remaining surface contamination at the site. This FFS was the basis for the OU-1 ROD.

The remedy covered in the OU-1 ROD will address surface contamination only (e.g.j, drums, tanks, laboratory containers) and further stabilize the site until an overall, permanent remedy can be selected. Other potentially contaminated media, including soil, ground water, surface water, and buildings will be addressed at a later date when a comprehensive RI/FS will be performed.

The Amendment has been reviewed by both the Attorney General's Office and NJDEPE's Grants Management group (DFMPGS) as well as this Division. We recommend that the Department approve Amendment No.1 and the necessary funding.

Directives are being prepared demanding that the potential responsible parties (PRPs) pay the State the amount of the State's 10% match. The directives will be sent by April 15 which is before the State would be required to pay its first payment under Amendment No.1. This schedule will preserve the treble damages provision under the law and allow three to four weeks for the PRPs to respond.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

RECEIVED
NOV 20 1991
COMMISSIONER'S OFFICE

NOV 19 1991

Honorable Scott A. Weiner
Commissioner
New Jersey Department of
Environmental Protection and Energy
401 East State Street
Trenton, New Jersey 08625

Dear Commissioner Weiner:

Enclosed are two copies of the Superfund State Contract for the White Chemical Corporation site located in Essex County, Newark, New Jersey.

This contract includes an estimated cost for the interim remedial action for the surface contamination at the site. The action is the continuation of the removal action but will include the removal of the hazardous substances from the site.

Please sign and date both copies of the contract, each of which should be considered an original. Retain one copy for your files, and return the other to Mr. Ronald J. Borsellino, Chief of New Jersey Superfund Branch I, at 26 Federal Plaza, Room 711, New York, New York 10278.

Sincerely,

Constantine Sidamon-Eristoff
Regional Administrator

Enclosures

cc: Anthony Farro, NJDEPE

PRINTED ON RECYCLED PAPER

**State of New Jersey**
**Department of Environmental Protection and Energy**
Division of Financial Management and General Services
CN 402
Trenton, NJ 08625-0402
Tel. # 609-292-9230
Fax. # 609-633-3727

Scott A. Weiner
*Commissioner*

Ronald S. Tuminski
*Director*

March 17, 1992

Mr. Ronald J. Borsellino, Chief
New Jersey Superfund Branch I
U.S. Environmental Protection Agency
Region II
26 Federal Plaza, Room 711
New York, New York 10278

**RE: Superfund State Contracts**

Dear Mr. Borsellino:

Enclosed is one signed original for each of the following Superfund State Contracts:

- Helen Kramer Landfill
- White Chemical Corporation
- Bog Creek Farm
- Waldick Aerospace Devices

If further information is necessary, please contact Reneẽ DiLapo at (609) 984-3615.

Sincerely,

Ronald S. Tuminski, Director
Division of Financial Management
and General Services

RST:mtr

c: Director Farro

SUPERFUND STATE CONTRACT

BETWEEN

THE STATE OF NEW JERSEY

AND THE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FOR REMEDIAL ACTIVITIES RELATED TO THE

WHITE CHEMICAL CORPORATION SITE

IN THE STATE OF NEW JERSEY

A. Authority

This Superfund State Contract (the "Contract") is entered into pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §9601 et seq.

B. Purpose

This Contract is an agreement between the United States Environmental Protection Agency ("EPA") and the State of New Jersey (the "State") to conduct remedial activities at the White Chemical Corporation site (the "Site") in Newark, Essex County, New Jersey.

Attached and incorporated herein as Appendix A is a description of the Site. This Contract covers only Task II of the activities described in the Statement of Work (the "SOW") attached hereto and incorporated herein as Appendix B. This Contract may be amended pursuant to Paragraph N to undertake additional remedial activities beyond Task II of the SOW.

C. Parties' Representatives

1. EPA has designated Ronald J. Borsellino, Chief of the New Jersey Superfund Branch I, United States Environmental Protection Agency, Region II, 26 Federal Plaza, New York, New York 10278, (212) 264-1870 to serve as EPA Project Officer for this Contract.

2. The State has designated Edward Putnam, Assistant Director, Division of Publicly Funded Site Remediation, New Jersey Department of Environmental Protection and Energy, CN 413, 401 East State Street, Trenton, New Jersey 08625, (609) 984-2990, to serve as the State Project Officer for this Contract.

D. Procurement

The EPA shall employ contractors to do the work described in Task II of the SOW and shall make all payments to the contractors for that work.

E. Financial Responsibilities of the Parties and Payments

1. EPA shall contribute 90 percent of the costs of Task II, provided, however, that it shall not be required to contribute more than $19,886,400 for Task II unless this Contract is amended in writing to provide for a higher limit on expenditures for the work covered by that Task. The State shall contribute 10 percent of the cost of Task II, provided, however, that it shall not be required to contribute more than $2,209,600 for Task II unless this Contract is amended to provide for a higher limit in expenditures for the work covered by that Task. Expenditures by EPA of the funds contributed by the State shall not ensure actions at the Site beyond those specified in this Contract.

2. EPA and the State each shall, in addition to its contributions to the costs of the work described in the SOW as specified above, be responsible for furnishing the personnel, materials, services and facilities

necessary for or incidental to the performance of its other obligations under the Contract, except as covered by a separate support agency (management assistance) cooperative agreement.

3. Payment Schedule. The State shall make its payments for construction costs under this agreement according to the following terms and conditions:

a. The State shall pay EPA six percent (6%) ($1,325,760) of the estimated cost of the construction phase within sixty (60) days of the submission of an invoice to the State by EPA after execution of this Contract.

b. The State shall pay EPA three percent (3%) ($662,880) of the estimated cost of the construction phase within sixty (60) days of the submission of an invoice to the State by EPA after notification by EPA of the issuance of "Notice of Substantial Work Completion" of the remedial construction contract.

c. After the final total cost is determined and supporting documentation is provided to the State as provided in Paragraph E.4, final payment by or reimbursement to the State will be made as

follows:

i. If the State statutory share of the final total cost is greater than the amount provided to EPA under subparagraphs E.3.a,b and c, the State shall pay EPA the balance of its statutory share within sixty (60) days of submission of an invoice to the State by EPA.

ii. If the State statutory share of the final total cost is less than the amount provided to EPA under subparagraphs E.3.a and b, EPA agrees to reimburse any such overpayment to the State within sixty (60) days after State submission of an invoice for reimbursement for these excess funds, subject to the availability of federal funds.

4. Within sixty (60) days of the date EPA makes the final payments to the contractors for the work described in Task II of the SOW, EPA shall calculate a final total cost for that work. The final total cost will be the sum of all payments to contractors for that work. EPA shall give the State Project Officer notice of the final total cost promptly after calculating the cost, and simultaneously shall give the Project Officer

and simultaneously shall give the Project Officer copies of the invoices or other documentation supporting said cost.

5. The instruments of payment by the State shall be made payable to "USEPA - Hazardous Substances Superfund" and shall be sent to:

U.S. Environmental Protection Agency
Region II
P.O. Box 360188M
Pittsburgh, Pennsylvania 15251

The State shall enclose identification with the instrument of payment stating the site for which payment is being made and whether payment is for a state statutory share.

6. All EPA refunds to the State shall be made payable to "Treasurer, State of New Jersey" and shall be sent to:

New Jersey Department of Environmental Protection and Energy
Division of Financial Management and General Services
CN 402
Trenton, New Jersey 08625
Attention: Ronald S. Tuminski

7. If the parties amend this Contract to include any additional work as part of Task II, beyond that already specified in Task II of the SOW, the final total cost of the work shall be calculated and applied in the same manner as specified for Task II.

F. Duration

This Contract shall become effective upon execution by both parties and shall remain in effect until September 30, 1993, or until completion of the activities described in the SOW whichever occurs later. The parties may agree to extend, by amendment, the duration of the Contract for the period necessary to implement any response activities that the parties agree to undertake beyond those defined in the SOW.

G. Off-site Storage, Destruction, Treatment or Disposition

1. Should EPA determine that off-site storage, destruction, treatment, or disposition (collectively, "Off-site Disposition") of hazardous substances is required for implementation of Task II of the SOW, it shall attempt to arrange for such Off-site Disposition, provided, however, that ultimate responsibility to arrange for Off-site Disposition rests with the State. In the event that EPA is unable to arrange for such

Off-site Disposition, the State shall, at EPA's request, make available a hazardous waste disposal facility which has adequate capacity and which meets the requirements of 42 U.S.C. §9621(d)(3). The State agrees to furnish all legal and technical assistance necessary to accomplish such Off-site Disposition. Failure of the Parties to arrange for such Off-site Disposition shall be cause for termination of this Contract.

2. As required by CERCLA section 104(c)(9) and section 300.510(e)(1) of the National Oil and Hazardous Substances Pollution Contingency Plan, the State represents in its Capacity Assurance Plan ("CAP") that it has provided for facilities which have adequate capacity for the destruction, treatment, or secure disposition of all hazardous wastes that are reasonably expected to be generated within the state during the 20-year period following the date of this Contract. The above referenced CAP and EPA required conditions are incorporated in a letter dated March 12, 1990 from Regional Administrator Constantine Sidamon-Eristoff addressed to New Jersey Governor James Florio. The State hereby renews its representations regarding compliance with Section 104(c)(9), given to EPA on October 17, 1989 and approved with conditions on

March 12, 1990, and EPA accepts the State's representation as meeting statutory requirements.

H. Maintenance

The parties do not anticipate the need for any Maintenance (for the purpose of this Contract, the term "Maintenance" shall mean operating, repairing, servicing, environmental monitoring or any other activity necessary to insure normal performance and continuation in a good and serviceable condition) with regard to Task II. Pursuant to 42 U.S.C. §9604(c)(3), as amended, if any Maintenance is necessary, the State shall assure all future Maintenance during the expected life of Task II, which will be determined by amendment.

I. Permits

In accordance with 42 U.S.C. §9621(e) and 40 CFR 300, Federal, State, and local permits are not required for on-site Fund-financed remedial actions. Subject to the provisions of 42 U.S.C. section 9621, EPA shall, however, attain or exceed applicable or relevant and appropriate Federal, state or local public health or environmental requirements that have been identified for this Site consistent with the Record of Decision. Remedial actions

which involve the storage, treatment or disposal of hazardous substances at off-site facilities shall involve only off-site facilities that are operating under appropriate Federal and state permits or authorization and other legal requirements.

J. Site Access

1. EPA shall attempt to secure access to the Site for itself, its agents and representatives, and for contractors performing the work described in the SOW. The State, however, shall assist EPA as requested, and shall retain to the extent of its legal authority the responsibility for obtaining site access if EPA efforts are not successful.

2. With reasonable advance notice to the EPA Project Officer, and upon condition that they comply with any site safety plan then in effect, employees and other representatives of the State shall have access to the Site.

K. Acquisition of Interests in Real Property

To the extent that any interests in real property are necessary for performance of the Contract and if such interests have not been acquired by the State, EPA shall use

its best efforts to acquire such interests. The State agrees to accept transfer of such interests following completion of the remedial action, in accordance with CERCLA. The cost of acquiring such interest in real property shall be paid for as provided in paragraph E.1. Further, the State agrees to furnish all legal and technical assistance necessary to accomplish such acquisition by EPA. Nothing in this Contract shall impair or otherwise affect the right of the United States or the State to file any lien(s) on the real property which is the subject of this Contract pursuant to the provisions of SARA or pursuant to any other statutory or equitable grounds.

L. Information Regarding the Site

1. At EPA's request, and to the extent allowed by State law, the State shall make available to EPA any information in its possession concerning the Site, with the exception of deliberative and policy documents which the State would not otherwise be required to disclose, including those documents subject to the attorney - client privilege. At the State's request, and to the extent allowed by Federal law, EPA shall make available to the State any information in its possession concerning the Site, with the exception of deliberative and policy documents which the EPA would not otherwise

be required to disclose, including those documents subject to the attorney - client privilege.

2. If any information is provided to EPA by the State under a claim of confidentiality, it will be treated in accordance with 40 CFR Part 2 if the State has given EPA notice of the claim of confidentiality. EPA will not disclose information submitted under a claim of confidentiality unless EPA is required to do so by federal law and has given the State ten (10) working days advance notice of EPA's intent to release that information. Absent notice of such claim, EPA may make said information available to the public without further notice.

3. If any information is provided to the State by EPA under a claim of confidentiality, it shall be treated in accordance with State law if EPA has given the State notice of the claim of confidentiality. The State shall not disclose information submitted under a claim of confidentiality unless the State is required to do so by State law and has given EPA ten (10) working days advance notice of the State's intent to release that information. Absent notice of such claim, the State may make said information available to the public without further notice.

M. Failure to Comply with Terms of Contract

1. If the State fails to comply with the terms of the Contract, EPA may proceed under the provisions of 42 U.S.C. §9604.

2. If EPA fails to comply with the terms of the Contract, no action for damages or any other form of remedy shall be commenced until the State has given EPA sixty (60) days written notice of intent to file suit.

N. Amendments

Any change in this Contract must be agreed to by both parties in writing.

O. Community Relations Plan

EPA will develop and implement a Community Relations Plan.

P. Third Parties

1. This Contract is intended to benefit only the State and EPA. It extends no benefit or right to any third party.

2. Neither EPA nor the State assumes any liability to third persons with respect to losses due to bodily injury or property damages resulting in any way from work performed in connection with this Contract, nor does either party waive any rights or immunities provided by law.

3. The execution of this Contract does not constitute a waiver of EPA's right to bring an action against any person or persons for appropriate relief under any provision of CERCLA or any other provision of law.

4. The execution of this Contract does not constitute a waiver of the State's right to bring an action against any person or persons for appropriate relief under any applicable State or Federal law.

Q. Enforcement and Cost Recovery

1. **Disclaimer of Agency Relationship**

Nothing contained in the Contract shall be construed to create, either expressly or by implication, the relationship of agency between EPA and the State. Any standards, procedures or protocols prescribed in this Contract to be followed by EPA or its contractors during the performance of its obligations under this

Contract are for assurance of the quality of the final product of the actions contemplated by this Contract and do not constitute a right to control the actions of the EPA. EPA (including its employees and contractors) is not authorized to represent or act on behalf of the State in any matter relating to the subject matter of this Contract and the State (including its employees and contractors) is not authorized to represent or act on behalf of the EPA in any matter relating to the subject matter of this Contract.

2. **Notice of Intent to Settle or to Initiate Proceedings** EPA and the State agree that, with respect to the claims which each may be entitled to assert against any third person (herein referred to as the "responsible party," whether one or more) for response activity at the Site described in this Contract, neither EPA nor the State will commence settlement negotiations with a responsible party except after having given prior written notice to the other party to this Contract in advance of the commencement of settlement negotiations, nor will EPA or the State enter into a settlement with, or initiate a judicial or administrative proceeding against, a responsible party except after having given notice in writing to the other party to this Contract not less than thirty (30) days in advance of the date

of the proposed settlement or commencement of the proposed judicial or administrative proceedings. Neither party to this Contract shall attempt to negotiate on behalf of the other party, and authority to do so is hereby expressly negated and denied.

3. **Cooperation and Coordination in Enforcement and Cost Recovery Efforts**

EPA and the State agree that they will cooperate and coordinate efforts to recover their respective costs for response actions taken at the Site described herein, including settlement negotiations and the filing and management of any judicial actions against potentially responsible parties. This shall include coordination in the use of evidence and witnesses and in the preparation and presentation of any enforcement or cost recovery action. Any documents or information which may be confidential under the provisions of any applicable State or Federal law or regulation may be withheld notwithstanding the terms of this paragraph.

4. **Judicial Action**

EPA and the State agree that any judicial action taken pursuant to CERCLA by either party against a potentially responsible party for recovery of any sums expended in response actions at the Site described

herein shall be filed in the United States District Court for the judicial district in which the Site is located, or in such other judicial district of the United States as may be authorized by 42 U.S.C. §9613 and agreed to in writing by the parties to this Contract.

5. **Assumption of Work by Responsible Party**

a. If any responsible party notifies EPA in a timely manner of its willingness to perform the activities delineated in the Statement of Work and Scope of Work attached hereto, and any amendments thereto, EPA shall immediately notify the State of such offer and, after consultation with the State, will determine whether to offer the responsible party the opportunity to undertake the work. If EPA decides to make such an offer, it shall notify the State in writing of that fact. EPA then will provide the responsible party with a detailed work plan identifying the work to be performed. The responsible party shall have two (2) weeks in which to review the detailed work plan and to indicate its desire to undertake the activities described therein. If EPA, after consultation with the State, determines that the responsible party is capable of properly and promptly

performing the work, it may enter into an agreement with the responsible party for the work.

b. If EPA determines that the responsible party is unable or unwilling to perform any of the activities of the Scope of Work and/or Statement of Work in a manner acceptable to EPA, EPA will promptly so notify the State in writing.

c. Each party recognizes that any agreement it executes with a responsible party pursuant to this paragraph shall not be construed to waive or limit such rights as the other party may have to enter into a different settlement with, initiate a judicial or administrative proceeding against, or assert any claims against said responsible party consistent with such laws, regulations and policies as may apply to the performance of remedial measures at the Site.

d. If EPA enters into a settlement with a responsible party to undertake the work covered by Task II of the SOW after the State has paid its statutory cost share, as defined in paragraph E.1., EPA will reimburse the State for such costs within sixty (60) days after State submission of an invoice for

reimbursement for these funds, subject to the availability of federal funds.

6. **Evidence Documentation**

EPA shall implement the standard agency protocol for the documentation of evidence at the Site.

In witness whereof, the parties hereto have executed this Contract for remedial activities at the White Chemical Corporation site in two (2) copies, each of which shall be deemed an original.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region II Administrator — Date

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

Commissioner — Date

Approved as to Legality and Form
ATTORNEY GENERAL OF NEW JERSEY
By:

Date

APPENDIX A
SITE DESCRIPTION
AND
SCOPE OF WORK

White Chemical Corporation
Interim Remedial Action

SITE DESCRIPTION

The White Chemical Corporation site is a 4.4-acre, inactive facility that manufactured acid chlorides and flame retardant compounds from 1983 until 1990. The site is located at 660 Frelinghuysen Avenue in a heavily populated and industrialized area of Newark, Essex County, New Jersey.

Approximately 10,900 drums were found improperly stored and precariously stacked throughout the site. Other containers found on the site include 150 cylinders, 126 tanks, hundreds of fiberpack drums, gallon bottles, carboys, boxes, and approximately 12,000 laboratory-size containers. Drums and other containers were found in various stages of deterioration, fuming, and leaking material onto the soil. Numerous stains were observed on the soil. Due to on-going removal action, 4,200 empty drums have been shipped off site and approximately 6,700 staged drums remain on the site along with 12,000 laboratory-size containers which have been staged and segregated, 10 gas cylinders and 126 tanks. The contents of the drums are unknown because of a lack of labeling or the presence of multiple labels. Other containers were found labeled "Salvage-Hazardous Waste Rejected".

Following the completion of a focused feasibility study, a Record of Decision was signed in September 1991, selecting the remedy for the surface contamination at the site. The remedy selected is the continuation of the removal action but includes the removal of the hazardous substances from the site.

SELECTED REMEDY:

The remedy selected by the EPA and the State of New Jersey includes the following components:

- Appropriate security measures;
- Site stabilization;
- On-site pretreatment or neutralization of contaminated material;
- Off-site treatment, recycling, or disposal of contaminated material;

- Decontamination and off-site disposal or recycling of empty drums and small containers;
- Decontamination and on-site storage of tanks and process piping; and
- Appropriate environmental monitoring to ensure the effectiveness of the remedy.

WORK STATEMENT:

The EPA will be responsible for:

1. Oversight of contractor when implementing the remedial action.
2. Managing the contract for the remedial action to ensure that the remedy is implemented in compliance with all federal, state, and local requirements.
3. Performing community relations activities as necessary.
4. The contractor will provide support or assistance as necessary for other activities including but not limited to:
   a. performing community relations activities,
   b. obtaining access to private property for all remedial activities,
   c. ensuring compliance with all applicable Federal, State and local laws and regulations, and
   d. reproducing and distributing documents.

APPENDIX B
STATEMENT OF WORK

White Chemical Corporation
Interim Remedial Action

Engineering and construction services necessary to complete the following tasks:

I. A focused feasibility study was prepared to determine the nature and extent of surface contamination at the site and to develop and evaluate remedial alternatives. This study formed the basis for the Record of Decision signed on September .....

Final Estimated Cost: $ NA (Task completed)

II. Implement the selected remedial action to address the surface contamination for the site.

Estimated Cost: $ 22,096,000

III. Supplemental RI/FS to evaluate full nature and extent of contamination at the site.

Estimated Cost: $ To be determined

WHITE CHEMICAL CORPORATION SITE
SUPERFUND STATE CONTRACT
COST ESTIMATES

| Task | Current Contract Cost Estimate | Costs Subject to 10% NJ Share | EPA Share of Costs | NJ State Share of Costs |
|---|---|---|---|---|
| 1. | $ NA | 0 | $ 0 | 0 |
| II. | $ 22,096,000 | $ 2,209,600 | $ 19,886,400 | 2,209,600 |
| TOTAL | $ 22,096,000 | $ 2,209,600 | $ 19,886,400 | 2,209,600 |

STATE SHARE $ 2,209,600

Kakas
w/o
attach

**State of New Jersey**
**Department of Environmental Protection and Energy**
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028
Tel. # 609-633-1408
Fax. # 609-633-1454

Scott A. Weiner
*Commissioner*

Karl J. Delaney
*Director*

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO.

JUN 0 1 1992

TO: ALL THOSE ON THE ATTACHED SERVICE LIST

Re: WHITE CHEMICAL SITE
NEWARK, NEW JERSEY

Enclosed find for service upon you a Directive and Notice to Insurers regarding the White Chemical Site. The Directive and Notice to Insurers is issued pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. If you are not the appropriate person to handle this matter, immediately forward this document to the appropriate person.

If you have any questions please do not hesitate to contact Laura Farina, Deputy Attorney General at (609) 984-5065 regarding this matter.

Sincerely,

Ronald T. Corcory, Assistant Director
Responsible Party Cleanup Element

RTC/AVS
Enclosure(s)

* NEG/LIT -
hold onto this to use
as a DIRECTIVE sample
Colleen

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*Recycled Paper*

WHITE CHEMICAL CORPORATION - SUPERFUND SITE, NEWARK, N.J.

Service Address List:

AZS Corporation
c/o Peyton S. Hawes, Esq., Agent for Service
229 Peachtree Street, N.E. - Suite 2400
Atlanta, Georgia, 30303-1629

Harry, Zafran, President
c/o D. & O. Chemicals, Inc.
291 South Van Brunt St.
Englewood, N.J. 07631

Lee H. Smith, President & C.E.O.
c/o Hexagon Enterprises, Inc.
60 Midvale Road
Mountain Lakes, N.J. 07046

Mark Dugan, Vice President
c/o Hummel Croton, Inc.
10 Harmich Road
South Plainfield, N.J. 07080

Robert Paganelli, President
c/o Inolex Chemical Company
Swanson & Jackson Sts.
Philadelphia, PA 19148

Donald H. Francis, Chairman of Board
c/o MayBrook, Inc.
Plant and Administration
570 Broadway
Lawrence, Mass. 01842

Richard J. Mahoney, Chairman & C.E.O.
c/o Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167

P.P.G. Industries, Inc.
Attn: Paul M. King, Director, Envt'l Affairs
One P.P.G. Place
Pittsburgh, Penna. 15272

WHITE CHEMICAL CORPORATION - SUPERFUND SITE, NEWARK, N.J.

Service Address List:

Thomas M. Dille, President
c/o Rhone-Poulenc, AG Company
P.O. Box 12014
2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709

James W. White
c/o White Chemical Corp.
100 Manhattan Ave. Apt. 1906
Union City, N.J. 07087

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028
Tel. # 609-633-1408
Fax. # 609-633-1454

Scott A. Weiner
*Commissioner*

Karl J. Delaney
*Director*

IN THE MATTER OF THE WHITE CHEMICAL CORPORATION SUPERFUND SITE, NEWARK, NEW JERSEY, and

WHITE CHEMICAL CORPORATION; AZS CORPORATION; D & O CHEMICALS, INC.; HUMMEL CROTON, INC.; MONSANTO COMPANY, INC.; MAYBROOK, INC.; PPG INDUSTRIES, INC.; HEXAGON ENTERPRISES, INC.; RHONE-POULENC AG CO. INC.; INOLEX CHEMICAL COMPANY INC.,

Respondents.

DIRECTIVE AND NOTICE TO INSURERS

This Directive is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection and Energy (hereinafter "the Department" or "NJDEPE") by N.J.S.A. 13:1D-1 et seq. and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., and duly delegated to the Assistant Director of the Responsible Party Cleanup Element within the Division of Responsible Party Site Remediation pursuant to N.J.S.A. 13:1B-4. This Directive is issued in order to notify the above-captioned Respondents that the Department, pursuant to the Spill Compensation and Control Act, has determined that it is necessary to cleanup and remove or arrange for the cleanup and removal of certain hazardous substances, and in order to notify the Respondents that the Department believes them to be responsible for the hazardous substances discharged at the site.

## A. THE SITE

1. The White Chemical Corporation Site ("the Site") is a 4.4-acre, inactive facility located at 660 Frelinghuysen Avenue in a heavily populated and industrialized area of Newark, Essex County, New Jersey. The Site is bordered to the north, south, and west by manufacturing facilities, and to the east by Conrail and Amtrak rail lines. Approximately one-half mile further east is Newark International Airport. Weequahic

Park, several large housing complexes, and several high-rise senior citizen residences are present near the Site.

2. Five major buildings are located on the Site, as well as three smaller, facility support buildings. Tanks containing waste materials including hazardous substances are present in three areas of the Site, and 55-gallon drums containing such waste material are located throughout an area east of the buildings. The Site is secured by a chainlink fence.

## B. SITE HISTORY

3. Respondents, White Chemical Corporation ("White Chemical") and James White conducted business operations at the Site under a lease agreement with the landowner and Respondent, AZS Corporation ("AZS"). From August 1982 until October 1990, White Chemical manufactured acid chlorides, alkyl bromides and brominated flame retardant compounds. In addition to being a chemical manufacturer in its own right, White Chemical at times manufactured products for other persons using materials which were both supplied and owned by those persons throughout the process.

4. White Chemical operated under the protection of Chapter 11 of the bankruptcy code from October 1989 until October 1990, when the bankruptcy was dismissed by the bankruptcy court.

## C. ENFORCEMENT HISTORY

5. On September 8, 1989, the Department conducted a compliance inspection under the Resource Conservation and Recovery Act of 1976, 42 U.S.C. §6901 et seq. at the White Chemical Corporation facility. The inspection revealed numerous violations of the New Jersey Spill Compensation and Control Act ("the Spill Compensation and Control Act"), N.J.S.A. 58:1-23.11 et seq. and the New Jersey Solid Waste Management Act ("the Solid Waste Management Act"), N.J.S.A. 13:1E-1 et seq. and hazardous waste regulations promulgated pursuant thereto, N.J.A.C. 7:26-1 et seq. Consequently, NJDEPE issued Notices of Violation for the following hazardous waste violations: failing to label drums containing waste materials, operating a hazardous waste treatment facility without a permit, leaking drums, open containers, and inadequate aisle space.

6. In March, 1990, NJDEPE reinspected the White Chemical facility and recorded 9,063 drums on site. Many drums contained waste material including hazardous substances and continued to be improperly stored. Consequently, on March 15, 1990, NJDEPE issued a Notice of Civil Administrative Penalty

Assessment under the Solid Waste Management Act in an amount of $86,500.00 against White Chemical and an Administrative Order requiring White Chemical to submit a Verification of Compliance indicating that it had corrected the violations of the Spill Compensation and Control Act and Solid Waste Management Act. A Directive was also issued by the NJDEPE on May 8, 1990, requiring, among other things, that White Chemical pay $241,133.15 to the NJDEPE to fund the cost of stabilizing 9,063 drums on the Site. The NJDEPE issued Supplemental Directives on June 15, 1990 ("Supplemental Directive #1") and on July 18, 1990 ("Supplemental Directive #2"), ordering further cleanup and removal activity, and additional payment of $518,964.24. The total estimated past costs are $817,572.96.

7. White Chemical failed to comply with the NJDEPE enforcement documents. Consequently, in May, 1990, NJDEPE initiated a publicly funded cleanup pursuant to the Spill Compensation and Control Act which resulted in the removal of the approximately 1000 drums from the Site. The contents of the drums were sampled and analyzed prior to removal. Lab analysis indicated that the drums contained the following hazardous substances: toluene, xylene, acetone, ethylene dichloride and trichlorethylene (TCE). On August 24, 1990, NJDEPE requested that the United States Environmental Protection Agency (hereinafter "EPA") undertake a removal action at the Site under Section 106 of the Comprehensive Environmental Response, Compensation & Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. §9601 et seq.

8. On September 7, 1990, in response to NJDEPE's request, EPA performed a preliminary assessment of the facility and found numerous air and water reactive substances in 55 gallon drums and containers. EPA estimated that 10,900 55-gallon drums were at the Site, precariously stacked and improperly stored. EPA found drums and other containers in various stages of deterioration, fuming, and leaking their contents onto the soil, where stains were observed. During this assessment, EPA overpacked 11 fuming drums and secured them for future handling.

9. On September 28, 1990 the Agency for Toxic Substances and Disease Registry ("ATSDR") issued a health consultation that concluded that the Site posed an imminent and substantial health and safety threat to workers and nearby residents. A Public Health Advisory was later issued in November 1990.

10. To implement the removal action, EPA requested but was denied access to White Chemical, which continued to carry on business activities at the site. Accordingly, EPA issued a unilateral administrative order (II CERCLA-00117) which required White Chemical and James White to provide

access, halt business operations, and evacuate all personnel from the Site. The administrative order was not complied with until a bankruptcy judge upheld the order, pending a hearing on the matter in federal district court. EPA sought enforcement of the order against defendants White Chemical, James White and AZS in federal district court. On October 23, 1990, the court ordered that pending final determination of the court action, EPA had exclusive access to conduct its response activities and defendants were restrained from initiating or resuming business operations on the Site, or entering upon the Site.

11. After gaining access, EPA began a removal action for surface contamination in October, 1990, which has continued to date. As a result of the ongoing removal action, 4,200 drums containing various wastes including hazardous substances were emptied and shipped off the Site and approximately 6,700 drums containing waste material including hazardous substances remain staged on the Site, awaiting future removal. Other containers containing Waste Material which are staged on Site include approximately 126 storage tanks, 150 gas cylinders, vats, process reactors, carboys, boxes, and several thousand laboratory-type containers. EPA is presently maintaining 24-hour security at the Site and is continuing to perform on-going response activities, including drum overpacking on an emergency basis, segregating incompatible substances, and further assessing the nature of the chemicals present.

12. During the winter of 1991, EPA conducted a focused feasibility study ("FFS") which identified alternative remedies for surface contamination at the Site. Pursuant to Section 117 of CERCLA, the FFS and a proposed remedial action plan ("PRAP") for the Site were released to the public for comment on June 21, 1991. These two documents were made available to the public in both the administrative record at EPA's Region II office and the information repository maintained at Newark Public Library. A notice of availability of the FFS and the proposed plan was published in the Newark Star Ledger on June 21, 1991. A public comment period for the PRAP was held from June 21, 1991 to August 21, 1991. A public meeting was held on July 11, 1991 to present the findings to the FFS and the PRAP and to solicit public comment.

13. On June 21, 1991, EPA gave notice of EPA's response activities and a copy of the PRAP to each of the following Respondents: AZS Corporation, White Chemical Corporation, James White, PPG Industries, Inc., D & O Chemicals, Inc., Hexagon Enterprises, Inc., Hummel Croton, Inc., Monsanto Company, Inc., Rhone-Poulenc, Ag. Co., Inc., Maybrook, Inc., and Inolex Chemical Company Inc.

14. On September 25, 1991, the Site was included on the National Priorities List ("NPL") of Superfund sites. The

NPL, codified at 40 C.P.R. Part 300, Appendix B, has been promulgated pursuant to Section 105(a)(8)(B) of CERCLA, 42 U.S.C. §9605(a)(B).

15. On September 26, 1991, the EPA issued a Record of Decision (ROD) which stated EPA's selection of a Remedy which is a continuation of the removal action, and includes the on-site pretreatment or neutralization of contaminated material and removal of drums containing hazardous substances from the Site. The estimated cost of the remedy is $22,096,000.00.

16. EPA's sample and analysis of drums at the Site indicated, among other things, the presence of hazardous substances, including but not limited to the following: bromine, xylene, toluene, acetone, tetrachloroethane, ethylene dichloride, phosphorous acid, phosphoric acid, hydrochloric acid, propionic acid, bromide, capryloyl chloride, capricoyl chloride, myristoyl chloride, pivaloyl chloride, propionyl chloride, bromoacetic acid, acetic acid, and hydriodic acid.

17. Non-carcinogenic and carcinogenic adverse health effects have been associated with many of the contaminants identified on the Site. Mixtures of incompatible substances or improper storage could lead to fire, explosion or release of vapors involving large quantities of flammable and toxic organic and inorganic chemicals. Many of the substances will react upon contact with moisture or air, forming toxic and irritating substances and fumes. The primary pathway for any potential exposure would be through an air release, which poses an imminent and substantial threat to human health and the environment. Exposed or potentially exposed populations include nearby residents, workers, trespassers, fire-fighting personnel and railway commuters.

## D. RESPONDENTS

18. Respondent AZS has been the owner of the property on which the Site is located since August 1975. AZS is a Georgia corporation, located in Marietta, Georgia.

19. Respondent White Chemical operated the White Chemical facility at the time that hazardous substances were disposed of at the facility. White Chemical manufactured and disposed of hazardous substances on the Site pursuant to formulation agreements with each of the Respondents, identified in paragraphs 21 through 28 below.

20. Respondent James White operated the White Chemical facility at the time that hazardous substances were disposed of at the facility. In addition, James White arranged for disposal of hazardous substances on the Site. James White actually knew about, had immediate supervision over, and was

directly responsible for arranging the disposal of hazardous substances on the Site. On May 7, 1992, respondent James White pleaded guilty to state criminal charges of illegal storage of waste and illegal disposal of waste.

21. Respondent PPG Industries, Inc. ("PPG") is a Pennsylvania corporation, located in Pittsburgh, Pennsylvania. PPG arranged for White Chemical to formulate a final product, decabromodiphenyl oxide, from materials containing hazardous substances supplied by PPG during the years 1982 through 1984. Pursuant to this arrangement, PPG retained ownership of all the materials and final product containing hazardous substances it provided during the entire time they were in White Chemical's possession. Hazardous substances which were generated from the formulation of decabromodiphenyl oxide and disposed of on the Site included ethylene dichloride, tetrachlorethane and bromine.

22. Respondent D & O Chemical, Inc. ("D & O") is a New Jersey corporation, located in Englewood, New Jersey. D & O arranged for White Chemical to formulate final products, bromoacetic acid, decabromodiphenyl oxide and hydriodic acid, from materials containing hazardous substances supplied by D & O during the years 1986 through 1991. Pursuant to these arrangements, D & O retained ownership of all the materials and final products containing hazardous substances it provided during the entire time they were in White Chemical's possession. Hazardous substances which were generated by the formulation of the above products and disposed of on the Site included bromine, monobromoacetic acid, dibromoactetic acid, tribromoacetic acid, acetic acid, ethylene dichloride, tetrachloroethane, hydriodic acid, phosphorous acid and phosphoric acid.

23. Respondent Hexagon Enterprise, Inc. ("Hexagon") is a New Jersey corporation, located in Mountain Lakes, New Jersey. Hexagon arranged for White Chemical to formulate a final product, propionyl chloride, from material containing a hazardous substance supplied by Hexagon during 1989. Pursuant to this arrangement, Hexagon retained ownership of all the material and final product containing a hazardous substance it provided during the entire time they were in White Chemical's possession. Hazardous substances which were generated by the formulation of propionyl chloride and disposed of on the Site included propionic acid, propionyl chloride, hydrochloric acid, phosphorous acid and phosphoric acid.

24. Respondent Hummel Croton, Inc. ("Hummel") is a New Jersey corporation, located in South Plainfield, New Jersey. Hummel arranged for White Chemical to formulate final products, oxalic acid derivatives which included dipentyl oxalate, dimethyl oxalate, and diethyl oxalate, from materials

containing hazardous substances supplied by Hummel during 1988 and 1989. Pursuant to these arrangements, Hummel retained ownership of all material and final products containing hazardous substances it provided during the entire time they were in White Chemical's possession. Toluene, a hazardous substance, was generated from the formulation of the above products and disposed on the Site.

25. Respondent Monsanto Company, Inc. ("Monsanto") is a Delaware corporation, located in St. Louis, Missouri. Monsanto arranged for White Chemical to formulate a final product, capryloyl chloride, from materials containing a hazardous substance during 1983. Pursuant to this arrangement, White Chemical produced a final product for Monsanto by adding a hazardous substance to material which was supplied and owned by Monsanto throughout the process. Hazardous substances which were generated from the formulation of capryloyl chloride and disposed of on the Site included phosphorous acid, phosphoric acid, hydrochloric acid and capryloyl chloride.

26. Respondent Rhone-Poulenc Ag. Co., Inc. ("Rhone-Poulenc") is a Pennsylvania corporation, located in Research Triangle Park, North Carolina. Rhone-Poulenc arranged for White Chemical to formulate a final product, capryloyl chloride, from materials containing a hazardous substance during the years 1983 through 1988. Pursuant to this arrangement, White Chemical produced a final product for Rhone-Poulenc by adding a hazardous substance to material which was supplied and owned by Rhone-Poulenc throughout the process. Hazardous substances which were generated from the formulation of capryloyl chloride and were disposed of on the Site included phosphorous acid, phosphoric acid, hydrochloric acid, and capryloyl chloride.

27. Respondent Maybrook, Inc. ("Maybrook"), is a Delaware corporation, located in Lawrence, Massachusetts. Maybrook arranged for White Chemical to formulate a final product, cocoyl chloride, from materials containing a hazardous substance during the years 1983 through 1988. Cocoyl chloride, a trade name, is comprised of, in part, capryloyl chloride, capricoyl chloride, and myristoyl chloride. Pursuant to this arrangement, White Chemical produced a final product for Maybrook by adding a hazardous substance to material which was supplied and owned by Maybrook throughout the process. Hazardous substances which were generated from the formulation of cocoyl chloride and were disposed of on the Site included capryloyl chloride, capricoyl chloride, myristoyl chloride, phosphorous acid, phosphoric acid and hydrochloric acid.

28. Respondent Inolex Chemical Company, Inc. ("Inolex") is a Pennsylvania corporation, located in Philadelphia, Pennsylvania. Inolex arranged for White Chemical

to formulate a final product, myristoyl chloride, from materials containing a hazardous substance during the years 1981 through 1984. Pursuant to this arrangement, White Chemical produced a final product for Inolex by adding a hazardous substance to material which was supplied and owned by Inolex throughout the process. Hazardous substances which were generated from the formulation of myristoyl chloride and disposed on the Site included myristoyl chloride, phosphorous acid, phosphoric acid and hydrochloric acid.

29. The substances referenced in paragraphs 16 through 28 above are hazardous substances pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11b(k).

30. Respondents are responsible for the discharge of hazardous substances at the Site which have contaminated and continue to contaminate the lands and/or waters of the State.

31. Pursuant to N.J.S.A. 58:10-23.11g(c), Respondents are strictly liable, without regard to fault, for all costs of the cleanup and removal of the hazardous substances discharged at the Site.

32. Pursuant to N.J.S.A. 58:10-23.11f, whenever any hazardous substance is discharged, the Department may, in its discretion, act to cleanup and remove or arrange for the cleanup and removal of such discharge, or may direct the dischargers to cleanup and remove or arrange for the cleanup and removal of such discharge.

33. Based on these findings, the Department has determined that the Respondents have violated the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. and the regulations promulgated pursuant thereto, N.J.A.C. 7:1E-1 et seq.

34. The Department has determined that it is necessary to complete additional removal work at the Site pursuant to Operational Unit One Record of Decision ("ROD").

35. Based on actions taken by both the EPA and the Department as described in paragraphs 5 through 17, on September 26, 1991, EPA issued the ROD which stated EPA's selection of a Remedy which is a continuation of the removal action, and includes the on-site pretreatment and neutralizaiton of contaminated material and removal of drums containing hazardous substances from the Site.

36. The Department and the EPA entered into a State Superfund Contract for remedial activities at the White Chemical Site. The Department is committed to pay up to

$2,209,600.00 as its ten (10) percent share of the selected remedial action.

DIRECTIVE

NOW, THEREFORE, THE RESPONDENTS ARE HEREBY DIRECTED AS FOLLOWS:

37. Arrange for the conduct of the remedial measures referenced above by paying to the Department $2,209,600.00 for the Department's estimated share of the remedial construction activities by June 30, 1992. Payment should be made by certified or cashier's check, on or before June 30, 1992, payable to "Treasurer, State of New Jersey" and sent with a copy of this Directive and the attached form 062A to:

NJDEPE
Division of Financial Management and General Services
Bureau of Revenue
CN 402
Trenton, New Jersey 08625

NOTICE

38. If Respondents fail to pay the Department to perform the additional cleanup and removal at the site pursuant to the ROD, within thirty (30) calendar days after receipt of this Directive, the Department will commence suit against Respondents seeking reimbursement for costs incurred. Further, failure to comply with this Directive will increase Respondents potential liability to the Department in an amount equal to three (3) times the cost of performing the work and may cause a lien to be placed on Respondent's real and personal property pursuant to Section 7 of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11(f), including a first priority lien on the property subject to the cleanup.

39. Pursuant to P.L. 1990 C. 75, failure by Respondents to comply with this Directive may subject each Respondent to penalties of up to $50,000 per day and each day of violation shall constitute an additional, separate and distinct violation of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.

40. The Department may, in its sole discretion, when it will expedite the cleanup and removal of any discharged hazardous substance, and when the Department determines that it is in the public interest, authorize parties who have entered into an agreement with the Department to clean up and remove or arrange for the cleanup and removal of a hazardous substance and who seek contribution, to collect treble damages from any

contribution defendant who has failed or refused to comply with this Directive, was named in this Directive, and who is subject to contribution pursuant to N.J.S.A. 58:10-23.11f.

RESERVATION OF RIGHTS

41. The Department reserves the right to direct Respondents to take or arrange for the taking of any and all additional remedial actions which the Department determines to be necessary to protect the public health and safety of the environment and to seek full reimbursement and treble damages for all costs incurred in taking such additional remedial actions if Respondents fail to comply with such a Directive. In the event that the costs of completing the activities described in the Directive exceed the current estimates, the Departments reserves the right to direct Respondents to pay such costs and to seek full reimbursement and damages for all such costs. In the event that the costs of completing the activities described in the Directive are less than the estimate specified above, the Department will rebate the unexpended funds to those parties that complied with the Directive on a proportional basis.

42. Respondents are advised that the discharges referenced in this Directive may also constitute violations of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and that Respondents may, therefore, be subject to the penalties prescribed for violations of the above noted Acts. The Department reserves all rights and remedies under said Acts.

NOTICE TO INSURERS

43. BE ON NOTICE THAT, pursuant to N.J.S.A. 58:10-23.11s, any claims for costs of cleanup or damages by the State may be brought directly against the bond, insurer or any other person providing evidence of financial responsibility. Respondents are therefore urged to contact such insurers and notify them of the issuance of this Directive.

NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION AND ENERGY

Date: 6-1-92

By: ORIGINAL SIGNED BY
RONALD T. CORCORY

Ronald T. Corcory, Assistant Director
Responsible Party Cleanup Element
Responsible Party Site Remediation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

JUN 28 1993

Lynne J. Urbanowicz
Edwards & Angell
Gateway Three
Newark, New Jersey 07102

Re: White Chemical Corporation Superfund Site
Certification of Completion of Work Required by
Administrative Order Index No.: II-CERCLA-20103

Dear Ms. Urbanowicz:

The Environmental Protection Agency (EPA) has received and reviewed the Final Report for the Response Action at the White Chemical Corporation Superfund Site. This document was submitted by Conestoga-Rovers & Associates on behalf of Monsanto Company, Inc., PPG Industries, Inc., and Rhone-Poulenc Ag Co. (Performing Parties) on March 31, 1993. The Final Report documents all work that was performed and completed by the Performing Parties, required by Administrative Order, as modified, Index No: II-CERCLA-20103 (Order). The Order was issued pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act, (CERCLA) 42 U.S.C. Section 9601 et seq., on March 31, 1992 by EPA Region II. EPA hereby acknowledges and certifies that the Performing Parties completed the work required by said Order. The performance of the work pursuant to the Order is deemed to have been satisfactorily completed by the Performing Parties on or about March 3, 1993.

This Certification of Completion of the Work (Certification) does not release, discharge, or otherwise relieve the Performing Parties from the obligation to perform such further or additional response actions or activities at the Site within the jurisdiction of CERCLA or other federal laws as may be deemed necessary by EPA.

In addition, this Certification specifically does not release, discharge, or otherwise relieve the Performing Parties, their principals, officers, employees, agents, directors, subsidiaries, assigns and successors from further liability for the payment of money to EPA or to the United States pursuant to Section 107(a)

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of CERCLA, 42 U.S.C. Section 9607(a) or other federal laws, for costs incurred by the EPA or the United States as a result of involvement by the United States in actions or activities in connection with the Site.

Sincerely yours,

John S. Prisco

for George Pavlou, Acting Director
Emergency and Remedial Response Division

cc: Mark Pane, OSC, Removal Action Branch
Michael van Itallie, Office of Regional Counsel
Frank Richardson, New Jersey Department of Environmental Protection and Energy
Nancy Rohn, Edwards & Angell
Leonard Bryant, PPG Industries, Inc.
Robert Ferguson, Rhone-Poulenc Ag Company
Michael Weishaar, Monsanto Chemical Company
John Scagnelli & Keith McKenna, Whitman and Ransom
Ted Kuniaski, AZS Corporation
Harry Zafran, D & O Chemicals, Inc.
Lee Smith, Hexagon Enterprises, Inc.
Mark Dugan, Hummel Croton, Inc.
Robert Paganelli, Inolex Chemical Company
Donald H. Francis, Maybrook, Inc.
James White, White Chemical Corporation

GRACE FRANK Richardson HWM Fyt 1 of 2

THE STAR-LEDGER, Friday, June 5, 1992

# 3 firms ante up share of the bill to cleanse toxic site in Newark

By BILL GANNON

Three companies have agreed to pay part of the federal government's $22 million cleanup of the White Chemical Corp. superfund site in Newark, the Environmental Protection Agency (EPA) announced yesterday.

According to the terms of a superfund unilateral order issued by the EPA late last month, Monsanto Co./Inc., PPG Industries Inc. and Rhone-Poulenc AG. Co., have agreed to share in the costs of the cleanup.

But the owner of the 4.4-acre site, the bankrupt operator of the plant and five hazardous waste generators have all refused to help pay for the cleanup and may be targets for future legal action, EPA officials noted.

*'This action is the latest example of EPA's continuing enforcement efforts under its superfund authority to identify private responsible parties who are liable and make those who created the problems pay to correct them at superfund sites.'*

—Constantine Sidamon-Eristoff, EPA Regional Administrator

The company manufactured acid chlorides and flame-retardant compounds used by agricultural, pharmaceutical and building products industries at its Frelinghuysen Avenue plant.

The parties refusing to assist in the cleanup include the property owner, AZS Corp. of Atlanta; plant owner and operator James White and his White Chemical Corp. of Union City, authorities said.

Also not assisting in the cleanup are five hazardous waste generators: D & O Chemicals Inc. of Englewood; Hummel Croton Inc. of South Plainfield; Maybrook Inc. of Lawrence, Mass.; Hexagon Enterprises Inc. of Mountain Lakes; and the Inolex Chemical Co. of Philadelphia.

Future EPA enforcement efforts will include seeking reimbursement from those firms and other parties for all cleanup costs incurred at the site, an agency spokesman said.

"This action is the latest example of EPA's continuing enforcement efforts under its superfund authority to identify private responsible parties who are liable and make those who created the problems pay to correct them at superfund sites," said EPA Regional Administrator Constantine Sidamon-Eristoff.

The EPA took control of the site in August 1990, several months after a raid on the plant by state investigators from the Attorney General's Office and the Department of Environmental Protection and Energy.

At the time of the raid, shocked DEPE investigators found more than 11,000 drums of hazardous materials strewn around the property. Also found were thousands of deteriorating laboratory containers, gas cylinders and improperly stored chemicals.

The conditions at the facility were so dangerous that the federal Agency for Toxic Substances and Disease Registry warned the site and the cleanup process could create hazards such as vapor releases, fires, or even explosions.

The site, officials said at the time of the raid, posed a serious health risk to the neighborhood of some 12,000 residents who live within a half-mile of the plant.

Located less than a mile from Weequahic Park, Newark International Airport, the Anheuser-Busch brewery as well as several manufacturing facilities and hotels, office buildings and businesses along nearby busy Routes 1 and 9, members of the Newark and Elizabeth city council say the site has been an environmental nightmare waiting to happen.

DEPE inspectors found that White's improper management of stored toxic and hazardous material had resulted in numerous open containers; frequent releases of hazardous chemicals; damaged, bulging, unlabeled containers; numerous spills and incompatible materials being improperly stored together.

The site was proposed for inclusion on the superfund national priorities list in a special update in May 1990 and finalized on Sept. 25, 1991. Superfund is the federal program to clean up abandoned or inactive hazardous waste sites.

So far, the federal agency has spent more than $10.5 million on the removal of thousands of drums and other containers of hazardous materials from the White property. Before EPA took control of the site, DEPE spent more than $825,000 in cleanup costs.

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Photo by Tom Kitts

A view of the entrance to the White Chemical Corp. superfund site on Frelinghuysen Avenue, Newark, in 1990. Three companies have agreed to pay part of the federal government's $22 million cleanup of the area

The EPA has inventoried and sampled approximately 7,900 drums and 140 tank-vessels as well as categorized and separated over 12,500 lab containers, officials said yesterday.

Of the 11,600 drums found on site, 4,060 empty containers were cleaned and sent away for recycling. EPA has also recycled 48,000 pounds of solid materials and 38,000 gallons of liquid materials.

More than 50 gas cylinders have been returned to the original manufacturers while some 60,000 gallons of liquid wastes, including acids from 1,700 drums, have been drained and stored in tanks on site.

"To date, as a result of regional enforcement efforts, private parties have contributed approximately $500 million in superfund settlements in New Jersey," EPA Administrator William Reilly said in a prepared statement issued by the agency.

"The superfund emergency removal program used fast-track hazardous waste cleanup methods to stabilize the White Chemical site," Reilly said.

White Chemical moved to Newark in 1983, leaving behind another polluted tract in Bayonne. DEPE had cited the company in 1979 for violations, including unlawful storage of hazardous wastes.

The Bayonne site is now also under consideration for possible inclusion on the superfund list, according to state environmental prosecutor, Assistant Attorney General Steven Madonna.

Madonna initiated a probe of the plant that led to the indictment of the firm and its owner, James White, by a grand jury.

In a May 7 plea bargain agreement with Madonna's office, White, 66, pleaded guilty in Superior Court in Newark to two counts of the five count indictment, admitting he illegal stored and disposed of more than 2,000 drums of dangerous chemicals at his plant.

As part of the plea, the state will recommend White serve at least 364 days in jail, serve five years probation and be sentenced to 2,000 hours of community service upon his release from jail.

The conviction on the two counts of unlawful storage and disposal are both third-degree crimes and carry potential prison sentences of between three and five years and a fine up to $7,500. Sentencing before Superior Court Judge Richard Newman in Newark is scheduled for June 22.

**SITE INFORMATION SUMMARY**

**White Chemical Corporation-Newark**

Summary

1. The White Chemical case demonstrates what NJDEPE and USEPA can accomplish when faced with an imminent threat to public health. From the time that site inspections revealed the hazards presented by the operation, progress has been continuous, starting with a State emergency removal of leaking drums funded by the Spill Fund. A Federal emergency removal of other drums of chemicals in poor condition or improperly stored followed and the site was placed on the NPL to increase the availability of funds and to increase the possible range of activities. The development of the Focus Feasibility Study and Proposed Plan for expanded removal activities occurred quickly. The first Record of Decision for the site was signed one day after it was officially added to the NPL. In parallel with this remedial activity the agencies continued their enforcement investigations so that several potentially responsible parties were identified with the eventual result that a group of respondents to a CERCLA order took over the completion of the removal action called for in the Record of Decision.

2. The Environmental Prosecutor's Office was involved in this case from the inception of the group and brought actions that resulted in James White, the majority owner and chief officer of White Chemical, being sentenced to 364 days behind bars and 5,000 hours of public service.

Outstanding Issues

1. At this point the immediate danger to the local population has been removed. There remains the question of longer-range environmental effects. To determine the impact of soil and ground water contamination, an RI/FS will have to be conducted. At this point it is not certain who would conduct the RI/FS. The respondents to the CERCLA order have not as yet admitted culpability and have not agreed to perform the RI/FS. If the study is to be done with public funds, EPA has not set a schedule thus far.

2. The City of Newark is concerned that they may have to take over the site. Thus they are anxious that any final clean-up satisfy not only the CERCLA requirements but also those of the State ECRA program. The Newark Engineering Department has since sent a letter to the Department reiterating this concern.

3. The news of progress at the White Chemical-Newark site will raise questions for some members of the press and environmental groups about the status of the White Chemical-Bayonne site. This site has not been remediated as yet, but progress is being made slowly. The situation at White Chemical-Bayonne is discussed in a separate section at the end of this document.

Site Description

The White Chemical Corporation site is a 4.4-acre, inactive facility that formerly manufactured acid chlorides and flame retardant compounds. The site is located at 660 Frelinghuysen Avenue in a heavily populated and industrialized area of Newark, Essex County, New Jersey.

The site is located immediately east of two large manufacturing facilities: a feather company and a sportswear manufacturer. A large clothing manufacturing company is located north of the site. The eastern border of the site is adjacent to the Conrail railroad line, a major rail corridor to New York City. The Newark brewery of Anheuser-Busch, Inc., is located on the far side of the railroad line. Approximately one-half mile further east are U.S.Highways 1 and 9, and Newark International Airport. Weequahic Park, several large housing complexes and several high-rise senior citizen homes are present near the site. There is a daytime population of approximately 12,000 within a one-quarter mile radius of the site.

The site was previously owned by Union Carbide Corporation, Central Services Corporation, and Lancaster Chemical Company, a division of AZS Corporation. In 1983, the White Chemical Corporation (White) moved its operations from Bayonne, New Jersey, to the Newark site. White ceased chemical manufacturing operations in July 1990, following the initiation of bankruptcy proceedings in October, 1989.

The site, prior to remedial activities, had 10,900 55-gallon drums of hazardous substances precariously stacked or in other ways improperly stored throughout the site. Drums and other containers were found in various stages of deterioration, fuming, and leaking their contents onto the soil. Other containers found on the site included approximately 150 gas cylinders; 126 storage tanks, vats, and process reactors; hundreds of fiberpack drums; glass and plastic bottles; carboys; boxes; and over 12,000 laboratory-size containers. The contents included hazardous substances of many types, including air reactive compounds, water reactive compounds, explosive materials and shock-sensitive compounds.

Chronology

1983 - White moves operations from Bayonne to Newark

June 1989 - NJDEPE conducts RCRA inspection, issues Notices of Violation (NOVs) under RCRA for improper drum storage and leaking drums

Sept 1989 - NJDEPE reinspects and notes lack of compliance with earlier NOVs

Oct 1989 - White initiates a Chapter 11 bankruptcy proceeding

Mar 1990 - NJDEPE issues an Administrative Order to correct the hazardous situation. A penalty is assessed and new NOVs are issued under the Spill Act.

May 1990 - NJDEPE issues an order to White to secure the site, provide 24-hour security and stabilize the drums

May 1990 - NJDEPE initiates a removal action under the Spill Act

July 1990 - White ceases operations

Aug 1990 - NJDEPE reaches the $825,000 limit of their authorization and suspends operations, requests that EPA undertake further removal

Sept 1990 - USEPA performs a preliminary assessment and begins stabilization activities on site

Sept 1990 - ATSDR issues a health consultation concluding that the site poses an imminent and substantial health and safety threat to nearby residents and workers

May 1991 - USEPA proposes the site for inclusion on the NPL of Superfund sites while continuing removal and stabilization activities

Sept 1991 - On the 25th the site was officially added to the NPL; on the 26th a Record of Decision (ROD) was signed providing for further remedial activities on site at an estimated cost of $22,096,000

White Chemical - Bayonne

Prior to moving to the Newark site, the White Chemical Corporation operated from 1961 to 1983 at a facility located in Bayonne, New Jersey, where essentially the same operations were conducted and the same products made. Investigations by NJDEPE and USEPA during the late 1970s and early 1980s determined that the site was contaminated with Polybrominated Biphenyls (PBBs), lead and cyanide. Enforcement actions against White resulted to an ACO, signed on August 5,1983, under which White would conduct an RI/FS under the Department's supervision and would then perform the remediation indicated by that study.

In 1987, White submitted a sampling plan which was approved by the Department. Sampling took place in late 1987 and the results were presented in 1988. They showed a wide range of organic contaminants, including chlorinated and brominated compounds which are directly attributable to White's operations.

In July 1989 White issued a remedial work plan to NJDEPE which called for "no action" on White's part. The rationale was that their contaminants were commingled with more general petroleum hydrocarbons that pervaded the Constable Hook area of Bayonne and that the area should be remediated in a comprehensive fashion. In November 1989, the Department informed White that White would not be required to remediate areas contaminated only with petroleum hydrocarbons, but that White was expected to remediate those areas contaminated with brominated compounds. The Department never received a response to that letter. In February 1990, White's attorneys informed NJDEPE that White had filed for Chapter 11 bankruptcy in October 1989. NJDEPE requested that the Division of Law intervene, since the ACO contained specific language to the effect that White's obligations under it could not be discharged in a bankruptcy proceeding. The Division of Law recently rendered an opinion that the ACO is not enforceable because White has no significant assets.

NJDEPE recently ordered the property owner, Bayonne Industries Inc.(BII) ( White had been leasing the property) to remediate the site. BII has recently (2/24/93) presented an indemnification from the previous property owners, the Pittston Company and Certified Terminals Corp., specifically mentioning the 1983 ACO between White and NJDEPE. NJDEPE is currently pursuing this avenue and expects some action to remediate the Bayonne site will get underway shortly.

Date: 09/11/95
Time: 5:11 pm

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 02
RP²M
SITE02 : GANTT CHART REPORT

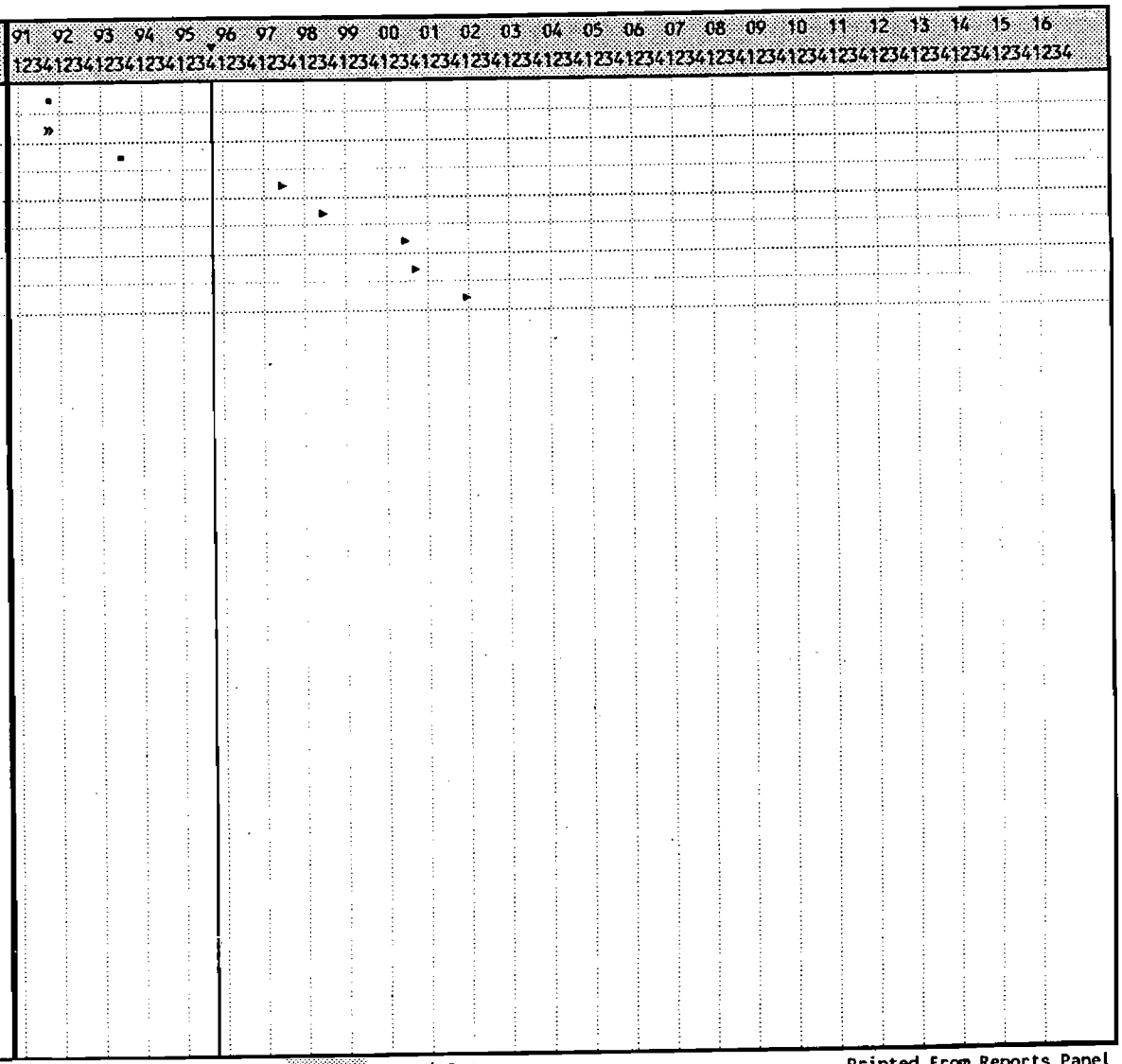
Katy for the file & reference they are 6 mos. old. /acc



SITE NAME: WHITE CHEMICAL CORP
RPM SECTION: NJSB1-N
RPM: S. Fonseca
ORC SECTION:
ATTORNEY:
SID: 03357
EPA ID: NJD980755623
STATE: NJ

Graph Type: FISCAL YEAR/QUARTER

| OU | Occurrence | Seq | Date | FY Lead |
|---|---|---|---|---|
| 01 | RECORD OF DECISION COMPLETE | (1) | 09/26/1991 | F |
| 01 | REMEDIAL ACTION START | (1) | 09/27/1991 | F |
| 01 | REMEDIAL ACTION COMPLETE | (1) | 06/30/1993 | F |
| 02 | RECORD OF DECISION COMPLETE | (1) | 06/30/1997 | F |
| 02 | REMEDIAL DESIGN START | (1) | 06/30/1998 | F |
| 02 | REMEDIAL DESIGN COMPLETE | (1) | 06/30/2000 | F |
| 02 | REMEDIAL ACTION START | (1) | 09/30/2000 | F |
| 02 | REMEDIAL ACTION COMPLETE | (1) | 12/31/2001 | F |




Legend: ▼=Current FYQ ▸=Plan »=Actual Start •=Complete x=Past Plan T=Target UDSMs: No =Actual Date

Printed From Reports Panel

SITE NAME: WHITE CHEMICAL CORP — SID: 03357
RPM SECTION: NJSB1-N — ORC SECTION: — EPA ID: NJD980755623
RPM: S. Fonseca — ATTORNEY: — STATE: NJ

Graph Type: FISCAL YEAR/QUARTER

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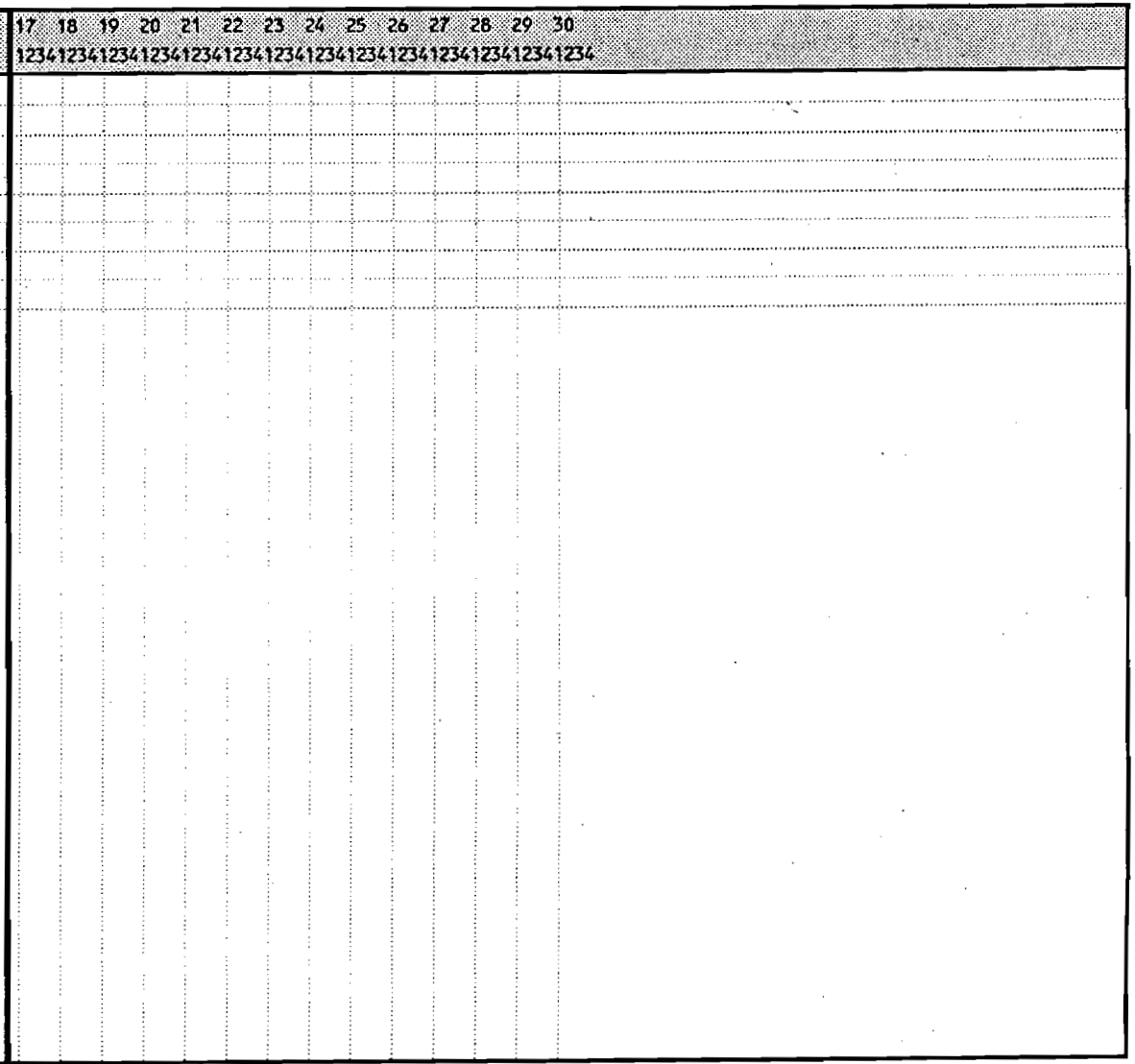
| 02 | REMEDIAL DESIGN COMPLETE | (1) | 06/30/2000 | F |
| 02 | REMEDIAL ACTION START | (1) | 09/30/2000 | F |
| 02 | REMEDIAL ACTION COMPLETE | (1) | 12/31/2001 | F |




Legend: ▾=Current FYQ ▸=Plan »=Actual Start ▪=Complete x=Past Plan T=Target UDSMs: No =Actual Date

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean Resources Conservation and Assessment
Hazardous Materials Response and Assessment Division
Coastal Resources Coordination Branch
Room 1831, 290 Broadway
New York, New York 10007-1866

MEMORANDUM

TO: Michael Clemetson, Acting BTAG Coordinator

FROM: Lisa Rosman, NOAA CRC

SUBJECT: White Chemical Corporation Superfund Site

Draft Final Work Plan, Remedial Investigation/Feasibility Study, Volume I, April 1998, White Chemical, Newark, New Jersey,

Draft Field Sampling Plan, April 1998, White Chemical Corporation RI/FS, Newark, New Jersey.

Draft Quality Assurance Project Plan <14> QA Plan, April 1998, White Chemical Corporation Site, Newark, New Jersey.

DATE: June 2, 1998

The above referenced document has been reviewed by the National Oceanic and Atmospheric Administration (NOAA). The following comments are offered for consideration by the Biological Technical Assistance Group (BTAG).

Background
NOAA cannot currently determine whether the White Chemical Corporation site (the "Site") in Newark poses a threat to trust resources because contaminant migration pathways have not been characterized. The Site's proximity to trust resources and the likelihood of contamination by persistent and highly toxic substances suggests a strong potential threat. The most important consideration regarding the potential threat posed by the site is whether a substantial surface water pathway to Newark Bay exists. Topographic maps of the area indicate that large channels (mosquito control ditches) are present several hundred meters east of the site and these channels eventually discharge into Newark Bay. Groundwater is also assumed to discharge to Newark Bay or to the mosquito ditches surrounding the Newark International Airport located in proximity to the Bay.

Summary
Activities proposed for the RI at the White Chemical Corporation site that differ from the previous version of the Work Plan include:

Soil Borings
Four background soil borings will be drilled in Weequahic Park rather than one. If Weequahic Park is not a suitable location for background soil samples, an alternative location will be selected. The number of deep soil borings used to define site stratigraphy will be increased from three to four.

Surficial Soil Sampling
Surface soil samples collected from swales may be considered sediment samples. This determination will be made in the field. If swale samples are designated as soils, then the sampling interval will be 0-12 inches. If, however, they are classified as sediments, the top 0-6 inches will be collected. Surface soils will be analyzed for Contract Laboratory Program (CLP)-Target Analyte List (TAL) metals and cyanide, CLP-Target Compound List (TCL) for

organics [volatile organics (VOCs), semivolatile organics (SVOCs), pesticides, PCBs], total phenols, pH, and total organic carbon (TOC). Approximately ten percent of the samples will be analyzed for TCLP parameters, polybrominated biphenyls (PBBs), and dioxin.

Sediment Sampling
Six sediment samples will be collected from sumps and floor drains. Four sediment samples will be collected from storm sewers and any existing surface water bodies. Any sediment samples collected from surface water bodies will be collected from 0-6 inches. Sediment samples will be analyzed for TAL metals and cyanide, VOCs, SVOCs, pesticides, PCBs, total phenols, pH, TOC, TCLP parameters, PBBs, and "selected physical parameters."

Surface Water Sampling
Four surface water samples will be collected from on- and off-site surface water bodies. Sample locations will be based on a New Jersey Department of Environmental Protection (NJDEP) database. Final locations will be determined in the field. Surface water samples will be analyzed for TAL metals and cyanide, VOCs, SVOCs, pesticides, PCBs, total phenols, and PBBs.

Buildings Investigation
A buildings investigation will be conducted to determine if building debris will be classified as hazardous. The investigation will include an asbestos survey, wipe sampling, building material sampling, and a lead paint survey.

Ecological Field Investigation
Existing site data and base mapping will be reviewed to identify potential exposure pathways. On-site surface waters, streams, drainage ways, and wetlands will be identified. The direction of flow, water depth, dimensions of the water course, and areas of deposition will be noted. On-site wetlands will be delineated using the 1987 Corps of Engineers' manual. Plant species and percent area cover will be determined for each vegetational stratum. Vegetational communities providing wildlife habitat will be indicated on a site map and wildlife species likely to use each area, based on NJ Fish and Wildlife data, will be identified. Wildlife observations also will be recorded. Further biological data will be collected if significant surface water, sediment, soil, and/or groundwater contamination is found or if groundwater discharges to wetlands or other sensitive habitats. If on-site contaminants are found to be migrating off-site, a supplemental environmental analysis of off-site surface water, sediment, s
oils, and biota may be recommended.

Comments
NOAA reviewed a previous version of the Remedial Investigation (RI)/Feasibility Study (FS) Work Plan and provided comments to the Regional Project Manager (RPM) in January 1997. Our review of the Draft Final Work Plan focuses on changes to the previous version of this document.
NOAA's concerns with the previous draft of the Work Plan were partially addressed in the April 1998 revision. NOAA has not reviewed previous versions of the Field Sampling Plan (FSP) or the Quality Assurance Project Plan (QAPP).

NOAA previously expressed concern about the selected list of preliminary chemicals of concern (COCs). As Site contaminant data is limited, analysis of a broad list of constituents was recommended unless elimination of certain constituents could be justified. While the present list appears to have been expanded, confusion can arise from different descriptions provided throughout the text.

For example, COCs identified in Section 3.3 (pg. 3-18) of the Work Plan, Preliminary Risk Assessment, include CLP-TAL (antimony, arsenic, lead, mercury, total cyanide), CLP-TCL (4-bromophenyl phenylether, naphthalene, 2-chloronaphthalene) and non-routine analytical services (RAS) parameters (total phenols, PBBs, and dioxin). Other sections of the Work Plan (i.e., pp. 4-2, 5-22, 5-23), the FSP, and QAPP identify a wider range of analytes than those on page 3-18 or in Table 3-4 but some of the site-specific selected COCs are missing. Since only a subset of TAL and TCL constituents were specified in Section 3.3, it is unclear whether the analyses will actually include all the TAL and TCL parameters. NOAA recommends that the Work Plan inform the reader early on that analyses will be performed for the complete list of CLP-TAL inorganics, CLP-TCL organics as well as additional site-related contaminants not performed during routine analysis (non-RAS analytes).

Table 3-4 provides the rationale for selection of the abbreviated list of chemicals of potential concern (see previous paragraph). Decabromophenyl phenylether, produced at the site, should be retained as a COC. Although 4-bromophenyl phenylether, a degradation product of decabromophenyl phenylether, is a potential COC, neither the factors affecting decabromophenyl phenylether degradation nor the probability of detecting the degradation compound over the parent are explained. The purpose of Table 3-4 should also be provided so that the reader will not interpret this subset of constituents as the complete list of analytes to be measured.

A compilation of TAL and TCL parameters and their respective detection limits (Table 3-3 of the QAPP) should be

referenced in the Work Plan; a similar compilation for non-RAS analytes is suggested. The list of dioxin isomers and PBB congeners that will be analyzed should be provided. The laboratory selected to conduct non-RAS analyses (PBBs, dioxins, total phenol, decabromophenyl phenylether) should have previous analytical experience for these COCs and should provide documentation of its capabilities prior to procurement.

A discrepancy continues to exist regarding which parameters will be included in the sediment and soil analyses. Section 3.3 of the Work Plan, Preliminary Risk Assessment, states that "only ten percent of the soil/sediment samples will be analyzed for dioxin and/or PBBs." Section 5.3, Field Investigation, states that all sediment samples will be analyzed for PBBs but none will be analyzed for dioxin and that approximately ten percent of surface soil samples will be analyzed for PBBs and dioxin. The descriptions of sediment and soil analyses in Sections 3.3 and 5.3 should be consistent. Both sections should state that all on-site sediment samples will be analyzed for both PBBs and dioxin and that ten percent of the soil samples will be analyzed for both PBBs and dioxin. These corrections should also be made to the FSP. As NOAA has previously suggested, if source areas show substantial PBB and/or dioxin contamination, a more comprehensive sampling approach for these constituents should be undertaken, inc
luding drainage ditch sediments.

The physical parameters proposed for analysis for sediment and soil samples should be stated. It also would be helpful to identify the sampling locations and analytes for the soil sampling program that is currently being conducted even if the results are not available.

Table 4.2 of the Work Plan, Estimated Number of Samples, should be amended to include dioxin analysis of sediment samples. It should also include decabromophenyl phenylether for all media. Total suspended solids (TSS) should be added to the proposed parameters for surface water.

The distance of the site to Newark Bay should be identified in Section 2.1 of the Work Plan, Site Location. If, based on the Preliminary Assessment, it is determined that groundwater discharges to Newark Bay, then surface water and sediment testing will be required in the bay at the point(s) of discharge. This should be stated in the Work Plan.

The list of items To Be Considered should include freshwater and estuarine sediment quality guidance and soil screening guidance.

In Section 3.3 of the Work Plan, Preliminary Assessment, the discussion of limiting the ecological assessment because the project area is an urban environment should be deleted (p. 3-19, second paragraph). Likewise, under Section 5.6.2, Ecological Assessment, the statements that the site offers little habitat potential and the ecological assessment will focus on the effects of groundwater contamination should be deleted. The focus of this assessment should include potential impacts to surface water and sediment from runoff or erosion, and potential direct surface soil contamination. Prior to the ecological investigation, the exposure pathways at the site are unknown. It should be noted that the general area provides habitat for federal and state-listed birds and that there is a potential surface water pathway from the site to Newark Bay. If a pathway can be demonstrated to Newark Bay, then receptors should be tested for uptake of site contaminants. This is critical since PBBs were detected in fish due to releases at the White Chemical Bayonne facility.

In Figure 3-1 of the Work Plan, possible exposure to terrestrial organisms from dermal contact with sediment should be added.

Table 3-4 of the Work Plan incorrectly identifies 4-bromophenyl phenylether and naphthalene as inorganics.

Under Section 3.5.1 of the Work Plan, Preliminary Objectives, sediment should be included as a fifth medium of interest. The preliminary remedial action objectives for soil should include preventing the offsite migration of contaminants that would result in sediment concentrations exceeding risk-based levels.

Many of the parameters proposed for analyses through the Contract Laboratory Program (Routine Analytical Services) in Section 4.1 of the Work Plan, Data Quality Objectives, will not meet the detection limits necessary for the ecological risk assessment. The language of the Work Plan should be amended to state that if it is not possible to attain detection limits (DLs) lower than the ecological screening criteria, the contaminants will be considered detected at the level of the DL for the purpose of the ecological risk assessment. This section should also provide sediment, soil, surface water and groundwater DLs for the non-RAS compounds. DLs for all non-RAS parameters should be below ecological screening criteria. Further, Table 3-3 should be modified to include DLs for all media. Sediment and soil DLs are missing and no distinction is made between surface and groundwater analytical requirements.

Section 4.2 of the Work Plan, Work Plan Approach, states that surface water will be collected if intermittent surface waters exist at the time of sampling. This section should be amended to state that sediment samples will be collected from any intermittent water bodies even if there is no surface water at the time of sampling. Sampling should be conducted when the likelihood of surface water occurrence is greatest. All swale "soils" should be treated as sediments and collected at a depth of 0-6 inches. The Work Plan states that surface soil samples will be collected from swales at a depth of 0-12 inches unless it is determined that these are sediments and then collection will be to a depth of 0-6 inches. This language should be amended. On p. 4-6 under "Surficial Soil Sampling," it should be specified that swale samples are considered sediment samples and will be collected to a depth of 0-6 inches.

Also under Section 4.2, the proposed soil background location, Weequahic Park, is discussed. This section should describe why this location was selected, the criteria that will be used to evaluate whether this background location is suitable and how it will be determined that an alternative location should be selected. Weequahic Lake is considered a surface water body potentially at risk from site-related contamination if groundwater does not flow to the east. This determination should be made prior to initiation of background sample collection. Please note that the proposed Work Plan does not include background sediment, surface water or groundwater sampling locations.

The sediment and surface water sampling discussed in Section 4.2 does not allow enough flexibility for sampling of potential surface water bodies, including wetlands, on or near the site. The surface water features on or near the site are currently unknown. The most important consideration regarding the potential threat posed by the Site to NOAA trust resources is whether a substantial surface pathway to Newark Bay exists. Surface drainage may include ditches, channels, canals, or the storm sewer system. The necessary number of samples cannot be determined before a surface water pathway survey has been conducted. As previously recommended by NOAA, this task should include identification and mapping of the locations of surface pathways and groundwater discharge. The decision to collect ten sediment samples and four surface water samples is premature at this time, especially since the sediment samples primarily target sumps, floor drains and storm sewers (see pg. 4-7, Table 4-1).

A list of fish species potentially present near the site should be compiled. The New Jersey Bureau of Fisheries should be consulted for a list of freshwater fish species. Likewise, the National Marine Fisheries Service should be consulted for the development of a list of marine species in Newark Bay.

The additional biological data to be collected if contamination is found should be specified under Section 5.3.6.4 of the Work Plan, Ecological. Tissue sampling and toxicity testing should be conducted if there are exceedances of screening levels. In addition, it should be stated that contamination found in Newark Bay would also trigger additional biological studies.

Under Section 5.6.2 of the Work Plan, Ecological Assessment, it is stated that no delineated wetlands exist in the vicinity of White Chemical; hence, sensitive or unique upland and wetland wildlife communities are not expected to be at risk from Site conditions. This assumption cannot be supported based on a National Wetland Inventory map. The ecological risk assessment should focus on any and all media that pose a potential risk to receptors including surface water runoff and soil erosion to surface water. It should not focus primarily on groundwater discharging to surface water unless all other pathways to aquatic receptors have been eliminated. Also presented in this section (page 5-35) is the comparison of shallow groundwater average and maximum concentrations to state and federal ambient water criteria/standards. We do not concur with the intended use of averages in these comparisons. Only maximum concentrations should be compared to EPA and NJ criteria.

Hazard quotients (HQs) will be calculated to assess threats from groundwater. HQs should also be calculated for other environmental media. On page 5-36 of the Work Plan, it is suggested that a hazard quotient of less than 1 indicates that the contamination will not pose significant adverse effects. Derivation of a hazard index (HI) by summing HQs should be considered for contaminants with the same biological endpoint or mechanism of action. The description of sediment sampling in Section 4.15.3 of the Field Sampling Plan should specify the use of an auger or corer to collect sediment samples from surface water bodies.

NOAA is interested in reviewing the results of the March 1998 soil sampling investigation when they become available.

NOAA welcomes the opportunity to offer technical assistance on this site. Should you have any questions regarding these comments, please feel free to contact Reyhan Mehran at (212)-637-3257 or me at x3259.

cc: Betsy Donovan, ERRD/NJRB

Gina Ferreira, ERRD/SPB
Robert Hargrove, DEPP/SPMM
Al Jackson, USFWS
Nancy Hamill, NJDEP

NOAA Comments on White Chemical, Newark: WP, FSP and QAPP, April 1998 (6/2/98)

State of New Jersey
Department of Environmental Protection

DONALD T. DIFRANCESCO
*Acting Governor*

Robert C. Shinn, Jr.
Commissioner

Division of Publicly Funded Site Remediation
Bureau of Site Management
P.O. Box 413
Trenton, NJ 08625-0413

February 7, 2001

Ms. Ellen Belk, Remedial Project Manager
New Jersey Remediation Branch
U. S. Environmental Protection Agency
290 Broadway - Floor 19
New York, New York 10007-1866

Re: NJDEP Comments on the Draft Remedial Investigation Report dated October, 2000 for the White Chemical Corporation Superfund Site Located in Newark, Essex County, New Jersey

Dear Ms. Belk:

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the above-referenced document prepared by Foster Wheeler Environmental Corporation and finds it acceptable provided the following comments and recommendations are adequately addressed:

**General Comments:**

There are potential source areas (PSAs) for the ground water contamination found at the site that were not investigated during the RI. NJDEP requires that those PSAs be investigated and the horizontal and vertical extent of ground water contamination be delineated.

Horizontal delineation of the soil contamination at or beyond the property boundary will be necessary at some point before transfer of the site.

Electronic Data
The following problems were found with the electronic data that was submitted to NJDEP:

- HZRESULT.TXT did not contain VOC data for SD-01, SD-04, or any of the SB samples.
- The SP_X and SP_Y locations in HZSAMPLE.TXT for SD-01 & SD-04 have been switched.

**Specific Comments:**

1. 2.2.2 Geophysical Survey Results

a. It is noted that a possible UST was detected in GPR survey traverse 7A and it doesn't appear that the area has been investigated. It must be investigated according to the Tech rules. Also note, the discrepancy between Figure 3 and Figure 10 regarding the actual location of the T-7A traverse must be clarified.

b. GPR anomalies were detected at T-2 and T-3. These areas should have been investigated via test pitting and it doesn't appear that they were during the RI.

2. 2.5.2 Sump and Floor Drain Sediment Investigation
It is noted that only 2 out of 6 sump / floor drains were sampled due to frozen conditions. NJDEP Tech rules require that the other sumps be investigated and sampled when weather permits. The locations of all of the sumps must be identified in the RI Report. These sumps and/or surrounding soils may be acting as a continuing source of groundwater contamination. The groundwater mound and the underground tunnel should be investigated to determine if they are ongoing sources of groundwater contamination.

3. 2.7 Ecological Investigation
NJDEP concurs that wildlife use of this site and subsequent exposure to soil contaminants would be minimal due to lack of suitable habitat and its location in an active urban area. Additionally, there are no wetlands, surface water bodies, or connections with surface water bodies such that contaminant migration via surface water runoff and transport is of concern. However, of concern to NJDEP is the lack of discussion regarding the potential for discharge of contaminated groundwater to nearby surface water bodies. While it is understood that delineation of contaminated groundwater is incomplete, the need for contaminant delineation, identification of potential discharge locations, and potential for existence of a complete contaminant migration pathway to ecological receptors must be addressed. Data gaps must be clearly identified and further evaluations should be recommended in the conclusions of the Ecological Investigation.

Pursuant to requirements in *Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments* (EPA 540-R-97-006), an Ecological Risk Assessment is a required component of the RI/FS process. As such, this Ecological Investigation would be more appropriately formatted as a Screening Level Ecological Risk Assessment (SLERA). NJDEP defers to BTAG and the USEPA RPM with regard to requiring Foster Wheeler to revise the draft RI to include a formal SLERA.

4. 3.5.2 Site Hydrogeology
Figure 3-2 has the wrong date (February 22, 2000 rather than February 22, 1999) in its title.

5. 4.2.3 Determination of Site-Specific Background
This section states that a search of the NJDEP Environmental Cleanup Responsibility Act (ECRA) files was conducted to find potentially suitable background wells in the site vicinity. Three sites were identified as having monitoring wells that were constructed to comparable depths as the wells on the WCC site. This search failed to identify the Penick Corporation site (ISRA Case No. 88129), which has numerous unconsolidated and bedrock monitoring wells. This site is located 1500 feet south of the WCC site. Groundwater quality data, groundwater flow maps, and stratigraphic cross-sections are available for the Penick site. The NJDEP geologist for the Penick site is Rob Lux. He can be reached at (609) 292-1998.

6. 4.3.1.1 Volatile Organic Compounds
This section states that trichloroethene was detected in 45 samples at concentrations ranging from 77 ug/kg to 55,000 ug/kg. However, the highest TCE value reported for surface soil was 130,000 ug/kg in sample SB-11.

7. 4.3.1.4 Polybrominated Biphenyls and 4.2.2 Comparison to ARARs
PBB Criteria: It should be noted that the site specific NJDEP non-residential direct contact cleanup criteria for PBBs is 0.32 ppm or 320 ng/g. The USEPA, Region 3 non-residential SSL is 0.64 ppm or 640 ng/g. The NJDEP criterion is based on the fact that PBB is ranked as a class B2 carcinogen with a cancer slope factor of 8.9+0 from HEAST. NJ uses a soil ingestion rate of 100 mg/day in its calculation of risk. USEPA, Region 3 uses 50 mg/day soil ingestion rate. Therefore, the USEPA non-residential direct contact SSL is twice the NJDEP criterion. It should be noted that PBBs as high as 5,000 ppb were detected in the USEPA 1998 Phase 1 RI sampling near the northeast corner of the maintenance shop. A few other samples from this investigation also had PBB detections over 1000 ng/g (see Table 6 of Appendix C). The highest PBB soil detection mentioned in this current RI Report was 190 ng/g. There was also a sump sediment sample with 750 ng/g of PBBs . Additional delineation of PBBs may be required depending on the eventual remedy selected.

8. 4.4.2 Contaminant Source, Distribution and Migration
The source(s) of the contamination in groundwater has not been definitively identified. Therefore, NJDEP makes the following recommendations to determine if there are remaining source areas:

   There are USTs shown on the 1988 and 1973 Sanborn maps that have not been investigated in the RI. NJDEP recommends that these USTs be registered and investigated.

   The RI report should discuss the condition of the building floors. Cracked and broken floors could indicate potentially contaminated soils beneath the building floors in production areas. Additional investigation / remediation may be required in these areas after building removal.

The general condition of former AST area should be discussed in the RI. Is there containment or just concrete floor? What is the condition of the concrete? This could be another potential source area for contamination detected in downgradient groundwater samples. NJDEP requests that surface and subsurface soil and groundwater screening samples be collected in this area.

If you have any questions about the preceding comments or recommendations, please call me. I can be reached at (609) 292-4506.

Sincerely,

Kathleen J. Fischer, Site Manager
NJDEP Bureau of Site Management

C: D. Froehlich, Geologist, BGWPA
J. Kealy, Technical Coordinator, BEERA

# U.S. Environmental Protection Agency
# Region 2

RAC

FINAL

REMEDIAL INVESTIGATION REPORT
WHITE CHEMICAL CORPORATION
NEWARK, NEW JERSEY

Volume II of III

APRIL 2003

Prepared by

MALCOLM PIRNIE

FOSTER WHEELER

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BAA000067

Appendix C C

Roy F. Weston, Inc.
GSA Raritan Depot
Bldg. 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
732-321-4200 • Fax 732-494-4021

DATE: 29 May 1998

TO: Andre Zownir, U.S. EPA/ERTC Work Assignment Manager

THROUGH: for Edward F. Gilardi, REAC Program Manager Vinod Kausal

FROM: James L. Brown, REAC Task Leader

SUBJECT: WHITE CHEMICAL FACILITY, NEWARK, N.J.; WORK ASSIGNMENT #2-331
ADDENDUM TO SUMMARY LETTER REPORT

PURPOSE

A Summary Letter Report for the White Chemical Company (WCC) Site was issued to the U.S. Environmental Protection Agency (U.S. EPA) Environmental Response Team Center (ERTC) by Response Engineering and Analytical Contract (REAC) personnel on 30 April 1998. The Summary Letter Report contained final, validated analytical data for the Phase I investigation conducted on 26 through 29 January 1998. However, the report only contained preliminary, unvalidated analytical data for the Phase II investigation conducted between 16 and 17 March 1998. The purpose of this addendum is provide the final, validated data, and to report any important differences between the preliminary and final analytical data for the Phase II investigation.

RESULTS

The analytical data validation process resulted in slight changes in many of the reported analytes found in Phase II soil samples. However, none of these changes caused an increase in the number of sampling locations at which soil exceeded proposed New Jersey Department of Environmental Protection (NJDEP) cleanup standards for contaminated soils. Appendix A to this addendum contains final, validated data for polybrominated biphenyls (PBBs) and dioxins. Appendix B to this addendum contains final, validated data for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and Target Analyte List (TAL) inorganics.

cc: Central file WA#2-331

331\del\ar\9805\ar2331

Roy F. Weston, Inc.
GSA Raritan Depot
Bldg. 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
732-321-4200 • Fax 732-494-4021

DATE: 30 April 1998

TO: Andre Zownir, U.S. EPA/ERTC Work Assignment Manager

THROUGH: Edward F. Gilardi, REAC Program Manager

FROM: James L. Brown, REAC Task Leader

SUBJECT: SITE ASSESSMENT, WHITE CHEMICAL FACILITY, NEWARK, N.J.
WORK ASSIGNMENT 2-331 - SUMMARY LETTER REPORT

## BACKGROUND AND OBJECTIVES

The U. S. Environmental Protection Agency (U.S. EPA) Environmental Response Team Center (ERTC) was activated by the Region II Remedial Project Manager (RPM) to conduct a surface and subsurface environmental investigation and to estimate the cost of building demolition and debris disposal at the White Chemical Company (WCC) Site. The WCC Site is located on 4.4 acres at 660 Frelinghuysen Avenue, Newark, Essex County, New Jersey. Freylinghuysen Avenue is a major thoroughfare with large residential and commercial populations, as well as major industry, within 0.5 miles of the site. Major transportation facilities in the immediate vicinity include Newark International Airport, Conrail and Amtrak lines, and U. S. Highway Routes 1 and 9. A site location map is presented in Figure 1.

The WCC Site is currently inactive, but was formerly used for the manufacture of acid chlorides, brominated organic compounds, mineral acids and fire retardant compounds. Three major buildings (Building Numbers 33, 34 and 35) and three smaller, facility support buildings (Boiler Room, Pump House and Maintenance Shop) are located on the site (Figure 2). Beginning in May 1990 and continuing until March 1993 a series of removal actions were conducted at the WCC Site by the New Jersey Department of Environmental Protection (NJDEP), the U.S. EPA, and a Potentially Responsible Party (PRP) group. The information cited above was received from the WCC Draft Focused Feasibility Study (FFS) Report (EPA 1991) and the WCC Draft Remedial Investigation (RI)/Feasibility Study (FS) Work Plan (Malcolm Pirnie/CH2M Hill 1996).

The U.S. EPA's RPM has tasked the U. S. EPA's ERTC Work Assignment Manager (WAM) to provide technical support to assist in determining the extent of contamination at the WCC Site. The WCC Site has been proposed for development under the New Jersey Brownfields Program. Response Engineering and Analytical Contract (REAC) personnel were tasked to monitor contaminants in surface soil and sediment, subsurface soils, and building interiors. Contaminants monitored in soil include total dioxins, polybrominated biphenyls (PBBs), BNAs, TAL inorganics and VOCs. Suspect asbestos containing material (ACM) was collected from building interiors. Wipe samples were analyzed for total phenols, cyanide, PBBs and TAL inorganics. Paint chip samples were analyzed for lead. REAC was also requested to estimate the



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volume of debris contained at the WCC Site, and the estimated cost for debris disposal. Similarly, the cost of building demolition and debris disposal was also requested. The investigations were conducted by REAC in two phases, as described below. All work was conducted in accordance with approved QA Work Plans for the WCC Site.

On 26 through 29 January 1998, a Phase I site investigation was conducted at the WCC Site. During this investigation, surface and subsurface soil samples were collected, and suspect ACM, paint chip, and wipe samples were taken from building interiors. Surface soil samples were collected at 13 locations. Subsurface soil samples were collected by hand augering at four locations. Wipe samples were analyzed for PBBs, total phenols, cyanide and TAL inorganics. Paint chip samples were analyzed for lead. Soil and sump sediment samples were analyzed for total dioxins, PBBs, TAL inorganics and BNAs. In addition to these parameters, subsurface soil samples were analyzed for VOCs. Suspect ACM insulating material was also sampled. Soil sample locations were selected partially on a judgmental basis and partially on the basis of proposed locations presented in the WCC Draft Remedial Investigation (RI)/Feasibility Study (FS) Work Plan (Malcolm Pirnie/CH2M Hill 1996). Two sediment samples were collected from sumps located from the west ends of Buildings 33 and 34. All exterior sampling locations are shown in Figure 2. Wipe samples from interior walls at 15 locations within Buildings 33, 34 and 35, and the boiler room and maintenance shop. Wipe sample locations in these buildings were selected either where there was evidence of staining or in proximity to exhaust fans. Paint chip samples were taken at five locations in Buildings 33, 34 (west end) and 35. Suspect ACM insulating material was sampled at 16 interior locations based on visual identification of representative material.

On 16 and 17 March 1998, a Phase II site investigation was conducted at the WCC Site. During this investigation, subsurface samples were collected at 2-foot intervals to a depth of 10 feet below ground surface (bgs) at 15 locations using a Geoprobe® drill rig. Soil samples were analyzed for total dioxins, PBBs, PCBs, TAL inorganics, BNAs and VOCs. For non-volatile analytes, all surface (0-2 foot) soil samples were extracted and analyzed. Remaining deeper samples were extracted and held for possible future analysis. Most soil samples collected for VOCs analysis were from depths of 0-2 feet and 8-10 feet bgs. All soil cores were screened using an organic vapor analyzer (OVA). At some locations, when organic vapors were detected at elevated levels, additional samples were analyzed for VOCs. During the Phase I investigation, soil samples taken from locations WC-1 through WC-13 were inadvertantly not analyzed for BNAs. These locations were resampled during the Phase II investigation, and samples were analyzed for BNAs. Sampling methods and sample documentation, packaging and shipment were all conducted in accordance with ERTC/REAC standard operating procedures (SOPs).

On 23 April 1998, a site visit was conducted at the WCC site to estimate the volume of and cost of debris disposal, including demolition and disposal of building debris, and the cost of removal, remediation, and disposal of contaminated soil and sediment.

## FIELD OBSERVATIONS AND PRESENTATION OF ANALYTICAL RESULTS

Most of the WCC Site is paved with either asphalt or concrete. The surface soil samples taken during the Phase I investigation were collected from the few remaining unpaved areas at the site. This is also true for Phase I subsurface samples taken by hand augering. Generally, interior wall staining was minimal in the chemical process buildings. Samples for lead in paint were taken from locations representative of large painted surfaces. Phase II sampling locations required cutting through pavement to access underlying soil material. In general, most soil appeared to be of natural origin, and contained little or no heterogeneous fill material. Most of the southern portion of the WCC is covered with roofing debris and car parts.

Sample analytical data were compared to proposed NJDEP soil standards for industrial property, when these exist. Analytical data for PBBs are presented as the sum of all PBB homologues. There are currently no proposed NJDEP standards for PBBs in soil.

Dioxin data are evaluated using 2,3,7-8-tetrachlorodibenzodioxin (2,3,7-8-TCDD) equivalency factors in accordance with EPA guidance (EPA 1989). Dioxin action levels within New Jersey for industrial properties are specified on a case-by-case basis when dioxins normalized to 2,3,7-8-TCDD exceed 1 microgram/kilogram ($\mu$g/Kg). Provided 2,3,7-8-TCDD levels do not exceed 20 $\mu$g/Kg, the preferred remedial measure is containment beneath at least two feet of clean soil. This guidance is based on a May 1987 memo to the Agency for Toxic Substances and Disease Registry from the Federal Centers for Disease Control, U.S. Public Health Service, Department of Health and Human Services regarding cleanup of dioxin contaminated soil at sites in Missouri.

There is currently no NJDEP guidance for disposal of demolition and disposal debris. Contaminant limits for debris disposal are determined by the landfill facility receiving such debris. Building interiors may require cleaning prior to demolition and disposal. If buildings at the WCC are to be reused, the New Jersey Department of Health has authority to set building interior standards for contaminants. Wipe sample data can therefore be used for either debris disposal requirements or building occupany standards, depending on whether buildings at the WCC Site are reused or demolished. If buildings are to be demolished, all materials suspected of containing hazardous substances should be segregated to the extent practicable.

In the following discussion, data are presented sequentially for the Phase I and II investigations, respectively. For Phase I, soil data will be present first, followed by wipe, ACM, and paint chip results. Data from the Phase I investigation have been validated, while Phase II data have not. Phase II data are therefore considered preliminary. An addendum to this Summary Letter Report will be issued with attached final validated data from the Phase II investigation. If data are revised during the data validation process, those revisions will be noted.

## PHASE I INVESTIGATION RESULTS

Table 1 presents a summary of soil samples collected during the Phase I investigation. Twenty two samples were collected at locations shown in Figure 2. The locations sampled were judgmentally selected based on their proximity to process buildings and tank storage areas, and expected contaminant migration routes. As stated above, the Phase I soil investigation was limited to areas sampleable with hand operated equipment. Dioxin levels in Phase I soil samples are presented in Table 5. The final analytical data for dioxin and PBBs in Phase I are attached in Appendix E. Most of the samples were taken at or near the surface; however, at four locations, samples were collected at depths up to 8.5 feet bgs. These deeper samples are designated as subsurface soil samples in Figure 2, as distinct from soil boring samples collected during Phase II. The dioxin data in Table 5 are normalized to 2,3,7-8-TCDD, and compared to the NJDEPs proposed action level of 1 $\mu$g/Kg in soil. Only one of the 22 samples contained normalized dioxin in excess of 1 $\mu$g/Kg. That sample, WC-4, contained 2.2059 $\mu$g/Kg. The sample was collected from 0 to 0.2 feet bgs approximately 30 feet east of the northeast corner of the maintenance shop, as shown in Figure 2. During the subsequent Phase II subsurface investigation, Soil Boring 5 (SB-5) was collected near this location to determine if dioxin was present at a greater soil depth. Results of the Phase II investigation will be presented later in this section. The remaining 21soil samples contained minimal dioxin, with a range between 0.0007 $\mu$g/Kg and 0.2867 $\mu$g/Kg.

PBBs in soil samples collected during Phase I are presented in Table 6. As cited above, the NJDEP has not proposed a soil cleanup standard for PBBs. Polychlorinated biphenyls were present in all surficial soil samples, and also the sump sediments contained in Buildings 33 and 34. However, PBBs were not detected in any subsurface soil samples. Levels of PBBs detected in the Building 33 and 34 sumps were 362 and 322 $\mu$g/Kg, respectively. In surficial soil samples, PBBs ranged widely from 0.7$\mu$g/Kg along the north fence line (WC-1) to 5,043 $\mu$g/Kg near the northeast corner of the maintenance shop (WC-4). It is noteworthy that WC-4 is the same location where total dioxin was found at an elevated level of 2.2059 $\mu$g/Kg.

Semivolatile organic compounds (BNAs) that exceed proposed NJDEP soil cleanup criteria for non-residential sites are presented in Table 7. The data are from one sample sample collected from the sump trough in Building 33. The three polycyclic aromatic hydrocarbons (PAHs) that exceed proposed criteria are suspected carcinogens. None of the 14 surficial samples taken at locations WC-1 through WC-14 contained any of the BNAs in excess of proposed NJDEP soil cleanup criteria for non-residential sites.

Target Analyte List (TAL) inorganics in soil and sediment collected during Phase I that exceed proposed NJDEP cleanup criteria for non-residential sites are presented in Table 8. A sump trough sediment sample from Building 33 and several surface soil samples exceeded, lead, thallium, antimony, copper and beryllium levels for proposed cleanup criteria. Only one contaminant, copper, was found at more than an order of magnitude higher than the proposed criterion. That sample, WC-4, also contained excessive lead and thallium levels. As cited above, the sample at WC-4 also contained dioxin above the NJDEP action level and the highest level of PBBs. At location WC-6, which is also near the northeast corner of the maintenance shop, levels of antimony, lead and thallium exceeded proposed NJDEP criteria. One subsurface sample collected in Phase I exceeded the NJDEP criterion for beryllium. This sample was taken outside the south entrance of Building 34.

Some VOCs were detected in subsurface soil during the Phase I investigation. However, none of these exceeded the proposed NJDEP cleanup criteria for non-residential soil. Final analytical data for VOCs, BNAs, cyanide, total phenols, TAL Inorganics and lead for soil, wipe and paint chip samples taken in the Phase I investigation are attached in Appendix F.

Table 2 presents a summary of wipe sample locations for the Phase I investigation. Wipe samples were collected at 15 locations from interior walls of Buildings 33, 34 and 35, plus the maintenance shop and boiler room. At stated earlier, there are no existing NJDEP criteria for evaluation of wipe sample data. Samples were analyzed for PBBs, total phenols, cyanide and TAL inorganics. Two wipe sample locations were selected for analysis of mercury instead of TAL inorganics. At each wipe location, one of four adjacent square sections was sampled for each group of analytes. Each square area was 10 in. x 10 in. Total phenols in wipe samples are presented in Table 10. Phenols were found in 8 of 14 samples at levels ranging from 0.0026 to 0.0042 $\mu$g/wipe. Cyanide was identified in 10 of 14 wipe samples at levels ranging from 0.26 to 7.6$\mu$g/wipe. The highest cyanide levels were found in samples taken in the center section of Building 34. Table 12 presents wipe sample results for mercury. One sample each was taken from the worst appearing stained areas within Buildings 33 and 34, where chemical processing occurred. A mercury level of 1.6 $\mu$g/wipe was found in Building 33, while 0.14 $\mu$g/wipe was found in Building 34. The remaining TAL inorganics were analyzed in 13 of 15 wipe samples. Results are presented in Table 13. A large number of inorganics were identified at what appear to be trace levels. The highest analytes concentration found was for zinc, at 82,100 $\mu$g/wipe in the maintenance shop. In Building 34, the predominant elements detected in five wipe samples were zinc (up to 5,000 $\mu$g/wipe), lead (up to 2,300 $\mu$g/wipe) and copper (up to 1,030 $\mu$g/wipe). Other elements detected at lower levels include antimony, chromium, titanium, vanadium, arsenic and

cadmium. The same relative levels of elements were present in two wipe samples from Building 35. In a single wipe sample from the boiler room, none of the analytes exceeded 1,000 $\mu$g/wipe. In Building 33, the levels of zinc, copper and lead were lower relative to other elements in five wipe samples. In these samples, only zinc exceeded 1,000 $\mu$g/wipe.

A summary of suspect ACM insulation sampled during the Phase I investigation is presented in Table 3. Supporting analaytical data are attached in Appendix G. Sixteen samples were taken from Buildings 33, 34 and 35 and the maintenance shop and boiler room. ACM was positively identified in 10 of the 16 samples. The length of ACM pipe insulation was estimated, as was the volume of ACM insulation surrounding a boiler room incinerator. Estimated costs of ACM disposal are included in Appendix J attached to this report.

Paint chip sample analysis for lead collected during the Phase I investigation are presented in Table 4. The lead concentrations in the five samples vary from 10.8 to 1,670 mg/Kg. According to the U.S. EPA (1993), lead levels in solid wastes such as woodwork, plaster, doors and similar building components are considered to be hazardous when the lead level in paint on these wastes exceeds 4 mg/square centimeter ($cm^2$). Based on this standard, none of the building materials from which paint samples were taken would be considered hazardous under Resource Conservation and Recovery Act (RCRA) regulations.

## PHASE II INVESTIGATION RESULTS

In the Phase II investigation, 15 locations were selected for the subsurface soil investigation. Unless otherwise specified, all Phase II data are preliminary only, and have not been validated. Table 14 presents a summary of samples extracted and analyzed for dioxins, PBBs, BNAs and TAL inorganics. Only the 0-2 foot bgs samples were analyzed, and the remaining samples from 2-10 feet bgs were extracted and held for possible future analysis. These deeper sample extracts may be analyzed at the discretion of the U.S. EPA's WAM. Preliminary analytical data for dioxins and PBBs from the Phase II investigation are attached in Appendix H.

A summary of positive detections for dioxins in Phase II soil samples taken from 0-2 feet bgs is presented in Table 16. As with Phase I data, all dioxins have been normalized to 2,3,7-8-TCDD using a toxicity equivalent factor, and then compared to the proposed NJDEP action level of 1$\mu$g/Kg. Dioxin levels in Table 16 are very low, ranging from 0.0031 to 0.2259 1$\mu$g/Kg, with a mean value of 0.0555 1$\mu$g/Kg. The very low levels of dioxin present at 0-2 feet bgs would seem to preclude analysis of deeper soil samples. The soil description data in Appendix A incidate that relatively undisturbed, native soil materials underly the site, with minimal evidence of fill. There was no recognizable buried waste in any of the soil borings.

In the Phase II subsurface investigation, PBBs were not detected in any of the 0-2 foot bgs soil samples. These results are consistent with dioxin data from the subsurface. Apparently, PBBs are present only near the surface at the WCC Site. As stated above, the absence of PBBs at this depth interval would seem to precluded analysis of deeper soil samples.

Only a single PCB aroclor was detected in the 15 subsurface soil samples. Aroclor 1254 was found at 1.2 mg/Kg at SB-12. This level is less than the 2 mg/Kg level proposed for non-residential soils by the NJDEP. This result is also consistent with the absence of visual contamination in the subsurface at the WCC Site. A single surficial soil sample was also collected for analysis of PCBs, at location WC-11. At this location, adjacent to Building 33, a transformer was lying on the surface with a surrounding oily residue. Analysis of the surficial soil sample at this location, however, showed PCBs to be absent. The preliminary analytical data for PCBs and all remaining analytes for the Phase II investigation are attached in Appendix I.

A summary of positive BNA detections that exceed proposed NJDEP soil cleanup criteria for non-residential sites is presented in Table 17. Phthalates were found in several samples at relatively low levels; they probably represent laboratory contaminants. Three of the 15 soil boring samples contained detectable BNAs in addition to phthalates. Two of these samples, at locations SB-10 and SB-11, contained BNAs at levels in excess of proposed NJDEP cleanup criteria.

TAL inorganics in soil samples collected during the Phase II investigation that exceed proposed NJDEP soil cleanup criteria are presented in Table 18. At two locations, SB-9 and SB-15, both lead and zinc exceed proposed NJDEP cleanup criteria in soil taken from 0-2 feet bgs. Location SB-9 is in the southeast corner of Building 33, within the building. Location SB-15 is near the southwest corner of Building 33. Arsenic was also present in a large number of samples with a range from 1.3 to 15 mg/Kg. The proposed NJDEP soil arsenic cleanup standard for non-residential sites is 2 mg/Kg. However, the proposed standards recognize background levels for arsenic can be as high as 20 mg/Kg. Levels of arsenic at the WCC Site may represent background levels for this location.

Some VOCs were detected in subsurface soil during the Phase II investigation. However, none of these exceeded the proposed NJDEP cleanup criteria for non-residential soil.

## ESTIMATION OF BUILDING DEMOLITION, DEBRIS AND SOIL DISPOSAL COSTS

Estimated costs for building demolition and debris disposal, and soil treatment and off-site disposal are attached in Appendix J. All assumptions used in cost estimation are listed in the appendix. Building demolition will be restricted to the surface. Foundations, slabs and pavement will remain. Only a small volume (2 cubic yards) of soil and sediment was selected for excavation and off-site treatment and disposal. The soil/sediment treatment technology train includes both incineration and stabilization/solidification of incinerator ash because the soil contains inorganic contaminants in addition to dioxins and PBBs. However, it is possible that soil/sediment could be accepted for disposal at a hazardous waste (RCRA Subtitle B) landfill. Excavation, treatment and disposal of subsurface soil is not included, because contamination identified during the Phase II investigation is minimal.

## SUMMARY

The level and extent of both surface and subsurface contamination at the WCC Site is minimal. Only 1 of 22 soil samples taken in the Phase I surface investigation contained dioxin in excess of the NJDEP proposed action level of 1 $\mu$g/Kg, normalized to 2,3,7-8-TCDD. Although PBBs were ubiquitous in surface soil and sump sediment from within Buildings 33 and 34, they were absent in the subsurface. There are no proposed NJDEP soil cleanup criteria for PBBs. The highest dioxin and PBB levels were found in soil taken at the same location, WC-4, close to the northeast corner of the maintenance shop. A single sediment sample from the sump trough in Building 33 contained BNAs in excess of proposed NJDEP criteria. Inorganic contaminants in excess of proposed NJDEP criteria were found in the Building 33 sump trough and at locations WC-4 and WC-6 near the northeast corner of the maintenance shop. A single subsurface soil sample taken outside the south enterance of Building 34 during Phase I contained beryllium in excess of the proposed cleanup criterion.

Wipe samples were taken from interior walls within Buildings 33, 34, 35, the boiler room and maintanance shop. Wall staining was minimal. Phenols were found in 8 of 14 samples at levels ranging from 0.0026 to 0.0042 $\mu$g/wipe. Cyanide was identified in 10 of 14 wipe samples at levels ranging from 0.26 to 7.6$\mu$g/wipe. The highest cyanide levels were found in samples taken in the center section of Building 34. A mercury level of 1.6 $\mu$g/wipe was found in Building 33, while 0.14 $\mu$g/wipe was found in Building 34. A large number of TAL inorganics were identified at what appear to be trace levels. There are currently no standards for wipe samples. However, it is always adviseable to segregate stained from unstained building debris during demolition in the event stained debris is not acceptable for disposal as construction. During the Phase I investigation, ACM was found inside all buildings, but only in small quantities. Paint chip sample analysis for lead during the Phase I investigation were found to be nonhazardous under RCRA.

In the Phase II subsurface soil investigation, the 0-2 foot bgs samples were analyzed, while the remaining deeper samples were extracted and held. Examination of soil cores collected during the Phase II investigation did not provide any visual evidence of subsurface soil contamination. Having considered the above information, a decision was made by the U.S. EPA's WAM not to analyze extracts from deeper soil samples taken during the subsurface investigation. Dioxin in all subsurface samples was well below the 1 $\mu$g/Kg action level at all locations, and PBBs were undetected. Polybrominated biphenyls are present only near the surface at the WCC Site. Only a single PCB aroclor was detected, but at a level less than the 2 mg/Kg level proposed for non-residential soils by the NJDEP. Two subsurface samples, at locations SB-10 and SB-11, contained BNAs at levels in excess of proposed NJDEP cleanup criteria. At two locations, SB-9 and SB-15, both lead and zinc exceeded proposed cleanup criteria. Arsenic was present in a large number of samples from 1.3 to 15 mg/Kg. These arsenic levels may represent background levels for this location.

The estimated cost for building demolition, debris disposal and contaminated soil treatment and disposal is $825,000.

REFERENCES

U.S. Dept. of Health & Human Services. 1987. " Memorandum on Missouri Dioxin Sites Cleanup" to Barry Johnson, Associate Administrator, ATSDR. Federal Centers for Disease Control, U.S. Public Health Service. 8 May 1987.

U.S. EPA. 1989. "Update of Toxicity Equivalent Factors (TEFs) for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxons and Dibenzofurans (CDDs/CDFs)," March 1989. EPA 625/3-89/016.

U.S. EPA. 1991. "Draft Focused Feasibility Study for the White Chemical Corporation Site." U.S. EPA, Region II.

U.S. EPA. 1993. "Applicability of RCRA Disposal Requirements to Lead-Based Paint Abatement Waste."

U.S. EPA. 1996. " Draft Work Plan for the Remediation Investigation/Feasibility Study, Volume 1." White Chemical Corporation, Newark, NJ. December 1996.

TABLE I
Summary of Soil Samples Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Depth (ft) | Analysis |
|---|---|---|---|---|---|
| WC-1 | 2331-035 | 1/27/98; 3/17/98 | N. fence line | 0-0.3 | Dioxin, PBB, TAL metals, BNA |
| WC-2 | 2331-036 | 1/27/98; 3/17/98 | Near NE corner of site | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-3 | 2331-037 | 1/27/98; 3/17/98 | Between Bldgs. 34 & 34A | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-4 | 2331-038 | 1/27/98; 3/17/98 | Near NE corner of Maint. Shop | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-5 | 2331-039 | 1/27/98; 3/17/98 | E of Maint. Shop in Open Storage Area | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-6 | 2331-040 | 1/27/98; 3/17/98 | NE corner of Maint. Shop | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-7 | 2331-041 | 1/27/98; 3/17/98 | Tank Storage Area | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-8 | 2331-042 | 1/27/98; 3/17/98 | Tank Storage Area | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-9 | 2331-043 | 1/27/98; 3/17/98 | Tank Storage Area | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-10 | 2331-044 | 1/27/98; 3/17/98 | Between Boiler Room & Bldg. 33 | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-11 | 2331-045 | 1/27/98; 3/17/98 | S of Bldg. 33 | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-12 | 2331-046 | 1/27/98; 3/17/98 | Tank area S of Bldg. 35 | 0-0.2 | Dioxin, PBB, TAL metals, BNA |
| WC-13 | 2331-047 | 1/27/98; 3/17/98 | S end of tank area S of Bldg. 35 | 0-0.2 | Dioxin, PBB, TAL metals, BNA |

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TABLE 1 (Cont'd)
Summary of Soil Samples Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Depth (ft) | Analysis |
|---|---|---|---|---|---|
| WC-14 | 2331-048 | 1/27/98; 3/17/98 | E. fence line | 0-0.2 | Dioxin, PBB, TAL Metals, BNA |
| Bldg. 33 Sump | 2331-058 | 1/28/98 | Bldg. 33 sump trough; composite | 0-0.3 | Dioxin, PBB, TAL Metals, BNA |
| Bldg. 34 Sump | 2331-059 | 1/28/98 | Bldg. 34 sump | 0-0.5 | Dioxin, PBB, TAL Metals, BNA |
| WC-15D | 2331-060 | 1/28/98 | Near NE corner of Bldg. 35 | 1-2 | Dioxin, PBB, TAL Metals, BNA, VOCs |
| Bldg. 34D-1 | 2331-061 | 1/28/98 | Outside S entrance of Bldg. 34 | 0.7-1.3 | Dioxin, PBB, TAL Metals, BNA, VOC |
| Bldg. 34D-2 | 2331-062 | 1/28/98 | Outside S entrance of Bldg. 34 | 6-7 | Dioxin, PBB, TAL Metals, BNA, VOC |
| WC-16D | 2331-063 | 1/28/98 | SE corner of Maint. Shop | 4-5 | Dioxin, PBB, TAL Metals, BNA, VOC |
| WC-3D1 | 2331-064 | 1/28/98 | Between Bldg. 34 & Bldg. 34A | 0.6-1.5 | Dioxin, PBB, TAL Metals, BNA, VOC |
| WC-3D2 | 2331-065 | 1/28/98 | Between Bldg. 34 & Bldg. 34A | 7.5-8.5 | Dioxin, PBB, TAL Metals, BNA, VOC |

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TABLE 2
Summary of Wipe Samples Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Analysis |
|---|---|---|---|---|
| Bldg. 34-A | 2331-004 | 1/26/98 | 6 ft S of NW corner; 3 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 34-B | 2331-006 | 1/26/98 | 24 ft N of SW corner on W wall; 3 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 34-C | 2331-008 | 1/26/98 | E wall Bldg. 34A; 18 ft from SE corner | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 34-D | 2331-010 | 1/26/98 | W end of bldg.; 23 ft N of S side; 4.5 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 34-E | 2331-012 | 1/26/98 | W end of bldg.; 10 ft from SW corner; 4 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Maint.-A | 2331-023 | 1/26/98 | Center of W wall; below exhaust fan; 5 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Boiler Room-A | 2331-021 | 1/26/98 | Boiler Room; 2 ft from SE corner; 3.5 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-A | 2331-001 | 1/26/98 | Behind Tank 59; 32 ft W of E wall; 4 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | PBB, Phenol, Cyanide, TAL Metals |

TABLE 2 (Cont'd)
Summary of Wipe Samples Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Analysis |
|---|---|---|---|---|
| Bldg. 35-A | 2331-014 | 1/26/98 | 2nd floor; S wall, 2 ft from SE corner; 1.5 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 35-B | 2331-016 | 1/26/98 | 1st floor; 3rd section from E, N wall, 10 ft W of E wall; 2 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-C | 2331-027 | 1/27/98 | N side of bldg.; S wall, in room identified by OHM Corp. as containing haz. materials; 2 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-D | 2331-031 | 1/27/98 | N side of bldg.; 2nd floor lab; taken under hood | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-E | 2331-029 | 1/27/98 | N side of bldg. on E end; 2nd floor lab; taken on wall adjacent to hood; 4 ft height | PBB, Phenol, Cyanide, TAL Metals |
| Bldg. 33-F | 2331-030 | 1/27/98 | 1st floor office; N side of bldg; 3 ft height (office has old calendar on wall) | PBB, Phenol, Cyanide, TAL Metals |

TABLE 3
Summary of Suspect Asbestos Containing Materials Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Quantity of Suspect ACM (feet) | Presence (+)/ Absence (-) of ACM |
|---|---|---|---|---|---|
| Maint.-A | 2331-024 | 1/26/98 | Maint Bldg; on floor near W wall | 2 | + |
| Maint.-B | 2331-025 | 1/26/98 | Maint Bldg; on floor near E wall | 2 | - |
| Boiler Room-A | 2331-022 | 1/26/98 | Insul. on incinerator, E end of boiler room | Cylinder jacket 16 ft length x 2 ½ ft diameter | + |
| Bldg. 33-A | 2331-002 | 1/26/98 | Top of process Tank 69 | Not Estimated | - |
| Bldg. 35-A | 2331-015 | 1/26/98 | Pipe insulation | 25 | + |
| Bldg. 35-B | 2331-017 | 1/26/98 | Pipe insulation | 35 | + |
| Bldg. 35-C | 2331-018 | 1/26/98 | On floor beneath tank at E end of bldg. | 2 | - |
| Bldg. 35-D | 2331-019 | 1/26/98 | Pipe insulation | 120 | + |
| Bldg. 35-E | 2331-020 | 1/26/98 | Pipe insulation | 200 | + |
| Bldg. 33-B | 2331-028 | 1/26/98 | 2nd floor; N side of bldg., pipe insulation in laboratory | 50 | + |

TABLE 3 (Cont'd)
Summary of Suspect Asbestos Containing Materials Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Quantity of Suspect ACM (feet) | Presence (+)/ Absence (-) of ACM |
|---|---|---|---|---|---|
| Bldg. 34-A | 2331-005 | 1/26/98 | Bldg. 34; lower pipe | 27 | + |
| Bldg. 34-B | 2331-007 | 1/26/98 | Bldg. 34; upper pipe | 52 | + |
| Bldg. 34-C | 2331-009 | 1/26/98 | Bldg. 34; NW corner of bldg, on floor (process vessel insulation) | Not estimated | - |
| Bldg. 34-D | 2331-011 | 1/26/98 | Bldg. 34A; SW corner of bldg, on floor (pipe insulation) | 2 | + |
| Bldg. 34-E | 2331-013 | 1/26/98 | W end Bldg. 34; on floor between Tanks 88 & 89 | Not estimated | - |
| Bldg. 34-F | 2331-026 | 1/26/98 | W end Bldg. 34; composite of insulation on Tanks 88 & 89 | Not estimated | - |

TABLE 4
Paint Chip Samples Collected for Lead Analysis During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Lead Conc. (mg/kg) | Weight of Paint per 100 $cm^2$ (g) | mg Lead/$cm^2$ of Paint Surface |
|---|---|---|---|---|---|---|
| Bldg. 33-A | 2331-049 | 1/27/98 | E end of bldg; inside door | 10.8 | 9.8 | 0.001 |
| Bldg. 33-B | 2331-050 | 1/27/98 | N side of bldg; 2nd floor | 92.9 | 6.9 | 0.006 |
| Bldg. 34-A | 2331-051 | 1/27/98 | W end of bldg; N wall | 1,670 | 3.6 | 0.06 |
| Bldg. 35-B | 2331-052 | 1/27/98 | Wall adjacent to 2nd floor staircase | 1,510 | 9.8 | 0.15 |
| Bldg. 35-A | 2331-069 | 1/28/98 | Inside wall near door; 1st floor | 1,450 | 17.0 | 0.25 |

TABLE 5
Summary of Dioxin Positive Detections in Soil Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Sum of all Dioxin Using Toxicity Equiv. Factor ($\mu$g/kg) |
|---|---|---|---|---|
| WC-1 | 2331-035 | N fence line | 0-0.3 | 0.0058 |
| WC-2 | 2331-036 | Near NE corner of site | 0-0.2 | 0.2867 |
| WC-3 | 2331-037 | Between Bldgs. 34 & 34A | 0-0.2 | 0.0072 |
| WC-4 | 2331-038 | Near NE corner of Maint. Shop | 0-0.2 | 2.2059 |
| WC-5 | 2331-039 | E of Maint. Shop in former Open Storage Area | 0-0.2 | 0.0273 |
| WC-6 | 2331-040 | NE corner of Maint. Shop | 0-0.2 | 0.0926 |
| WC-7 | 2331-041 | Tank Storage Area | 0-0.2 | 0.0225 |
| WC-8 | 2331-042 | Tank Storage Area | 0-0.2 | 0.0141 |
| WC-9 | 2331-043 | Tank Storage Area | 0-0.2 | 0.0088 |
| WC-10 | 2331-044 | Between Boiler Room & Bldg. 33 | 0-0.2 | 0.0347 |
| WC-11 | 2331-045 | S of Bldg. 33 | 0-0.2 | 0.0420 |
| WC-12 | 2331-046 | Tank area S of Bldg. 35 | 0-0.2 | 0.0296 |

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TABLE 5 (Cont'd)
Summary of Dioxin Positive Detections in Soil Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Sum of all Dioxin Using Toxicity Equiv. Factor (μg/kg) |
|---|---|---|---|---|
| WC-13 | 2331-047 | S end of tank area S of Bldg. 35 | 0-0.2 | 0.0199 |
| WC-14 | 2331-048 | E fence line | 0-0.2 | 0.0114 |
| Bldg. 33 Sump | 2331-058 | Bldg. 33 sump trough; composite | 0-0.3 | 0.0102 |
| Bldg. 34 Sump | 2331-059 | Bldg. 34 sump | 0-0.5 | 0.0266 |
| WC-15D | 2331-060 | Near NE corner of Bldg. 35 | 1-2 | 0.0078 |
| Bldg. 34D1 | 2331-061 | Outside S entrance of Bldg. 34 | 0.7-1.3 | 0.0085 |
| Bldg. 34D2 | 2331-062 | Outside S entrance of Bldg. 34 | 6-7 | 0.0043 |
| WC-16D | 2331-063 | SE corner of Maint. Shop | 4-5 | 0.0018 |
| WC-3D1 | 2331-064 | Between Bldg. 34 & 34A | 0.6-1.5 | 0.0125 |
| WC-3D2 | 2331-065 | Between Bldg. 34 & 34A | 7.5-8.5 | 0.0007 |

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TABLE 6
Summary of Positive Detections for PBBs in Soil Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Sum of all PBBs ($\mu$g/kg) |
|---|---|---|---|---|
| WC-1 | 2331-035 | N fence line | 0-0.3 | 0.7 |
| WC-2 | 2331-036 | Near NE corner of site | 0-0.2 | 23.24 |
| WC-3 | 2331-037 | Between Bldgs. 34 & 34A | 0-0.2 | 124 |
| WC-4 | 2331-038 | Near NE corner of Maint. Shop | 0-0.2 | 5,043 |
| WC-5 | 2331-039 | E of Maint. Shop in former Open Storage Area | 0-0.2 | 796 |
| WC-6 | 2331-040 | NE corner of Maint. Shop | 0-0.2 | 2,242 |
| WC-7 | 2331-041 | Tank Storage Area | 0-0.2 | 4,131 |
| WC-8 | 2331-042 | Tank Storage Area | 0-0.2 | 684.4 |
| WC-9 | 2331-043 | Tank Storage Area | 0-0.2 | 1,060 |
| WC-10 | 2331-044 | Between Boiler Room & Bldg. 33 | 0-0.2 | 1,136 |
| WC-11 | 2331-045 | S of Bldg. 33 | 0-0.2 | 2839 |
| WC-12 | 2331-046 | Tank area S of Bldg. 35 | 0-0.2 | 623.5 |
| WC-13 | 2331-047 | S end of tank area S of Bldg. 35 | 0-0.2 | 2,168 |
| WC-14 | 2331-048 | E fence line | 0-0.2 | 101 |

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TABLE 6 (Cont'd)
Summary of Positive Detections for PBBs in Soil Collected During the Phase I Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Sum of all PBBs ($\mu$g/kg) |
|---|---|---|---|---|
| Bldg. 33 Sump | 2331-058 | Bldg. 33 sump trough; composite | 0-0.3 | 362.5 |
| Bldg. 34 Sump | 2331-059 | Bldg. 34 sump | 0-0.5 | 322 |

TABLE 7
Semivolatile Organic Compounds in Soil Collected During the Phase I Investigation Exceeding Proposed NJDEP Criteria
Non-Residential Sites
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Compound | Conc. (mg/kg) | NJDEP Cleanup Criterion (mg/kg) |
|---|---|---|---|---|---|---|
| Bldg. 33 Sump | 2331-058 | Bldg. sump trough; composite | 0-0.3 | Benzo(a)anthracene | 4.6 | 4.0 |
| " | " | " | " | Benzo(k)fluoranthene | 8.9 | 4.0 |
| " | " | " | " | Benzo(a)pyrene | 4.6 | 0.66 |

TABLE 8
TAL Inorganics in Soil Collected During the Phase I Investigation That Exceed Proposed NJDEP Criteria
Non-Residential Sites
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Compound | Conc. (mg/kg) | NJDEP Cleanup Criterion (mg/kg) |
|---|---|---|---|---|---|---|
| Bldg. 34D2 | 2331-062 | Outside S entrance of Bldg. 34 | 6-7 | Beryllium | 1.4 | 1 |
| WC-1 | 2331-035 | N fence line | 0-0.3 | Lead | 792 | 600 |
| WC-2 | 2331-036 | Near NE corner of site | 0-0.2 | Thallium | 7.3 | 2 |
| WC-3 | 2331-037 | Between Bldgs. 34 & 34A | 0-0.2 | Antimony | 383 | 340 |
| WC-4 | 2331-038 | Near NE corner of Maint. Shop | 0-0.2 | Copper | 6,610 | 600 |
| " | " | " | " | Lead | 3,090 | 600 |
| " | " | " | " | Thallium | 2.9 | 2 |
| WC-5 | 2331-039 | E of Maint. Shop in former Open Storage Area | 0-0.2 | Thallium | 2.6 | 2 |
| WC-6 | 2331-040 | NE corner of Maint. Shop | 0-0.2 | Antimony | 446 | 340 |
| " | " | " | " | Lead | 1,000 | 600 |
| " | " | " | " | Thallium | 4.4 | 2 |

TABLE 8 (Cont'd)
TAL Inorganics in Soil Collected During the Phase I Investigation That Exceed Proposed NJDEP Criteria
Non-Residential Sites
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Compound | Conc. (mg/kg) | NJDEP Cleanup Criterion (mg/kg) |
|---|---|---|---|---|---|---|
| WC-10 | 2331-044 | Between Boiler Room & Bldg. 33 | 0-0.2 | Thallium | 4.7 | 2 |
| WC-11 | 2331-045 | S of Bldg. 33 | 0-0.2 | Thallium | 3.4 | 2 |
| WC-13 | 2331-047 | S end of tank area S of Bldg. 35 | 0-0.2 | Thallium | 3.0 | 2 |
| WC-14 | 2331-048 | E fence line | 0-0.2 | Thallium | 5.6 | 2 |
| Bldg. 33 Sump | 2331-058 | Bldg. 33 sump trough; composite | 0-0.3 | Thallium | 8.4 | 2 |

TABLE 9
Wipe Sampling Analytical Results from the Phase I Investigation - PBBs
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Total PBBs (µg/wipe) |
|---|---|---|---|---|
| Bldg. 34-A | 2331-004 | 1/26/98 | 6 ft S of NW corner; 3 ft height | 0.06 |
| Bldg. 34-B | 2331-006 | 1/26/98 | 24 ft N of SW corner on W wall; 3 ft height | 0.102 |
| Bldg. 34-C | 2331-008 | 1/26/98 | E wall Bldg. 34A; 18 ft from SE corner | 0.007 |
| Bldg. 34-D | 2331-010 | 1/26/98 | W end of bldg.; 23 ft N of S side; 4.5 ft height | 0.131 |
| Bldg. 34-E | 2331-012 | 1/26/98 | W end of bldg.; 10 ft from SW corner; 4 ft height | 0.02 |
| Maint.-A | 2331-023 | 1/26/98 | Center of W wall; below exhaust fan; 5 ft height | 0.032 |
| Boiler Room-A | 2331-021 | 1/26/98 | Boiler Room; 2 ft from SE corner; 3.5 ft height | Not detected |
| Bldg. 33-A | 2331-001 | 1/26/98 | Behind Tank 59; 32 ft W of E wall; 4 ft height | 0.009 |
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | 0.402 |
| Bldg. 35-A | 2331-014 | 1/26/98 | 2nd floor; S wall, 2 ft from SE corner; 1.5 ft height | Not detected |
| Bldg. 35-B | 2331-016 | 1/26/98 | 1st floor; 3rd section from E, N wall, 10 ft W of E wall; 2 ft height | Not detected |
| Bldg. 33-C | 2331-027 | 1/27/98 | N side of bldg.; S wall, in room identified by OHM Corp. as containing haz. materials; 2 ft height | Not detected |
| Bldg. 33-D | 2331-031 | 1/27/98 | N side of bldg.; 2nd floor lab; taken under hood | 0.0203 |

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TABLE 9 (Cont'd)
Wipe Sampling Analytical Results from the Phase I Investigation - PBBs
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Total PBBs (µg/wipe) |
|---|---|---|---|---|
| Bldg. 33-E | 2331-029 | 1/27/98 | N side of bldg. on E end; 2nd floor lab; taken on wall adjacent to hood; 4 ft height | 0.08 |
| Bldg. 33-F | 2331-030 | 1/27/98 | 1st floor office; N side of bldg.; 3 ft height (office has old calendar on wall) | Not detected |

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TABLE 10
Wipe Sampling Analytical Results from the Phase I Investigation - Total Phenols
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Total Phenols ($\mu$g/wipe) |
|---|---|---|---|---|
| Bldg. 34-A | 2331-004 | 1/26/98 | 6 ft S of NW corner; 3 ft height | Not detected |
| Bldg. 34-B | 2331-006 | 1/26/98 | 24 ft N of SW corner on W wall; 3 ft height | " |
| Bldg. 34-C | 2331-008 | 1/26/98 | E wall Bldg. 34A; 18 ft from SE corner | " |
| Bldg. 34-D | 2331-010 | 1/26/98 | W end of bldg.; 23 ft N of S side; 4.5 ft height | " |
| Bldg. 34-E | 2331-012 | 1/26/98 | W end of bldg.; 10 ft from SW corner; 4 ft height | 0.0026 |
| Maint.-A | 2331-023 | 1/26/98 | Center of W wall; below exhaust fan; 5 ft height | 0.0039 |
| Boiler Room-A | 2331-021 | 1/26/98 | Boiler Room; 2 ft from SE corner; 3.5 ft height | 0.0028 |
| Bldg. 33-A | 2331-001 | 1/26/98 | Behind Tank 59; 32 ft W of E wall; 4 ft height | Not detected |
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | " |
| Bldg. 35-A | 2331-014 | 1/26/98 | 2nd floor; S wall, 2 ft from SE corner; 1.5 ft height | 0.0042 |
| Bldg. 35-B | 2331-016 | 1/26/98 | 1st floor; 3rd section from E, N wall, 10 ft W of E wall; 2 ft height | Not detected |
| Bldg. 33-C | 2331-027 | 1/27/98 | N side of bldg.; S wall, in room identified by OHM Corp. as containing haz. materials; 2 ft height | 0.0026 |
| Bldg. 33-D | 2331-031 | 1/27/98 | N side of bldg.; 2nd floor lab; taken under hood | 0.0035 |

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TABLE 10 (Cont'd)
Wipe Sampling Analytical Results from the Phase I Investigation - Total Phenols
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Total Phenols ($\mu$g/wipe) |
|---|---|---|---|---|
| Bldg. 33-E | 2331-029 | 1/27/98 | N side of bldg. on E end; 2nd floor lab; taken on wall adjacent to hood; 4 ft height | 0.004 |
| Bldg. 33-F | 2331-030 | 1/27/98 | 1st floor office; N side of bldg.; 3 ft height (office has old calendar on wall) | 0.0028 |

TABLE 11
Wipe Sampling Analytical Results from the Phase I Investigation - Cyanide
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Cyanide ($\mu$g/wipe) |
|---|---|---|---|---|
| Bldg. 34-A | 2331-004 | 1/26/98 | Center of Bldg. 34; 6 ft S of NW corner,; 3 ft height | 2.7 |
| Bldg. 34-B | 2331-006 | 1/26/98 | Center of Bldg. 34, 24 ft N of SW corner on W wall; 3 ft height | 0.29 |
| Bldg. 34-C | 2331-008 | 1/26/98 | E wall Bldg. 34A; 18 ft from SE corner | 7.6 |
| Bldg. 34-D | 2331-010 | 1/26/98 | W end of bldg.; 23 ft N of S side; 4.5 ft height | 0.5 |
| Bldg. 34-E | 2331-012 | 1/26/98 | W end of bldg.; 10 ft from SW corner; 4 ft height | 1.1 |
| Maint.-A | 2331-023 | 1/26/98 | Center of W wall; below exhaust fan; 5 ft height | 0.34 |
| Boiler Room-A | 2331-021 | 1/26/98 | Boiler Room; 2 ft from SE corner; 3.5 ft height | Not detected |
| Bldg. 33-A | 2331-001 | 1/26/98 | Behind Tank 59; 32 ft W of E wall; 4 ft height | " |
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | 0.63 |
| Bldg. 35-A | 2331-014 | 1/26/98 | 2nd floor; S wall, 2 ft from SE corner; 1.5 ft height | 0.54 |
| Bldg. 35-B | 2331-016 | 1/26/98 | 1st floor; 3rd section from E, N wall, 10 ft W of E wall; 2 ft height | 0.59 |
| Bldg. 33-C | 2331-027 | 1/27/98 | N side of bldg.; S wall, in room identified by OHM Corp. as containing haz. materials; 2 ft height | 0.26 |
| Bldg. 33-D | 2331-031 | 1/27/98 | N side of bldg.; 2nd floor lab; taken under hood | Not detected |

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TABLE 11 (Cont'd)
Wipe Sampling Analytical Results from the Phase I Investigation - Cyanide
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Cyanide ($\mu$g/wipe) |
|---|---|---|---|---|
| Bldg. 33-E | 2331-029 | 1/27/98 | N side of bldg. on E end; 2nd floor lab; taken on wall adjacent to hood; 4 ft height | Not detected |
| Bldg. 33-F | 2331-030 | 1/27/98 | 1st floor office; N side of bldg.; 3 ft height (office has old calendar on wall) | " |

TABLE 12
Wipe Sampling Analytical Results from the Phase I Investigation - Mercury
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Mercury ($\mu$g/wipe) |
|---|---|---|---|---|
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | 1.6 |
| Bldg. 34-B | 2331-006 | 1/26/98 | 24 ft N of SW corner on W wall; 3 ft height | 0.14 |

TABLE 13
Wipe Sampling Analytical Results from the Phase I Investigation -TAL Metals
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Analytical Results (µg/wipe) |
|---|---|---|---|---|
| Bldg. 34-A | 2331-004 | 1/26/98 | 6 ft S of NW corner; 3 ft height | Sb(340);Cr(19);Cu(9);Tl(2);V (2);Zn(49);As(2);Pb(3) |
| Bldg. 34-B | 2331-006 | 1/26/98 | 24 ft N of SW corner on W wall; 3 ft height | Analyzed for Hg only (see Table 12) |
| Bldg. 34-C | 2331-008 | 1/26/98 | E wall Bldg. 34A; 18 ft from SE corner | Sb(298);Cr(92);Cu(1030);Tl (8);V(142);Zn(5000);As(10); Pb(2300); Cd (3) |
| Bldg. 34-D | 2331-010 | 1/26/98 | W end of bldg.; 23 ft N of S side; 4.5 ft height | Sb(266);Cr(176);Cu(240);Tl (3);V(6);Zn(341);As(17); Pb(72); Cd(0.3) |
| Bldg. 34-E | 2331-012 | 1/26/98 | W end of bldg.; 10 ft from SW corner; 4 ft height | Sb(151);Cr(36);Cu(57);Tl (2);V(4);Zn(196);As(1); Pb(64); Cd(0.4) |
| Maint.-A | 2331-023 | 1/26/98 | Center of W wall; below exhaust fan; 5 ft height | Sb(202);Cr(162);Cu(129);Tl (1);V(14);Zn(82100);As(10); Pb(1070); Cd(23) |
| Boiler Room-A | 2331-021 | 1/26/98 | Boiler Room; 2 ft from SE corner; 3.5 ft height | Sb(88);Cr(81);Cu(16);V(8); Zn(183);As(6);Pb(17); Cd(0.3) |

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TABLE 13 (Cont'd)
Wipe Sampling Analytical Results from the Phase I Investigation -TAL Metals
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Analytical Results (µg/wipe) |
|---|---|---|---|---|
| Bldg. 35-A | 2331-014 | 1/26/98 | 2nd floor; S wall, 2 ft from SE corner; 1.5 ft height | Sb(118);Cr(114);Cu(176);Tl (2);V(68);Zn(3000);As(6);Pb( 2300); Cd (3) |
| Bldg. 33-A | 2331-001 | 1/26/98 | Behind Tank 59; 32 ft W of E wall; 4 ft height | Sb(103);Cr(16);Cu(46); V(5);Zn(80);As(3);Pb(14) |
| Bldg. 35-B | 2331-016 | 1/26/98 | 1st floor; 3rd section from E, N wall, 10 ft W of E wall; 2 ft height | Sb(85);Cr(26);Cu(56);V(8); Zn(3510);As(2);Pb(389); Cd (5) |
| Bldg. 33-C | 2331-027 | 1/27/98 | N side of bldg.; S wall, in room identified by OHM Corp. as containing haz. materials; 2 ft height | Sb(111);Cr(6);Cu(11);V(1); Zn(168);As(1);Pb(25); Cd (0.7) |
| Bldg. 33-D | 2331-031 | 1/27/98 | N side of bldg.; 2nd floor lab; taken under hood | Sb(142);Cr(308);Cu(22);V(5) Zn(184);As(2);Pb(39); Cd (0.7) |
| Bldg. 33-E | 2331-029 | 1/27/98 | N side of bldg. on E end; 2nd floor lab; taken on wall adjacent to hood; 4 ft height | Sb(164);Cr(4);Cu(9);Zn(81); Pb(79); Cd (0.3) |
| Bldg. 33-F | 2331-030 | 1/27/98 | 1st floor office; N side of bldg; 3 ft height (office has old calendar on wall) | Sb(118);Cr(35);Cu(7); Zn(159);Pb(37) |
| Bldg. 33-B | 2331-003 | 1/26/98 | 2nd floor; 62 ft W of E wall; 20 ft height | Analyzed for Hg only (see Table 12) |

TABLE 14
Summary of Soil Samples Collected During the Phase II Investigation for Dioxin, PBBs, PCBs, BNAs & TAL Metals[1]
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Date Collected | Location | Depth (ft) | Analysis |
|---|---|---|---|---|---|
| SB-1 | 2331-071 | 3/16/98 | Near N corner of site | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-2 | 2331-076 | 3/16/98 | Near NW corner Bldg. 34 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-3 | 2331-081 | 3/16/98 | Near NE corner of site | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-4 | 2331-086 | 3/16/98 | Near E fence line | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-5 | 2331-091 | 3/16/98 | E of Maint. Shop | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-6 | 2331-096 | 3/16/98 | Inside Bldg. 34 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-7 | 2331-101 | 3/16/98 | Inside Bldg. 34 (W end) | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-8 | 2331-106 | 3/16/98 | Between Bldg. 34 and Tank Storage Area | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-9 | 2331-111 | 3/17/98 | Inside Bldg. 33 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-10 | 2331-116 | 3/17/98 | Tank Storage Area | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-11 | 2331-121 | 3/17/98 | E of Bldg. 35 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-12 | 2331-126 | 3/17/98 | E of Bldg. 35 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-13 | 2331-131 | 3/17/98 | Near SE corner of site | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-14 | 2331-136 | 3/17/98 | SW corner of Bldg. 34 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |
| SB-15 | 2331-141 | 3/17/98 | SW corner of Bldg. 33 | 0-2 | Dioxin, PBB, PCB, BNA,TAL metals |

[1]Samples listed in table were collected from 0-2 feet bgs. Samples were also collected at 2-foot increments to a depth of 10 feet; these samples will only be analyzed if samples from 0-2 feet bgs exceed proposed NJDEP soil cleanup standards for industrial property.

TA[illegible] 15

Summary of Soil Samples Collected D[illegible]g the Phase II Investigation for VOCs

White Chemical Site

Newark, NJ

April 1998

| Location Number | Sample Number | Date Collected | Location | Depths (ft) | Analysis |
|---|---|---|---|---|---|
| SB-1 | 2331-071, 075 | 3/16/98 | Near N corner of site | 0-2; 8-10 | VOCs |
| SB-2 | 2331-076, 080 | 3/16/98 | Near NW corner Bldg. 34 | 0-2; 8-10 | VOCs |
| SB-3 | 2331-081, 085 | 3/16/98 | Near NE corner of site | 0-2; 8-10 | VOCs |
| SB-4 | 2331-086, 090 | 3/16/98 | Near E fence line | 0-2; 8-10 | VOCs |
| SB-5 | 2331-091, 095 | 3/16/98 | E of Maint. Shop | 0-2; 8-10 | VOCs |
| SB-6 | 2331-096, 100 | 3/16/98 | Inside Bldg. 34 | 0-2; 8-10 | VOCs |
| SB-7 | 2331-101, 105 | 3/16/98 | Inside Bldg. 34 (W end) | 0-2; 8-10 | VOCs |
| SB-8 | 2331-106, 108, 110 | 3/16/98 | Between Bldg. 34 and Tank Storage Area | 0-2; 4-6; 8-10 | VOCs |
| SB-9 | 2331-111, 115 | 3/17/98 | Inside Bldg. 33 | 0-2; 8-10 | VOCs |
| SB-10 | 2331-116, 117, 118, 119, 120 | 3/17/98 | Tank Storage Area | 0-2; 2-4; 4-6; 6-8; 8-10 | VOCs |
| SB-11 | 2331-121, 125 | 3/17/98 | E of Bldg. 35 | 0-2; 8-10 | VOCs |
| SB-12 | 2331-126, 130 | 3/17/98 | E of Bldg. 35 | 0-2; 8-10 | VOCs |
| SB-13 | 2331-131, 135 | 3/17/98 | Near SE corner of site | 0-2; 8-10 | VOCs |
| SB-14 | 2331-136, 140 | 3/17/98 | SW corner of Bldg. 34 | 0-2; 8-10 | VOCs |
| SB-15 | 2331-141, 142, 145 | 3/17/98 | SW corner of Bldg. 33 | 0-2; 2-4; 8-10 | VOCs |

TABLE 16
Summary of Dioxin Positive Detections in Soil Collected During the Phase II Investigation
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Sum of all Dioxin Using Toxicity Equiv. Factor (µg/kg) |
|---|---|---|---|---|
| SB-1 | 2331-071 | Near N corner of site | 0-2 | 0.0384 |
| SB-3 | 2331-081 | Near NE corner of site | 0-2 | 0.0031 |
| SB-4 | 2331-086 | Near E fence line | 0-2 | 0.0606 |
| SB-5 | 2331-091 | E of Maint. Shop | 0-2 | 0.0788 |
| SB-6 | 2331-096 | Inside Bldg. 34 | 0-2 | 0.0775 |
| SB-7 | 2331-101 | Inside Bldg. 34 (W end) | 0-2 | 0.0950 |
| SB-8 | 2331-106 | Between Bldg. 34 and Tank Storage Area | 0-2 | 0.0393 |
| SB-9 | 2331-111 | Inside Bldg. 33 | 0-2 | 0.2259 |
| SB-10 | 2331-116 | Tank Storage Area | 0-2 | 0.0168 |
| SB-11 | 2331-121 | E of Bldg. 35 | 0-2 | 0.0939 |
| SB-12 | 2331-126 | E of Bldg. 35 | 0-2 | 0.0074 |
| SB-13 | 2331-131 | Near SE corner of site | 0-2 | 0.0077 |
| SB-14 | 2331-136 | SW corner of Bldg. 34 | 0-2 | 0.0820 |
| SB-15 | 2331-141 | SW corner of Bldg. 33 | 0-2 | 0.0069 |

TABLE 17

Semivolatile Organic Compounds in Soil Collected During Phase II Investigation Exceeding Proposed NJDEP Criteria
Non-Residential Sites
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Compound | Conc. (mg/kg) | NJDEP Cleanup Criterion (mg/kg) |
|---|---|---|---|---|---|---|
| SB-10 | 2331-116 | Adjacent to tank farm area | 0-2 | Indeno(1,2,3-cd)pyrene | 10 | 4 |
| " | " | " | " | Benzo(a)anthracene | 12 | 4 |
| " | " | " | " | Benzo(a)pyrene | 12 | .0.66 |
| SB-11 | 2331-121 | Adjacent to Building 35 | 0-2 | Benzo(a)anthracene | 16 | 4 |
| " | " | " | " | Benzo(a)pyrene | 15 | 0.66 |
| " | " | " | " | Benzo(k)fluoranthene | 7.6 | 4 |

TA  18

TAL Inorganics in Soil Collected During the Phase II Investigation That Exceed Proposed NJDEP Criteria
Non-Residential Sites
White Chemical Site
Newark, NJ
April 1998

| Location Number | Sample Number | Location | Depth (ft) | Compound | Conc. (mg/kg) | NJDEP Cleanup Criterion (mg/kg) |
|---|---|---|---|---|---|---|
| SB-9 | 2331-111 | Beneath pavement floor, SE corner, Bldg. 33 | 0-2 | Lead | 1940 | 600 |
| " | " | " | " | Zinc | 5490 | 1500 |
| SB-15 | 2331-141 | Near SW corner of Building 33 | 0-2 | Lead | 905 | 600 |
| " | " | " | " | Zinc | 3570 | 1500 |

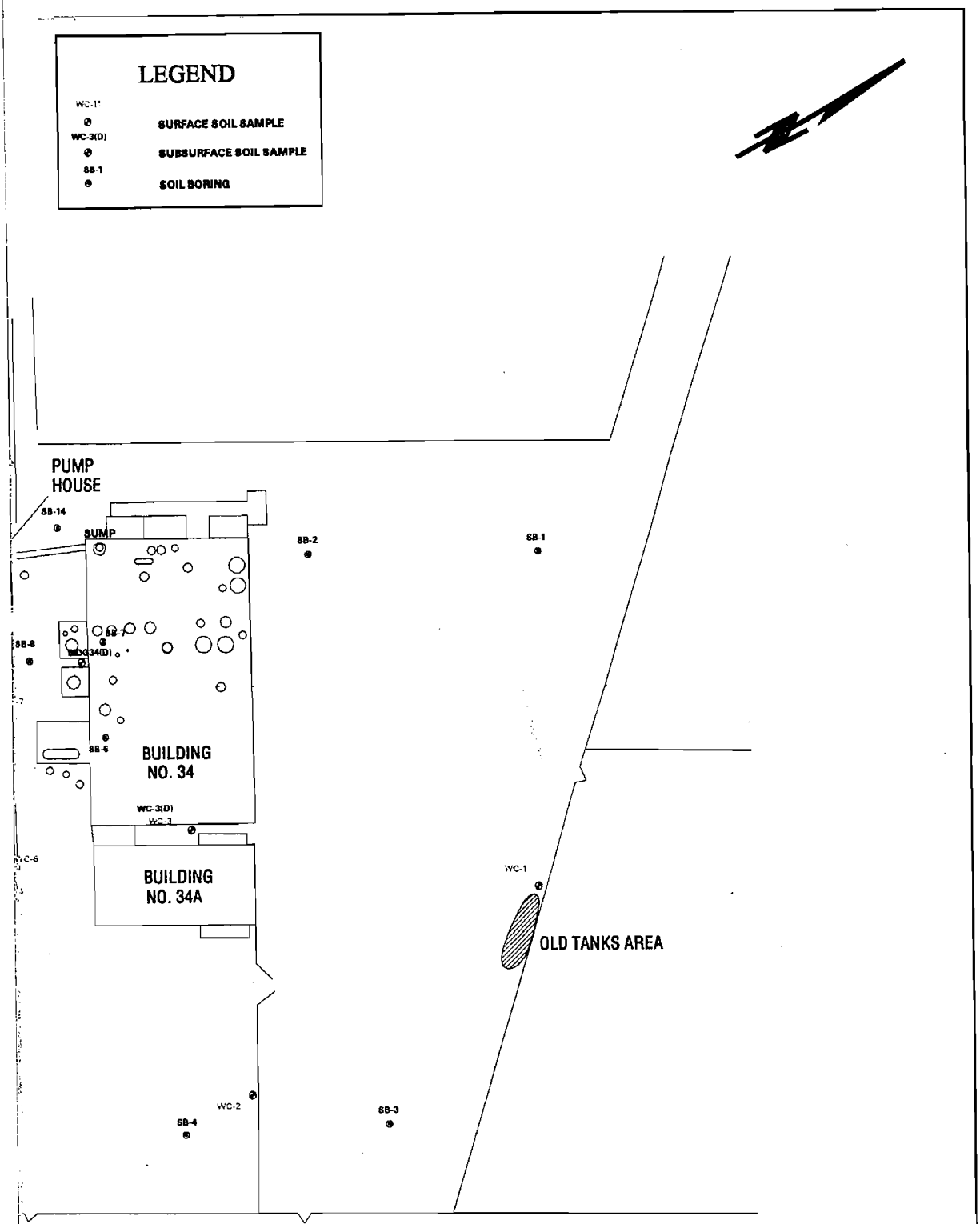



FIGURE 2

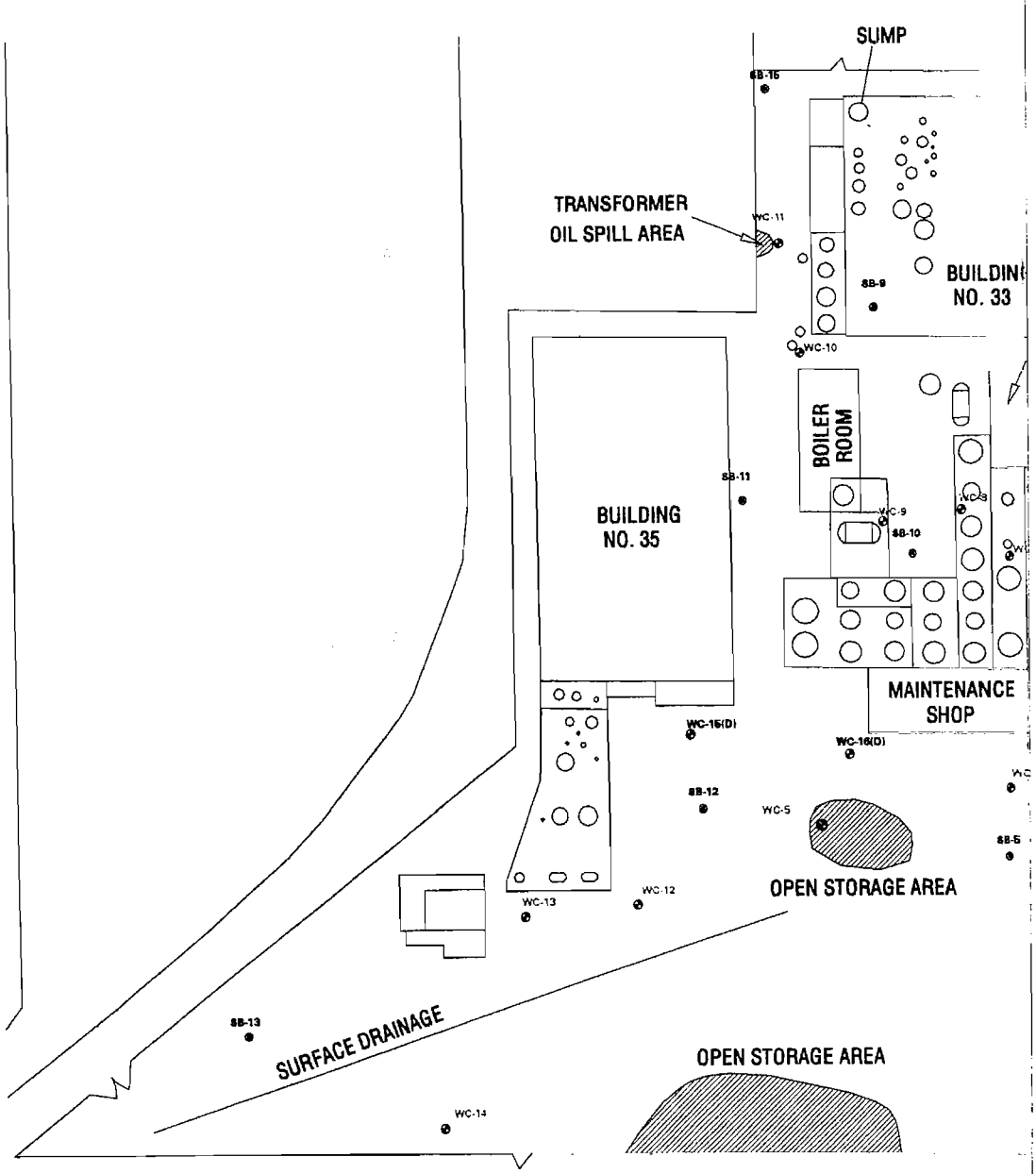
SOIL SAMPLE LOCATION MAP

WHITE CHEMICAL CORPORATION

NEWARK, NEW JERSEY

APRIL 1998

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.O.# 03347-142-001-2331-01



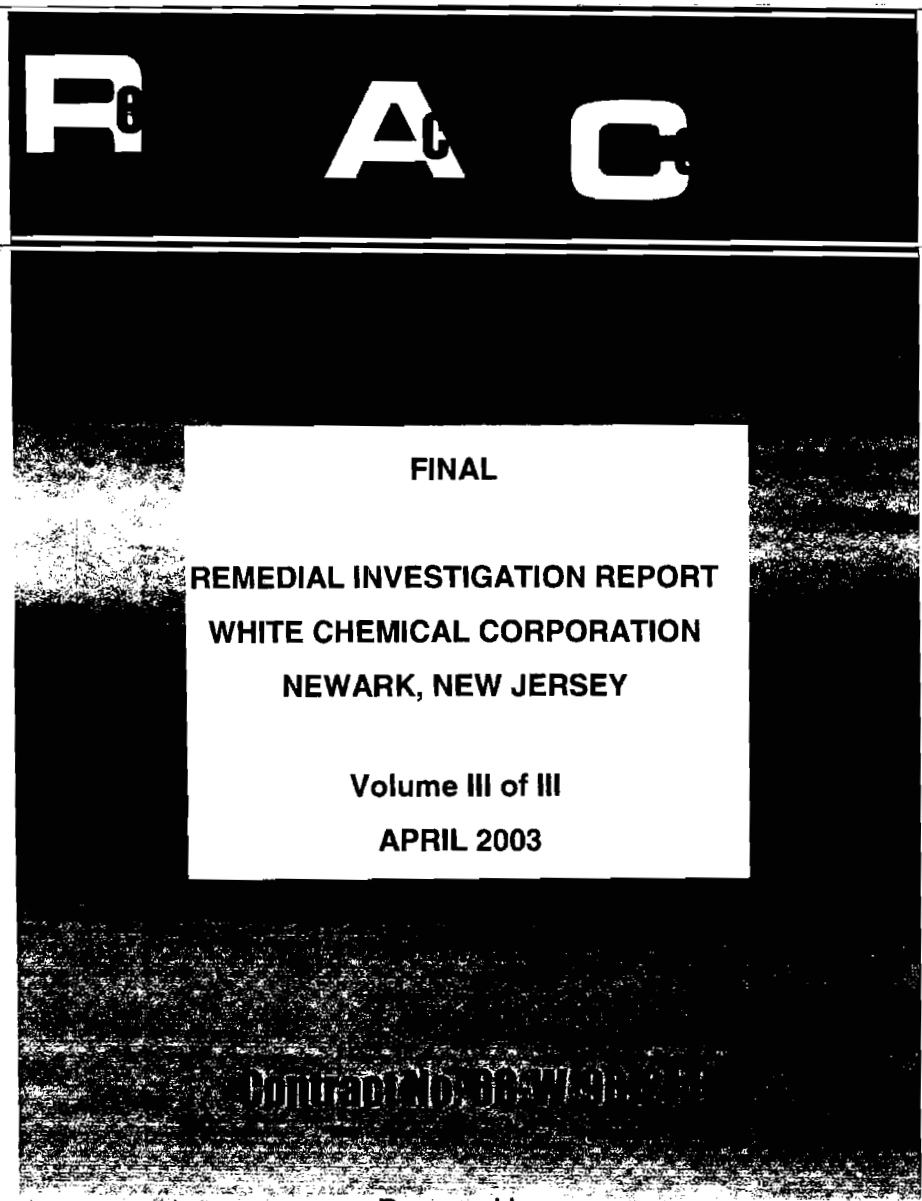

GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

# U.S. Environmental Protection Agency
# Region 2

R A C



FINAL

REMEDIAL INVESTIGATION REPORT
WHITE CHEMICAL CORPORATION
NEWARK, NEW JERSEY

Volume III of III
APRIL 2003

Contract No. 68-W-98-[illegible]

Prepared by

MALCOLM PIRNIE

FOSTER WHEELER

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BAA000068

# Appendix S

# Appendix S
# Data Summary Tables

SITE NAME: White Chemical
PROJECT NO: 302-0004

VOLATILES

| Sample ID No. | | | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 | SS-09 | SS-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | | 9812-2153 | 9812-2154 | 9812-2155 | 9901-0841 | 9812-2156 | 9812-2158 | 9901-0842 | 9901-0603 | 9901-0595 | 9901-0604 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| *Dilution Factor* | Level (SSL) | Direct Contact | 1 | 1 | 1.5 | 1 | 1 | 1, 5, 20 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 16.7 | 13.7 | 10.2 | 18 | 15.7 | 26.6 | 15.4 | 13.4 | 18.5 | 17.3 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 10" | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" | Asphalt | Gravel - 24" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" | 3 - 14" | 0 - 12" |
| Chloromethane | NA | 10,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Bromomethane | 200 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Vinyl chloride | 10 | 7,000 | 730 U | 710 U | [redacted] | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Chloroethane | NA | NA | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Methylene chloride | 20 | 1,000 | 730 U | 710 U | 750 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Acetone | 16,000 | 100,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Carbon disulfide | 32,000 | NA | 730 U | 710 U | 140 J | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,1-Dichloroethene | 60 | 10,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Chloroform | 300 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 730 U | 710 U | 270 J | 760 U | 740 U | 87 J | 710 U | 700 U | 730 U | 720 U |
| 1,2-Dichloroethane | 20 | 1,000 | 730 U | [redacted] | 1100 | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 2-Butanone (MEK) | NA | 50,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Carbon tetrachloride | 70 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Bromodichloromethane | 600 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,2-Dichloropropane | 30 | 43,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Trichloroethene | 60 | 1,000 | 730 U | 710 U | [redacted] | 760 U | [redacted] | 850 U | [redacted] | 700 U | 730 U | 720 U |
| Benzene | 30 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Dibromochloromethane | NA | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Bromoform | 800 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 2-Hexanone | NA | NA | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Tetrachloroethene | 60 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Toluene | 12,000 | 500,000 | 120 J | 710 U | 74 J | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 160 J |
| Chlorobenzene | 1,000 | 1,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| Ethylbenzene | 13,000 | 100,000 | 730 U | 710 U | 700 U | 760 U | 98 J | 3000 | 300 J | 700 U | 730 U | 660 J |
| Styrene | 4,000 | 97,000 | 730 U | 710 U | 700 U | 760 U | 740 U | 850 U | 710 U | 700 U | 730 U | 720 U |
| m,p-Xylene | 200,000 | 67,000 | 730 U | 710 U | 640 J | 200 J | 740 U | 170000 | 1600 | 700 U | 730 U | 6100 |
| o-Xylene | 190,000 | 67,000 | 100 J | 710 U | 700 U | 86 J | 580 J | 11000 | 590 J | 700 U | 730 U | 370 J |
| *Total TICs* | NA | 1,000,000 | NA | NA | NA | ND | NA | NA | ND | ND | ND | 950 EN |

NOTES:

[redacted]
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
**Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter**

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME White Chemical
PROJECT NO.. 302-0004

VOLATILES

| Sample ID No | | | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 | SS-20 | SS-24 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | | | 9812-1896 | 9812-1897 | 9901-0651 | 9812-1898 | 9812-2149 | 9812-2152 | 9901-0594 | 9901-0590 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| *Units* | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1, 5 | 1, 5 | 1 | 1, 2 | 1 | 1 | 1 | 1 |
| *Percent Moisture* | (ug/kg) | Soil Cleanup Criteria | 8 8 | 13 8 | 13 1 | 13.8 | 12.9 | 13.6 | 21.2 | 16 5 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt | Asphalt - 12" | No asphalt |
| *Sample Depth*** | | | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" |
| Chloromethane | NA | 10,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Bromomethane | 200 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Vinyl chloride | 10 | 7,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Chloroethane | NA | NA | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Methylene chloride | 20 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Acetone | 16,000 | 100,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Carbon disulfide | 32,000 | NA | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,1-Dichloroethene | 60 | 10,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 650 U | 690 U | 75 J | 690 U | 700 U | 220 J | 140 J | 700 U |
| Chloroform | 300 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 89 J | 690 U | 720 U | 690 U | 700 U | 700 U | 310 J | 700 U |
| 1,2-Dichloroethane | 20 | 1,000 | 20000 E | 12000 E | 5400 E | 31000 E | 2900 | 25000 | 7300 | 4300 |
| 2-Butanone (MEK) | NA | 50,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Carbon tetrachloride | 70 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Bromodichloromethane | 600 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,2-Dichloropropane | 30 | 43,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Trichloroethene | 60 | 1,000 | 5400 E | 690 U | 720 U | 1600 E | 180 J | 300 J | 810 U | 700 U |
| Benzene | 30 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Dibromochloromethane | NA | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Bromoform | 800 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 2-Hexanone | NA | NA | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Tetrachloroethene | 60 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 2400 E | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Toluene | 12,000 | 500,000 | 5400 E | 140 J | 720 U | 93 J | 700 U | 170 J | 250 J | 700 U |
| Chlorobenzene | 1,000 | 1,000 | 650 U | 690 U | 720 U | 690 U | 700 U | 700 U | 810 U | 700 U |
| Ethylbenzene | 13,000 | 100,000 | 110000 E | 130000 E | 430 J | 15000 E | 700 U | 110 J | 180 J | 810 |
| Styrene | 4,000 | 97,000 | 800 E | 1300 E | 720 U | 140 J | 700 U | 100 J | 810 U | 700 U |
| m,p-Xylene | 200,000 | 67,000 | 6100 E | 58000 E | 720 U | 200 J | 700 U | 700 U | 480 J | 5500 |
| o-Xylene | 190,000 | 67,000 | 2200 E | 4200 E | 720 U | 100 J | 700 U | 75 J | 180 J | 2400 |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | NA | NA | 37500 EN | ND |

NOTES

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME White Chemical
PROJECT NO. 302-0004

| VOLATILES | | | | DUPLICATE OF SS-25 | | | DUPLICATE OF SS-27 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SS-25 | SS-DUP-05 | SS-26 | SS-27 | SS-DUP-02 | SS-28 | SS-29 | SS-30 | SS-31 |
| Lab ID No. | | | 9901-0591 | 9901-0589 | 9812-1427 | 9812-1428 | 9812-1426 | 9812-1429 | 9812-1689 | 9812-1890 | 9812-1891 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 14.5 | 12.9 | 4 | 12.9 | 5.5 | 11.9 | 11.2 | 12.9 | 10.3 |
| Asphalt/Soil* | | (ug/kg) | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 2 - 14" | 2 - 14" | 2 - 14" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Chloromethane | NA | 10,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Bromomethane | 200 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Vinyl chloride | 10 | 7,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Chloroethane | NA | NA | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Methylene chloride | 20 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Acetone | 16,000 | 100,000 | 720 U | 670 U | 590 U | 110 J | 95 J | 170 J | 140 J | 160 J | 160 J |
| Carbon disulfide | 32,000 | NA | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,1-Dichloroethene | 60 | 10,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 120 J |
| Chloroform | 300 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 110 J |
| 1,2-Dichloroethane | 20 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 2-Butanone (MEK) | NA | 50,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Carbon tetrachloride | 70 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Bromodichloromethane | 600 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,2-Dichloropropane | 30 | 43,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Trichloroethene | 60 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Benzene | 30 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Dibromochloromethane | NA | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Bromoform | 800 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 2-Hexanone | NA | NA | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Tetrachloroethene | 60 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Toluene | 12,000 | 500,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Chlorobenzene | 1,000 | 1,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| Ethylbenzene | 13,000 | 100,000 | 380 J | 280 J | 590 U | 700 U | 630 U | 670 U | 660 U | 6600 | 840 |
| Styrene | 4,000 | 97,000 | 720 U | 670 U | 590 U | 700 U | 630 U | 670 U | 660 U | 670 U | 700 U |
| m,p-Xylene | 200,000 | 67,000 | 2100 | 1500 | 590 U | 700 U | 630 U | 670 U | 660 U | 24000 | 1600 |
| o-Xylene | 190,000 | 67,000 | 2000 | 1600 | 590 U | 700 U | 630 U | 670 U | 660 U | 5600 | 760 |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | ND | ND | ND | ND | ND |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO.: 302-0004

VOLATILES

| Sample ID No | | | SS-32 | SS-33 | SS-37 | SS-40 | SS-41 | SS-42 | SS-43 | SS-44 | SS-45 | SS-46 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | | | 9901-0599 | 9901-0600 | 9901-0843 | 9812-1903 | 9812-2140 | 9812-1880 | 9812-1425 | 9812-1167 | 9812-1886 | 9812-1881 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1.5 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 41.9 | 18.4 | 14.9 | 13.7 | 12.8 | 12 | 25.4 | 12.8 | 14.7 | 14.8 |
| Asphalt/Soil* | | (ug/kg) | No asphalt | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" | not given | 2 - 14" | 0 - 12" | 0 - 12" | not given |
| Chloromethane | NA | 10,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Bromomethane | 200 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Vinyl chloride | 10 | 7,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Chloroethane | NA | NA | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Methylene chloride | 20 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | [redacted] |
| Acetone | 16,000 | 100,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 170 J | 720 U | 130 J | 680 U |
| Carbon disulfide | 32,000 | NA | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 1,1-Dichloroethene | 60 | 10,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 97 J | 910 U | 720 U | 320 J | 680 U |
| Chloroform | 300 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 180 J | 910 U | 720 U | [redacted] | 680 U |
| 1,2-Dichloroethane | 20 | 1,000 | [redacted] | 740 U | 730 U | 690 U | 700 U | [redacted] | 910 U | [redacted] | [redacted] | [redacted] |
| 2-Butanone (MEK) | NA | 50,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Carbon tetrachloride | 70 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Bromodichloromethane | 600 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 1,2-Dichloropropane | 30 | 43,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Trichloroethene | 60 | 1,000 | [redacted] | [redacted] | 730 U | 690 U | 700 U | 55000 | 910 U | [redacted] | [redacted] | [redacted] |
| Benzene | 30 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Dibromochloromethane | NA | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Bromoform | 800 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| 2-Hexanone | NA | NA | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Tetrachloroethene | 60 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 5400 | 910 U | 720 U | 700 U | 680 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 3900 | 2600 | 730 U | 690 U | 700 U | 14000 | 910 U | 720 U | 700 U | [redacted] |
| Toluene | 12,000 | 500,000 | 180 J | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 210 J |
| Chlorobenzene | 1,000 | 1,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Ethylbenzene | 13,000 | 100,000 | 280 J | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Styrene | 4,000 | 97,000 | 1100 U | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| m,p-Xylene | 200,000 | 67,000 | 1300 | 740 U | 730 U | 690 U | 80 J | 670 U | 180 J | 720 U | 700 U | 680 U |
| o-Xylene | 190,000 | 67,000 | 510 J | 740 U | 730 U | 690 U | 700 U | 670 U | 910 U | 720 U | 700 U | 680 U |
| Total TICs | NA | 1,000,000 | 3900 EN | ND | NA | ND | NA | 22350 EN | ND | ND | ND | ND |

NOTES

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO 362-0004

VOLATILES

| Sample ID No | | | SS-48 | SS-49 | SS-50 | SS-51 | SS-52 | SS-53 | SS-54 | DUPLICATE OF SS-54 SS-DUP-01 | SS-55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | | | 9812-1168 | 9812-1318 | 9812-1156 | 9812-1319 | 9812-1158 | 9812-1882 | 9812-1024 | 9812-1025 | 9812-1157 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 11.9 | 12 | 14.9 | 11.8 | 12.6 | 8.3 | 11.5 | 9.5 | 13.3 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" | Asphalt - 6" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" |
| Chloromethane | NA | 10,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Bromomethane | 200 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Vinyl chloride | 10 | 7,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Chloroethane | NA | NA | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Methylene chloride | 20 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Acetone | 16,000 | 100,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 120 J | 640 U | 590 U | 750 U |
| Carbon disulfide | 32,000 | NA | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 1,1-Dichloroethene | 60 | 10,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 1300 U | 1800 U | 140 J | 720 U | 78 J | 660 U | 640 U | 590 U | 750 U |
| Chloroform | 300 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 1300 U | 1800 U | 260 J | 720 U | 120 J | 660 U | 640 U | 590 U | 750 U |
| 1,2-Dichloroethane | 20 | 1,000 | 1300 U | 1800 U | 670 U | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| 2-Butanone (MEK) | NA | 50,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 170 J | 590 U | 750 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Carbon tetrachloride | 70 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Bromodichloromethane | 600 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 1,2-Dichloropropane | 30 | 43,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Trichloroethene | 60 | 1,000 | [redacted] | 1800 U | 8400 | 2400 | 6200 | [redacted] | 640 U | 590 U | 750 U |
| Benzene | 30 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Dibromochloromethane | NA | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 1300 U | 1800 U | 670 U | [redacted] | 700 U | 660 U | 640 U | 590 U | 750 U |
| Bromoform | 800 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| 2-Hexanone | NA | NA | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Tetrachloroethene | 60 | 1,000 | 1300 U | 1800 U | [redacted] | 720 U | 3200 | 660 U | 640 U | 590 U | 750 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 1300 U | 1800 U | [redacted] | 720 U | 3300 | 660 U | 640 U | 590 U | [redacted] |
| Toluene | 12,000 | 500,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Chlorobenzene | 1,000 | 1,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Ethylbenzene | 13,000 | 100,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Styrene | 4,000 | 97,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| m,p-Xylene | 200,000 | 67,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| o-Xylene | 190,000 | 67,000 | 1300 U | 1800 U | 670 U | 720 U | 700 U | 660 U | 640 U | 590 U | 750 U |
| Total TICs | NA | 1,000,000 | NA | ND | 750 EN | ND | 19500 EN | 10000 EN | ND | ND | ND |

NOTES:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

*U - sample concentration is non-detect*

E - estimated value

J - estimated value, compound present below CROL but above IDL

N - presumptive evidence of the presence of this compound

ND - non-detect

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT NO.: 302-0004

VOLATILES

| Sample ID No | | | SS-56 | SS-58 | SS-59 | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 | SS-66 | SS-67 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | | 9812-1819 | 9812-1899 | 9901-0852 | 9901-0853 | 9812-2141 | 9812-2142 | 9812-1892 | 9812-1902 | 9812-1887 | 9812-1888 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| *Dilution Factor* | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 14.8 | 14.2 | 2.1 | 20.2 | 10.9 | 12.5 | 14.8 | 10.7 | 13.4 | 14.6 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 12" | Asphalt - 6" | Asphalt - 8" | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 6" | Asphalt - 12" | Asphalt | Asphalt - 14" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" | not given | 0 - 12" |
| Chloromethane | NA | 10,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Bromomethane | 200 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Vinyl chloride | 10 | 7,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Chloroethane | NA | NA | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Methylene chloride | 20 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Acetone | 16,000 | 100,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 130 J | 710 U | 700 U | 99 J |
| Carbon disulfide | 32,000 | NA | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,1-Dichloroethene | 60 | 10,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Chloroform | 300 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 660 U | 95 J | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,2-Dichloroethane | 20 | 1,000 | [redacted] | 690 U | [redacted] | 870 U | [redacted] | 710 U | [redacted] | 710 U | 700 U | 730 U |
| 2-Butanone (MEK) | NA | 50,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Carbon tetrachloride | 70 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | [redacted] | 710 U | 700 U | 730 U |
| Bromodichloromethane | 600 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,2-Dichloropropane | 30 | 43,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Trichloroethene | 60 | 1,000 | [redacted] | [redacted] | [redacted] | 870 U | 710 U | 710 U | [redacted] | 710 U | [redacted] | 730 U |
| Benzene | 30 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Dibromochloromethane | NA | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 660 U | 690 U | [redacted] | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| *Bromoform* | 800 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 2-Hexanone | NA | NA | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Tetrachloroethene | 60 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 660 U | [redacted] | 1600 | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Toluene | 12,000 | 500,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 87 J | 700 U | 730 U |
| Chlorobenzene | 1,000 | 1,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Ethylbenzene | 13,000 | 100,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| Styrene | 4,000 | 97,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 730 U | 710 U | 700 U | 730 U |
| m,p-Xylene | 200,000 | 67,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 120 J | 710 U | 700 U | 730 U |
| o-Xylene | 190,000 | 67,000 | 660 U | 690 U | 580 U | 870 U | 710 U | 710 U | 110 J | 710 U | 700 U | 730 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | NA | NA | ND | ND | ND | ND |

NOTES

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| VOLATILES | | | | DUPLICATE OF SS-68 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SS-68 | SS-DUP-04 | SS-69 | SS-70 | SS-71 | SS-72 | SS-73 | SS-74 | SS-75 | SS-76 |
| Lab ID No. | | | 9812-2157 | 9812-2159 | 9812-2143 | 9812-2144 | 9812-1883 | 9812-1884 | 9812-1320 | 9812-1023 | 9812-1021 | 9812-1020 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| *Dilution Factor* | Level (SSL) | Direct Contact | 1 | 1, 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 10.3 | 17.1 | 9.5 | 13 | 14.7 | 15.2 | 10.8 | 12.7 | 8.2 | 15 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 6" | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt - 11" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | 0 - 8" | 0 - 8" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 11" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Chloromethane | NA | 10,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Bromomethane | 200 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Vinyl chloride | 10 | 7,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Chloroethane | NA | NA | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Methylene chloride | 20 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Acetone | 16,000 | 100,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Carbon disulfide | 32,000 | NA | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,1-Dichloroethene | 60 | 10,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,1-Dichloroethane | 23,000 | 10,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| trans-1,2-Dichloroethene | 700 | 50,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Chloroform | 300 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| cis-1,2-Dichloroethene | 400 | 1,000 | 690 U | 77 J | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,2-Dichloroethane | 20 | 1,000 | 690 U | [redacted] | [redacted] | [redacted] | [redacted] | 700 U | 700 U | 640 U | 700 U | 770 |
| 2-Butanone (MEK) | NA | 50,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 190 J | 300 J | 770 |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 690 U | 730 U | 720 U | 710 U | 91 J | 700 U | 700 U | 640 U | 700 U | 770 |
| Carbon tetrachloride | 70 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Bromodichloromethane | 600 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,2-Dichloropropane | 30 | 43,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| cis-1,3-Dichloropropene | 4 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Trichloroethene | 60 | 1,000 | 690 U | 730 U | 720 U | 710 U | [redacted] | 700 U | 700 U | 640 U | 700 U | 770 |
| Benzene | 30 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Dibromochloromethane | NA | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| trans-1,3-Dichloropropene | 4 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,1,2-Trichloroethane | 20 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| *Bromoform* | 800 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 2-Hexanone | NA | NA | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Tetrachloroethene | 60 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 690 U | 730 U | 720 U | 710 U | [redacted] | 700 U | 700 U | 640 U | 700 U | 770 |
| Toluene | 12,000 | 500,000 | 690 U | 730 U | 95 J | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Chlorobenzene | 1,000 | 1,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| Ethylbenzene | 13,000 | 100,000 | 220 J | 3900 E | 720 U | 710 U | 88 J | 150 J | 700 U | 640 U | 700 U | 770 |
| Styrene | 4,000 | 97,000 | 690 U | 730 U | 720 U | 710 U | 720 U | 700 U | 700 U | 640 U | 700 U | 770 |
| m,p-Xylene | 200,000 | 67,000 | 2700 E | 250000 E | 80 J | 710 U | 170 J | 780 | 700 U | 640 U | 700 U | 770 |
| o-Xylene | 190,000 | 67,000 | 1200 E | 14000 E | 720 U | 710 U | 720 U | 160 J | 700 U | 640 U | 700 U | 770 |
| Total TICs | NA | 1,000,000 | NA | NA | NA | NA | ND | ND | ND | ND | ND | ND |

NOTES:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

N - presumptive evidence of the presence of this compound

ND - non-detect

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO: 302-0004

VOLATILES

| Sample ID No | | | | SS-77 | SS-78 | SS-79 | SS-80 | SS-81 | SS-82 | SS-83 | DUPLICATE OF SS-83 SS-DUP-03 | SS-84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | | | 9812-1022 | 9812-1016 | 9812-1423 | 9812-1159 | 9812-1424 | 9812-1093 | 9812-1904 | 9812-2139 | 9812-1437 |
| Matrix | USEPA | New Jersey Non- | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| *Dilution Factor* | Level (SSL) | Direct Contact | | 1 | 1 | 1 | 1 | 1 | 1 | 1, 20 | 1, 2 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | | 10.9 | 14.1 | 15.5 | 14.3 | 13.7 | 10 | 19.4 | 17.6 | 12.5 |
| *Asphalt/Soil** | | (ug/kg) | | Asphalt - 12" | Asphalt - 12 " | Asphalt - 10" | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt |
| *Sample Depth*** | | | | 0 - 12" | 0 - 8" | 0 - 9" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" | 0 - 18" | 1 - 11" |
| Chloromethane | NA | 10,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Bromomethane | 200 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Vinyl chloride | 10 | 7,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Chloroethane | NA | NA | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Methylene chloride | 20 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Acetone | 16,000 | 100,000 | U | 510 U | 510 U | 650 U | 730 U | 140 J | 150 J | 730 U | 740 U | 660 U |
| Carbon disulfide | 32,000 | NA | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,1-Dichloroethene | 60 | 10,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Chloroform | 300 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,2-Dichloroethane | 20 | 1,000 | U | 510 U | [redacted] | 650 U | 730 U | 790 U | [redacted] | 730 U | 740 U | 660 U |
| 2-Butanone (MEK) | NA | 50,000 | U | 170 J | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Carbon tetrachloride | 70 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Bromodichloromethane | 600 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,2-Dichloropropane | 90 | 43,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Trichloroethene | 60 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Benzene | 30 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Dibromochloromethane | NA | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Bromoform | 800 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 2-Hexanone | NA | NA | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Tetrachloroethene | 60 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Toluene | 12,000 | 500,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 88 J | 740 U | 660 U |
| Chlorobenzene | 1,000 | 1,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 730 U | 740 U | 660 U |
| Ethylbenzene | 13,000 | 100,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | [redacted] | [redacted] | 660 U |
| Styrene | 4,000 | 97,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 88 J | 730 U | 740 U | 660 U |
| m,p-Xylene | 200,000 | 67,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 500000 E | 83000 E | 660 U |
| o-Xylene | 190,000 | 67,000 | U | 510 U | 510 U | 650 U | 730 U | 790 U | 670 U | 260000 E | 41000 E | 660 U |
| Total TICs | NA | 1,000,000 | | ND | ND | NA | ND | ND | ND | ND | NA | ND |

NOTES:

[redacted]
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
*Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter*

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
ND - non-detect
*Detection limits elevated if Dilution Factor > 1 and/or* percent moisture > 0%.
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO 302-0004

VOLATILES

| Sample ID No. | | | SS-85 | SS-86 | SS-87 | SS-88 | SS-89 |
|---|---|---|---|---|---|---|---|
| Lab ID No | | | 9901-0604 | 9901-0605 | 9812-1438 | 9812-1439 | 9901-0606 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 20.9 | 16.1 | 36.4 | 11.5 | 13.1 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 12" | Asphalt - 10" | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | 0 - 14" | 0 - 12" | 2 - 12" | 2 - 12" | 0 - 8" |
| Chloromethane | NA | 10,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Bromomethane | 200 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Vinyl chloride | 10 | 7,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Chloroethane | NA | NA | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Methylene chloride | 20 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Acetone | 16,000 | 100,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Carbon disulfide | 32,000 | NA | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,1-Dichloroethene | 60 | 10,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 130 J | 720 U | 1000 U | 690 U | 690 U |
| Chloroform | 300 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 260 J | 720 U | 1000 U | 690 U | 120 J |
| 1,2-Dichloroethane | 20 | 1,000 | 800 U | 720 U | 2900 | 690 U | 690 U |
| 2-Butanone (MEK) | NA | 50,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Carbon tetrachloride | 70 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Bromodichloromethane | 600 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,2-Dichloropropane | 30 | 43,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Trichloroethene | 60 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Benzene | 30 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Dibromochloromethane | NA | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Bromoform | 800 | 1,000 | 800 U | 720 U | 250 J | 690 U | 690 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 2-Hexanone | NA | NA | 800 U | 720 U | 1100 | 690 U | 690 U |
| Tetrachloroethene | 60 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 800 U | 720 U | 1400 | 690 U | 690 U |
| Toluene | 12,000 | 500,000 | 800 U | 720 U | 180 J | 690 U | 73 J |
| Chlorobenzene | 1,000 | 1,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| Ethylbenzene | 13,000 | 100,000 | 800 U | 720 U | 190 J | 690 U | 690 U |
| Styrene | 4,000 | 97,000 | 800 U | 720 U | 1000 U | 690 U | 690 U |
| m,p-Xylene | 200,000 | 67,000 | 800 U | 720 U | 820 J | 690 U | 690 U |
| o-Xylene | 190,000 | 67,000 | 800 U | 720 U | 400 J | 690 U | 690 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | 3500 EN |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-defect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

N - presumptive evidence of the presence of this compound

*ND - non-detect*

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME White Chemical
PROJECT No. 302-0004

VOLATILES

| Sample ID No. | | | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 | SB-03-03 | SB-04-01 | SB-04-02 | SB-04-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA | New Jersey Non- | 9901-0596 | 9901-0597 | 9901-0598 | 9812-2160 | 9812-2161 | 9812-2162 | 9812-3233 | 9812-3234 | 9901-0583 | 9812-3226 | 9812-3227 | 9812-3228 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14.3 | 17 | 13.9 | 11.1 | 17.6 | 14.9 | 12.7 | 17.7 | 7.6 | 17.5 | 14.6 | 14.8 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3* | 3 - 5* | 7 - 9* | 1 - 3* | 5 - 7* | 9 - 11* |
| Chloromethane | NA | 10,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Bromomethane | 200 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Vinyl chloride | 10 | 7,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Chloroethane | NA | NA | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Methylene chloride | 20 | 1,000 | 740 U | 790 U | 670 U | 760 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Acetone | 16,000 | 100,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 660 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Carbon disulfide | 32,000 | NA | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 1,1-Dichloroethene | 60 | 10,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Chloroform | 300 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | [redacted] |
| 1,2-Dichloroethane | 20 | 1,000 | 740 U | 790 U | 670 U | [redacted] | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 2-Butanone (MEK) | NA | 50,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Carbon tetrachloride | 70 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Bromodichloromethane | 600 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 1,2-Dichloropropane | 30 | 43,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | [redacted] |
| Trichloroethene | 60 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Benzene | 30 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Dibromochloromethane | NA | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Bromoform | 800 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 740 U | 790 U | 670 U | 750 U | 120 J | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| 2-Hexanone | NA | NA | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Tetrachloroethene | 60 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | [redacted] |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Toluene | 12,000 | 500,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Chlorobenzene | 1,000 | 1,000 | 740 U | 790 U | 670 U | 340 J | 630 U | 030 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Ethylbenzene | 13,000 | 100,000 | 740 U | 790 U | 670 U | 5700 | 140 J | 1600 | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Styrene | 4,000 | 97,000 | 740 U | 790 U | 670 U | 750 U | 630 U | 830 U | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| m,p-Xylene | 200,000 | 67,000 | 740 U | 790 U | 670 U | 25000 | 900 U | 9100 | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| o-Xylene | 190,000 | 67,000 | 740 U | 790 U | 670 U | 1300 | 280 J | 3400 | 680 U | 810 U | 710 U | 780 U | 710 U | 700 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | NA | NA | NA | ND | ND | ND | ND | ND | ND |

Notes:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT No: 302-0004

VOLATILES

| Sample ID No | | | SB-05-01 | SB-05-02 | SB-05-03 | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 | SB-08-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | USEPA | New Jersey Non- | 9812-2164 | 9812-2165 | 9812-2344 | 9812-3216 | 9812-3217 | 9812-3218 | 9901-0607 | 9901-0608 | 9901-0840 | 9812-2358 | 9812-2359 | 9812-2362 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12.4 | 11.7 | 16.2 | 14.2 | 22.1 | 9.0 | 14.5 | 12.1 | 8.7 | 15.9 | 9.6 | 14.4 |
| Depth (in feet) | | | 0 - 2 | 4 - 6 | 8 - 8 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 | 10 - 12 |
| Chloromethane | NA | 10,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Bromomethane | 200 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Vinyl chloride | 10 | 7,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Chloroethane | NA | NA | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Methylene chloride | 20 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Acetone | 16,000 | 100,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Carbon disulfide | 32,000 | NA | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,1-Dichloroethene | 60 | 10,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 130 J | 720 U | 710 U |
| Chloroform | 300 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 310 J | 720 U | 710 U |
| 1,2-Dichloroethane | 20 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 180 J | 720 U | 710 U |
| 2-Butanone (MEK) | NA | 50,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Carbon tetrachloride | 70 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Bromodichloromethane | 600 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,2-Dichloropropane | 30 | 43,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Trichloroethene | 60 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 1900 | 720 U | 710 U |
| Benzene | 30 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Dibromochloromethane | NA | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Bromoform | 800 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 2-Hexanone | NA | NA | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Tetrachloroethene | 60 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Toluene | 12,000 | 500,000 | 79 J | 150 J | 770 U | 670 U | 730 U | 98 J | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Chlorobenzene | 1,000 | 1,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 330 J | 720 U | 710 U |
| Ethylbenzene | 13,000 | 100,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| Styrene | 4,000 | 97,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 760 U | 720 U | 710 U |
| m,p-Xylene | 200,000 | 67,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 100 J | 720 U | 710 U |
| o-Xylene | 190,000 | 67,000 | 650 U | 1100 U | 770 U | 670 U | 730 U | 730 U | 770 U | 640 U | 690 U | 100 J | 720 U | 710 U |
| Total TICs | NA | 1,000,000 | NA | NA | ND | NO | ND | ND | NA | ND | ND | ND | ND | ND |

Notes

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME White Chemical
PROJECT No 302-0004

VOLATILES

| Sample ID No | | | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 | SB-11-01 | SB-11-02 | SB-11-03 | SB-12-01 | SB-12-02 | SB-12-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | | 9901-0584 | 9901-0585 | 9901-0586 | 9812-2364 | 9812-2365 | 9812-2366 | 9901-0860 | 9901-0861 | 9901-0862 | 9812-2793 | 9812-2794 | 9812-2795 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1.5 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 12.9 | 14.7 | 11.7 | 14.3 | 14 | 11.9 | 15.7 | 13.5 | 15.1 | 13.3 | 6.3 | 14.7 |
| Depth (in feet) | | (ug/kg) | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 11 - 12* | 1 - 3* | 3 - 5* | 7 - 9* | 1 - 3* | 5 - 7* | 11 - 13* |
| Chloromethane | NA | 10,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Bromomethane | 200 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Vinyl chloride | 10 | 7,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Chloroethane | NA | NA | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Methylene chloride | 20 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Acetone | 16,000 | 100,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Carbon disulfide | 32,000 | NA | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 1,1-Dichloroethene | 60 | 10,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 510 J | 730 U | 820 U | 650 U | 720 U | 670 U |
| Chloroform | 300 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 3400 | [redacted] | [redacted] | 650 U | 720 U | 670 U |
| 1,2-Dichloroethane | 20 | 1,000 | 4100 | 4400 | [redacted] | 890 U | 840 U | 700 U | [redacted] | 730 U | 820 U | 1400 | [redacted] | 670 U |
| 2-Butanone (MEK) | NA | 50,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Carbon tetrachloride | 70 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Bromodichloromethane | 600 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 1,2-Dichloropropane | 30 | 43,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | [redacted] | 130000 | 6100 | 2900 | [redacted] | [redacted] | 670 U |
| Trichloroethene | 60 | 1,000 | 720 U | [redacted] | [redacted] | 1500 | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Benzene | 30 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Dibromochloromethane | NA | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | [redacted] | 720 U | 670 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | [redacted] | [redacted] | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Bromoform | 800 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| 2-Hexanone | NA | NA | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Tetrachloroethene | 60 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 5300 | [redacted] | 820 U | [redacted] | 720 U | 670 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | [redacted] | [redacted] | [redacted] | 890 U | 840 U | 700 U | 28000 | 4300 | 2300 | 650 U | 720 U | 670 U |
| Toluene | 12,000 | 500,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 190 J | 650 U | 720 U | 670 U |
| Chlorobenzene | 1,000 | 1,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Ethylbenzene | 13,000 | 100,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Styrene | 4,000 | 97,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| m,p-Xylene | 200,000 | 67,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| o-Xylene | 190,000 | 67,000 | 720 U | 740 U | 640 U | 890 U | 840 U | 700 U | 770 U | 730 U | 820 U | 650 U | 720 U | 670 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | ND | ND | 98060 EN | 2000 EN | 860 EN | 9800 EN | 11800 EN | 9700 EN |

Notes:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete) The sample depth given takes into account this material (see above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT No. 302-0004

VOLATILES

| Sample ID No. | | | SB-13-01 | SB-13-02 | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 | DUPLICATE OF SB-15-03 SB-DUP-03 | SB-16-01 | SB-16-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | USEPA | New Jersey Non- | 9812-2796 | 9812-2797 | 9812-2798 | 9812-2799 | 9812-2800 | 9812-2801 | 9812-2788 | 9812-2789 | 9812-2790 | 9812-2791 | 9812-2804 | 9812-3211 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 6.4 | 9.2 | 16.2 | 25.8 | 7.7 | 6.9 | 14.7 | 6.3 | 6.8 | 7 | 13.1 | 9.5 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 9 - 11* | 1 - 3* | 5 - 7* |
| Chloromethane | NA | 10,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Bromomethane | 200 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Vinyl chloride | 10 | 7,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Chloroethane | NA | NA | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Methylene chloride | 20 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Acetone | 16,000 | 100,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Carbon disulfide | 32,000 | NA | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,1-Dichloroethene | 60 | 10,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 680 J | 690 U | 750 U | 370 J | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Chloroform | 300 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 3600 | 690 U | 750 U | 1200 | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,2-Dichloroethane | 20 | 1,000 | 3800 | 690 U | 750 U | 2600 | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 2-Butanone (MEK) | NA | 50,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Carbon tetrachloride | 70 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Bromodichloromethane | 600 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,2-Dichloropropane | 30 | 43,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Trichloroethene | 60 | 1,000 | 4500 | 690 U | 750 U | 12000 | 720 U | [redacted] | | | | | | 660 U |
| Benzene | 30 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Dibromochloromethane | NA | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | [redacted] | 690 U | 750 U | [redacted] | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Bromoform | 800 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 2-Hexanone | NA | NA | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Tetrachloroethene | 60 | 1,000 | 710 U | 690 U | 750 U | [redacted] | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | [redacted] | 690 U | 750 U | [redacted] | 720 U | 630 U | 1200 | [redacted] | | [redacted] | 820 U | 660 U |
| Toluene | 12,000 | 500,000 | 140 J | 690 U | 750 U | 130 J | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 93 J | 95 J |
| Chlorobenzene | 1,000 | 1,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Ethylbenzene | 13,000 | 100,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Styrene | 4,000 | 97,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| m,p-Xylene | 200,000 | 67,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| o-Xylene | 190,000 | 67,000 | 710 U | 690 U | 750 U | 840 U | 720 U | 630 U | 740 U | 680 U | 640 U | 640 U | 820 U | 660 U |
| Total TICs | NA | 1,000,000 | 11000 EN | 8000 EN | 8600 EN | 14000 EN | 11700 EN | 9800 EN | 10700 EN | 10700 EN | 8400 EN | 8100 EN | 14500 EN | ND |

Notes:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

*Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%*

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT No: 302-0004

| VOLATILES | | | | | DUPLICATE OF SB-17-01 | | | | | | DUPLICATE OF SB-18-01 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SB-16-03 | SB-17-01 | SB-DUP-01 | SB-17-02 | SB-17-03 | SB-18-01 | SB-DUP-02 | SB-18-02 | SB-18-03 | SB-19-01 | SB-19-02 |
| Lab ID No | USEPA | New Jersey Non- | 9812-3212 | 9901-0864 | 9901-0863 | 9901-0865 | 9901-1163 | 9812-2369 | 9812-2372 | 9812-2370 | 9812-2371 | 9812-2778 | 9812-2779 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 6.9 | 14.3 | 11.2 | 9.6 | 6.9 | 12.6 | 11.1 | 12.4 | 12.9 | 19 | 15.8 |
| Depth (in feet) | | | 9 - 11* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* |
| Chloromethane | NA | 10,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Bromomethane | 200 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Vinyl chloride | 10 | 7,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Chloroethane | NA | NA | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Methylene chloride | 20 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Acetone | 16,000 | 100,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Carbon disulfide | 32,000 | NA | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,1-Dichloroethene | 60 | 10,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Chloroform | 300 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,2-Dichloroethane | 20 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 2-Butanone (MEK) | NA | 50,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Carbon tetrachloride | 70 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Bromodichloromethane | 600 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,2-Dichloropropane | 30 | 43,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Trichloroethene | 60 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Benzene | 30 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Dibromochloromethane | NA | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Bromoform | 800 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 2-Hexanone | NA | NA | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Tetrachloroethene | 60 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Toluene | 12,000 | 500,000 | 610 U | 730 U | 770 U | 170 J | 120 J | 670 U | 580 U | 670 U | 650 U | 710 U | 740 U |
| Chlorobenzene | 1,000 | 1,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Ethylbenzene | 13,000 | 100,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Styrene | 4,000 | 97,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| m,p-Xylene | 200,000 | 67,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| o-Xylene | 190,000 | 67,000 | 610 U | 730 U | 770 U | 640 U | 720 U | 670 U | 560 U | 670 U | 650 U | 710 U | 740 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | ND | 7000 EN | NA | 9700 EN | 12000 EN | 10000 EN | ND |

Notes:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given *takes into account this material (see above).*

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME White Chemical
PROJECT No : 302-0004

VOLATILES

| Sample ID No. | | | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | USEPA | New Jersey Non- | 9812-2780 | 9812-3213 | 9812-3214 | 9812-3215 | 9901-1166 | 9901-1167 | 9901-1168 | 9901-0856 | 9901-0857 | 9812-2351 | 9812-2352 | 9812-3220 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 9 | 12 7 | 11 | 10 9 | 12 4 | 6.9 | 14.6 | 18.6 | 16.8 | 11.4 | 17 4 | 19 2 |
| Depth (in feet) | | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 1 - 3* | 9 - 11* | 1 - 3* | 3 - 5* | 2 - 4** |
| Chloromethane | NA | 10,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Bromomethane | 200 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Vinyl chloride | 10 | 7,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Chloroethane | NA | NA | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Methylene chloride | 20 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Acetone | 16,000 | 100,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Carbon disulfide | 32,000 | NA | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,1-Dichloroethene | 60 | 10,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 170 J |
| Chloroform | 300 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 150 J |
| 1,2-Dichloroethane | 20 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 2-Butanone (MEK) | NA | 50,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Carbon tetrachloride | 70 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Bromodichloromethane | 600 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,2-Dichloropropane | 30 | 43,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Trichloroethene | 60 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | [redacted] | [redacted] | 700 U |
| Benzene | 30 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Dibromochloromethane | NA | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | [redacted] | 820 U | 700 U |
| Bromoform | 800 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 2-Hexanone | NA | NA | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Tetrachloroethene | 60 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Toluene | 12,000 | 500,000 | 660 U | 89 J | 620 U | 210 J | 730 U | 670 U | 730 U | 770 U | 730 U | 240 J | 130 J | 91 J |
| Chlorobenzene | 1,000 | 1,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| Ethylbenzene | 13,000 | 100,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 730 |
| Styrene | 4,000 | 97,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 700 U |
| m,p-Xylene | 200,000 | 67,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 300 J |
| o-Xylene | 190,000 | 67,000 | 660 U | 770 U | 620 U | 710 U | 730 U | 670 U | 730 U | 770 U | 730 U | 840 U | 820 U | 120 J |
| Total TICs | NA | 1,000,000 | 1200 EN | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Notes:

[redacted]
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
ND - non-detect
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e , asphalt and road bed) The sample depth given takes into account this material (e g , samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i e , 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above).
*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT No.: 302-0004

| VOLATILES | | | | | | DUPLICATE OF SB-25-01 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SB-24-02 | SB-24-03 | SB-25-01 | SB-DUP-05 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 | SB-27-01 | SB-27-02 | SB-27-03 |
| Lab ID No. | USEPA | New Jersey Non- | 9812-3223 | 9812-3224 | 9901-0844 | 9901-0847 | 9901-0845 | 9901-0846 | 9812-2348 | 9812-2347 | 9812-2348 | 9812-2783 | 9812-2784 | 9812-2785 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 24 | 14.7 | 16.7 | 24.8 | 22.2 | 23.9 | 17 | 16.1 | 4.6 | 12 | 9.5 | 10.6 |
| Depth (in feet) | | | 6 - 8** | 10 - 12** | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 6 - 10 | 1 - 3* | 7 - 9* | 11 - 13* |
| Chloromethane | NA | 10,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Bromomethane | 200 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Vinyl chloride | 10 | 7,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Chloroethane | NA | NA | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Methylene chloride | 20 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Acetone | 16,000 | 100,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Carbon disulfide | 32,000 | NA | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,1-Dichloroethene | 60 | 10,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Chloroform | 300 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 210 J | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,2-Dichloroethane | 20 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 2-Butanone (MEK) | NA | 50,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Carbon tetrachloride | 70 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Bromodichloromethane | 600 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,2-Dichloropropane | 30 | 43,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Trichloroethene | 60 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | [redacted] | 800 U | 680 U | 750 U | 610 U | 780 U |
| Benzene | 30 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Dibromochloromethane | NA | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Bromoform | 800 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 2-Hexanone | NA | NA | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Tetrachloroethene | 60 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Toluene | 12,000 | 500,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 170 J | 800 U | 680 U | 750 U | 610 U | 780 U |
| Chlorobenzene | 1,000 | 1,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Ethylbenzene | 13,000 | 100,000 | 820 U | 690 U | 850 E | 330 J | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Styrene | 4,000 | 97,000 | 820 U | 690 U | 720 U | 900 U | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| m,p-Xylene | 200,000 | 67,000 | 820 U | 71 J | 4300 E | 1800 E | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| o-Xylene | 190,000 | 67,000 | 820 U | 690 U | 620 J | 260 J | 760 U | 810 U | 820 U | 800 U | 680 U | 750 U | 610 U | 780 U |
| Total TICs | NA | 1,000,000 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1800 EN | 11000 EN | 10900 EN |

Notes:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above)

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT No.: 302-0004

VOLATILES

| Sample ID No | | | SB-28-01 | SB-28-02 | SB-28-03 | SB-29-01 | SB-29-02 | SB-29-03 | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | USEPA | New Jersey Non- | 9901-2862 | 9901-2856 | 9901-2857 | 9812-3229 | 9812-3231 | 9812-3232 | 9812-2353 | 9812-2354 | 9812-2355 | 9901-2863 | 9901-2864 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1, 2 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 9.2 | 15.5 | 7 | 10.4 | 15.3 | 16.5 | 11.9 | 22.4 | 15.6 | 8.8 | 5.2 |
| Depth (in feet) | | | 0 - 2 | 4 - 6 | 8 - 10 | 1.5 - 3.5*** | 7.5 - 9.5*** | 9.5 - 11.5*** | 1 - 3* | 3 - 5* | 13 - 15* | 2 - 4 | 8 - 10 |
| Chloromethane | NA | 10,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Bromomethane | 200 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Vinyl chloride | 10 | 7,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Chloroethane | NA | NA | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Methylene chloride | 20 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Acetone | 16,000 | 100,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 310 J |
| Carbon disulfide | 32,000 | NA | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,1-Dichloroethene | 60 | 10,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Chloroform | 300 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 210 J | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,2-Dichloroethane | 20 | 1,000 | 660 U | 670 U | 860 U | [redacted] | 7200 | 43000 | 700 U | 780 U | 720 U | 670 U | 790 U |
| 2-Butanone (MEK) | NA | 50,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Carbon tetrachloride | 70 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Bromodichloromethane | 600 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,2-Dichloropropane | 30 | 43,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Trichloroethene | 60 | 1,000 | [redacted] | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Benzene | 30 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | [redacted] | 780 U | 720 U | 670 U | 790 U |
| Dibromochloromethane | NA | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Bromoform | 800 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 2-Hexanone | NA | NA | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Tetrachloroethene | 60 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Toluene | 12,000 | 500,000 | 81 J | 670 U | 630 J | 860 U | 660 U | 740 U | 670 J | 160 J | 720 U | 670 U | 450 J |
| Chlorobenzene | 1,000 | 1,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 700 U | 780 U | 720 U | 670 U | 790 U |
| Ethylbenzene | 13,000 | 100,000 | 660 U | 670 U | 860 U | 140 J | 660 U | 740 U | 400 J | 920 | 720 U | 670 U | 790 U |
| Styrene | 4,000 | 97,000 | 660 U | 670 U | 860 U | 660 U | 660 U | 740 U | 390 J | 780 U | 720 U | 670 U | 790 U |
| m,p-Xylene | 200,000 | 67,000 | 110 J | 670 U | 860 U | 350 J | 660 U | 740 U | 1100 | 1200 | 720 U | 670 U | 790 U |
| o-Xylene | 190,000 | 67,000 | 660 U | 670 U | 860 U | 110 J | 660 U | 740 U | 570 J | 870 | 720 U | 670 U | 790 U |
| Total TICs | NA | 1,000,000 | 13120 EN | ND | ND | ND | ND | ND | 1900 EN | 22070 EN | ND | ND | ND |

Notes:

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT NO.: 302-0004

VOLATILES

| Sample ID No. | | | TP-01 | TP-02 | TP-03 | TP-03A | TP-04 | TP-04A | TP-05 | TP-06 | TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA | New Jersey Non- | 9812-1163 | 9812-1164 | 9812-1415 | 9812-1416 | 9812-1418 | 9812-1420 | 9812-1430 | 9812-1433 | 9812-1434 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1, 5 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17.3 | 8.65 | 12.2 | 13.9 | 14 | 9.1 | 15.3 | 11.5 | 4.4 |
| Depth (in feet) | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |

feet in the soil).

SITE NAME White Chemical
PROJECT NO 302-0004

VOLATILES

| Sample ID No | | | TP-01 | TP-02 | TP-03 | TP-03A | TP-04 | TP-04A | TP-05 | TP-06 | TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | USEPA | New Jersey Non- | 9812-1163 | 9812-1164 | 9812-1415 | 9812-1416 | 9812-1418 | 9812-1420 | 9812-1430 | 9812-1433 | 9812-1434 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1.5 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17.3 | 8.65 | 12.2 | 13.9 | 14 | 9.1 | 15.3 | 11.5 | 4.4 |
| Depth (in feet) | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |
| Chloromethane | NA | 10,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Bromomethane | 200 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Vinyl chloride | 10 | 7,000 | 770 U | 740 U | [redacted] | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Chloroethane | NA | NA | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Methylene chloride | 20 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Acetone | 16,000 | 100,000 | 770 U | 740 U | 150 J | 730 U | 170 J | 750 U | 120 J | 730 U | 740 U |
| Carbon disulfide | 32,000 | NA | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 1,1-Dichloroethene | 60 | 10,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 770 U | 740 U | 140 J | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Chloroform | 300 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 770 U | 740 U | 85 J | 730 U | 210 J | 750 U | 700 U | 170 J | 740 U |
| 1,2-Dichloroethane | 20 | 1,000 | 770 U | 740 U | 18000 | 730 U | [redacted] | 750 U | 700 U | [redacted] | [redacted] |
| 2-Butanone (MEK) | NA | 50,000 | 770 U | 740 U | 250 J | 200 J | 330 J | 750 U | 700 U | 730 U | 740 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Carbon tetrachloride | 70 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Bromodichloromethane | 600 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 1,2-Dichloropropane | 30 | 43,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| cis-1,3-Dichloropropene | 4 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 720 U | 740 U |
| Trichloroethene | 60 | 1,000 | 770 U | 740 U | [redacted] | 730 U | [redacted] | 750 U | [redacted] | 5100 | [redacted] |
| Benzene | 30 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Dibromochloromethane | NA | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 1,1,2-Trichloroethane | 20 | 1,000 | 770 U | 740 U | [redacted] | 730 U | 860 U | 750 U | 700 U | 1400 | [redacted] |
| Bromoform | 800 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 2-Hexanone | NA | NA | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Tetrachloroethene | 60 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 770 U | 740 U | [redacted] | 730 U | 860 U | 750 U | 700 U | 6200 | 1400 |
| Toluene | 12,000 | 500,000 | 770 U | 740 U | 3100 | 730 U | 180 J | 750 U | 700 U | 730 U | 230 J |
| Chlorobenzene | 1,000 | 1,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Ethylbenzene | 13,000 | 100,000 | 770 U | 740 U | 110000 | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Styrene | 4,000 | 97,000 | 770 U | 740 U | 650 U | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| m,p-Xylene | 200,000 | 67,000 | 770 U | 740 U | 14000 | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| o-Xylene | 190,000 | 67,000 | 770 U | 740 U | 6000 | 730 U | 860 U | 750 U | 700 U | 730 U | 740 U |
| Total TICs | NA | 1,000,000 | ND | 1000 EN | ND | ND | NA | ND | ND | ND | ND |

NOTES

[redacted] Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter**

U - sample concentration is non-detect

J - estimated value, compound present below CRQL but above IDL

E - estimated value

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material and then were collected from 0 to 2 feet in the soil)

SITE NAME: White Chemical
PROJECT # 302-0004

| VOLATILES | | | | DUPLICATE OF SD-01 | |
|---|---|---|---|---|---|
| Sample ID No | | | SD-01 | SD-DUP-01 | SD-04 |
| Lab ID No. | USEPA | New Jersey Non- | 9901-1847 | 9901-1848 | 9901-1849 |
| Matrix | Soil Screening | Residential | soil | soil | soil |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 100, 1000 |
| Percent Moisture | | (ug/kg) | 19 | 22 2 | 21.1 |
| Chloromethane | NA | 10,000 | 810 U | 850 U | 81000 U |
| Bromomethane | 200 | 1,000 | 810 U | 850 U | 81000 U |
| Vinyl chloride | 10 | 7,000 | 810 U | 850 U | 81000 U |
| Chloroethane | NA | NA | 810 U | 850 U | 81000 U |
| Methylene chloride | 20 | 1,000 | 810 U | 850 U | 25230000 |
| Acetone | 16,000 | 100,000 | 810 U | 850 U | 81000 U |
| Carbon disulfide | 32,000 | NA | 810 U | 850 U | 81000 U |
| 1,1-Dichloroethene | 60 | 10,000 | 810 U | 850 U | 81000 U |
| 1,1-Dichloroethane | 23,000 | 10,000 | 810 U | 850 U | 81000 U |
| trans-1,2-Dichloroethene | 700 | 50,000 | 810 U | 850 U | 2900000 J |
| Chloroform | 300 | 1,000 | 810 U | 850 U | 81000 U |
| cis-1,2-Dichloroethene | 400 | 1,000 | 810 U | 850 U | 48000 J |
| 1,2-Dichloroethane | 20 | 1,000 | 810 U | 850 U | 27460000 |
| 2-Butanone (MEK) | NA | 50,000 | 810 U | 850 U | 81000 U |
| 1,1,1-Trichloroethane | 2,000 | 50,000 | 810 U | 850 U | 81000 U |
| Carbon tetrachloride | 70 | 1,000 | 810 U | 850 U | 81000 U |
| Bromodichloromethane | 600 | 1,000 | 810 U | 850 U | 81000 U |
| 1,2-Dichloropropane | 30 | 43,000 | 810 U | 850 U | 4300000 J |
| cis-1,3-Dichloropropene | 4 | 1,000 | 810 U | 850 U | 81000 U |
| Trichloroethene | 60 | 1,000 | 810 U | 850 U | 230000 |
| Benzene | 30 | 1,000 | 810 U | 850 U | 81000 U |
| Dibromochloromethane | NA | 1,000 | 810 U | 850 U | 81000 U |
| trans-1,3-Dichloropropene | 4 | 1,000 | 810 U | 850 U | 81000 U |
| 1,1,2-Trichloroothane | 20 | 1,000 | 810 U | 850 U | 560000 |
| Bromoform | 800 | 1,000 | 810 U | 850 U | 81000 U |
| 4-Methyl-2-pentanone (MIBK) | NA | 50,000 | 810 U | 850 U | 81000 U |
| 2-Hexanone | NA | NA | 810 U | 850 U | 81000 U |
| Tetrachloroethene | 60 | 1,000 | 810 U | 850 U | 43000 J |
| 1,1,2,2-Tetrachloroethane | 3 | 1,000 | 810 U | 850 U | 870000 |
| Toluene | 12,000 | 500,000 | 810 U | 850 U | 81000 U |
| Chlorobenzene | 1,000 | 1,000 | 810 U | 850 U | 81000 U |
| Ethylbenzene | 13,000 | 100,000 | 120 J | 400 J | 200000 |
| Styrene | 4,000 | 97,000 | 810 U | 850 U | 81000 U |
| m,p-Xylene | 200,000 | 67,000 | 790 J | 2300 E | 3800000 |
| o-Xylene | 190,000 | 67,000 | 370 J | 810 J | 400000 |
| Total TICs | NA | 1,000,000 | 1400 EN | 3800 EN | 2278000 EN |

NOTES:

[redacted]

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

SITE NAME: White Chemical
PROJECT #: 302-0004

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

VOLATILES

| Sample ID No. | USEPA | New Jersey | GW-MW-1S | GW-MW-1D | GW-MW-2S | GW-MW-3S | GW-MW-3D | GW-MW-4S | GW-MW-5S | GW-MW-5D |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF66 | BXF67 | BXF68 | BXF69 | BXF70 | BXF71 | BXF72 | BXF73 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (GQS) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | (ug/L) | 1 | 100 | 10 | 20 | 100 | 1 | 20 | 10 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 | 7 - 17 | 24 - 29 |
| Chloromethane | NA | 30 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Bromomethane | NA | 10 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Vinyl Chloride | 2 | 5 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Chloroethane | NA | NA | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Methylene Chloride | 5 | 2 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Acetone | NA | 700 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Carbon Disulfide | NA | NA | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 1,1-Dichloroethene | 7 | 2 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 0.6 J | 200 U | 18 J |
| 1,1-Dichloroethane | NA | 70 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 7 J |
| 1,2-Dichloroethene (total) | 70* | 10*** | 3 J | 1000 U | 100 U | 200 U | 1000 U | 4 J | 38 J | 100 |
| Chloroform (THM) | 100** | 6 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 0.6 J | 200 U | 100 U |
| 1,2-Dichloroethane | 5 | 2 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 2-Butanone | NA | 300 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 1,1,1-Trichloroethane | 200 | 30 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Carbon Tetrachloride | 5 | 2 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Bromodichloromethane (THM) | 100** | 1 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 1,2-Dichloropropane | 5 | 1 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| cis-1,3-Dichloropropene | NA | NA | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Trichloroethene | 5 | 1 | 5 J | 160 J | 100 | 200 U | 1500 | 20 | 200 | 30 |
| Dibromochloromethane | NA | 10 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 1,1,2-Trichloroethane | 5 | 3 | 2 J | 1000 U | 290 | 240 | 1000 U | 10 U | 200 U | 100 U |
| Benzene | 5 | 1 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| trans-1,3-Dichloropropene | NA | NA | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Bromoform (THM) | 100** | 4 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 4-Methyl-2-Pentanone | NA | 400 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| 2-Hexanone | NA | NA | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Tetrachloroethene | 5 | 1 | 10 U | 1000 U | 220 | 1500 | 570 J | 3 J | 77 | 400 |
| 1,1,2,2-Tetrachloroethane | NA | 2 | 14 | 1000 U | 390 | 1500 | 88 J | 34 | 140 J | 22 J |
| Toluene | 1,000 | 1,000 | 10 U | 1000 U | 3 J | 200 U | 1000 U | 10 U | 200 U | 2 J |
| Chlorobenzene | 100 | 4 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Ethylbenzene | 700 | 700 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Styrene | 100 | 100 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |
| Xylenes (total) | 10,000 | 40 | 10 U | 1000 U | 100 U | 200 U | 1000 U | 10 U | 200 U | 100 U |

NOTES:

Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

* - An MCL is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

** - The MCL for total trihalogenated methanes (THMs) is 80 ug/L - all THMs listed above are marked.

*** - A GQS is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #: 302-0004

## THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

| VOLATILES | | | | | DUPLICATE OF GW-MW-7S | |
|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey | GW-MW-6S | GW-MW-7S | GW-MW-DUP01 | GW-MW-7D |
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF74 | BXF75 | BXF77 | BXF76 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (GQS) | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | (ug/L) | 20 | 50 | 40 | 2000 |
| Percent Moisture | | | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 |
| Chloromethane | NA | 30 | 200 U | 500 U | 400 U | 20000 U |
| Bromomethane | NA | 10 | 200 U | 500 U | 400 U | 20000 U |
| Vinyl Chloride | 2 | 5 | 200 U | 500 U | 400 U | 20000 U |
| Chloroethane | NA | NA | 200 U | 500 U | 400 U | 20000 U |
| Methylene Chloride | 5 | 2 | 200 U | 500 U | 400 U | 20000 U |
| Acetone | NA | 700 | 200 U | 500 U | 400 U | 20000 U |
| Carbon Disulfide | NA | NA | 200 U | 500 U | 400 U | 20000 U |
| 1,1-Dichloroethene | 7 | 2 | 200 U | 500 U | 400 U | 20000 U |
| 1,1-Dichloroethane | NA | 70 | 200 U | 500 U | 400 U | 20000 U |
| 1,2-Dichloroethene (total) | 70* | 10*** | 200 U | 500 U | 400 U | 20000 U |
| Chloroform (THM) | 100** | 6 | 200 U | 500 U | 400 U | 20000 U |
| 1,2-Dichloroethane | 5 | 2 | [redacted] | [redacted] | [redacted] | [redacted] |
| 2-Butanone | NA | 300 | 200 U | 500 U | 400 U | 20000 U |
| 1,1,1-Trichloroethane | 200 | 30 | 200 U | 500 U | 400 U | 20000 U |
| Carbon Tetrachloride | 5 | 2 | 200 U | 500 U | 400 U | 20000 U |
| Bromodichloromethane (THM) | 100** | 1 | 200 U | 500 U | 400 U | 20000 U |
| 1,2-Dichloropropane | 5 | 1 | 200 U | 500 U | 400 U | 20000 U |
| cis-1,3-Dichloropropene | NA | NA | 200 U | 500 U | 400 U | 20000 U |
| Trichloroethene | 5 | 1 | [redacted] | [redacted] | [redacted] | [redacted] |
| Dibromochloromethane | NA | 10 | 200 U | 500 U | 400 U | 20000 U |
| 1,1,2-Trichloroethane | 5 | 3 | [redacted] | [redacted] | [redacted] | [redacted] |
| Benzene | 5 | 1 | 200 U | 500 U | 400 U | 20000 U |
| trans-1,3-Dichloropropene | NA | NA | 200 U | 500 U | 400 U | 20000 U |
| Bromoform (THM) | 100** | 4 | 200 U | 500 U | 400 U | 20000 U |
| 4-Methyl-2-Pentanone | NA | 400 | 200 U | 500 U | 400 U | 20000 U |
| 2-Hexanone | NA | NA | 200 U | 500 U | 400 U | 20000 U |
| Tetrachloroethene | 5 | 1 | 200 U | 500 U | 400 U | 20000 U |
| 1,1,2,2-Tetrachloroethane | NA | 2 | 200 U | 200 J | 96 J | 2800 J |
| Toluene | 1,000 | 1,000 | 5 J | 500 U | 12 J | 20000 U |
| Chlorobenzene | 100 | 4 | 200 U | 500 U | 400 U | 20000 U |
| Ethylbenzene | 700 | 700 | 200 U | 500 U | 400 U | 20000 U |
| Styrene | 100 | 100 | 200 U | 500 U | 400 U | 20000 U |
| Xylenes (total) | 10,000 | 40 | 200 U | 500 U | 400 U | 20000 U |

NOTES:

[redacted] Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

* - An MCL is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.
** - The MCL for total trihalogenated methanes (THMs) is 80 ug/L - all THMs listed above are marked.
*** - A GQS is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| VOLATILES<br>Sample ID No.<br>Traffic Report No.<br>Matrix<br>Units<br>Dilution Factor<br>Percent Moisture<br>Screened Interval (in feet) | USEPA Maximum Contaminant Levels (MCLs) (ug/L) | New Jersey Groundwater Quality Standards (GQS) (ug/L) | GW2-MW-1S<br>BTA09<br>WATER<br>ug/L<br>10<br>--<br>7 - 17 | GW2-MW-1D<br>BTA10<br>WATER<br>ug/L<br>100<br>--<br>40 - 45 | GW2-MW-2S<br>BTA11<br>WATER<br>ug/L<br>10<br>--<br>7 - 17 | GW2-MW-3S<br>BTA12<br>WATER<br>ug/L<br>20<br>--<br>7 - 17 | DUPLICATE OF GW2-MW-3S<br>GW2-MW-DUP-01<br>BTA20<br>WATER<br>ug/L<br>20<br>--<br>7 - 17 | GW2-MW-3D<br>BTA13<br>WATER<br>ug/L<br>200<br>--<br>36 - 41 | GW2-MW-4S<br>BTA14<br>WATER<br>ug/L<br>1<br>--<br>8 - 18 |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | NA | 30 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Bromomethane | NA | 10 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Vinyl Chloride | 2 | 5 | 4 J | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Chloroethane | NA | NA | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Methylene Chloride | 5 | 2 | 100 U | 1000 U | 100 U | 200 U | 200 U | [redacted] | 10 U |
| Acetone | NA | 700 | 140 U | 1000 U | 100 U | 200 U | 270 U | 2000 U | 10 U |
| Carbon Disulfide | NA | NA | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 1,1-Dichloroethene | 7 | 2 | 100 U | 1000 U | 5 J | 6 J | 200 U | [redacted] | 10 U |
| 1,1-Dichloroethane | NA | 70 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 1,2-Dichloroethene (total) | 70* | 10*** | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | 2000 U | 6 J |
| Chloroform | 100** | 6 | 100 U | 1000 U | 100 U | 200 U | 200 U | 42 J | 0.4 J |
| 1,2-Dichloroethane | 5 | 2 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| 2-Butanone | NA | 300 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 1,1,1-Trichloroethane | 200 | 30 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Carbon Tetrachloride | 5 | 2 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Bromodichloromethane | 100** | 1 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 1,2-Dichloropropane | 5 | 1 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| cis-1,3-Dichloropropene | NA | NA | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Trichloroethene | 5 | 1 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Dibromochloromethane | NA | 10 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 1,1,2-Trichloroethane | 5 | 3 | [redacted] | [redacted] | [redacted] | [redacted] | 200 U | [redacted] | [redacted] |
| Benzene | 5 | 1 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| trans-1,3-Dichloropropene | NA | NA | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Bromoform | 100** | 4 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 4-Methyl-2-Pentanone | NA | 400 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| 2-Hexanone | NA | NA | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Tetrachloroethene | 5 | 1 | 100 U | 1000 U | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| 1,1,2,2-Tetrachloroethane | NA | 2 | 330 | 1000 U | 1400 | 1300 | 1100 | 2000 U | 71 |
| Toluene | 1,000 | 1,000 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Chlorobenzene | 100 | 4 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Ethylbenzene | 700 | 700 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Styrene | 100 | 100 | 100 U | 1000 U | 100 U | 200 U | 200 U | 2000 U | 10 U |
| Xylenes (total) | 10,000 | 40 | 100 U | 1000 U | 100 U | 200 U | 5 J | 2000 U | 10 U |

NOTES:

[redacted] Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

* - An MCL is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.
** - The MCL for total trihalogenated methanes (THMs) is 80 ug/L - all THMs listed above are marked.
*** - A GQS is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

NOTES
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME White Chemical
PROJECT #: 302-0004

| VOLATILES<br>Sample ID No.<br>Traffic Report No.<br>Matrix<br>Units<br>Dilution Factor<br>Percent Moisture<br>Screened Interval (in feet) | *USEPA*<br>Maximum Contaminant<br>Levels<br>(MCLs)<br>(ug/L) | *New Jersey*<br>Groundwater<br>Quality Standards<br>(GQS)<br>(ug/L) | GW2-MW-5S<br>BTA15<br>WATER<br>ug/L<br>20<br>--<br>7 - 17 | GW2-MW-5D<br>BTA16<br>WATER<br>ug/L<br>10<br>--<br>24 - 29 | GW2-MW-6S<br>BTA17<br>WATER<br>ug/L<br>20<br>--<br>7 - 17 | GW2-MW-7S<br>BTA18<br>WATER<br>ug/L<br>20<br>--<br>7 - 17 | GW2-MW-7D<br>BTA19<br>WATER<br>ug/L<br>2000<br>--<br>24 - 29 |
|---|---|---|---|---|---|---|---|
| Chloromethane | NA | 30 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Bromomethane | NA | 10 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Vinyl Chloride | 2 | 5 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Chloroethane | NA | NA | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Methylene Chloride | 5 | 2 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Acetone | NA | 700 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Carbon Disulfide | NA | NA | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 1,1-Dichloroethene | 7 | 2 | 200 U | [redacted] | 200 U | 200 U | 20000 U |
| 1,1-Dichloroethane | NA | 70 | 200 U | 7 J | 200 U | 200 U | 20000 U |
| 1,2-Dichloroethene (total) | 70* | 10*** | 30 J | [redacted] | 200 U | 21 J | 20000 U |
| Chloroform | 100** | 6 | 200 U | 2 J | 200 U | 200 U | 20000 U |
| 1,2-Dichloroethane | 5 | 2 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| 2-Butanone | NA | 300 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 1,1,1-Trichloroethane | 200 | 30 | 200 U | 1 J | 200 U | 200 U | 20000 U |
| Carbon Tetrachloride | 5 | 2 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Bromodichloromethane | 100** | 1 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 1,2-Dichloropropane | 5 | 1 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| cis-1,3-Dichloropropene | NA | NA | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Trichloroethene | 5 | 1 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Dibromochloromethane | NA | 10 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 1,1,2-Trichloroethane | 5 | 3 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Benzene | 5 | 1 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| trans-1,3-Dichloropropene | NA | NA | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Bromoform | 100** | 4 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 4-Methyl-2-Pentanone | NA | 400 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| 2-Hexanone | NA | NA | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Tetrachloroethene | 5 | 1 | 200 U | [redacted] | 200 U | 200 U | 20000 U |
| 1,1,2,2-Tetrachloroethane | NA | 2 | 200 | 57 J | 200 U | 200 U | 20000 U |
| Toluene | 1,000 | 1,000 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Chlorobenzene | 100 | 4 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Ethylbenzene | 700 | 700 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Styrene | 100 | 100 | 200 U | 100 U | 200 U | 200 U | 20000 U |
| Xylenes (total) | 10,000 | 40 | 200 U | 100 U | 200 U | 200 U | 20000 U |

NOTES:

[redacted] Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

* - An MCL is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

** - The MCL for total trihalogenated methanes (THMs) is 80 ug/L - all THMs listed above are marked.

*** - A GQS is given for cis and trans-1,2-DCE, not total DCE; the value listed is the lower of the two.

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BWP84 | BWP85 | BWP86 | BWP87 | BWP88 | BWP89 | BWP90 | BWP91 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | MEDIUM | LOW | LOW | LOW | LOW | MEDIUM | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 10 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17 | 13 | 13 | 18 | 16 | 14 | 16 | 14 |
| Asphalt/Soil* | | | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Isophorone | 500 | 50,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2-Nitrophenol | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 43 J | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 810 J | 390 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| 2-Chloronaphthalene | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2-Nitroaniline | NA | NA | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| Dimethylphthalate | NA | 50,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Acenaphthylene | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 3-Nitroaniline | NA | NA | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| Acenaphthene | 570,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 20 J | 12000 U | 390 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| 4-Nitrophenol | NA | NA | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| Dibenzofuran | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 12000 U | 380 U | 3800 U | 400 U | 47 J | 12000 U | 390 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Fluorene | 560,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 4-Nitroaniline | NA | NA | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BWP84 | BWP85 | BWP86 | BWP87 | BWP88 | BWP89 | BWP90 | BWP91 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | MEDIUM | LOW | LOW | LOW | LOW | MEDIUM | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 10 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17 | 13 | 13 | 18 | 16 | 14 | 16 | 14 |
| Asphalt/Soil* | | | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" |
| Pentachlorophenol | 30 | 24,000 | 30000 U | 950 U | 9500 U | 1000 U | 990 U | 29000 U | 990 U | 960 U |
| Phenanthrene | NA | NA | 12000 U | 25 J | 670 J | 33 J | 180 J | 12000 U | 36 J | 100 J |
| Anthracene | 590,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 42 J | 12000 U | 390 U | 27 J |
| Carbazole | 600 | NA | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 12000 U | 60 J | 850 J | 53 J | 580 E | 12000 U | 59 J | 110 J |
| Pyrene | 2,300,000 | 100,000 | 12000 U | 41 J | 660 J | 47 J | 350 J | 12000 U | 50 J | 95 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 12000 U | 24 J | 320 J | 28 J | 230 J | 12000 U | 31 J | 42 J |
| Chrysene | 88,000 | 40,000 | 12000 U | 34 J | 430 J | 42 J | 260 J | 12000 U | 58 J | 49 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 1200 J | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 12000 U | 380 U | 3800 U | 400 U | 390 U | 12000 U | 390 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 12000 U | 23 J | 410 J | 32 J | 260 J | 12000 U | 48 J | 34 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 12000 U | 24 J | 350 J | 30 J | 190 J | 12000 U | 40 J | 32 J |
| Benzo(a)pyrene | 90 | 660 | 12000 U | 24 J | 220 J | 27 J | 220 J | 12000 U | 34 J | 36 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 12000 U | 380 U | 3800 U | 20 J | 120 J | 12000 U | 33 J | 22 J |
| Dibenz(a,h)anthracene | 90 | 660 | 12000 U | 380 U | 3800 U | 400 U | 45 J | 12000 U | 390 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 12000 U | 380 U | 3800 U | 400 U | 72 J | 12000 U | 34 J | 21 J |
| Total TICs | NA | 10,000,000 | 113600 EN | 9820 EN | 20100 EN | 2070 EN | 4509 EN | 131800 EN | 1852 EN | 1258 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | SS-09 | SS-11 | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BWP92 | BXB44 | BXB45 | BXB46 | BXB48 | BXB50 | BXB51 | BXB52 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | MEDIUM | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17 | 18 | 11 | 14 | 18 | 14 | 14 | 14 |
| Asphalt/Soil* | | | Asphalt | Gravel - 24" | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt |
| Sample Depth** | | | 3 - 14" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| Phenol | 100,000 | 50,000 | 400 U | 400 U | 11000 U | 29 J | 400 U | 24 J | 380 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 400 U | 400 U | 11000 U | 380 U | 370 J | 380 U | 380 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 400 U | 400 U | 11000 U | 380 U | 120 J | 130 J | 380 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Isophorone | 500 | 50,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2-Nitrophenol | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 23 J | 54 J | 11000 U | 44 J | 400 U | 46 J | 380 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 400 U | 88 J | 11000 U | 48 J | 400 U | 26 J | 380 U | 49 J |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| 2-Chloronaphthalene | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2-Nitroaniline | NA | NA | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| Dimethylphthalate | NA | 50,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Acenaphthylene | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 25 J | 380 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 3-Nitroaniline | NA | NA | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| Acenaphthene | 570,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| 4-Nitrophenol | NA | NA | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| Dibenzofuran | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 400 U | 400 U | 11000 U | 100 J | 400 U | 36 J | 380 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Fluorene | 560,000 | 100,000 | 400 U | 25 J | 11000 U | 25 J | 400 U | 24 J | 380 U | 380 U |
| 4-Nitroaniline | NA | NA | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-09 | SS-11 | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Traffic Report No* | | | BWP92 | BXB44 | BXB45 | BXB46 | BXB48 | BXB50 | BXB51 | BXB52 |
| *Matrix* | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| *Units* | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | MEDIUM | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | *Soil Cleanup Criteria* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17 | 18 | 11 | 14 | 18 | 14 | 14 | 14 |
| Asphalt/Soil* | | | Asphalt | Gravel - 24" | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt |
| Sample Depth** | | | 3 - 14" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| Pentachlorophenol | 30 | 24,000 | 1000 U | 1000 U | 28000 U | 960 U | 1000 U | 960 U | 960 U | 960 U |
| Phenanthrene | NA | NA | 90 J | 140 J | 780 J | 130 J | 41 J | 160 J | 30 J | 45 J |
| Anthracene | 590,000 | 100,000 | 21 J | 400 U | 11000 U | 29 J | 400 U | 38 J | 380 U | 380 U |
| Carbazole | 600 | NA | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 400 U | 400 U | 11000 U | 21 J | 400 U | 380 U | 380 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 130 J | 100 J | 11000 U | 260 J | 53 J | 370 J | 65 J | 120 J |
| Pyrene | 2,300,000 | 100,000 | 150 J | 100 J | 11000 U | 260 J | 38 J | 260 J | 75 J | 160 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 400 U | 400 U | 11000 U | 380 U | 400 U | 380 U | 380 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 67 J | 47 J | 11000 U | 110 J | 25 J | 180 J | 33 J | 50 J |
| Chrysene | 88,000 | 40,000 | 120 J | 88 J | 790 J | 160 J | 36 J | 220 J | 47 J | 71 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 35 J | 40 J | 560 J | 150 J | 23 J | 100 J | 37 J | 350 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 400 U | 400 U | 11000 U | 65 J | 400 U | 380 U | 380 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 79 J | 62 J | 11000 U | 120 J | 27 J | 170 J | 51 J | 81 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 68 J | 49 J | 11000 U | 110 J | 22 J | 170 J | 36 J | 68 J |
| Benzo(a)pyrene | 90 | 660 | 88 J | 53 J | 11000 U | 100 J | 400 U | 180 J | 57 J | 81 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 58 J | 44 J | 11000 U | 73 J | 400 U | 120 J | 38 J | 63 J |
| Dibenz(a,h)anthracene | 90 | 660 | 400 U | 400 U | 11000 U | 32 J | 400 U | 42 J | 380 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 91 J | 59 J | 11000 U | 42 J | 400 U | 140 J | 70 J | 55 J |
| Total TICs | NA | 10,000,000 | 7440 EN | 11900 EN | 272900 EN | 37050 EN | 6014 | 19060 EN | 1855 EN | 10060 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

- U - sample concentration is non-detect
- B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
- E - *estimated value*
- J - estimated value, compound present below CRQL but above IDL
- N - presumptive evidence of the presence of this compound
- Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
- * - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
- ** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | DUPLICATE OF SS-25 | | | DUPLICATE OF SS-27 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-20 | SS-24 | SS-25 | SS-DUP-05 | SS-26 | SS-27 | SS-DUP-02 | SS-28 |
| Traffic Report No | | | BXB53 | BXB57 | BXB60 | BXR17 | BXB61 | BXB62 | BXE89 | BXB63 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | MEDIUM | MEDIUM | MEDIUM | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 22 | 16 | 15 | 15 | 10 | 14 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 12" | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | Asphalt - 6" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 2 - 14" | 2 - 14" | 2 - 14" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 22 J | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2-Chlorophenol | 4,000 | 10,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 39 J | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 4-Methylphenol | NA | 10,000,000 | 46 J | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Hexachloroethane | 500 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Nitrobenzene | 100 | 10,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Isophorone | 500 | 50,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2-Nitrophenol | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| bis(2-Chloroethoxy)methane | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Naphthalene | 84,000 | 100,000 | 680 E | 12000 U | 12000 U | 12000 U | 100 J | 380 U | 380 U | 360 U |
| 4-Chloroaniline | 700 | 4,200,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2-Methylnaphthalene | NA | NA | 1400 E | 12000 U | 12000 U | 12000 U | 63 J | 380 U | 380 U | 360 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| 2-Chloronaphthalene | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2-Nitroaniline | NA | NA | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| Dimethylphthalate | NA | 50,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Acenaphthylene | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 3-Nitroaniline | NA | NA | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| Acenaphthene | 570,000 | 100,000 | 29 J | 12000 U | 12000 U | 12000 U | 250 J | 380 U | 380 U | 19 J |
| 2,4-Dinitrophenol | 300 | 10,000 | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| 4-Nitrophenol | NA | NA | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| Dibenzofuran | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 230 J | 380 U | 380 U | 360 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Diethylphthalate | 470,000 | 50,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Fluorene | 560,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 280 J | 380 U | 380 U | 360 U |
| 4-Nitroaniline | NA | NA | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 69 J | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Hexachlorobenzene | 400 | 2,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |

SITE NAME: *White Chemical*
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | DUPLICATE OF SS-25 | | | DUPLICATE OF SS-27 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-20 | SS-24 | SS-25 | SS-DUP-05 | SS-26 | SS-27 | SS-DUP-02 | SS-28 |
| Traffic Report No. | | | BXB53 | BXB57 | BXB60 | BXR17 | BXB61 | BXB62 | BXE89 | BXB63 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | MEDIUM | MEDIUM | MEDIUM | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 22 | 16 | 15 | 15 | 10 | 14 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 12" | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | Asphalt - 6" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 2 - 14" | 2 - 14" | 2 - 14" | 0 - 12" |
| Pentachlorophenol | 30 | 24,000 | 1100 U | 30000 U | 29000 U | 29000 U | 900 U | 950 U | 960 U | 910 U |
| Phenanthrene | NA | NA | 92 J | 12000 U | 12000 U | 12000 U | 2700 | 190 J | 250 J | 220 J |
| Anthracene | 590,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 680 | 34 J | 46 J | 31 J |
| Carbazole | 600 | NA | 420 U | 12000 U | 12000 U | 12000 U | 340 J | 380 U | 25 J | 24 J |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 190 J | 360 J | 300 J | 43 J |
| Fluoranthene | 3,100,000 | 100,000 | 98 J | 12000 U | 12000 U | 12000 U | 2400 | 280 J | 380 J | 250 J |
| Pyrene | 2,300,000 | 100,000 | 93 J | 12000 U | 12000 U | 12000 U | 3400 | 510 | 520 | 400 |
| Butylbenzylphthalate | 930,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 41 J | 36 J | 24 J | 360 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Benzo(a)anthracene | 900 | 4,000 | 33 J | 12000 U | 12000 U | 12000 U | 1200 | 180 J | 200 J | 150 J |
| Chrysene | 88,000 | 40,000 | 67 J | 12000 U | 12000 U | 12000 U | 1400 | 220 J | 250 J | 190 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 45 J | 5100 J | 12000 U | 12000 U | 4000 | 400 B | 280 JB | 360 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 420 U | 12000 U | 12000 U | 12000 U | 360 U | 380 U | 380 U | 360 U |
| Benzo(b)fluoranthene | 900 | 4000 | 65 J | 12000 U | 12000 U | 12000 U | 1100 | 210 J | 190 J | 160 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 46 J | 12000 U | 12000 U | 12000 U | 1100 | 150 J | 190 J | 120 J |
| Benzo(a)pyrene | 90 | 660 | 44 J | 12000 U | 12000 U | 12000 U | 1200 | 160 J | 200 J | 130 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 39 J | 12000 U | 12000 U | 12000 U | 860 | 160 J | 150 J | 160 J |
| Dibenz(a,h)anthracene | 90 | 660 | 420 U | 12000 U | 12000 U | 12000 U | 430 J | 88 J | 82 J | 100 J |
| Benzo(g,h,i)perylene | NA | NA | 32 J | 12000 U | 12000 U | 12000 U | 930 | 210 J | 200 J | 200 J |
| Total TICs | NA | 10,000,000 | 57900 EN | 616600 EN | 31700 EN | 49300 EN | 6218 EN | 10972 EN | 9551 EN | 5764 EN |

NOTES:

*Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter*
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - *This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt*

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-29 | SS-30 | SS-31 | SS-32 | SS-33 | SS-37 | SS-40 | SS-41 |
| Traffic Report No. | | | BXB64 | BXB65 | BXB66 | BXB67 | BXB68 | BXB72 | BXB75 | BXB76 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | MEDIUM | LOW | MEDIUM | MEDIUM | MEDIUM | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 14 | 14 | 45 | 20 | 17 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 8" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 11000 U | 20 J | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Isophorone | 500 | 50,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2-Nitrophenol | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 11000 U | 33 J | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 11000 U | 28 J | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| 2-Chloronaphthalene | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2-Nitroaniline | NA | NA | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| Dimethylphthalate | NA | 50,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Acenaphthylene | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 22 J | 380 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 3-Nitroaniline | NA | NA | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| Acenaphthene | 570,000 | 100,000 | 11000 U | 26 J | 1500 J | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| 4-Nitrophenol | NA | NA | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| Dibenzofuran | NA | NA | 11000 U | 380 U | 1600 J | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 11000 U | 25 J | 12000 U | 18000 U | 12000 U | 400 U | 80 J | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Fluorene | 560,000 | 100,000 | 11000 U | 32 J | 3700 J | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 4-Nitroaniline | NA | NA | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-29 | SS-30 | SS-31 | SS-32 | SS-33 | SS-37 | SS-40 | SS-41 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BXB64 | BXB65 | BXB66 | BXB67 | BXB68 | BXB72 | BXB75 | BXB76 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | MEDIUM | LOW | MEDIUM | MEDIUM | MEDIUM | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 14 | 14 | 45 | 20 | 17 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 8" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" |
| Pentachlorophenol | 30 | 24,000 | 28000 U | 960 U | 29000 U | 45000 U | 31000 U | 1000 U | 960 U | 950 U |
| Phenanthrene | NA | NA | 11000 U | 320 J | 33000 E | 18000 U | 1200 J | 170 J | 380 U | 380 U |
| Anthracene | 590,000 | 100,000 | 11000 U | 55 J | 2400 J | 18000 U | 12000 U | 44 J | 380 U | 380 U |
| Carbazole | 600 | NA | 11000 U | 33 J | 1300 J | 18000 U | 12000 U | 23 J | 380 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 11000 U | 38 J | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 11000 U | 560 | 26000 E | 1300 J | 2200 J | 450 | 380 U | 380 U |
| Pyrene | 2,300,000 | 100,000 | 11000 U | 360 J | 15000 E | 1200 J | 2100 J | 410 | 380 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 11000 U | 240 J | 5200 J | 18000 U | 3900 J | 220 J | 380 U | 380 U |
| Chrysene | 88,000 | 40,000 | 11000 U | 270 J | 3000 J | 1500 J | 1600 J | 240 J | 380 U | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 1500 J | 49 J | 1700 J | 2100 J | 12000 U | 29 J | 52 J | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 11000 U | 380 U | 12000 U | 18000 U | 12000 U | 400 U | 380 U | 380 U |
| *Benzo(b)fluoranthene* | 900 | 4000 | 11000 U | 240 J | 1700 J | 2100 J | 1500 J | 200 J | 380 U | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 11000 U | 180 J | 1800 J | 1800 J | 1500 J | 200 J | 380 U | 380 U |
| Benzo(a)pyrene | 90 | 660 | 11000 U | 200 J | 1100 J | 1100 J | 1500 J | 220 J | 380 U | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 11000 U | 150 J | 12000 U | 18000 U | 12000 U | 140 J | 380 U | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | 11000 U | 54 J | 12000 U | 18000 U | 12000 U | 56 J | 380 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 11000 U | 73 J | 12000 U | 2000 J | 1400 J | 120 J | 380 U | 380 U |
| Total TICs | NA | 10,000,000 | 3900 EN | 6640 EN | 19100 EN | 434700 EN | 411200 EN | 3031 EN | 8431 EN | 1793 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed
*If so, the thickness of the asphalt/road* bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-42 | SS-43 | SS-44 | SS-45 | SS-46 | SS-48 | SS-49 | SS-50 |
| Traffic Report No | | | BXB77 | BXB78RE | BXB79 | BXB80 | BXB81 | BXB83 | BXB84 | BXB85 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 26 | 12 | 15 | 15 | 13 | 12 | 14 |
| Asphalt/Soil* | | | No asphalt | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" |
| Sample Depth** | | | not given | 2 - 14" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 380 U | 220 J | 360 U | 28 J | 390 U | 370 U | 370 U | 360 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 22 J | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 440 U | 360 U | 44 J | 390 U | 370 U | 370 U | 360 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Hexachloroethane | 500 | 100,000 | 460 E | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Isophorone | 500 | 50,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2-Nitrophenol | NA | NA | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 90 J | 360 U | 390 U | 390 U | 39 J | 370 U | 20 J |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 220 J | 360 U | 390 U | 390 U | 370 U | 370 U | 20 J |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2-Nitroaniline | NA | NA | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Acenaphthylene | NA | NA | 380 U | 64 J | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 3-Nitroaniline | NA | NA | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 110 J | 360 U | 390 U | 390 U | 20 J | 370 U | 360 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| 4-Nitrophenol | NA | NA | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| Dibenzofuran | NA | NA | 380 U | 68 J | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Diethylphthalate | 470,000 | 50,000 | 26 J | 440 U | 360 U | 54 J | 21 J | 370 U | 370 U | 360 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Fluorene | 560,000 | 100,000 | 380 U | 130 J | 360 U | 390 U | 390 U | 31 J | 29 J | 360 U |
| 4-Nitroaniline | NA | NA | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 940 U | 1100 U | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 39 J | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 48 J | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-42 | SS-43 | SS-44 | SS-45 | SS-46 | SS-48 | SS-49 | SS-50 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BXB77 | BXB78RE | BXB79 | BXB80 | BXB81 | BXB83 | BXB84 | BXB85 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 26 | 12 | 15 | 15 | 13 | 12 | 14 |
| Asphalt/Soil* | | | No asphalt | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" |
| Sample Depth** | | | not given | 2 - 14" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" | 0 - 12" |
| *Pentachlorophenol* | 30 | 24,000 | 940 U | [redacted] | 910 U | 980 U | 980 U | 930 U | 930 U | 900 U |
| Phenanthrene | NA | NA | 40 J | 1500 E | 360 U | 68 J | 56 J | 340 J | 320 J | 180 J |
| Anthracene | 590,000 | 100,000 | 380 U | 300 J | 360 U | 390 U | 390 U | 61 J | 59 J | 28 J |
| Carbazole | 600 | NA | 380 U | 170 J | 360 U | 390 U | 390 U | 41 J | 28 J | 360 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 27 J | 170 J | 360 U | 390 U | 390 U | 370 U | 21 J | 31 J |
| Fluoranthene | 3,100,000 | 100,000 | 55 J | 1700 E | 360 U | 130 J | 150 J | 540 | 520 | 320 J |
| Pyrene | 2,300,000 | 100,000 | 33 J | 2100 E | 360 U | 100 J | 320 J | 570 | 560 | 570 |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 590 E | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 440 U | 360 U | 390 U | 390 U | 370 U | 370 U | 360 U |
| Benzo(a)anthracene | 900 | 4,000 | 23 J | 880 E | 360 U | 68 J | 88 J | 270 J | 260 J | 160 J |
| Chrysene | 88,000 | 40,000 | 54 J | 1300 E | 360 U | 100 J | 120 J | 320 J | 340 J | 220 J |
| *bis(2-ethylhexyl)phthalate* | 46,000 | 100,000 | 450 E | 2100 E | 22 J | 94 J | 66 J | 27 J | 32 J | 360 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 440 U | 360 U | 26 J | 390 U | 370 U | 370 U | 360 U |
| Benzo(b)fluoranthene | 900 | 4000 | 60 J | 440 U | 360 U | 90 J | 160 J | 260 J | 390 | 390 |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 41 J | 2000 E | 360 U | 79 J | 150 J | 300 J | 300 J | 360 U |
| Benzo(a)pyrene | 90 | 660 | 30 J | 960 E | 360 U | 71 J | [redacted] | [redacted] | [redacted] | [redacted] |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 35 J | [redacted] | 360 U | 64 J | 300 J | 210 J | 300 J | 250 J |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | [redacted] | 360 U | 24 J | 390 U | [redacted] | [redacted] | 54 J |
| Benzo(g,h,i)perylene | NA | NA | 40 J | 1400 E | 360 U | 43 J | 740 E | 320 J | 590 | 490 |
| Total TICs | NA | 10,000,000 | 39110 EN | 36660 EN | 2766 EN | 14310 EN | 4770 EN | 3246 EN | 4058 EN | 7503 EN |

NOTES:

[redacted]
Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | DUPLICATE OF SS-54 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-51 | SS-52 | SS-53A | SS-54 | SS-DUP-01 | SS-55 | SS-56 |
| Traffic Report No | | | BXB86 | BXB87 | BXF53 | BXB89 | BXB88 | BXB90 | BXB91 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 20 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 10 | 12 | 13 | 12 | 13 | 13 | 16 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 360 U | 610 J | 380 U | 370 U | 360 U | 58 J | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 360 U | [redacted] | 380 U | 370 U | 360 U | [redacted] | 380 U |
| Nitrobenzene | 100 | 10,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Isophorone | 500 | 50,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2-Nitrophenol | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 23 J | 7000 U | 120 J | 23 J | 30 J | 27 J | 23 J |
| 4-Chloroaniline | 700 | 4,200,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 360 U | 7000 U | 22 J | 370 U | 360 U | 23 J | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| 2-Chloronaphthalene | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 2-Nitroaniline | NA | NA | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| Dimethylphthalate | NA | 50,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Acenaphthylene | NA | NA | 20 J | 7000 U | 380 U | 42 J | 360 U | 350 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 3-Nitroaniline | NA | NA | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| Acenaphthene | 570,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 48 J | 42 J |
| 2,4-Dinitrophenol | 300 | 10,000 | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| 4-Nitrophenol | NA | NA | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| Dibenzofuran | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 35 J | 28 J |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Fluorene | 560,000 | 100,000 | 360 U | 7000 U | 380 U | 21 J | 360 U | 48 J | 46 J |
| 4-Nitroaniline | NA | NA | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 360 U | 930 J | 380 U | 370 U | 360 U | 350 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 360 U | [redacted] | 380 U | 370 U | 360 U | 350 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | DUPLICATE OF SS-54 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-51 | SS-52 | SS-53A | SS-54 | SS-DUP-01 | SS-55 | SS-56 |
| Traffic Report No. | | | BXB86 | BXB87 | BXF53 | BXB89 | BXB88 | BXB90 | BXB91 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 20 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 10 | 12 | 13 | 12 | 13 | 13 | 16 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Pentachlorophenol | 30 | 24,000 | 900 U | 18000 U | 950 U | 920 U | 920 U | 880 U | 940 U |
| Phenanthrene | NA | NA | 230 J | 7000 U | 54 J | 570 | 190 J | 510 E | 680 |
| Anthracene | 590,000 | 100,000 | 53 J | 7000 U | 380 U | 190 J | 32 J | 350 U | 130 J |
| Carbazole | 600 | NA | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 53 J |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 520 | 7000 U | 86 J | 1200 | 320 J | 530 E | 1000 |
| Pyrene | 2,300,000 | 100,000 | 1700 | 7000 U | 75 J | 1900 E | 450 E | 350 E | 1100 E |
| Butylbenzylphthalate | 930,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 530 | 7000 U | 41 J | 890 | 180 J | 310 J | 480 |
| Chrysene | 88,000 | 40,000 | 620 | 7000 U | 52 J | 870 | 200 J | 380 E | 510 |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 48 J | 7000 U | 31 J | 48 J | 60 J | 350 U | 45 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 360 U | 7000 U | 380 U | 370 U | 360 U | 350 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 1200 | 7000 U | 55 J | 720 E | 220 J | 420 | 480 |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 1300 | 7000 U | 45 J | 850 | 250 J | 350 U | 590 |
| Benzo(a)pyrene | 90 | 660 | 5300 | 7000 U | 48 J | 790 | 180 J | 420 | 510 |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 5200 | 7000 U | 38 J | 320 J | 100 J | 260 J | 250 J |
| Dibenz(a,h)anthracene | 90 | 660 | 2400 J | 7000 U | 380 U | 1600 | 360 U | 94 J | 110 J |
| Benzo(g,h,i)perylene | NA | NA | 10000 | 7000 U | 35 J | 330 J | 110 J | 250 J | 300 J |
| Total TICs | NA | 10,000,000 | 24075 EN | 413800 EN | 1053 EN | 8158 EN | 5170 EN | 25330 EN | 6411 EN |

NOTES:

Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

B - compound found in lab blank as well as sample, indicating possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CRQL but above IDL

N - presumptive evidence of the presence of this compound

*Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%*

* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-58 | SS-59 | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 | SS-66 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Traffic Report No* | | | BXC38 | BXC39 | BXC40 | BXC41 | BXC42 | BXC43 | BXC45 | BXC46 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | MEDIUM | LOW | LOW |
| *Dilution Factor* | *(ug/kg)* | *Soil Cleanup Criteria* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 13 | 14 | 10 | 13 | 15 | 11 | 14 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 8" | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| Phenol | 100,000 | 50,000 | 24 J | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Isophorone | 500 | 50,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2-Nitrophenol | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2-Nitroaniline | NA | NA | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Acenaphthylene | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 3-Nitroaniline | NA | NA | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 920 J | 370 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| 4-Nitrophenol | NA | NA | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| Dibenzofuran | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 51 J | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 45 J |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Fluorene | 560,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 950 J | 370 U | 380 U |
| 4-Nitroaniline | NA | NA | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-58 | SS-59 | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 | SS-66 |
| Traffic Report No | | | BXC38 | BXC39 | BXC40 | BXC41 | BXC42 | BXC43 | BXC45 | BXC46 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | MEDIUM | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 13 | 14 | 10 | 13 | 15 | 11 | 14 |
| Asphalt/Soil* | | | Asphalt - 6" | Asphalt - 8" | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| Pentachlorophenol | 30 | 24,000 | 960 U | 950 U | 960 U | 920 U | 950 U | 29000 U | 930 U | 960 U |
| Phenanthrene | NA | NA | 34 J | 380 U | 380 U | 26 J | 33 J | 13000 E | 370 U | 380 U |
| Anthracene | 590,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 2300 J | 370 U | 380 U |
| Carbazole | 600 | NA | 380 U | 380 U | 380 U | 370 U | 380 U | 1300 J | 370 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 130 J | 380 U | 380 U | 370 U | 380 U | 620 J | 370 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 75 J | 380 U | 380 U | 37 J | 68 J | 20000 E | 370 U | 380 U |
| Pyrene | 2,300,000 | 100,000 | 43 J | 380 U | 31 J | 34 J | 49 J | 14000 E | 370 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 380 U | 380 U | 380 U | 370 U | 27 J | 7700 J | 370 U | 380 U |
| Chrysene | 88,000 | 40,000 | 28 J | 380 U | 380 U | 26 J | 36 J | 8000 J | 370 U | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 56 J | 380 U | 380 U | 52 J | 36 J | 930 J | 370 U | 120 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 380 U | 380 U | 370 U | 380 U | 12000 U | 370 U | 21 J |
| Benzo(b)fluoranthene | 900 | 4000 | 380 U | 380 U | 380 U | 20 J | 32 J | 6800 J | 370 U | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 380 U | 380 U | 370 U | 30 J | 5500 J | 370 U | 380 U |
| Benzo(a)pyrene | 90 | 660 | 380 U | 380 U | 380 U | 370 U | 36 J | 6500 J | 370 U | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 380 U | 380 U | 380 U | 370 U | 24 J | 4100 J | 370 U | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 380 U | 380 U | 370 U | 380 U | 1900 J | 370 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 380 U | 380 U | 380 U | 20 J | 24 J | 2400 J | 370 U | 380 U |
| Total TICs | NA | 10,000,000 | 3826 EN | 2058 EN | 2946 EN | 5420 EN | 1258 EN | 85900 EN | 2025 EN | 19680 EN |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

*Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter*

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SS-68 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SS-67 | SS-68 | SS-DUP-04 | SS-69 | SS-70 | SS-71 | SS-72 |
| Traffic Report No. | | | BXC47 | BXC48 | BXF54 | BXC49 | BXC50 | BXC51 | BXC52 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | MEDIUM | MEDIUM | LOW | MEDIUM | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 10 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 16 | 18 | 17 | 14 | 13 | 16 |
| Asphalt/Soil* | | | Asphalt - 14" | Asphalt - 6" | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt - 11" |
| Sample Depth** | | | 0 - 12" | 0 - 8" | 0 - 8" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 11" |
| Phenol | 100,000 | 50,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 390 U | 12000 U | 12000 U | 210 J | 11000 U | 390 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Isophorone | 500 | 50,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2-Nitrophenol | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 390 U | 750 J | 12000 U | 3800 U | 11000 U | 390 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2-Nitroaniline | NA | NA | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Acenaphthylene | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 3-Nitroaniline | NA | NA | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| 4-Nitrophenol | NA | NA | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| Dibenzofuran | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Fluorene | 560,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Nitroaniline | NA | NA | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SS-68 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | | | SS-67 | SS-68 | SS-DUP-04 | SS-69 | SS-70 | SS-71 | SS-72 |
| Traffic Report No. | | | BXC47 | BXC48 | BXF54 | BXC49 | BXC50 | BXC51 | BXC52 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | MEDIUM | MEDIUM | LOW | MEDIUM | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 10 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 16 | 18 | 17 | 14 | 13 | 16 |
| Asphalt/Soil* | | | Asphalt - 14" | Asphalt - 6" | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt - 11" |
| Sample Depth** | | | 0 - 12" | 0 - 8" | 0 - 8" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 11" |
| Pentachlorophenol | 30 | 24,000 | 960 U | 990 U | 30000 U | 30000 U | 9600 U | 29000 U | 990 U |
| Phenanthrene | NA | NA | 380 U | 69 J | 12000 U | 12000 U | 3800 U | 1000 J | 69 J |
| Anthracene | 590,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Carbazole | 600 | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Fluoranthene | 3,100,000 | 100,000 | 380 U | 100 J | 12000 U | 12000 U | 250 J | 1500 J | 140 J |
| Pyrene | 2,300,000 | 100,000 | 380 U | 62 J | 12000 U | 1100 J | 3800 U | 1500 J | 110 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Benzo(a)anthracene | 900 | 4,000 | 380 U | 43 J | 12000 U | 12000 U | 3800 U | 11000 U | 59 J |
| Chrysene | 88,000 | 40,000 | 380 U | 50 J | 12000 U | 900 J | 3800 U | 11000 U | 90 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 63 J | 37 J | 820 J | 12000 U | 3800 U | 1200 J | 40 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Benzo(b)fluoranthene | 900 | 4000 | 380 U | 50 J | 12000 U | 12000 U | 3800 U | 11000 U | 72 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 37 J | 12000 U | 12000 U | 3800 U | 11000 U | 58 J |
| Benzo(a)pyrene | 90 | 660 | 380 U | 31 J | 12000 U | 12000 U | 3800 U | 11000 U | 62 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 380 U | 26 J | 12000 U | 12000 U | 3800 U | 11000 U | 48 J |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 390 U |
| Benzo(g,h,i)perylene | NA | NA | 380 U | 390 U | 12000 U | 12000 U | 3800 U | 11000 U | 60 J |
| Total TICs | NA | 10,000,000 | 1250 EN | 48664 EN | 116500 EN | 241900 EN | 65100 EN | 1814100 EN | 9507 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SS-73 | SS-74 | SS-75 | SS-76 | SS-77 | SS-78 | SS-79 |
|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | | | BXC53 | BXC54 | BXC50 | BXC56 | BXC57 | BXC58 | BXC59 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 11 | 13 | 13 | 15 | 11 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12 " | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 9" |
| Phenol | 100,000 | 50,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2-Chlorophenol | 4,000 | 10,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 4-Methylphenol | NA | 10,000,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Hexachloroethane | 500 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Nitrobenzene | 100 | 10,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Isophorone | 500 | 50,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2-Nitrophenol | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| bis(2-Chloroethoxy)methane | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Naphthalene | 84,000 | 100,000 | 41 J | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 4-Chloroaniline | 700 | 4,200,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2-Methylnaphthalene | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| 2-Chloronaphthalene | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2-Nitroaniline | NA | NA | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| Dimethylphthalate | NA | 50,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Acenaphthylene | NA | NA | 22 J | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 3-Nitroaniline | NA | NA | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| Acenaphthene | 570,000 | 100,000 | 18 J | 380 U | 39 J | 380 U | 370 U | 380 U | 370 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| 4-Nitrophenol | NA | NA | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| Dibenzofuran | NA | NA | 350 U | 380 U | 21 J | 380 U | 370 U | 380 U | 370 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Diethylphthalate | 470,000 | 50,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Fluorene | 560,000 | 100,000 | 30 J | 380 U | 28 J | 380 U | 370 U | 380 U | 370 U |
| 4-Nitroaniline | NA | NA | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Hexachlorobenzene | 400 | 2,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-73 | SS-74 | SS-75 | SS-76 | SS-77 | SS-78 | SS-79 |
| Traffic Report No. | | | BXC53 | BXC54 | BXC50 | BXC56 | BXC57 | BXC58 | BXC59 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 11 | 13 | 13 | 15 | 11 | 14 | 13 |
| Asphalt/Soil* | | | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12 " | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 9" |
| Pentachlorophenol | 30 | 24,000 | 880 U | 940 U | 950 U | 960 U | 930 U | 960 U | 920 U |
| Phenanthrene | NA | NA | 370 | 48 J | 590 | 95 J | 370 U | 23 J | 42 J |
| Anthracene | 590,000 | 100,000 | 72 J | 380 U | 93 J | 380 U | 370 U | 380 U | 370 U |
| Carbazole | 600 | NA | 27 J | 380 U | 53 J | 380 U | 370 U | 380 U | 370 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 350 U | 21 J | 380 U | 100 J | 370 U | 380 U | 41 J |
| Fluoranthene | 3,100,000 | 100,000 | 630 | 120 J | 680 | 230 J | 370 U | 31 J | 85 J |
| Pyrene | 2,300,000 | 100,000 | 1300 | 90 J | 1700 | 160 J | 370 U | 56 J | 59 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Benzo(a)anthracene | 900 | 4,000 | 390 | 58 J | 470 | 140 J | 370 U | 25 J | 40 J |
| Chrysene | 88,000 | 40,000 | 440 | 78 J | 510 | 180 J | 370 U | 40 J | 54 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 34 J | 36 J | 54 J | 53 J | 32 J | 34 J | 370 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 350 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Benzo(b)fluoranthene | 900 | 4000 | 530 | 55 J | 510 E | 120 J | 370 U | 25 J | 44 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 430 | 70 J | 550 E | 140 J | 370 U | 38 J | 38 J |
| Benzo(a)pyrene | 90 | 660 | 960 | 53 J | 380 E | 120 U | 370 U | 28 J | 44 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 630 | 32 J | 240 J | 70 J | 370 U | 380 U | 32 J |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 380 U | 380 U | 380 U | 370 U | 380 U | 370 U |
| Benzo(g,h,i)perylene | NA | NA | 1700 | 36 J | 250 J | 72 J | 370 U | 380 U | 33 J |
| Total TICs | NA | 10,000,000 | 7179 EN | 1973 EN | 65100 EN | 4169 EN | 3302 EN | 9415 EN | 6703 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | DUPLICATE OF SS-83 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-80 | SS-81 | SS-82 | SS-83 | SS-DUP-03 | SS-84 | SS-85 | SS-86 |
| Traffic Report No. | | | BXC60 | BXC61 | BXC62 | BXC63 | BXE90 | BXC64RE | BXC65 | BXC66 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 16 | 12 | 19 | 18 | 12 | 24 | 16 |
| Asphalt/Soil* | | | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" | 0 - 18" | 1 - 11" | 0 - 14" | 0 - 12" |
| Phenol | 100,000 | 50,000 | 370 U | 380 U | 61 J | 410 U | 400 U | 350 U | 430 U | 390 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2-Chlorophenol | 4,000 | 10,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 55 J | 390 U |
| 4-Methylphenol | NA | 10,000,000 | 370 U | 20 J | 380 U | 45 J | 400 U | 350 U | 430 U | 20 J |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Hexachloroethane | 500 | 100,000 | 46 J | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Nitrobenzene | 100 | 10,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Isophorone | 500 | 50,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2-Nitrophenol | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 370 U | 33 J | 380 U | 290 J | 290 J | 350 U | 430 U | 390 U |
| bis(2-Chloroethoxy)methane | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Naphthalene | 84,000 | 100,000 | 370 U | 480 | 380 U | 100 J | 100 J | 350 U | 430 U | 390 U |
| 4-Chloroaniline | 700 | 4,200,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2-Methylnaphthalene | NA | NA | 370 U | 240 J | 380 U | 52 J | 50 J | 350 U | 430 U | 390 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| 2-Chloronaphthalene | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2-Nitroaniline | NA | NA | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| Dimethylphthalate | NA | 50,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Acenaphthylene | NA | NA | 370 U | 300 J | 19 J | 410 U | 400 U | 350 U | 430 U | 390 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 3-Nitroaniline | NA | NA | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| Acenaphthene | 570,000 | 100,000 | 370 U | 1800 | 380 U | 410 U | 400 U | 42 J | 430 U | 390 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 930 U | 960 U | 940 U | 57 J | 44 J | 870 U | 1100 U | 990 U |
| 4-Nitrophenol | NA | NA | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| Dibenzofuran | NA | NA | 370 U | 1100 | 380 U | 26 J | 20 J | 22 J | 430 U | 390 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Diethylphthalate | 470,000 | 50,000 | 370 U | 380 U | 21 J | 410 U | 400 U | 350 U | 430 U | 390 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Fluorene | 560,000 | 100,000 | 370 U | 1700 | 380 U | 28 J | 22 J | 29 J | 430 U | 390 U |
| 4-Nitroaniline | NA | NA | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 930 U | 960 U | 940 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Hexachlorobenzene | 400 | 2,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | DUPLICATE OF SS-83 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-80 | SS-81 | SS-82 | SS-83 | SS-DUP-03 | SS-84 | SS-85 | SS-86 |
| Traffic Report No. | | | BXC60 | BXC61 | BXC62 | BXC63 | BXE90 | BXC64RE | BXC65 | BXC66 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 16 | 12 | 19 | 18 | 12 | 24 | 16 |
| Asphalt/Soil* | | | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" | 0 - 18" | 1 - 11" | 0 - 14" | 0 - 12" |
| Pentachlorophenol | 30 | 24,000 | 930 U | 960 U | 1100 U | 1000 U | 1000 U | 870 U | 1100 U | 990 U |
| Phenanthrene | NA | NA | 84 J | 15000 E | 100 J | 220 J | 190 J | 370 | 430 U | 390 U |
| Anthracene | 590,000 | 100,000 | 370 U | 4500 E | 50 J | 31 J | 32 J | 72 J | 430 U | 390 U |
| Carbazole | 600 | NA | 370 U | 4000 E | 380 U | 25 J | 400 U | 37 J | 430 U | 390 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 39 J | 43 J | 42 J | 410 U | 400 U | 350 U | 430 U | 390 U |
| Fluoranthene | 3,100,000 | 100,000 | 150 J | 14000 E | 220 J | 400 J | 360 J | 360 | 430 U | 390 U |
| Pyrene | 2,300,000 | 100,000 | 230 J | 20000 E | 150 J | 270 J | 260 J | 610 | 430 U | 390 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Benzo(a)anthracene | 900 | 4,000 | 110 J | 8700 E | 67 J | 130 J | 140 J | 190 J | 430 U | 390 U |
| Chrysene | 88,000 | 40,000 | 150 J | 9100 E | 160 J | 200 J | 230 J | 230 J | 430 U | 390 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 370 U | 380 U | 220 J | 77 J | 59 J | 170 J | 430 U | 390 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 370 U | 380 U | 380 U | 410 U | 400 U | 350 U | 430 U | 390 U |
| Benzo(b)fluoranthene | 900 | 4000 | 130 J | 7000 | 190 J | 180 J | 170 J | 200 J | 430 U | 390 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 120 J | 6000 | 110 J | 140 J | 110 J | 220 J | 430 U | 390 U |
| Benzo(a)pyrene | 90 | 660 | 90 J | 7500 | 57 J | 110 J | 520 J | 200 J | 430 U | 390 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 100 J | 5700 | 66 J | 88 J | 76 J | 140 J | 430 U | 390 U |
| Dibenz(a,h)anthracene | 90 | 660 | 39 J | 4100 | 33 J | 38 J | 36 J | 350 U | 430 U | 390 U |
| Benzo(g,h,i)perylene | NA | NA | 120 J | 6200 | 21 J | 38 J | 82 J | 170 J | 430 U | 390 U |
| Total TICs | NA | 10,000,000 | 10319 EN | 22970 EN | 58580 EN | 5793 EN | 7054 EN | 5479 EN | 3490 EN | 370 EN |

NOTES:

Value is above the SSL and NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | |
|---|---|---|---|---|---|
| Sample ID No. | | | SS-87 | SS-88 | SS-89 |
| Traffic Report No. | | | BXC67 | BXC68 | BXR22 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 37 | 11 | 12 |
| Asphalt/Soil* | | | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | 2 - 12" | 2 - 12" | 0 - 8" |
| Phenol | 100,000 | 50,000 | 490 U | 340 U | 26 J |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 490 U | 340 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 490 U | 340 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 490 U | 340 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 28 J | 340 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 140 J | 340 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 490 U | 340 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 490 U | 340 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 490 U | 340 U | 79 J |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 490 U | 340 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 490 U | 340 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 490 U | 340 U | 380 U |
| Isophorone | 500 | 50,000 | 490 U | 340 U | 380 U |
| 2-Nitrophenol | NA | NA | 490 U | 340 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 30 J | 340 U | 35 J |
| bis(2-Chloroethoxy)methane | NA | NA | 490 U | 340 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 490 U | 340 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 490 U | 340 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 78 J | 56 J | 760 |
| 4-Chloroaniline | 700 | 4,200,000 | 490 U | 340 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 490 U | 340 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 490 U | 340 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 60 J | 39 J | 520 |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 490 U | 340 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 490 U | 340 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1200 U | 860 U | 940 U |
| 2-Chloronaphthalene | NA | NA | 490 U | 340 U | 380 U |
| 2-Nitroaniline | NA | NA | 1200 U | 860 U | 940 U |
| Dimethylphthalate | NA | 50,000 | 490 U | 340 U | 380 U |
| Acenaphthylene | NA | NA | 230 J | 340 U | 360 J |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 490 U | 340 U | 380 U |
| 3-Nitroaniline | NA | NA | 1200 U | 860 U | 940 U |
| Acenaphthene | 570,000 | 100,000 | 58 J | 270 J | 770 |
| 2,4-Dinitrophenol | 300 | 10,000 | 1200 U | 860 U | 940 U |
| 4-Nitrophenol | NA | NA | 1200 U | 860 U | 940 U |
| Dibenzofuran | NA | NA | 83 J | 130 J | 1300 |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 490 U | 340 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 490 U | 340 U | 26 J |
| 4-Chorophenyl-phenyl ether | NA | NA | 490 U | 340 U | 380 U |
| Fluorene | 560,000 | 100,000 | 44 J | 200 J | 1500 |
| 4-Nitroaniline | NA | NA | 1200 U | 860 U | 940 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 1200 U | 860 U | 940 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 490 U | 340 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 490 U | 340 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 490 U | 340 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| | | | | | |
|---|---|---|---|---|---|
| Sample ID No. | | | SS-87 | SS-88 | SS-89 |
| Traffic Report No. | | | BXC67 | BXC68 | BXR22 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg |
| Level | Level (SSL) | Direct Contact | LOW | LOW | LOW |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 37 | 11 | 12 |
| Asphalt/Soil* | | | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | 2 - 12" | 2 - 12" | 0 - 8" |
| Pentachlorophenol | 30 | 24,000 | 1200 U | 860 U | 940 U |
| Phenanthrene | NA | NA | 1500 E | 2300 | 5200 |
| Anthracene | 590,000 | 100,000 | 410 J | 470 | 1200 |
| Carbazole | 600 | NA | 490 E | 320 J | 550 |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 490 U | 340 U | 68 J |
| Fluoranthene | 3,100,000 | 100,000 | 2600 E | 2400 | 3300 |
| Pyrene | 2,300,000 | 100,000 | 4400 E | 2400 E | 2200 |
| Butylbenzylphthalate | 930,000 | 100,000 | 980 U | 340 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 980 U | 340 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 1500 E | 880 | 1000 |
| Chrysene | 88,000 | 40,000 | 2400 E | 920 | 1100 |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 1700 E | 130 J | 160 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 980 U | 340 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 1900 E | 720 | 760 |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 2200 E | 800 | 680 |
| Benzo(a)pyrene | 90 | 660 | 1400 E | 820 | 680 |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 1800 E | 390 E | 480 |
| Dibenz(a,h)anthracene | 90 | 660 | [illegible] | 470 J | 200 J |
| Benzo(g,h,i)perylene | NA | NA | 1500 E | 380 E | 190 J |
| Total TICs | NA | 10,000,000 | 7680 EN | 5826 EN | 15313 EN |

NOTES:
Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
B - compound found in lab blank as well as sample, indicating possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXE94 | BXE95 | BXE96 | BXE97 | BXE98 | BXE99 | BXF00 | BXF01 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | MEDIUM | MEDIUM | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 14 | 16 | 14 | 12 | 18 | 14 | 12 | 12 |
| Depth (in feet) | | | 1 - 3" | 5 - 7" | 7 - 9" | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3" | 3 - 5" |
| Phenol | 100,000 | 50,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 390 U | 380 U | 5300 J | 2000 J | 68 J | 380 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Isophorone | 500 | 50,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2-Nitrophenol | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 24 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 25 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2-Nitroaniline | NA | NA | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Acenaphthylene | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 3-Nitroaniline | NA | NA | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| 4-Nitrophenol | NA | NA | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| Dibenzofuran | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Fluorene | 560,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Nitroaniline | NA | NA | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Traffic Report No.* | USEPA | New Jersey Non- | BXE94 | BXE95 | BXE96 | BXE97 | BXE98 | BXE99 | BXF00 | BXF01 |
| *Matrix* | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| *Units* | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | MEDIUM | MEDIUM | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 14 | 16 | 14 | 12 | 18 | 14 | 12 | 12 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3* | 3 - 5* |
| Pentachlorophenol | 30 | 24,000 | 960 U | 990 U | 960 U | 28000 U | 30000 U | 960 U | 940 U | 940 U |
| Phenanthrene | NA | NA | 100 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Anthracene | 590,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Carbazole | 600 | NA | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 190 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Pyrene | 2,300,000 | 100,000 | 230 J | 20 J | 380 U | 680 J | 12000 U | 380 U | 380 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 100 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Chrysene | 88,000 | 40,000 | 160 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 28 J | 390 U | 380 U | 11000 U | 12000 U | 34 J | 380 U | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 110 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 100 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Benzo(a)pyrene | 90 | 660 | [redacted] | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 94 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | 33 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 88 J | 390 U | 380 U | 11000 U | 12000 U | 380 U | 380 U | 380 U |
| Total TICs | NA | 10,000,000 | 1766 EN | 982 EN | 1627 EN | 548000 EN | 74200 EN | 14732 EN | 710 EN | 600 EN |

NOTES:

[redacted]

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account thi material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen grounc

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SB-04-01 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-03-03 | SB-04-01 | SB-DUP-04 | SB-04-02 | SB-04-03 | SB-05-01 | SB-05-02 | SB-05-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXF02 | BXF03 | BXR16 | BXF04 | BXF05 | BXF06 | BXF07 | BXF08 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 8 | 16 | 16 | 14 | 15 | 12 | 10 | 16 |
| Depth (in feet) | | | 7 - 9' | 1 - 3' | 1 - 3' | 5 - 7' | 9 - 11' | 0 - 2 | 4 - 6 | 6 - 8 |
| Phenol | 100,000 | 50,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2-Chlorophenol | 4,000 | 10,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 4-Methylphenol | NA | 10,000,000 | 360 U | 390 U | 34 J | 380 U | 390 U | 26 J | 370 U | 390 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Hexachloroethane | 500 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Nitrobenzene | 100 | 10,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Isophorone | 500 | 50,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2-Nitrophenol | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 360 U | 390 U | 390 U | 380 U | 390 U | 57 J | 370 U | 390 U |
| bis(2-Chloroethoxy)methane | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Naphthalene | 84,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 4-Chloroaniline | 700 | 4,200,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2-Methylnaphthalene | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| 2-Chloronaphthalene | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2-Nitroaniline | NA | NA | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| Dimethylphthalate | NA | 50,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Acenaphthylene | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 3-Nitroaniline | NA | NA | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| Acenaphthene | 570,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| 4-Nitrophenol | NA | NA | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| Dibenzofuran | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Diethylphthalate | 470,000 | 50,000 | 360 U | 390 U | 27 J | 380 U | 390 U | R | 370 U | 390 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Fluorene | 560,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 4-Nitroaniline | NA | NA | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Hexachlorobenzene | 400 | 2,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SB-04-01 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-03-03 | SB-04-01 | SB-DUP-04 | SB-04-02 | SB-04-03 | SB-05-01 | SB-05-02 | SB-05-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXF02 | BXF03 | BXR16 | BXF04 | BXF05 | BXF06 | BXF07 | BXF08 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 8 | 16 | 16 | 14 | 15 | 12 | 10 | 16 |
| Depth (in feet) | | | 7 - 9* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 6 - 8 |
| Pentachlorophenol | 30 | 24,000 | 900 U | 990 U | 990 U | 960 U | 980 U | R | 920 U | 990 U |
| Phenanthrene | NA | NA | 360 U | 78 J | 110 J | 380 U | 390 U | 45 J | 370 U | 390 U |
| Anthracene | 590,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Carbazole | 600 | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 360 U | 390 U | 54 J | 380 U | 390 U | R | 370 U | 390 U |
| Fluoranthene | 3,100,000 | 100,000 | 360 U | 110 J | 140 J | 380 U | 390 U | 100 J | 370 U | 390 U |
| Pyrene | 2,300,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | 46 J | 370 U | 390 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Benzo(a)anthracene | 900 | 4,000 | 360 U | 45 J | 55 J | 380 U | 390 U | 27 J | 370 U | 390 U |
| Chrysene | 88,000 | 40,000 | 360 U | 58 J | 81 J | 380 U | 390 U | 56 J | 370 U | 390 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | 380 U | 19 J | 30 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Benzo(b)fluoranthene | 900 | 4000 | 360 U | 52 J | 72 J | 380 U | 390 U | 40 J | 370 U | 390 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 360 U | 50 J | 58 J | 380 U | 390 U | 28 J | 370 U | 390 U |
| Benzo(a)pyrene | 90 | 660 | 360 U | 40 J | 47 J | 380 U | 390 U | 23 J | 370 U | 390 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 360 U | 25 J | 35 J | 380 U | 390 U | R | 370 U | 390 U |
| Dibenz(a,h)anthracene | 90 | 660 | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Benzo(g,h,i)perylene | NA | NA | 360 U | 390 U | 390 U | 380 U | 390 U | R | 370 U | 390 U |
| Total TICs | NA | 10,000,000 | 570 EN | 10545 EN | 11831 EN | 2120 EN | 750 EN | 22920 EN | 11007 EN | 1400 EN |

NOTES:

Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete) The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen grounc

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXF09 | BXF10 | BXF11 | BXF12 | BXF13 | BXF14 | BXQ74 | BXQ75 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 14 | 13 | 10 | 15 | 11 | 8 | 16 | 10 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 |
| Phenol | 100,000 | 50,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 26 J | 370 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 190 J | 370 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Isophorone | 500 | 50,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2-Nitrophenol | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2-Nitroaniline | NA | NA | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Acenaphthylene | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 3-Nitroaniline | NA | NA | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| 4-Nitrophenol | NA | NA | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| Dibenzofuran | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 380 U | 370 U | 36 J | 370 U | 360 U | 390 U | 370 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Fluorene | 560,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 4-Nitroaniline | NA | NA | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 34 J | 370 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXF09 | BXF10 | BXF11 | BXF12 | BXF13 | BXF14 | BXQ74 | BXQ75 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 14 | 13 | 10 | 15 | 11 | 8 | 16 | 10 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 |
| Pentachlorophenol | 30 | 24,000 | 960 U | 950 U | 920 U | 980 U | 930 U | 900 U | 990 U | 920 U |
| Phenanthrene | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 180 J | 370 U |
| Anthracene | 590,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 25 J | 370 U |
| Carbazole | 600 | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 22 J | 370 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Fluoranthene | 3,100,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 310 J | 370 U |
| Pyrene | 2,300,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 260 J | 370 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Benzo(a)anthracene | 900 | 4,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 96 J | 370 U |
| Chrysene | 88,000 | 40,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 180 J | 370 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 380 U | 380 U | 370 U | 28 J | 34 J | 28 J | 120 J | 50 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 390 U | 370 U |
| Benzo(b)fluoranthene | 900 | 4000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 160 J | 370 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 120 J | 370 U |
| Benzo(a)pyrene | 90 | 660 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | [illegible] | 370 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 82 J | 370 U |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 23 J | 370 U |
| Benzo(g,h,i)perylene | NA | NA | 380 U | 380 U | 370 U | 390 U | 370 U | 360 U | 150 J | 370 U |
| Total TICs | NA | 10,000,000 | 2048 EN | 1200 EN | 1689 EN | 1510 EN | 851 EN | 453 EN | 108230 EN | 4618 EN |

NOTES:

[illegible] Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen grounc

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | DUPLICATE OF SB-08-02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-01 | SB-08-03 | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXQ77 | BXQ76 | BXR19 | BXR20 | BXR21 | BXQ71 | BXQ72 | BXQ73 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 10 | 15 | 12 | 15 | 11 | 15 | 14 | 12 |
| Depth (in feet) | | | 6 - 8 | 10 - 12 | 1 - 3' | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 11 - 12' |
| Phenol | 100,000 | 50,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Hexachloroethane | 500 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Nitrobenzene | 100 | 10,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Isophorone | 500 | 50,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2-Nitrophenol | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| 2-Chloronaphthalene | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2-Nitroaniline | NA | NA | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| Dimethylphthalate | NA | 50,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Acenaphthylene | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 3-Nitroaniline | NA | NA | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| Acenaphthene | 570,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| 4-Nitrophenol | NA | NA | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| Dibenzofuran | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Fluorene | 560,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Nitroaniline | NA | NA | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | DUPLICATE OF SB-08-02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-01 | SB-08-03 | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXQ77 | BXQ76 | BXR19 | BXR20 | BXR21 | BXQ71 | BXQ72 | BXQ73 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 10 | 15 | 12 | 15 | 11 | 15 | 14 | 12 |
| Depth (in feet) | | | 6 - 8 | 10 - 12 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 11 - 12* |
| Pentachlorophenol | 30 | 24,000 | 920 U | 980 U | 940 U | 980 U | 930 U | 980 U | 960 U | 940 U |
| Phenanthrene | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 55 J | 380 U | 380 U |
| Anthracene | 590,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Carbazole | 600 | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 370 U | 390 U | 25 J | 390 U | 370 U | 88 J | 380 U | 380 U |
| Pyrene | 2,300,000 | 100,000 | 370 U | 390 U | 34 J | 390 U | 370 U | 85 J | 380 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 370 U | 390 U | 20 J | 390 U | 370 U | 40 J | 380 U | 380 U |
| Chrysene | 88,000 | 40,000 | 370 U | 390 U | 24 J | 390 U | 370 U | 61 J | 380 U | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 56 J | 390 U | 380 U | 390 U | 370 U | 33 J | 380 U | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 370 U | 390 U | 380 U | 390 U | 370 U | 48 J | 380 U | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 46 J | 380 U | 380 U |
| Benzo(a)pyrene | 90 | 660 | 370 U | 390 U | 380 U | 390 U | 370 U | 40 J | 380 U | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 370 U | 390 U | 380 U | 390 U | 370 U | 30 J | 380 U | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | 370 U | 390 U | 380 U | 390 U | 370 U | 390 U | 380 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 370 U | 390 U | 380 U | 390 U | 370 U | 34 J | 380 U | 380 U |
| Total TICs | NA | 10,000,000 | 1410 EN | 1040 EN | 523 EN | 490 EN | 9440 EN | 3100 EN | 2366 EN | 720 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detecl
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass USEPA QA/QC
ND - non-detect
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen grounc

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SB-11-02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-11-01 | SB-11-02 | SB-DUP-06 | SB-11-03 | SB-12-01 | SB-12-02 | SB-12-03 | SB-13-01 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR40 | BXR41 | BXR24 | BXR42 | BXQ93 | BXQ94 | BXQ95 | BXQ96 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 15 | 15 | 14 | 16 | 15 | 7 | 10 | 16 |
| Depth (in feet) | | | 1 - 3' | 3 - 5' | 3 - 5' | 7 - 9' | 1 - 3' | 5 - 7' | 11 - 13' | 1 - 3' |
| Phenol | 100,000 | 50,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 380 U | 20 J | 360 U | 390 U | 350 U | 370 U | 390 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 380 U | 32 J | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Hexachloroethane | 500 | 100,000 | 450 | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Isophorone | 500 | 50,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2-Nitrophenol | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 380 U | 31 J | 360 U | 390 U | 350 U | 370 U | 390 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 380 U | 370 U | 360 U | 23 J | 350 U | 370 U | 390 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2-Nitroaniline | NA | NA | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Acenaphthylene | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 3-Nitroaniline | NA | NA | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| 4-Nitrophenol | NA | NA | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| Dibenzofuran | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 24 J | 390 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Fluorene | 560,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 4-Nitroaniline | NA | NA | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF SB-11-02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-11-01 | SB-11-02 | SB-DUP-06 | SB-11-03 | SB-12-01 | SB-12-02 | SB-12-03 | SB-13-01 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR40 | BXR41 | BXR24 | BXR42 | BXQ93 | BXQ94 | BXQ95 | BXQ96 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 15 | 15 | 14 | 16 | 15 | 7 | 10 | 16 |
| Depth (in feet) | | | 1 - 3* | 3 - 5* | 3 - 5* | 7 - 9* | 1 - 3* | 5 - 7* | 11 - 13* | 1 - 3* |
| Pentachlorophenol | 30 | 24,000 | 950 U | 970 U | 940 U | 920 U | 980 U | 890 U | 920 U | 990 U |
| Phenanthrene | NA | NA | 30 J | 380 U | 370 U | 360 U | 64 J | 350 U | 370 U | 38 J |
| Anthracene | 590,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Carbazole | 600 | NA | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Fluoranthene | 3,100,000 | 100,000 | 63 J | 380 U | 370 U | 360 U | 87 J | 350 U | 370 U | 68 J |
| Pyrene | 2,300,000 | 100,000 | 64 J | 380 U | 370 U | 360 U | 88 J | 350 U | 370 U | 62 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Benzo(a)anthracene | 900 | 4,000 | 31 J | 380 U | 370 U | 360 U | 44 J | 350 U | 370 U | 28 J |
| Chrysene | 88,000 | 40,000 | 42 J | 380 U | 370 U | 360 U | 70 J | 350 U | 370 U | 44 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Benzo(b)fluoranthene | 900 | 4000 | 63 J | 380 U | 370 U | 360 U | 68 J | 350 U | 370 U | 32 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 380 U | 370 U | 360 U | 47 J | 350 U | 370 U | 30 J |
| Benzo(a)pyrene | 90 | 660 | 31 J | 380 U | 370 U | 360 U | 54 J | 350 U | 370 U | 27 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 25 J | 380 U | 370 U | 360 U | 39 J | 350 U | 370 U | 390 U |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 380 U | 370 U | 360 U | 390 U | 350 U | 370 U | 390 U |
| Benzo(g,h,i)perylene | NA | NA | 47 J | 380 U | 28 J | 360 U | 52 J | 350 U | 370 U | 390 U |
| Total TICs | NA | 10,000,000 | 35662 EN | 9100 EN | 2340 EN | 1646 EN | 2256 EN | 580 EN | 790 EN | 1420 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass USEPA QA/QC
ND - non-detect
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-13-02 | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ97 | BXQ98 | BXQ99 | BXR00 | BXR01 | BXQ89 | BXQ90 | BXQ91 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 1 |
| Percent Moisture | | | 6 | 9 | 16 | 7 | 7 | 15 | 6 | 5 |
| Depth (in feet) | | | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' |
| Phenol | 100,000 | 50,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2-Chlorophenol | 4,000 | 10,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Methylphenol | NA | 10,000,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Hexachloroethane | 500 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | [redacted] | 350 U | 350 U |
| Nitrobenzene | 100 | 10,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Isophorone | 500 | 50,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2-Nitrophenol | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| bis(2-Chloroethoxy)methane | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Naphthalene | 84,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Chloroaniline | 700 | 4,200,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2-Methylnaphthalene | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| 2-Chloronaphthalene | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2-Nitroaniline | NA | NA | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| Dimethylphthalate | NA | 50,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Acenaphthylene | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 3-Nitroaniline | NA | NA | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| Acenaphthene | 570,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| 4-Nitrophenol | NA | NA | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| Dibenzofuran | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Diethylphthalate | 470,000 | 50,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Fluorene | 560,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Nitroaniline | NA | NA | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Hexachlorobenzene | 400 | 2,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-13-02 | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ97 | BXQ98 | BXQ99 | BXR00 | BXR01 | BXQ89 | BXQ90 | BXQ91 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 1 |
| Percent Moisture | | | 6 | 9 | 16 | 7 | 7 | 15 | 6 | 5 |
| Depth (in feet) | | | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| Pentachlorophenol | 30 | 24,000 | 880 U | 910 U | 990 U | 890 U | 890 U | 4900 U | 880 U | 870 U |
| Phenanthrene | NA | NA | 350 U | 360 U | 38 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Anthracene | 590,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Carbazole | 600 | NA | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Fluoranthene | 3,100,000 | 100,000 | 350 U | 360 U | 62 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Pyrene | 2,300,000 | 100,000 | 350 U | 360 U | 64 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Benzo(a)anthracene | 900 | 4,000 | 350 U | 360 U | 34 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Chrysene | 88,000 | 40,000 | 350 U | 360 U | 48 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Benzo(b)fluoranthene | 900 | 4000 | 350 U | 360 U | 42 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 350 U | 360 U | 37 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Benzo(a)pyrene | 90 | 660 | 350 U | 360 U | 36 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 350 U | 360 U | 28 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Dibenz(a,h)anthracene | 90 | 660 | 350 U | 360 U | 390 U | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Benzo(g,h,i)perylene | NA | NA | 350 U | 360 U | 24 J | 350 U | 350 U | 1900 U | 350 U | 350 U |
| Total TICs | NA | 10,000,000 | 3174 EN | 650 EN | 2030 EN | 590 EN | 608 EN | 27310 EN | 470 EN | 260 EN |

NOTES:

Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account thi material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | DUPLICATE OF SB-15-03 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-03 | SB-16-01 | SB-16-02 | SB-16-03 | SB-17-01 | SB-17-02 | SB-17-03 | SB-18-01 |
| Traffic Report No. | USEPA | New Jersey Non- | BXQ92 | BXR04 | BXR05 | BXR06 | BXR37 | BXR38 | BXR39 | BXQ80 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 7 | 18 | 18 | 7 | 14 | 9 | 6 | 13 |
| Depth (in feet) | | | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' | 1 - 3' |
| Phenol | 100,000 | 50,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Hexachloroethane | 500 | 100,000 | R | 400 U | 400 U | 350 U | 26 J | 360 U | 350 U | 380 U |
| Nitrobenzene | 100 | 10,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Isophorone | 500 | 50,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2-Nitrophenol | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Naphthalene | 84,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2-Methylnaphthalene | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| 2-Chloronaphthalene | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2-Nitroaniline | NA | NA | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| Dimethylphthalate | NA | 50,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Acenaphthylene | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 3-Nitroaniline | NA | NA | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| Acenaphthene | 570,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| 4-Nitrophenol | NA | NA | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| Dibenzofuran | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Fluorene | 560,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Nitroaniline | NA | NA | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | DUPLICATE OF SB-15-03 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-03 | SB-16-01 | SB-16-02 | SB-16-03 | SB-17-01 | SB-17-02 | SB-17-03 | SB-18-01 |
| Traffic Report No. | USEPA | New Jersey Non- | BXQ92 | BXR04 | BXR05 | BXR06 | BXR37 | BXR38 | BXR39 | BXQ60 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 7 | 18 | 18 | 7 | 14 | 9 | 6 | 13 |
| Depth (in feet) | | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* |
| Pentachlorophenol | 30 | 24,000 | R | 1000 U | 1000 U | 890 U | 960 U | 890 U | 870 U | 950 U |
| Phenanthrene | NA | NA | R | 23 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Anthracene | 590,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Carbazole | 600 | NA | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 23 J |
| Fluoranthene | 3,100,000 | 100,000 | R | 47 J | 400 U | 350 U | 22 J | 360 U | 350 U | 380 U |
| Pyrene | 2,300,000 | 100,000 | R | 44 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | R | 25 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Chrysene | 88,000 | 40,000 | R | 36 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | R | 34 J | 400 U | 350 U | 21 J | 360 U | 350 U | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | R | 29 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Benzo(a)pyrene | 90 | 660 | R | 24 J | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | R | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 120 J | 400 U | 400 U | 350 U | 380 U | 360 U | 350 U | 380 U |
| Total TICs | NA | 10,000,000 | 130 EN | 2080 EN | 1280 EN | 1026 EN | 2515 EN | 310 EN | 1790 EN | 2230 EN |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-18-02 | SB-18-03 | SB-19-01 | SB-19-02 | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ81 | BXQ82 | BXQ83 | BXQ84 | BXQ85 | BXR07 | BXR08 | BXR09 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 12 | 13 | 17 | 8 | 8 | 13 | 8 | 11 |
| Depth (in feet) | | | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' | 1 - 3' | 5 - 7' | 9 - 11' |
| Phenol | 100,000 | 50,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Isophorone | 500 | 50,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2-Nitrophenol | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2-Nitroaniline | NA | NA | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Acenaphthylene | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 3-Nitroaniline | NA | NA | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| 4-Nitrophenol | NA | NA | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| Dibenzofuran | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Fluorene | 560,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Nitroaniline | NA | NA | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-18-02 | SB-18-03 | SB-19-01 | SB-19-02 | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | USEPA | New Jersey Non- | BXQ81 | BXQ82 | BXQ83 | BXQ84 | BXQ85 | BXR07 | BXR08 | BXR09 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 12 | 13 | 17 | 8 | 8 | 13 | 8 | 11 |
| Depth (in feet) | | | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| Pentachlorophenol | 30 | 24,000 | 940 U | 950 U | 1000 U | 900 U | 900 U | 950 U | 900 U | 930 U |
| Phenanthrene | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Anthracene | 590,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Carbazole | 600 | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Fluoranthene | 3,100,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Pyrene | 2,300,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Benzo(a)anthracene | 900 | 4,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Chrysene | 88,000 | 40,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Benzo(b)fluoranthene | 900 | 4000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Benzo(a)pyrene | 90 | 660 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Benzo(g,h,i)perylene | NA | NA | 380 U | 380 U | 400 U | 360 U | 360 U | 380 U | 360 U | 370 U |
| Total TICs | NA | 10,000,000 | 3570 EN | 920 EN | 1890 EN | 1210 EN | 700 EN | 970 EN | 1265 EN | 2520 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass USEPA QA/QC
ND - non-detect
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXR43RE | BXR44 | BXR45 | BXR28 | BXR29 | BXF60 | BXF61 | BXR10 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 5 | 1 | 1 | 1 |
| Percent Moisture | | | 13 | 7 | 15 | 16 | 20 | 12 | 14 | 16 |
| Depth (in feet) | | | 1 - 3' | 5 - 7' | 7 - 9' | 1 - 3' | 9 - 11' | 1 - 3' | 3 - 5' | 2 - 4'' |
| Phenol | 100,000 | 50,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2-Chlorophenol | 4,000 | 10,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 4-Methylphenol | NA | 10,000,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 170 J |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Hexachloroethane | 500 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Nitrobenzene | 100 | 10,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Isophorone | 500 | 50,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2-Nitrophenol | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| bis(2-Chloroethoxy)methane | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Naphthalene | 84,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 220 J | 35 J | 20 J | 390 U |
| 4-Chloroaniline | 700 | 4,200,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2-Methylnaphthalene | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 32 J | 380 U | 390 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| 2-Chloronaphthalene | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 2-Nitroaniline | NA | NA | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| Dimethylphthalate | NA | 50,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Acenaphthylene | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 57 J | 42 J | 390 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 3-Nitroaniline | NA | NA | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| Acenaphthene | 570,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 690 J | 27 J | 380 U | 390 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| 4-Nitrophenol | NA | NA | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| Dibenzofuran | NA | NA | 380 U | 340 U | 370 U | 390 U | 300 J | 380 U | 380 U | 390 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Diethylphthalate | 470,000 | 50,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Fluorene | 560,000 | 100,000 | 380 U | 340 U | 370 U | 21 J | 670 J | 31 J | 22 J | 390 U |
| 4-Nitroaniline | NA | NA | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Hexachlorobenzene | 400 | 2,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXR43RE | BXR44 | BXR45 | BXR28 | BXR29 | BXF60 | BXF61 | BXR10 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 5 | 1 | 1 | 1 |
| Percent Moisture | | | 13 | 7 | 15 | 16 | 20 | 12 | 14 | 16 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 7 - 9* | 1 - 3* | 9 - 11* | 1 - 3* | 3 - 5* | 2 - 4** |
| Pentachlorophenol | 30 | 24,000 | 950 U | 860 U | 930 U | 990 U | 5200 U | 940 U | 960 U | 990 U |
| Phenanthrene | NA | NA | 34 J | 340 U | 370 U | 180 J | 6200 E | 600 E | 690 E | 72 J |
| Anthracene | 590,000 | 100,000 | 380 U | 340 U | 370 U | 50 J | 2000 J | 110 J | 97 J | 390 U |
| Carbazole | 600 | NA | 380 U | 340 U | 370 U | 28 J | 1100 J | 28 J | 380 U | 390 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Fluoranthene | 3,100,000 | 100,000 | 40 J | 340 U | 370 U | 280 J | 7300 E | 1400 E | 1600 E | 120 J |
| Pyrene | 2,300,000 | 100,000 | 27 J | 340 U | 370 U | 120 J | 4200 E | 2200 E | 3400 E | 390 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Benzo(a)anthracene | 900 | 4,000 | 380 U | 340 U | 370 U | 150 J | 4100 E | 590 E | 620 E | 50 J |
| Chrysene | 88,000 | 40,000 | 380 U | 340 U | 370 U | 160 J | 4300 E | 700 E | 720 E | 79 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 380 U | 23 J | 20 J | 41 J | 2100 U | 30 J | 42 J | 390 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 380 U | 340 U | 370 U | 390 U | 2100 U | 380 U | 380 U | 390 U |
| Benzo(b)fluoranthene | 900 | 4000 | 380 U | 340 U | 370 U | 110 J | 2700 E | 820 E | 790 E | 66 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 380 U | 340 U | 370 U | 100 J | 2600 E | 730 E | 630 E | 46 J |
| Benzo(a)pyrene | 90 | 660 | 380 U | 340 U | 370 U | 36 J | 2000 J | 1900 E | 1500 E | 55 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 380 U | 340 U | 370 U | 30 J | 1700 J | 1200 E | 1200 E | 39 J |
| Dibenz(a,h)anthracene | 90 | 660 | 380 U | 340 U | 370 U | 30 J | 720 J | 240 J | 1600 E | 390 U |
| Benzo(g,h,i)perylene | NA | NA | 380 U | 340 U | 370 U | 390 U | 180 J | 3900 E | 3000 E | 33 J |
| Total TICs | NA | 10,000,000 | 206 EN | 4463 EN | 4060 EN | 5355 EN | 24460 EN | 8950 EN | 7266 EN | 174600 EN |

NOTES:

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass USEPA QA/QC
ND - non-detect
N - presumptive evidence of the presence of this compound
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above)
*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-24-02 | SB-24-03 | SB-25-01 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Traffic Report No.* | USEPA | New Jersey Non- | BXR11 | BXR12 | BXR25 | BXR26 | BXR27 | BXF57 | BXF58 | BXF59 |
| *Matrix* | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 26 | 18 | 17 | 14 | 15 | 17 | 17 | 5 |
| Depth (in feet) | | | 6 - 8** | 10 - 12** | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 8 - 10 |
| Phenol | 100,000 | 50,000 | 440 U | 400 U | 23 J | 380 U | R | 400 U | 400 U | 350 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2-Chlorophenol | 4,000 | 10,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 490 | 250 J | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 4-Methylphenol | NA | 10,000,000 | 440 U | 400 U | 46 J | 380 U | R | 400 U | 400 U | 350 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Hexachloroethane | 500 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Nitrobenzene | 100 | 10,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Isophorone | 500 | 50,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2-Nitrophenol | NA | NA | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 440 U | 400 U | 74 J | 380 U | R | 400 U | 400 U | 350 U |
| bis(2-Chloroethoxy)methane | NA | NA | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Naphthalene | 84,000 | 100,000 | 440 U | 400 U | 110 J | 380 U | R | 120 J | 400 U | 350 U |
| 4-Chloroaniline | 700 | 4,200,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2-Methylnaphthalene | NA | NA | 440 U | 400 U | 54 J | 380 U | R | 180 J | 400 U | 350 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| 2-Chloronaphthalene | NA | NA | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 2-Nitroaniline | NA | NA | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| Dimethylphthalate | NA | 50,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Acenaphthylene | NA | NA | 440 U | 400 U | 20 J | 380 U | R | 32 J | 400 U | 350 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 3-Nitroaniline | NA | NA | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| Acenaphthene | 570,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 88 J | 400 U | 350 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| 4-Nitrophenol | NA | NA | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| Dibenzofuran | NA | NA | 440 U | 400 U | 24 J | 380 U | R | 120 J | 400 U | 350 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Diethylphthalate | 470,000 | 50,000 | 440 U | 400 U | 400 U | 380 U | 55 J | 400 U | 400 U | 350 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Fluorene | 560,000 | 100,000 | 440 U | 400 U | 25 J | 380 U | R | 92 J | 400 U | 350 U |
| 4-Nitroaniline | NA | NA | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Hexachlorobenzene | 400 | 2,000 | 440 U | 400 U | 400 U | 380 U | R | 23 J | 400 U | 350 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-24-02 | SB-24-03 | SB-25-01 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXR11 | BXR12 | BXR25 | BXR26 | BXR27 | BXF57 | BXF58 | BXF59 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 26 | 18 | 17 | 14 | 15 | 17 | 17 | 5 |
| Depth (in feet) | | | 6 - 8** | 10 - 12** | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 8 - 10 |
| Pentachlorophenol | 30 | 24,000 | 1100 U | 1000 U | 1000 U | 960 U | R | 1000 U | 1000 U | 870 U |
| Phenanthrene | NA | NA | 180 J | 400 U | 200 J | 380 U | R | 1200 E | 400 U | 20 J |
| Anthracene | 590,000 | 100,000 | 440 U | 400 U | 39 J | 380 U | R | 240 J | 400 U | 350 U |
| Carbazole | 600 | NA | 440 U | 400 U | 21 J | 380 U | R | 110 J | 400 U | 350 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 35 J | 400 U | 350 U |
| Fluoranthene | 3,100,000 | 100,000 | 160 J | 400 U | 280 J | 380 U | R | 1900 E | 400 U | 25 J |
| Pyrene | 2,300,000 | 100,000 | 440 U | 400 U | 210 J | 380 U | R | 920 E | 400 U | 22 J |
| Butylbenzylphthalate | 930,000 | 100,000 | 440 U | 21 J | 400 U | 380 U | 29 J | 400 U | 400 U | 350 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Benzo(a)anthracene | 900 | 4,000 | 56 J | 400 U | 110 J | 380 U | R | 570 E | 400 U | 350 U |
| Chrysene | 88,000 | 40,000 | 78 J | 400 U | 180 J | 380 U | R | 760 E | 400 U | 350 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 440 U | 400 U | 24 J | 380 U | 44 J | 56 J | 26 J | 18 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 440 U | 400 U | 400 U | 380 U | R | 400 U | 400 U | 350 U |
| Benzo(b)fluoranthene | 900 | 4000 | 60 J | 400 U | 140 J | 380 U | R | 670 E | 400 U | 350 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 64 J | 400 U | 130 J | 380 U | R | 530 E | 400 U | 350 U |
| Benzo(a)pyrene | 90 | 660 | 45 J | 400 U | [redacted] | 380 U | R | [redacted] | 400 U | 350 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 29 J | 400 U | 88 J | 380 U | R | 210 J | 400 U | 350 U |
| Dibenz(a,h)anthracene | 90 | 660 | 440 U | 400 U | 35 J | 380 U | R | 88 J | 400 U | 350 U |
| Benzo(g,h,i)perylene | NA | NA | 440 U | 400 U | 70 J | 380 U | R | 230 J | 400 U | 350 U |
| Total TICs | NA | 10,000,000 | 7220 EN | 775 EN | 6850 EN | 5051 EN | 260 EN | 14770 EN | 3320 EN | 1690 EN |

NOTES:

[redacted]

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | SB-27-01 | SB-27-02 | SB-27-03 | SB-28-01 | SB-28-02 | SB-28-03 | SB-29-01 | SB-29-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | USEPA | New Jersey Non- | BXQ86 | BXQ87 | BXQ88 | BXR10 | BXR11 | BXR12 | BXR13 | BXR14 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | MEDIUM | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 7 | 13 | 9 | 18 | 16 | 8 | 10 | 14 |
| Depth (in feet) | | | 1 - 3* | 7 - 9* | 11 - 13* | 0 - 2 | 4 - 6 | 8 - 10 | 1.5 - 3.5*** | 7.5 - 9.5*** |
| Phenol | 100,000 | 50,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2-Chlorophenol | 4,000 | 10,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 1,3-Dichlorobenzene | NA | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2-Methylphenol | 15,000 | 10,000,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 4-Methylphenol | NA | 10,000,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Hexachloroethane | 500 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Nitrobenzene | 100 | 10,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Isophorone | 500 | 50,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2-Nitrophenol | NA | NA | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| bis(2-Chloroethoxy)methane | NA | NA | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Naphthalene | 84,000 | 100,000 | 1100 J | R | 360 U | 370 J | 390 U | 360 U | 370 U | 380 U |
| 4-Chloroaniline | 700 | 4,200,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Hexachlorobutadiene | 2,000 | 21,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 2-Methylnaphthalene | NA | NA | 660 J | R | 360 U | 920 E | 390 U | 360 U | 370 U | 380 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| 2-Chloronaphthalene | NA | NA | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 2-Nitroaniline | NA | NA | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| Dimethylphthalate | NA | 50,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Acenaphthylene | NA | NA | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 3-Nitroaniline | NA | NA | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| Acenaphthene | 570,000 | 100,000 | 5700 J | R | 360 U | 580 J | 390 U | 360 U | 370 U | 380 U |
| 2,4-Dinitrophenol | 300 | 10,000 | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| 4-Nitrophenol | NA | NA | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| Dibenzofuran | NA | NA | 3000 J | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Diethylphthalate | 470,000 | 50,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 4-Chorophenyl-phenyl ether | NA | NA | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Fluorene | 560,000 | 100,000 | 5500 J | R | 360 U | 860 E | 20 J | 360 U | 370 U | 380 U |
| 4-Nitroaniline | NA | NA | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| 4-Bromophenyl-phenyl ether | NA | NA | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Hexachlorobenzene | 400 | 2,000 | R | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | SB-27-01 | SB-27-02 | SB-27-03 | SB-28-01 | SB-28-02 | SB-28-03 | SB-29-01 | SB-29-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ86 | BXQ87 | BXQ88 | BXR10 | BXR11 | BXR12 | BXR13 | BXR14 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | MEDIUM | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 7 | 13 | 9 | 18 | 16 | 8 | 10 | 14 |
| Depth (in feet) | | | 1 - 3* | 7 - 9* | 11 - 13* | 0 - 2 | 4 - 6 | 8 - 10 | 1.5 - 3.5*** | 7.5 - 9.5*** |
| Pentachlorophenol | 30 | 24,000 | R | R | 910 U | R | 990 U | 900 U | 920 U | 960 U |
| Phenanthrene | NA | NA | 37000 E | 87 J | 360 U | 4200 E | 28 J | 17 J | 60 J | 380 U |
| Anthracene | 590,000 | 100,000 | 9700 J | R | 360 U | 940 E | 390 U | 360 U | 370 U | 380 U |
| Carbazole | 600 | NA | 5800 J | R | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | R | 25 J | 360 U | R | 390 U | 360 U | 370 U | 380 U |
| Fluoranthene | 3,100,000 | 100,000 | 34000 E | 92 J | 360 U | 3300 E | 23 J | 12 J | 71 J | 380 U |
| Pyrene | 2,300,000 | 100,000 | 27000 E | 89 J | 360 U | 770 J | 18 J | 11 J | 370 U | 380 U |
| Butylbenzylphthalate | 930,000 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Benzo(a)anthracene | 900 | 4,000 | 12000 E | 35 J | 360 U | 2100 E | 390 U | 360 U | 28 J | 380 U |
| Chrysene | 88,000 | 40,000 | 12000 E | 46 J | 360 U | 2400 E | 390 U | 360 U | 42 J | 380 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | R | R | 360 U | 800 U | 390 U | 360 U | 370 U | 380 U |
| Benzo(b)fluoranthene | 900 | 4000 | 9000 J | 33 J | 360 U | 850 E | 390 U | 360 U | 33 J | 380 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 8300 J | 32 J | 360 U | 550 J | 390 U | 360 U | 32 J | 380 U |
| Benzo(a)pyrene | 90 | 660 | 10000 J | 33 J | 360 U | 760 J | 390 U | 360 U | 31 J | 380 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 6300 J | 27 J | 360 U | 470 J | 390 U | 360 U | 25 J | 380 U |
| Dibenz(a,h)anthracene | 90 | 660 | 2500 J | R | 360 U | 180 J | 390 U | 360 U | 370 U | 380 U |
| Benzo(g,h,i)perylene | NA | NA | 5200 J | 24 J | 360 U | 470 J | 390 U | 360 U | 370 U | 380 U |
| Total TICs | NA | 10,000,000 | 113200 EN | 7341 EN | 1990 | 174600 EN | 7220 EN | 775 EN | 1677 EN | 650 EN |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | | | DUPLICATE OF |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-29-03 | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 | SB-31-02 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR15 | BXF63 | BXF64 | BXF65 | BXR48 | BXR49 | SB-DUP-14 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | BXR50 |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | SOIL |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | MEDIUM | LOW | LOW | LOW | LOW | ug/kg |
| Dilution Factor | | (ug/kg) | 1 | 1 | 20 | 1 | 1 | 1 | LOW |
| Percent Moisture | | | 17 | 14 | 21 | 16 | 8 | 4 | 1 |
| Depth (in feet) | | | 9.5 - 11.5*** | 1 - 3' | 3 - 5' | 13 - 15' | 2 - 4 | 8 - 10 | 4 |
| | | | | | | | | | 8 - 10 |
| Phenol | 100,000 | 50,000 | 400 U | 600 J | 8400 U | 390 U | 360 U | 340 U | 340 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2-Chlorophenol | 4,000 | 10,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 4-Methylphenol | NA | 10,000,000 | 400 U | 580 J | 8400 U | 390 U | 360 U | 340 U | 340 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Hexachloroethane | 500 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Nitrobenzene | 100 | 10,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Isophorone | 500 | 50,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2-Nitrophenol | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 400 U | 710 J | 8400 U | 390 U | 360 U | 340 U | 340 U |
| bis(2-Chloroethoxy)methane | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Naphthalene | 84,000 | 100,000 | 400 U | 480000 E | 34000 E | 140 J | 360 U | 340 U | 340 U |
| 4-Chloroaniline | 700 | 4,200,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2-Methylnaphthalene | NA | NA | 400 U | 110000 E | 8100 J | 42 J | 360 U | 340 U | 340 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| 2-Chloronaphthalene | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 2-Nitroaniline | NA | NA | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| Dimethylphthalate | NA | 50,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Acenaphthylene | NA | NA | 400 U | 20000 E | 1200 J | 390 U | 360 U | 340 U | 340 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 3-Nitroaniline | NA | NA | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| Acenaphthene | 570,000 | 100,000 | 400 U | 28000 E | 2600 J | 390 U | 360 U | 340 U | 340 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| 4-Nitrophenol | NA | NA | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| Dibenzofuran | NA | NA | 400 U | 57000 E | 4600 J | 32 J | 360 U | 340 U | 340 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Diethylphthalate | 470,000 | 50,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Fluorene | 560,000 | 100,000 | 400 U | 76000 E | 5600 J | 44 J | 360 U | 340 U | 340 U |
| 4-Nitroaniline | NA | NA | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Hexachlorobenzene | 400 | 2,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | | | DUPLICATE OF SB-31-02 |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-29-03 | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 | SB-DUP-14 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR15 | BXF63 | BXF64 | BXF65 | BXR48 | BXR49 | BXR50 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | MEDIUM | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 20 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 17 | 14 | 21 | 16 | 8 | 4 | 4 |
| Depth (in feet) | | | 9.5 - 11.5*** | 1 - 3* | 3 - 5* | 13 - 15* | 2 - 4 | 8 - 10 | 8 - 10 |
| Pentachlorophenol | 30 | 24,000 | 1000 U | 29000 U | 21000 U | 990 U | 900 U | 860 U | 860 U |
| Phenanthrene | NA | NA | 400 U | 220000 E | 17000 E | 170 J | 360 U | 340 U | 340 U |
| Anthracene | 590,000 | 100,000 | 400 U | 53000 E | 3000 J | 24 J | 360 U | 340 U | 340 U |
| Carbazole | 600 | NA | 400 U | 29000 E | 950 J | 390 U | 360 U | 340 U | 340 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Fluoranthene | 3,100,000 | 100,000 | 400 U | 160000 E | 8000 J | 110 J | 360 U | 340 U | 340 U |
| Pyrene | 2,300,000 | 100,000 | 400 U | 90000 E | 6000 J | 69 J | 360 U | 340 U | 340 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 27 J | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Benzo(a)anthracene | 900 | 4,000 | 400 U | 36000 E | 2200 J | 34 J | 360 U | 340 U | 340 U |
| Chrysene | 88,000 | 40,000 | 400 U | 31000 E | 1800 J | 29 J | 360 U | 340 U | 340 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 400 U | 12000 U | 8400 U | 65 J | 360 U | 340 U | 340 U |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 400 U | 12000 U | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Benzo(b)fluoranthene | 900 | 4000 | 400 U | 21000 E | 1100 J | 22 J | 360 U | 340 U | 340 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 400 U | 20000 E | 1300 J | 23 J | 360 U | 340 U | 340 U |
| Benzo(a)pyrene | 90 | 660 | 400 U | 25000 E | 1300 J | 27 J | 360 U | 340 U | 340 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 400 U | 13000 E | 550 J | 390 U | 360 U | 340 U | 340 U |
| Dibenz(a,h)anthracene | 90 | 660 | 400 U | 4400 J | 8400 U | 390 U | 360 U | 340 U | 340 U |
| Benzo(g,h,i)perylene | NA | NA | 400 U | 13000 E | 570 J | 21 J | 360 U | 340 U | 340 U |
| Total TICs | NA | 10,000,000 | 1050 EN | 395200 EN | 11400 EN | 4375 EN | 76 EN | ND | 73 EN |

NOTES:

Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but below the SSL for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass USEPA QA/QC

ND - non-detect

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g. samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above)

*** - Sample location was covered with 1.5 feet of frozen grounc

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | | | TP-01 | TP-02 | TP-03 | TP-03A | TP-04 | TP-04A | TP-05 | TP-06 | TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | USEPA | New Jersey Non- | BXC71 | BXC72 | BXC73 | BXE91 | BXC74 | BXE92 | BXC75 | BXC76 | BXE93 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| *Units* | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| *Level* | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| *Dilution Factor* | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 12 | 9 | 12 | 18 | 12 | 9 | 15 | 10 | 4 |
| Depth (in feet) | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |
| Phenol | 100,000 | 50,000 | 360 U | 340 U | 370 U | 150 J | 340 U | 340 U | 380 U | 350 U | 330 U |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2-Chlorophenol | 4,000 | 10,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 4-Methylphenol | NA | 10,000,000 | 90 J | 340 U | 31 J | 380 U | 26 J | 340 U | 380 U | 350 U | 330 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Hexachloroethane | 500 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Nitrobenzene | 100 | 10,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Isophorone | 500 | 50,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2-Nitrophenol | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| bis(2-Chloroethoxy)methane | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Naphthalene | 84,000 | 100,000 | 35 J | 340 U | 31 J | 380 U | 400 | 340 U | 380 U | 350 U | 330 U |
| 4-Chloroaniline | 700 | 4,200,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2-Methylnaphthalene | NA | NA | 27 J | 340 U | 39 J | 380 U | 2100 | 340 U | 380 U | 350 U | 330 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| 2-Chloronaphthalene | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2-Nitroaniline | NA | NA | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| Dimethylphthalate | NA | 50,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Acenaphthylene | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 3-Nitroaniline | NA | NA | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| Acenaphthene | 570,000 | 100,000 | 360 U | 340 U | 29 J | 380 U | 540 | 340 U | 380 U | 350 U | 330 U |
| 2,4-Dinitrophenol | 300 | 10,000 | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| 4-Nitrophenol | NA | NA | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| Dibenzofuran | NA | NA | 360 U | 340 U | 18 J | 380 U | 400 | 340 U | 380 U | 350 U | 330 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Diethylphthalate | 470,000 | 50,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Fluorene | 560,000 | 100,000 | 360 U | 340 U | 36 J | 380 U | 790 | 340 U | 380 U | 350 U | 330 U |
| 4-Nitroaniline | NA | NA | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 900 U | 850 U | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 2200 | 340 U | 380 U | 350 U | 330 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Hexachlorobenzene | 400 | 2,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Pentachlorophenol | 30 | 24,000 | 900 U | [redacted] | 920 U | 950 U | 860 U | 850 U | 950 U | 890 U | 810 U |
| Phenanthrene | NA | NA | 130 J | 26 J | 310 J | 380 U | 5900 | 19 J | 81 J | 350 U | 330 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | | | TP-01 | TP-02 | TP-03 | TP-03A | TP-04 | TP-04A | TP-05 | TP-06 | TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | USEPA | New Jersey Non- | BXC71 | BXC72 | BXC73 | BXE91 | BXC74 | BXE92 | BXC75 | BXC76 | BXE93 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | 12 | 9 | 12 | 18 | 12 | 9 | 15 | 10 | 4 |
| Depth (in feet) | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |
| Anthracene | 590,000 | 100,000 | 22 J | 19 J | 50 J | 380 U | 1500 | 340 U | 21 J | 350 U | 330 U |
| Carbazole | 600 | NA | 360 U | 340 U | 33 J | 380 U | 420 | 340 U | 380 U | 350 U | 330 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 23 J | 340 U | 23 J | 30 J | 340 U | 340 U | 23 J | 350 U | 330 U |
| Fluoranthene | 3,100,000 | 100,000 | 260 J | 44 J | 350 J | 380 U | 1600 | 340 U | 140 J | 350 U | 330 U |
| Pyrene | 2,300,000 | 100,000 | 310 J | 140 J | 370 | 20 J | 5200 | 25 J | 120 J | 350 U | 330 U |
| Butylbenzylphthalate | 930,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Benzo(a)anthracene | 900 | 4,000 | 120 J | 50 J | 200 J | 380 U | 2200 | 340 U | 73 J | 350 U | 330 U |
| Chrysene | 88,000 | 40,000 | 160 J | 72 J | 300 J | 380 U | 2800 | 340 U | 100 J | 350 U | 330 U |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 360 U | 120 J | 310 JB | 380 U | 340 U | 340 U | 380 U | 350 U | 19 J |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 360 U | 340 U | 370 U | 380 U | 340 U | 340 U | 380 U | 350 U | 330 U |
| Benzo(b)fluoranthene | 900 | 4000 | 200 J | 140 J | 210 J | 380 U | 340 U | 340 U | 71 J | 350 U | 330 U |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 160 J | 100 J | 370 U | 380 U | 1300 | 340 U | 72 J | 350 U | 330 U |
| Benzo(a)pyrene | 90 | 660 | 140 J | 400 | 160 J | 380 U | 1400 | 340 U | 63 J | 350 U | 330 U |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 170 J | 300 J | 68 J | 380 U | 830 | 340 U | 39 J | 350 U | 330 U |
| Dibenz(a,h)anthracene | 90 | 660 | 69 J | 340 U | 31 J | 380 U | 560 | 340 U | 380 U | 350 U | 330 U |
| Benzo(g,h,i)perylene | NA | NA | 220 J | 990 | 81 J | 380 U | 1500 | 23 J | 48 J | 350 U | 330 U |
| Total TICs | NA | 10,000,000 | 11138 EN | 32410 EN | 10080 EN | 3663 EN | 40910 EN | 1060 EN | 6538 EN | 6962 EN | 2440 EN |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

B - compound found in lab blank as well as sample, indicating possible/probable blank contamination

J - estimated value, compound present below CRQL but above IDL

N - presumptive evidence of the presence of this compound

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material and then were collected from 0 to 2 feet in the soil).

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | DUPLICATE OF SD-01 | |
|---|---|---|---|---|---|
| Sample ID No. | | | SD-01 | SD-DUP-01 | SD-04 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR33 | BXR34 | BXR36 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 |
| Percent Moisture | | | 31 | 30 | 41 |
| Phenol | 100,000 | 50,000 | 430 U | 8800 U | 540 J |
| bis(2-chloroethyl)ether | 0.4 | 3,000 | 430 U | 8800 U | 10000 U |
| 2-Chlorophenol | 4,000 | 10,000 | 430 U | 8800 U | 10000 U |
| 1,3-Dichlorobenzene | NA | 100,000 | 430 U | 8800 U | 10000 U |
| 1,4-Dichlorobenzene | 2,000 | 100,000 | 430 U | 8800 U | 10000 U |
| 1,2-Dichlorobenzene | 17,000 | 50,000 | 430 U | 8800 U | 10000 U |
| 2-Methylphenol | 15,000 | 10,000,000 | 430 U | 8800 U | 10000 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 430 U | 8800 U | 10000 U |
| 4-Methylphenol | NA | 10,000,000 | 430 U | 8800 U | 10000 U |
| N-Nitroso-di-n-dipropylamine | 0.05 | 660 | 430 U | 8800 U | 10000 U |
| Hexachloroethane | 500 | 100,000 | 430 U | 8800 U | 4700 J |
| Nitrobenzene | 100 | 10,000 | 430 U | 8800 U | 10000 U |
| Isophorone | 500 | 50,000 | 430 U | 8800 U | 10000 U |
| 2-Nitrophenol | NA | NA | 430 U | 8800 U | 10000 U |
| 2,4-Dimethylphenol | 9,000 | 10,000 | 430 U | 8800 U | 10000 U |
| bis(2-Chloroethoxy)methane | NA | NA | 430 U | 8800 U | 10000 U |
| 2,4-Dichlorophenol | 1,000 | 10,000 | 430 U | 8800 U | 10000 U |
| 1,2,4-Trichlorobenzene | 5,000 | 100,000 | 430 U | 8800 U | 10000 U |
| Naphthalene | 84,000 | 100,000 | 430 U | 8800 U | 850 J |
| 4-Chloroaniline | 700 | 4,200,000 | 430 U | 8800 U | 10000 U |
| Hexachlorobutadiene | 2,000 | 21,000 | 430 U | 8800 U | 10000 U |
| 4-Chloro-3-Methylphenol | NA | 100,000 | 430 U | 8800 U | 10000 U |
| 2-Methylnaphthalene | NA | NA | 430 U | 8800 U | 10000 U |
| Hexachlorocyclopentadiene | 400,000 | 100,000 | 430 U | 8800 U | 10000 U |
| 2,4,6-Trichlorophenol | 200 | 10,000 | 430 U | 8800 U | 10000 U |
| 2,4,5-Trichlorophenol | 270,000 | 50,000 | 1100 U | 22000 U | 26000 U |
| 2-Chloronaphthalene | NA | NA | 430 U | 8800 U | 10000 U |
| 2-Nitroaniline | NA | NA | 1100 U | 22000 U | 26000 U |
| Dimethylphthalate | NA | 50,000 | 430 U | 8800 U | 10000 U |
| Acenaphthylene | NA | NA | 430 U | 8800 U | 10000 U |
| 2,6-Dinitrotoluene | 0.7 | 4,000 | 430 U | 8800 U | 10000 U |
| 3-Nitroaniline | NA | NA | 1100 U | 22000 U | 26000 U |
| Acenaphthene | 570,000 | 100,000 | 61 J | 8800 U | 540 J |
| 2,4-Dinitrophenol | 300 | 10,000 | 1100 U | 22000 U | 26000 U |
| 4-Nitrophenol | NA | NA | 1100 U | 22000 U | 26000 U |
| Dibenzofuran | NA | NA | 430 U | 8800 U | 10000 U |
| 2,4-Dinitrotoluene | 0.8 | 4,000 | 430 U | 8800 U | 10000 U |
| Diethylphthalate | 470,000 | 50,000 | 430 U | 8800 U | 10000 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 430 U | 8800 U | 10000 U |
| Fluorene | 560,000 | 100,000 | 47 J | 8800 U | 600 J |
| 4-Nitroaniline | NA | NA | 1100 U | 22000 U | 26000 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | R | 22000 U | 26000 U |
| N-nitrosodiphenylamine | 1,000 | 100,000 | R | 8800 U | 10000 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 250 J | 8800 U | 10000 U |
| Hexachlorobenzene | 400 | 2,000 | 240 J | 8800 U | 10000 U |
| Pentachlorophenol | 30 | 24,000 | R | 22000 U | 26000 U |
| Phenanthrene | NA | NA | R | 8800 U | 4800 J |
| Anthracene | 590,000 | 100,000 | R | 8800 U | 1600 J |

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | DUPLICATE OF SD-01 | |
|---|---|---|---|---|---|
| Sample ID No. | | | SD-01 | SD-DUP-01 | SD-04 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR33 | BXR34 | BXR36 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg |
| Level | (ug/kg) | Soil Cleanup Criteria | LOW | LOW | LOW |
| Dilution Factor | | (ug/kg) | 1 | 1 | 1 |
| Percent Moisture | | | 31 | 30 | 41 |
| Carbazole | 600 | NA | 160 J | 8800 U | 3900 U |
| Di-n-butylphthalate | 2,300,000 | 100,000 | 69 J | 8800 U | 10000 U |
| Fluoranthene | 3,100,000 | 100,000 | 1500 E | 3000 J | 13000 |
| Pyrene | 2,300,000 | 100,000 | 3000 E | 1700 J | 10000 U |
| Butylbenzylphthalate | 930,000 | 100,000 | R | 8800 U | 10000 U |
| 3,3'-Dichlorobenzidine | 7 | 6,000 | R | 8800 U | 10000 U |
| Benzo(a)anthracene | 900 | 4,000 | 870 E | 900 J | 3000 J |
| Chrysene | 88,000 | 40,000 | 1100 E | 1200 J | 3300 J |
| bis(2-ethylhexyl)phthalate | 46,000 | 100,000 | 4200 | 7000 J | 44000 |
| Di-n-octylphthalate | 1,600,000 | 100,000 | 530 E | 440 J | 2700 J |
| Benzo(b)fluoranthene | 900 | 4000 | 1400 E | 1500 J | 2600 J |
| Benzo(k)fluoranthene | 9,000 | 4,000 | 840 E | 770 J | 2700 J |
| Benzo(a)pyrene | 90 | 660 | 860 E | 870 J | 2900 J |
| Indeno(1,2,3-cd)pyrene | 900 | 4,000 | 890 E | 670 J | 2000 J |
| Dibenz(a,h)anthracene | 90 | 660 | 220 J | 8800 U | 10000 U |
| Benzo(g,h,i)perylene | NA | NA | 830 E | 630 J | 1800 J |
| Total TICs | NA | 10,000,000 | 106640 EN | 1368400 EN | 3646734 EN |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria, but there is no SSL for this parameter

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - presumptive evidence of the presence of this compound

NA - not applicable

SITE NAME White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | BM-WIPE-01 | BM-WIPE-02 | BM-WIPE-03 | BM-WIPE-04 | BM-WIPE-05 | BM-WIPE-06 | BM-WIPE-07 | BM-WIPE-08 | BM-WIPE-09 |
|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | 9901-2309 | 9901-2310 | 9901-2311 | 9901-2312 | 9901-2314 | 9901-2315 | 9901-2316 | 9901-2317 | 9901-2318 |
| Matrix | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe |
| Units | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | 1 | 1 | 1 | 1.5 | 1 | 1.5 | 5 | 1 | 1 |
| Percent Moisture | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 294 U | 682 U | 732 U | 465 J | 204 J | 933 U | 2364 U | 370 J | 465 |
| Bis(2-chloroethyl)ether | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2-Chlorophenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 1,3-Dichlorobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 1,4-Dichlorobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 1,2-Dichlorobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| o-Cresol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Bis(2-chloroisopropyl)ether | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| m/p-Cresol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| N-Nitrosodi-n-propyl amine | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Hexachloroethane | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Nitrobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Isophorone | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2-Nitrophenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,4-Dimethylphenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Bis(2-chloroethoxy)methane | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,4-Dichlorophenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 1,2,4-Trichlorobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Naphthalene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 233 J |
| 4-Chloroaniline | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Hexachlorobutadiene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 4-Chloro-3-methylphenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2-Methylnaphthalene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Hexachlorocyclopentadiene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,4,6-Trichlorophenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,4,5-Trichlorophenol | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2-Chloronaphthalene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2-Nitroaniline | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 U | 1852 U | 1163 U |
| Dimethylphthalate | 294 U | 682 U | 732 U | 233 J | 1224 | 400 U | 2364 U | 556 U | 349 U |
| Acenaphthylene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,6-Dinitrotoluene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 3-Nitroaniline | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 U | 1852 U | 1163 U |
| Acenaphthene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 2,4-Dinitrophenol | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 J | 1852 J | 1163 J |
| 4-Nitrophenol | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 U | 1852 U | 1163 U |
| Dibenzofuran | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 465 |
| 2,4-Dinitrotoluene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | BM-WIPE-01 | BM-WIPE-02 | BM-WIPE-03 | BM-WIPE-04 | BM-WIPE-05 | BM-WIPE-06 | BM-WIPE-07 | BM-WIPE-08 | BM-WIPE-09 |
|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | 9901-2309 | 9901-2310 | 9901-2311 | 9901-2312 | 9901-2314 | 9901-2315 | 9901-2316 | 9901-2317 | 9901-2318 |
| Matrix | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe |
| Units | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | 1 | 1 | 1 | 1.5 | 1 | 1.5 | 5 | 1 | 1 |
| Percent Moisture | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethylphthalate | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 4-Chlorophenyl-phenylether | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Fluorene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 |
| 4-Nitroaniline | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 U | 1852 U | 1163 U |
| 2-Methyl-4,6-dinitrophenol | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 J | 1852 J | 1163 J |
| N-Nitrosodiphenylamine | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| 4-Bromophenyl phenyl ether | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Hexachlorobenzene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Pentachlorophenol | 980 U | 2273 U | 2439 U | 2326 U | 2041 U | 1333 U | 9091 U | 1852 U | 1163 U |
| Phenanthrene | 294 U | 909 | 732 U | 698 U | 408 J | 267 J | 2364 U | 556 U | 2674 |
| Anthracene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 |
| Carbazole | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 233 J |
| Di-n-Butylphthalate | 294 U | 682 U | 732 U | 698 U | 612 U | 6400 | 2364 U | 370 J | 233 J |
| Fluoranthene | 294 U | 682 | 732 U | 698 U | 612 | 400 | 2364 U | 370 J | 2326 |
| Pyrene | 294 U | 455 J | 732 U | 698 U | 1020 | 400 | 2364 U | 185 J | 1860 |
| Butylbenzylphthalate | 294 U | 682 U | 732 U | 9070 | 612 | 667 | 2364 U | 556 U | 233 J |
| 3,3'-Dichlorobenzidine | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 349 U |
| Benzo(a)anthracene | 294 U | 682 U | 732 U | 698 U | 408 J | 267 J | 2364 U | 556 U | 698 |
| Chrysene | 294 U | 682 U | 732 U | 698 U | 408 J | 533 | 2364 U | 556 U | 930 |
| Bis(2-ethylhexyl)phthalate | 294 U | 682 U | 732 U | 17209 | 2449 | 10800 | 7636 | 926 U | 2674 |
| Di-n-octylphthalate | 294 U | 682 U | 732 U | 698 U | 612 U | 267 J | 2364 U | 556 U | 349 U |
| Benzo(b)fluoranthene | 294 U | 682 U | 732 U | 698 U | 204 J | 267 J | 2364 U | 556 U | 698 |
| Benzo(k)fluoranthene | 294 U | 682 U | 732 U | 698 U | 204 J | 133 J | 2364 U | 556 U | 698 |
| Benzo(a)pyrene | 294 U | 682 U | 732 U | 698 U | 204 J | 133 J | 2364 U | 556 U | 698 |
| Indeno(1,2,3-cd)pyrene | 294 U | 682 U | 732 U | 698 U | 204 J | 133 J | 2364 U | 556 U | 465 |
| Dibenz(a,h)anthracene | 294 U | 682 U | 732 U | 698 U | 612 U | 400 U | 2364 U | 556 U | 233 J |
| Benzo(g,h,i)perylene | 294 U | 682 U | 732 U | 698 U | 408 J | 267 J | 2364 U | 556 U | 465 |

NOTES:

U - sample concentration is non-detect

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

SITE NAME White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | BM-WIPE-10 | BM-WIPE-11 | BM-WIPE-12 | BM-WIPE-13 | BM-WIPE-14 |
|---|---|---|---|---|---|
| Lab ID No. | 9901-2319 | 9901-2320 | 9901-2321 | 9901-2322 | 9901-2323 |
| Matrix | wipe | wipe | wipe | wipe | wipe |
| Units | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | 1 | 5 | 5 | 5 | 5 |
| Percent Moisture | NA | NA | NA | NA | NA |
| Phenol | 185 J | 1970 U | 2281 U | 1970 U | 2203 U |
| Bis(2-chloroethyl)ether | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2-Chlorophenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 1,3-Dichlorobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 1,4-Dichlorobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 1,2-Dichlorobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| o-Cresol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Bis(2-chloroisopropyl)ether | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| m/p-Cresol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| N-Nitrosodi-n-propyl amine | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Hexachloroethane | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Nitrobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Isophorone | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2-Nitrophenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4-Dimethylphenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Bis(2-chloroethoxy)methane | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4-Dichlorophenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 1,2,4-Trichlorobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Naphthalene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 4-Chloroaniline | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Hexachlorobutadiene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 4-Chloro-3-methylphenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2-Methylnaphthalene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Hexachlorocyclopentadiene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4,6-Trichlorophenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4,5-Trichlorophenol | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2-Chloronaphthalene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2-Nitroaniline | 1852 U | 7576 U | 8772 U | 7576 U | 8475 U |
| Dimethylphthalate | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Acenaphthylene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,6-Dinitrotoluene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 3-Nitroaniline | 1852 U | 7576 U | 8772 U | 7576 U | 8475 U |
| Acenaphthene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4-Dinitrophenol | 1852 J | 7576 J | 8772 J | 7576 J | 8475 J |
| 4-Nitrophenol | 1852 U | 7576 U | 8772 U | 7576 U | 8475 U |
| Dibenzofuran | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 2,4-Dinitrotoluene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | BM-WIPE-10 | BM-WIPE-11 | BM-WIPE-12 | BM-WIPE-13 | BM-WIPE-14 |
|---|---|---|---|---|---|
| Lab ID No | 9901-2319 | 9901-2320 | 9901-2321 | 9901-2322 | 9901-2323 |
| Matrix | wipe | wipe | wipe | wipe | wipe |
| Units | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | 1 | 5 | 5 | 5 | 5 |
| Percent Moisture | NA | NA | NA | NA | NA |
| Diethylphthalate | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 4-Chlorophenyl-phenylether | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Fluorene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 4-Nitroaniline | 1852 U | 7576 U | 8772 U | 7576 U | 8475 U |
| 2-Methyl-4,6-dinitrophenol | 1852 J | 7576 J | 8772 J | 7576 J | 8475 J |
| N-Nitrosodiphenylamine | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| 4-Bromophenyl phenyl ether | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Hexachlorobenzene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Pentachlorophenol | 1852 U | 7576 U | 8772 U | 7576 U | 8475 U |
| Phenanthrene | 370 J | 2879 | 2281 U | 1970 U | 2203 U |
| Anthracene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Carbazole | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Di-n-Butylphthalate | 556 U | 1061 J | 2281 U | 1970 U | 2203 U |
| Fluoranthene | 556 | 1061 J | 2281 U | 1970 U | 1186 J |
| Pyrene | 370 J | 1970 U | 2281 U | 1970 U | 2203 U |
| Butylbenzylphthalate | 556 U | 1970 U | 2281 U | 1970 U | 2881 |
| 3,3'-Dichlorobenzidine | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Benzo(a)anthracene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Chrysene | 185 J | 1970 U | 2281 U | 1970 U | 2203 U |
| Bis(2-ethylhexyl)phthalate | 556 U | 14848 | 2281 U | 1970 U | 13729 |
| Di-n-octylphthalate | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Benzo(b)fluoranthene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Benzo(k)fluoranthene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Benzo(a)pyrene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Indeno(1,2,3-cd)pyrene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Dibenz(a,h)anthracene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |
| Benzo(g,h,i)perylene | 556 U | 1970 U | 2281 U | 1970 U | 2203 U |

NOTES:

U - sample concentration is non-detect

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | USEPA | New Jersey | GW-MW-1S | GW-MW-1D | GW-MW-2S | GW-MW-3S | GW-MW-3D | GW-MW-4S | GW-MW-5S | GW-MW-5D |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | Maximum Contaminant | Groundwater | BXF66 | BXF67 | BXF68 | BXF69 | BXF70 | BXF71 | BXF72 | BXF73 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 | 7 - 17 | 24 - 29 |
| Phenol | NA | 4,000 | 10 U | 0.3 J | 10 U | 2 J | 10 U | 10 U | 10 U | 10 U |
| bis(2-chloroethyl)ether | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | NA | 40 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | NA | 600 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 75 | 75 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 600 | 600 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 10 U | 1 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-dipropylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Nitrobenzene | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Isophorone | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 70 | 9 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Naphthalene | NA | NA | 10 U | 0.09 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloroaniline | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | NA | 1 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 50 | 50 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,6-Trichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | NA | 700 | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 2-Chloronaphthalene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dimethylphthalate | NA | NA | 10 U | 0.2 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Acenaphthene | NA | 400 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | NA | 40 | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4-Nitrophenol | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dibenzofuran | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | NA | 5,000 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluorene | NA | 300 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| N-nitrosodiphenylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 1 | 10 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 1 | 1 | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No | USEPA | New Jersey | GW-MW-1S | GW-MW-1D | GW-MW-2S | GW-MW-3S | GW-MW-3D | GW-MW-4S | GW-MW-5S | GW-MW-5D |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF66 | BXF67 | BXF68 | BXF69 | BXF70 | BXF71 | BXF72 | BXF73 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 | 7 - 17 | 24 - 29 |
| Phenanthrene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Anthracene | NA | 2,000 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbazole | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | NA | 900 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | NA | 300 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyrene | NA | 200 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | NA | 100 | 10 U | 0.2 J | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | NA | 60 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chrysene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-ethylhexyl)phthalate | NA | 30 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 0.2 | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-cd)pyrene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenz(a,h)anthracene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

NOTES:
U - sample concentration is non-detect
J - estimated value, compound present below CRQL but above IDL

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | |
|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-6S | GW-MW-7S | DUPLICATE OF GW-MW-7S GW-MW-DUP01 | GW-MW-7D |
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF74 | BXF75 | BXF77 | BXF76 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 |
| Phenol | NA | 4,000 | 10 U | 1 J | 0.7 J | 3 J |
| bis(2-chloroethyl)ether | NA | 10 | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | NA | 40 | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | NA | 600 | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 75 | 75 | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 600 | 600 | 10 U | 10 U | 10 U | 10 U |
| 2-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-dipropylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | NA | 10 | 10 U | 10 U | 10 U | 10 U |
| Nitrobenzene | NA | 10 | 10 U | 10 U | 10 U | 10 U |
| Isophorone | NA | 100 | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | NA | 100 | 10 U | 10 U | 10 U | 15 |
| bis(2-Chloroethoxy)methane | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 70 | 9 | 10 U | 10 U | 10 U | 10 U |
| Naphthalene | NA | NA | 0.2 J | 0.2 J | 0.2 J | 1 J |
| 4-Chloroaniline | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | NA | 1 | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 50 | 50 | 10 U | 10 U | 10 U | 10 U |
| 2,4,6-Trichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | NA | 700 | 25 U | 25 U | 25 U | 25 U |
| 2-Chloronaphthalene | NA | NA | 10 U | 0.7 J | 0.7 J | 10 U |
| 2-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U |
| Dimethylphthalate | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| 3-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U |
| Acenaphthene | NA | 400 | 0.6 J | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | NA | 40 | 25 U | 25 U | 25 U | 25 U |
| 4-Nitrophenol | NA | NA | 25 U | 25 U | 25 U | 25 U |
| Dibenzofuran | NA | NA | 0.3 J | 10 U | 10 U | 10 U |
| 2,4-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | NA | 5,000 | 10 U | 10 U | 10 U | 10 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Fluorene | NA | 300 | 0.4 J | 10 U | 10 U | 10 U |
| 4-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 25 U | 25 U | 25 U | 25 U |
| N-nitrosodiphenylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 1 | 10 | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 1 | 1 | 25 U | 25 U | 25 U | 25 U |

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | DUPLICATE OF GW-MW-7S | |
|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-6S | GW-MW-7S | GW-MW-DUP01 | GW-MW-7D |
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF74 | BXF75 | BXF77 | BXF76 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 |
| Phenanthrene | NA | NA | 1 J | 0.2 J | 10 U | 10 U |
| Anthracene | NA | 2,000 | 0.4 J | 0.06 J | 10 U | 10 U |
| Carbazole | NA | NA | 1 J | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | NA | 900 | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | NA | 300 | 0.7 J | 10 U | 10 U | 10 U |
| Pyrene | NA | 200 | 0.4 J | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | NA | 100 | 10 U | 0.4 J | 0.4 J | 10 U |
| 3,3'-Dichlorobenzidine | NA | 60 | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | NA | NA | 0.3 J | 10 U | 10 U | 10 U |
| Chrysene | NA | NA | 0.4 J | 10 U | 10 U | 10 U |
| bis(2-ethylhexyl)phthalate | NA | 30 | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | NA | 100 | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 0.2 | NA | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-cd)pyrene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Dibenz(a,h)anthracene | NA | NA | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | NA | NA | 10 U | 10 U | 10 U | 10 U |

NOTES:
U - sample concentration is non-detect
J - estimated value, compound present below CRQL but above IDL

NOTE: THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | DUPLICATE OF GW2-MW-3S | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey | GW2-MW-1S | GW2-MW-1D | GW2-MW-2S | GW2-MW-3S | GW2-MW-DUP-01 | GW2-MW-3D | GW2-MW-4S |
| Traffic Report No. | Maximum Contaminant | Groundwater | BTA09 | BTA10 | BTA11 | BTA12 | BTA20 | BTA13 | BTA14 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 |
| Phenol | NA | 4,000 | 20 U | 10 U | 10 U | 0.4 J | 10 U | 10 U | 10 U |
| bis(2-chloroethyl)ether | NA | 10 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | NA | 40 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | NA | 600 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 75 | 75 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 600 | 600 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylphenol | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 86 | 2 J | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-dipropylamine | NA | 20 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | NA | 10 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Nitrobenzene | NA | 10 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Isophorone | NA | 100 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | NA | 100 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy)methane | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | NA | 20 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 70 | 9 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Naphthalene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloroaniline | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | NA | 1 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 50 | 50 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,6-Trichlorophenol | NA | 20 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | NA | 700 | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 2-Chloronaphthalene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitroaniline | NA | NA | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dimethylphthalate | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3-Nitroaniline | NA | NA | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Acenaphthene | NA | 400 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | NA | 40 | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4-Nitrophenol | NA | NA | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dibenzofuran | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrotoluene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | NA | 5,000 | 20 U | 10 U | 10 U | 10 U | 0.4 J | 10 U | 10 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluorene | NA | 300 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitroaniline | NA | NA | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |
| N-nitrosodiphenylamine | NA | 20 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 1 | 10 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 1 | 1 | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 25 U |

NOTE: THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| SEMI-VOLATILES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW2-MW-1S | GW2-MW-1D | GW2-MW-2S | GW2-MW-3S | DUPLICATE OF GW2-MW-3S GW2-MW-DUP-01 | GW2-MW-3D | GW2-MW-4S |
| Traffic Report No. | Maximum Contaminant | Groundwater | BTA09 | BTA10 | BTA11 | BTA12 | BTA20 | BTA13 | BTA14 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 |
| Phenanthrene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Anthracene | NA | 2,000 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Carbazole | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-butylphthalate | NA | 900 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | NA | 300 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pyrene | NA | 200 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Butylbenzylphthalate | NA | 100 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | NA | 60 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chrysene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-ethylhexyl)phthalate | NA | 30 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | NA | 100 | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 0.2 | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-cd)pyrene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenz(a,h)anthracene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | NA | NA | 20 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL
but above IDL

Detection limits elevated if Dilution Factor > 1

NOTE: THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | USEPA | New Jersey | GW2-MW-5S | GW2-MW-5D | GW2-MW-6S | GW2-MW-7S | GW2-MW-7D |
|---|---|---|---|---|---|---|---|
| Traffic Report No. | Maximum Contaminant | Groundwater | BTA15 | BTA16 | BTA17 | BTA18 | BTA19 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 24 - 29 | 7 - 17 | 7 - 17 | 24 - 29 |
| Phenol | NA | 4,000 | 10 U | 10 U | 10 U | 0.5 J | 2 J |
| bis(2-chloroethyl)ether | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Chlorophenol | NA | 40 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,3-Dichlorobenzene | NA | 600 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,4-Dichlorobenzene | 75 | 75 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2-Dichlorobenzene | 600 | 600 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,2'-oxybis(1-Chloropropane) | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitroso-di-n-dipropylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachloroethane | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Nitrobenzene | NA | 10 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Isophorone | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitrophenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dimethylphenol | NA | 100 | 10 U | 10 U | 10 U | 10 U | 14 |
| bis(2-Chloroethoxy)methane | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 1,2,4-Trichlorobenzene | 70 | 9 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Naphthalene | NA | NA | 10 U | 10 U | 10 U | 0.2 J | 1 J |
| 4-Chloroaniline | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobutadiene | NA | 1 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chloro-3-Methylphenol | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Methylnaphthalene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorocyclopentadiene | 50 | 50 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,6-Trichlorophenol | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4,5-Trichlorophenol | NA | 700 | 25 U | 25 U | 25 U | 25 U | 25 U |
| 2-Chloronaphthalene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dimethylphthalate | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Acenaphthylene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,6-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U |
| Acenaphthene | NA | 400 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 2,4-Dinitrophenol | NA | 40 | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4-Nitrophenol | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U |
| Dibenzofuran | NA | NA | 10 U | 10 U | 0.3 J | 10 U | 10 U |
| 2,4-Dinitrotoluene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Diethylphthalate | NA | 5,000 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Chorophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluorene | NA | 300 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitroaniline | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U |
| 4,6-Dinitro-2-methylphenol | NA | NA | 25 U | 25 U | 25 U | 25 U | 25 U |
| N-nitrosodiphenylamine | NA | 20 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Bromophenyl-phenyl ether | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Hexachlorobenzene | 1 | 10 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Pentachlorophenol | 1 | 1 | 25 U | 25 U | 25 U | 25 U | 25 U |

NOTE: THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

SEMI-VOLATILES

| Sample ID No. | USEPA | New Jersey | GW2-MW-5S | GW2-MW-5D | GW2-MW-6S | GW2-MW-7S | GW2-MW-7D |
|---|---|---|---|---|---|---|---|
| Traffic Report No | Maximum Contaminant | Groundwater | BTA15 | BTA16 | BTA17 | BTA18 | BTA19 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 24 - 29 | 7 - 17 | 7 - 17 | 24 - 29 |
| Phenanthrene | NA | NA | 10 U | 10 U | 0.5 J | 10 U | 10 U |
| Anthracene | NA | 2,000 | 10 U | 10 U | 0.4 J | 10 U | 10 U |
| Carbazole | NA | NA | 10 U | 10 U | 1 J | 10 U | 10 U |
| Di-n-butylphthalate | NA | 900 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Fluoranthene | NA | 300 | 10 U | 10 U | 0.4 J | 10 U | 10 U |
| Pyrene | NA | 200 | 10 U | 10 U | 0.3 J | 10 U | 10 U |
| Butylbenzylphthalate | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U |
| 3,3'-Dichlorobenzidine | NA | 60 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)anthracene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Chrysene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-ethylhexyl)phthalate | NA | 30 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Di-n-octylphthalate | NA | 100 | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(b)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(k)fluoranthene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(a)pyrene | 0.2 | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Indeno(1,2,3-cd)pyrene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Dibenz(a,h)anthracene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzo(g,h,i)perylene | NA | NA | 10 U | 10 U | 10 U | 10 U | 10 U |

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL
but above IDL

Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | | | BWP84 | BWP85 | BWP86 | BWP87 | BWP88 | BWP89 | BWP90 | BWP91 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 17 | 13 | 13 | 18 | 16 | 17 | 17 | 14 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" |
| alpha-BHC | 0.5 | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| beta-BHC | 3 | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| delta-BHC | NA | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| gamma-BHC | 9 | 2,200 | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Heptachlor | 100 | 650 | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Aldrin | 40 | 170 | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Heptachlor epoxide | 70 | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 0.98 J | 2 U | 0.78 J | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Dieldrin | 4 | 180 | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 11 E | 1.5 J | 8.5 E | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 4 U | 3.8 U | 3 J | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 20 U | 20 U | 21 U | 20 U | 20 U | 20 U | 20 U |
| Endrin ketone | 1,000 | NA | 5.9 E | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 4 U | 3.8 U | 3.8 U | 4 U | 3.9 U | 4 U | 4 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| gamma-Chlordane | 500 | NA | 2 U | 2 U | 2 U | 2.1 U | 2 U | 2 U | 2 U | 2 U |
| Toxaphene | 600 | 200 | 200 U | 200 U | 200 U | 210 U | 200 U | 200 U | 200 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 40 U | 38 U | 38 U | 40 U | 39 U | 40 U | 40 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 81 U | 77 U | 77 U | 82 U | 80 U | 81 U | 81 U | 78 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 40 U | 38 U | 38 U | 40 U | 39 U | 40 U | 40 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 40 U | 38 U | 38 U | 40 U | 39 U | 40 U | 40 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 40 U | 38 U | 38 U | 40 U | 39 U | 40 U | 40 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 330 E | 22 J | 220 E | 40 U | 39 U | 40 U | 40 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 40 U | 38 U | 38 U | 40 U | 39 U | 40 U | 40 U | 38 U |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SS-09 | SS-11 | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BWP92 | BXB44 | BXB45 | BXB46 | BXB48 | BXB50 | BXB51 | BXB52 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 17 | 18 | 11 | 14 | 18 | 14 | 14 | 14 |
| Asphalt/Soil* | | (ug/kg) | Asphalt | Gravel - 24" | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt |
| Sample Depth** | | | 3 - 14" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| alpha-BHC | 0.5 | NA | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| beta-BHC | 3 | NA | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| delta-BHC | NA | NA | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| gamma-BHC | 9 | 2,200 | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Heptachlor | 100 | 650 | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Aldrin | 40 | 170 | 2 U | 2.1 U | 1.9 | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Heptachlor epoxide | 70 | NA | 1.7 J | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Dieldrin | 4 | 180 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 4.1 E |
| Endrin | 1,000 | 310,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 24 | 3.8 U | 2.1 J |
| Endosulfan II | 18,000 | 50,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 2.5 J | 4.2 | 14 E |
| Endosulfan sulfate | 18,000 | 50,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 21 U | 19 U | 20 U | 21 U | 8.9 J | 20 U | 20 U |
| Endrin ketone | 1,000 | NA | 4 U | 4 U | R | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 4 U | 4 U | 3.7 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| gamma-Chlordane | 500 | NA | 2 U | 2.1 U | 1.9 U | 2 U | 2.1 U | 2 U | 2 U | 2 U |
| Toxaphene | 600 | 200 | 200 U | 210 U | 190 U | 200 U | 210 U | 200 U | 200 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 40 U | 40 U | 37 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 81 U | 82 U | 75 U | 78 U | 82 U | 78 U | 78 U | 78 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 40 U | 40 U | 37 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 40 U | 40 U | 37 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 40 U | 40 U | 37 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 150 | 48 | 37 U | 38 U | 40 U | 430 E | 20 J | 47 E |
| Aroclor-1260 | 1,000**** | 2,000**** | 40 U | 40 U | 37 U | 38 U | 40 U | 38 U | 38 U | 38 U |

NOTES:

Value is above the SSL but below NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

*U - sample concentration is non-detect*
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | | DUPLICATE OF SS-25 | | | DUPLICATE OF SS-27 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-20 | SS-24 | SS-25 | SS-DUP-05 | SS-26 | SS-27 | SS-DUP-02 | SS-28 |
| Traffic Report No. | | | BXB53 | BXB57DL | BXB60 | BXR17 | BXB61 | BXB62 | BXE89DL | BXB63 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 10 | 1 | 1 | 1 | 1 | 10 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 22 | 16 | 15 | 15 | 10 | 14 | 14 | 13 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 12" | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | Asphalt - 6" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 2 - 14" | 2 - 14" | 2 - 14" | 0 - 12" |
| alpha-BHC | 0.5 | NA | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 1.9 U | 20 U | 1.9 U |
| beta-BHC | 3 | NA | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 1.9 U | 20 U | 1.9 U |
| delta-BHC | NA | NA | 2.2 U | 20 U | 2 U | 2 U | R | 1.9 U | 20 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 1.9 U | 20 U | 1.9 U |
| Heptachlor | 100 | 650 | 1.2 J | 260 E | 6.1 E | 2 U | 1.8 U | 1.9 U | 2.1 J | 1.1 J |
| Aldrin | 40 | 170 | 2.2 U | 20 U | 2.4 E | 2 U | 1.8 U | 1.9 U | 20 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | R | 20 U | R |
| Endosulfan I | 18,000 | 50,000 | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 1.9 U | 20 U | R |
| Dieldrin | 4 | 180 | 4.2 U | 39 U | 3.9 U | 3.9 U | 11 EN | R | 14 J | 240 EN |
| 4,4'-DDE | 2,000 | 9,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 11 | R | 38 U | 210 |
| Endrin | 1,000 | 310,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | R | 38 U | R |
| Endosulfan II | 18,000 | 50,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | R | 38 U | R |
| 4,4'-DDD | 3,000 | 12,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | 4.2 E | 38 U | 3.7 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | 3.7 U | 38 U | 3.7 U |
| 4,4'-DDT | 2,000 | 9,000 | 4.2 U | 39 U | 3.9 U | 3.9 U | 110 E | 140 | 38 U | 1100 |
| Methoxychlor | 160,000 | 50,000 | 22 U | 200 U | 20 U | 20 U | R | 19 U | 200 U | 19 U |
| Endrin ketone | 1,000 | NA | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | 3.7 U | 38 U | R |
| Endrin aldehyde | 1,000 | NA | 4.2 U | 39 U | 3.9 U | 3.9 U | 3.5 U | 3.7 U | 38 U | 55 E |
| alpha-Chlordane | 500 | NA | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 1.9 U | 20 U | R |
| gamma-Chlordane | 500 | NA | 2.2 U | 20 U | 2 U | 2 U | 1.8 U | 6.6 | 20 U | R |
| Toxaphene | 600 | 200 | 220 U | 2000 U | 200 U | 200 U | 180 U | 190 U | 2000 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 39 U | 35 U | 37 U | 380 U | 37 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 86 U | 800 U | 79 U | 79 U | 72 U | 76 U | 770 U | 75 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 39 U | 35 U | 37 U | 380 U | 37 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 39 U | 35 U | 37 U | 380 U | 37 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 39 U | 35 U | 37 U | 380 U | 37 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 39 U | 290 | 450 E | 380 U | 5300 |
| Aroclor-1260 | 1,000**** | 2,000**** | 42 U | 390 U | 39 U | 100 E | 35 U | 37 U | 380 U | 37 U |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

*Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter*

U - sample concentration is non-detect
*E - estimated value*
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sample ID No.* | | | SS-29 | SS-30 | SS-31 | SS-32 | SS-33 | SS-37 | SS-40 | SS-41 | SS-42 |
| Traffic Report No. | | | BXB64 | BXB65 | BXB66 | BXB67DL | BXB68DL | BXB72 | BXB75 | BXB76 | BXB77 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 10 | 10 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 12 | 14 | 14 | 45 | 20 | 17 | 14 | 13 | 12 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" | not given |
| alpha-BHC | 0.5 | NA | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| beta-BHC | 3 | NA | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| delta-BHC | NA | NA | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Heptachlor | 100 | 650 | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Aldrin | 40 | 170 | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 1.9 U | 2 U | R | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Endosulfan I | 18,000 | 50,000 | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Dieldrin | 4 | 180 | R | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | R | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endrin | 1,000 | 310,000 | R | 3.8 U | 110 EN | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | R | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | R | 1.2 J | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| *Endosulfan sulfate* | 18,000 | 50,000 | 3.8 U | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.8 U | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 19 U | 20 U | 200 EN | 310 U | 210 U | 20 U | 20 U | 20 U | 19 U |
| *Endrin ketone* | 1,000 | NA | 3.8 U | 3.8 U | 30 EN | 910 EN | 450 E | 1.9 J | 3.8 U | 3.8 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 3.8 U | 3.8 U | 3.8 U | 60 U | 41 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| *gamma-Chlordane* | 500 | NA | 1.9 U | 2 U | 2 U | 31 U | 21 U | 2 U | 2 U | 2 U | 1.9 U |
| Toxaphene | 600 | 200 | 190 U | 200 U | 200 U | 3100 U | 2100 U | 200 U | 200 U | 200 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 38 U | 38 U | 38 U | 600 U | 410 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 76 U | 78 U | 78 U | 1200 U | 840 U | 81 U | 78 U | 77 U | 76 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 38 U | 38 U | 38 U | 600 U | 410 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 38 U | 38 U | 38 U | 600 U | 410 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 38 U | 38 U | 38 U | 600 U | 410 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 38 U | 64 E | 5400 E | 600 U | 410 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 38 U | 38 U | 38 U | 600 U | 410 U | 69 EN | 38 U | 38 U | 38 U |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
*Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%*
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SS-43 | SS-44 | SS-45 | SS-46 | SS-48 | SS-49 | SS-50 | SS-51 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Traffic Report No.* | | | BXB78 | BXB79 | BXB80 | BXB81 | BXB83 | BXB84 | BXB85 | BXB86 |
| *Matrix* | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *Percent Moisture* | *(ug/kg)* | Soil Cleanup Criteria | 26 | 12 | 15 | 15 | 13 | 12 | 14 | 10 |
| Asphalt/Soil* | | (ug/kg) | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" | Asphalt - 6" |
| Sample Depth** | | | 2 - 14" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| alpha-BHC | 0.5 | NA | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| beta-BHC | 3 | NA | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| delta-BHC | NA | NA | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| gamma-BHC | 9 | 2,200 | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Heptachlor | 100 | 650 | 400 E | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Aldrin | 40 | 170 | 180 E | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Heptachlor epoxide | 70 | NA | 2.1 U | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Endosulfan I | 18,000 | 50,000 | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Dieldrin | 4 | 180 | R | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| 4,4'-DDE | 2,000 | 9,000 | R | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 4.4 U | 3.5 U |
| Endrin | 1,000 | 310,000 | 510 | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| Endosulfan II | 18,000 | 50,000 | 4.1 U | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| 4,4'-DDD | 3,000 | 12,000 | 4.1 U | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4.1 U | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| 4,4'-DDT | 2,000 | 9,000 | R | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| Methoxychlor | 160,000 | 50,000 | R | 18 U | 20 U | R | 18 U | 18 U | 19 U | 18 U |
| Endrin ketone | 1,000 | NA | R | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| Endrin aldehyde | 1,000 | NA | R | 3.5 U | 3.9 U | 3.9 U | 3.6 U | 3.5 U | 3.6 U | 3.5 U |
| alpha-Chlordane | 500 | NA | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| *gamma-Chlordane* | 500 | NA | R | 1.8 U | 2 U | 2 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U |
| Toxaphene | 600 | 200 | 210 U | 180 U | 200 U | 200 U | 180 U | 180 U | 190 U | 180 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 82 U | 70 U | 79 U | 79 U | 72 U | 70 U | 74 U | 71 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 41 U | 35 U | 39 U | 39 U | 36 U | 35 U | 36 U | 35 U |

NOTES:
Value is above the SSL, NJDEP Soil Cleanup Criteria, and Soil Saturation
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | | DUPLICATE OF SS-54 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-52 | SS-53A | SS-54 | SS-DUP-01 | SS-55 | SS-56 | SS-58 | SS-59 |
| Traffic Report No. | | | BXB87 | BXF53 | BXB89 | BXB88 | BXB90DL | BXB91 | BXC38 | BXC39 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 10 | 1 | 1 | 1 | 10 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 12 | 13 | 12 | 13 | 13 | 16 | 14 | 13 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 6" | Asphalt - 8" |
| Sample Depth** | | | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| alpha-BHC | 0.5 | NA | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| beta-BHC | 3 | NA | 18 U | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| delta-BHC | NA | NA | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| gamma-BHC | 9 | 2,200 | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Heptachlor | 100 | 650 | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Aldrin | 40 | 170 | 18 U | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Heptachlor epoxide | 70 | NA | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | R | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Dieldrin | 4 | 180 | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| Endrin | 1,000 | 310,000 | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 18000 | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 210 E | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 35 U | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | R | 20 U | 19 U | 19 U | 190 U | 19 U | 20 U | 20 U |
| Endrin ketone | 1,000 | NA | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 4.2 E | 3.8 U |
| Endrin aldehyde | 1,000 | NA | R | 3.8 U | 3.8 U | 3.6 U | 36 U | 3.7 U | 3.8 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 18 U | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| gamma-Chlordane | 500 | NA | 220 E | 2 U | 1.9 U | 1.9 U | 19 U | 1.9 U | 2 U | 2 U |
| Toxaphene | 600 | 200 | 1800 U | 200 U | 190 U | 190 U | 1900 U | 190 U | 200 U | 200 U |
| Aroclor-1016 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |
| Aroclor-1221 | 1,000*** | 2,000*** | 710 U | 77 U | 76 U | 74 U | 740 U | 75 U | 78 U | 77 U |
| Aroclor-1232 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |
| Aroclor-1242 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |
| Aroclor-1248 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |
| Aroclor-1254 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |
| Aroclor-1260 | 1,000*** | 2,000*** | 350 U | 38 U | 38 U | 36 U | 360 U | 37 U | 38 U | 38 U |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - This number is for total PCBs

SITE NAME White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No | | | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 | SS-66 | SS-67 | SS-68 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BXC40 | BXC41 | BXC42 | BXC43 | BXC45 | BXC46 | BXC47 | BXC48 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 14 | 10 | 13 | 15 | 11 | 14 | 14 | 16 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt | Asphalt - 14" | Asphalt - 6" |
| Sample Depth** | | | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 8" |
| alpha-BHC | 0.5 | NA | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| beta-BHC | 3 | NA | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| delta-BHC | NA | NA | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| gamma-BHC | 9 | 2,200 | 0.56 J | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| Heptachlor | 100 | 650 | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| Aldrin | 40 | 170 | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| Heptachlor epoxide | 70 | NA | 2 U | 1.9 U | 2 U | R | 1.9 U | 2 U | 2 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| Dieldrin | 4 | 180 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| Endrin | 1,000 | 310,000 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 2 J |
| Endosulfan II | 18,000 | 50,000 | 3.8 U | 7.3 | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 19 U | 20 U | 110 EN | 19 U | 20 U | 20 U | 20 U |
| Endrin ketone | 1,000 | NA | 3.8 U | R | 3.8 U | 26 EN | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| Endrin aldehyde | 1,000 | NA | 3.8 U | 3.7 U | 3.8 U | 3.9 U | 3.7 U | 3.8 U | 3.8 U | 3.9 U |
| alpha-Chlordane | 500 | NA | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| gamma-Chlordane | 500 | NA | 2 U | 1.9 U | 2 U | 2 U | 1.9 U | 2 U | 2 U | 2 U |
| Toxaphene | 600 | 200 | 200 U | 190 U | 200 U | 200 U | 190 U | 200 U | 200 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 39 U | 37 U | 38 U | 38 U | 39 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 78 U | 74 U | 77 U | 79 U | 75 U | 78 U | 78 U | 80 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 39 U | 37 U | 38 U | 38 U | 39 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 39 U | 37 U | 38 U | 38 U | 39 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 39 U | 37 U | 38 U | 38 U | 39 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 530 EN | 37 U | 38 U | 38 U | 39 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 38 U | 37 U | 38 U | 39 U | 37 U | 38 U | 38 U | 39 U |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | DUPLICATE OF SS-08 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-DUP-04 | SS-69 | SS-70 | SS-71 | SS-72 | SS-73 | SS-74 | SS-75 |
| Traffic Report No. | | | BXF54 | BXC49 | BXC50 | BXC51 | BXC52 | BXC53 | BXC54 | BXC50 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 18 | 17 | 14 | 13 | 17 | 11 | 13 | 13 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt - 11" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | 0 - 8" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 11" | 0 - 12" | 0 - 12" | 0 - 12" |
| alpha-BHC | 0.5 | NA | 2.1 U | 2 U | 2 U | 2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| beta-BHC | 3 | NA | 2.1 U | 2 U | 2 U | 2 U | 6 EN | 1.8 U | 1.9 U | 2 U |
| delta-BHC | NA | NA | 2.1 U | 2 U | 2 U | 2.6 EN | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-BHC | 9 | 2,200 | 2.1 U | 2 U | 2 U | 2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Heptachlor | 100 | 650 | 2.1 U | 2 U | 2 U | 24 EN | 2 U | 1.8 U | 1.9 U | 2 U |
| Aldrin | 40 | 170 | 2.1 U | 2 U | 2 U | 2 U | R | 1.8 U | 1.9 U | 2 U |
| Heptachlor epoxide | 70 | NA | 2.1 U | 2 U | 2 U | R | 2 U | 1.8 U | 1.9 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 2.1 U | R | 2 U | 2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Dieldrin | 4 | 180 | 4 U | 4 U | 3.8 U | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 4 U | 4 U | 3.8 U | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 4 U | 520 E | 8.3 E | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 4 U | 4 U | 3.8 U | 48 EN | 4 U | 3.5 U | 3.6 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 4 U | 4 U | 2.2 J | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4 U | 4 U | 3.8 U | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 4 U | 4 U | 3.8 U | 3.8 U | 4 U | 3.5 U | 3.6 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 21 U | 45 EN | 20 U | R | 20 U | 18 U | 19 U | 20 U |
| Endrin ketone | 1,000 | NA | 4 U | R | 3.8 U | R | 4 U | 3.5 U | 3.6 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 4 U | 4 U | 3.8 U | 38 E | 4 U | 3.5 U | 3.6 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 2.1 U | 2 U | 2 U | 2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-Chlordane | 500 | NA | 2.1 U | 2 U | 2 U | 2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Toxaphene | 600 | 200 | 210 U | 200 U | 200 U | 200 U | 200 U | 180 U | 190 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 40 U | 40 U | 38 U | 38 U | 40 U | 35 U | 36 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 82 U | 81 U | 78 U | 78 U | 81 U | 72 U | 74 U | 77 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 40 U | 40 U | 38 U | 38 U | 40 U | 35 U | 36 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 40 U | 40 U | 38 U | 38 U | 40 U | 35 U | 36 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 40 U | 40 U | 38 U | 38 U | 40 U | 35 U | 36 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 29 EN | 13000 | 230 | 38 U | 40 U | 35 U | 36 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 40 U | 40 U | 38 U | 38 U | 40 U | 35 U | 36 U | 38 U |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
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SITE NAME: White Chemical
PROJECT #. 302-0004

PESTICIDES/PCBs

| Sample ID No | | | SS-76 | SS-77 | SS-78 | SS-79 | SS-80 | SS-81 | SS-82 | SS-83 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | | | BXC56 | BXC57 | BXC58 | BXC59 | BXC60DL | BXC61 | BXC62 | BXC63 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 1 | 1 | 1 | 10 | 1 | 1 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 15 | 11 | 14 | 13 | 14 | 16 | 12 | 19 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 12" | Asphalt - 12" | Asphalt - 12 " | Asphalt - 10" | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" |
| Sample Depth** | | | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 9" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" |
| alpha-BHC | 0.5 | NA | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | 1.9 U | 2.1 U |
| beta-BHC | 3 | NA | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | 1.9 U | 2.1 U |
| delta-BHC | NA | NA | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | 1.9 U | 2.1 U |
| gamma-BHC | 9 | 2,200 | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | R | 2.1 U |
| Heptachlor | 100 | 650 | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | R | 1.9 U | 2.1 U |
| Aldrin | 40 | 170 | 2 U | 1.8 U | 1.9 U | R | 18 U | 2 U | 1.9 U | 2.1 U |
| Heptachlor epoxide | 70 | NA | 2 U | 1.8 U | 1.9 U | 11 | 18 U | 2 U | 1.9 U | 2.1 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | 1.9 U | 2.1 U |
| Dieldrin | 4 | 180 | 3.9 U | 3.5 U | 3.7 U | [redacted] | 36 U | R | 3.8 U | 4.1 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.9 U | 3.5 U | 3.7 U | R | 36 U | 140 E | 3.8 U | 1.9 J |
| Endrin | 1,000 | 310,000 | 3.9 U | 3.5 U | 3.7 U | 3.7 U | 36 U | R | 4.7 EN | 4.1 U |
| Endosulfan II | 18,000 | 50,000 | 3.9 U | 3.5 U | 3.7 U | R | 36 U | 3.8 U | 10 EN | 4.1 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.9 U | 3.5 U | 3.7 U | 3.7 U | 42 E | 100 E | 3.8 U | 1.8 J |
| Endosulfan sulfate | 18,000 | 50,000 | 3.9 U | 3.5 U | 3.7 U | 3.7 U | 36 U | 3.8 U | 3.8 U | 4.1 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.9 U | 3.5 U | 3.7 U | 3.7 U | R | 3.8 U | 3.8 U | 4.1 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 18 U | 19 U | R | 180 U | R | 19 U | 4.8 J |
| Endrin ketone | 1,000 | NA | 3.9 U | 3.5 U | 3.7 U | R | 36 U | R | R | 4.1 U |
| Endrin aldehyde | 1,000 | NA | 3.9 U | 3.5 U | 3.7 U | 3.7 U | 36 U | 3.8 U | 3.8 U | 4.1 U |
| alpha-Chlordane | 500 | NA | 2 U | 1.8 U | 1.9 U | 1.9 U | 18 U | 2 U | 1.9 U | 2.1 U |
| gamma-Chlordane | 500 | NA | 2 U | 1.8 U | 1.9 U | R | 18 U | 70 E | 1.9 U | 2.1 U |
| Toxaphene | 600 | 200 | 200 U | 180 U | 190 U | 190 U | 1800 U | 200 U | 190 U | 210 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 38 U | 41 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 78 U | 71 U | 75 U | 76 U | 730 U | 78 U | 76 U | 83 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 38 U | 41 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 38 U | 41 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 38 U | 41 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 130 E | 41 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 39 U | 35 U | 37 U | 37 U | 360 U | 38 U | 38 U | 41 U |

NOTES:

[redacted]
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #. 302-0004

| PESTICIDES/PCBs | | | DUPLICATE OF SS-83 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SS-DUP-03 | SS-84 | SS-85 | SS-86 | SS-87 | SS-88 | SS-89 |
| Traffic Report No. | | | BXE90 | BXC64DL | BXC65 | BXC66 | BXC67 | BXC68DL | BXR22 |
| Matrix | USEPA | New Jersey Non- | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Soil Screening | Residential | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | Level (SSL) | Direct Contact | 1 | 10 | 1 | 1 | 1 | 10 | 1 |
| Percent Moisture | (ug/kg) | Soil Cleanup Criteria | 18 | 12 | 24 | 16 | 37 | 11 | 12 |
| Asphalt/Soil* | | (ug/kg) | Asphalt - 8" | No asphalt | Asphalt - 12" | Asphalt - 10" | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | 0 - 18" | 1 - 11" | 0 - 14" | 0 - 12" | 2 - 12" | 2 - 12" | 0 - 8" |
| alpha-BHC | 0.5 | NA | 2.1 U | 18 U | 2.2 U | 2 U | R | 18 U | 1.9 U |
| beta-BHC | 3 | NA | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 U | 18 U | 1.9 U |
| delta-BHC | NA | NA | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 U | 18 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 E | 18 U | 1.9 U |
| Heptachlor | 100 | 650 | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 U | 18 U | 1.9 U |
| Aldrin | 40 | 170 | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 E | 18 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 2.1 U | 18 U | 2.2 U | 2 U | 2.6 E | 18 U | R |
| Endosulfan I | 18,000 | 50,000 | 2.1 U | 18 U | 2.2 U | 2 U | R | 18 U | 1.9 U |
| Dieldrin | 4 | 180 | 4 U | 36 U | 4.3 U | 3.9 U | 5.9 E | 35 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 4 U | 36 U | 4.3 U | 3.9 U | R | 35 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 4 U | 4.9 U | 4.3 U | 3.9 U | R | 35 U | 8.5 |
| Endosulfan II | 18,000 | 50,000 | 4 U | 36 U | 4.3 U | 3.9 U | R | 35 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 2.8 J | 36 U | 4.3 U | 3.9 U | 5 U | 35 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4 U | 21 U | 4.3 U | 3.9 U | 5 U | 35 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 4 U | 36 U | 4.3 U | 3.9 U | 100 E | 35 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 21 U | 180 U | 22 U | 20 U | R | 180 U | 19 U |
| Endrin ketone | 1,000 | NA | 4 U | 36 U | 4.3 U | 3.9 U | R | 35 U | 2.7 J |
| Endrin aldehyde | 1,000 | NA | 4 U | 36 U | 4.3 U | 3.9 U | 190 E | 35 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 2.1 U | 12 J | 2.2 U | 2 U | R | 18 U | 1.9 U |
| gamma-Chlordane | 500 | NA | 2.1 U | 12 J | 2.2 U | 2 U | 58 E | 18 U | 1.9 U |
| Toxaphene | 600 | 200 | 210 U | 1800 U | 220 U | 200 U | 260 U | 1800 U | 190 U |
| Aroclor-1016 | 1,000*** | 2,000*** | 40 U | 360 U | 43 U | 39 U | 50 U | 350 U | 38 U |
| Aroclor-1221 | 1,000*** | 2,000*** | 82 U | 730 U | 88 U | 80 U | 100 U | 700 U | 76 U |
| Aroclor-1232 | 1,000*** | 2,000*** | 40 U | 360 U | 43 U | 39 U | 50 U | 350 U | 38 U |
| Aroclor-1242 | 1,000*** | 2,000*** | 40 U | 360 U | 43 U | 39 U | 50 U | 350 U | 38 U |
| Aroclor-1248 | 1,000*** | 2,000*** | 40 U | 360 U | 43 U | 39 U | 50 U | 350 U | 38 U |
| Aroclor-1254 | 1,000*** | 2,000*** | 40 U | 360 U | 43 U | 39 U | 50 U | 350 U | 210 |
| Aroclor-1260 | 1,000*** | 2,000*** | 66 E | 360 U | 43 U | 39 U | 50 U | 350 U | 77 |

NOTES:
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture > 0%
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXE94 | BXE95 | BXE96 | BXE97 | BXE98 | BXE99 | BXF00 | BXF01 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 16 | 14 | 12 | 18 | 14 | 12 | 12 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3* | 3 - 5* |
| alpha-BHC | 0.5 | NA | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| beta-BHC | 3 | NA | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| delta-BHC | NA | NA | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Heptachlor | 100 | 650 | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Aldrin | 40 | 170 | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 2 U | 2 U | 2 U | R | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Dieldrin | 4 | 180 | 3.8 U | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 8.5 E | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 3.8 U | 3.9 U | 3.8 U | 4.2 EN | 5.6 | 3.8 U | 3.8 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 3.8 U | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.8 U | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.8 U | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 4.6 EN | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 20 U | 20 U | 4.1 J | 21 U | 20 U | 19 U | 19 U |
| Endrin ketone | 1,000 | NA | 3.8 U | 3.9 U | 3.8 U | 5.1 EN | 4 U | 3.8 U | 3.8 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 3.8 U | 3.9 U | 3.8 U | 3.8 U | 4 U | 3.8 U | 3.8 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| gamma-Chlordane | 500 | NA | 2 U | 2 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.9 U | 1.9 U |
| Toxaphene | 600 | 200 | 200 U | 200 U | 200 U | 190 U | 210 U | 200 U | 190 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 78 U | 80 U | 78 U | 76 U | 82 U | 78 U | 76 U | 76 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 38 U | 40 U | 38 U | 38 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 110 E | 100 | 36 E | 38 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 38 U | 39 U | 38 U | 38 U | 40 U | 38 U | 38 U | 38 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
*Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.*
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | SB-04-01 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-03-03 | SB-04-01 | SB-DUP-04 | SB-04-02 | SB-04-03 | SB-05-01 | SB-05-02 | SB-05-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXF02 | BXF03 | BXR16 | BXF04 | BXF05 | BXF06 | BXF07 | BXF08 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 8 | 16 | 16 | 14 | 15 | 12 | 10 | 16 |
| Depth (in feet) | | | 7 - 9* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 6 - 8 |
| alpha-BHC | 0.5 | NA | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| beta-BHC | 3 | NA | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| delta-BHC | NA | NA | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| gamma-BHC | 9 | 2,200 | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Heptachlor | 100 | 650 | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Aldrin | 40 | 170 | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Heptachlor epoxide | 70 | NA | 1.8 U | R | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Dieldrin | 4 | 180 | 3.6 U | R | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| Endrin | 1,000 | 310,000 | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 35 E | 3.7 U | 3.9 U |
| Endosulfan II | 18,000 | 50,000 | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.6 U | 8.1 E | 3.9 U | 3.8 U | 3.9 U | 7.1 EN | 3.7 U | 3.9 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 20 U | 20 U | 20 U | 20 U | 7 J | 19 U | 20 U |
| Endrin ketone | 1,000 | NA | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| Endrin aldehyde | 1,000 | NA | 3.6 U | 3.9 U | 3.9 U | 3.8 U | 3.9 U | 3.8 U | 3.7 U | 3.9 U |
| alpha-Chlordane | 500 | NA | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| gamma-Chlordane | 500 | NA | 1.8 U | 2 U | 2 U | 2 U | 2 U | 1.9 U | 1.9 U | 2 U |
| Toxephene | 600 | 200 | 180 U | 200 U | 200 U | 200 U | 200 U | 190 U | 190 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 36 U | 39 U | 39 U | 38 U | 39 U | 38 U | 37 U | 39 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 73 U | 80 U | 80 U | 78 U | 79 U | 76 U | 74 U | 80 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 36 U | 39 U | 39 U | 38 U | 39 U | 38 U | 37 U | 39 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 36 U | 39 U | 39 U | 38 U | 39 U | 38 U | 37 U | 39 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 36 U | 39 U | 39 U | 38 U | 39 U | 38 U | 37 U | 39 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 36 U | 250 E | 210 E | 38 U | 39 U | 810 E | 37 U | 39 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 36 U | 54 E | 60 EN | 38 U | 39 U | 38 U | 37 U | 39 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL and above the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXF09 | BXF10 | BXF11 | BXF12 | BXF13 | BXF14 | BXQ74 | BXQ75 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 14 | 13 | 10 | 15 | 12 | 9 | 16 | 10 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 |
| alpha-BHC | 0.5 | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| beta-BHC | 3 | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| delta-BHC | NA | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| Heptachlor | 100 | 650 | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 65 EN | 1.9 U |
| Aldrin | 40 | 170 | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | R | 1.9 U |
| Heptachlor epoxide | 70 | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| Dieldrin | 4 | 180 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | R | 3.7 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 20 E | 3.7 U |
| Endrin | 1,000 | 310,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | R | 3.7 U |
| Endosulfan II | 18,000 | 50,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 3.9 U | 3.7 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 3.9 U | 3.7 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 3.9 U | 3.7 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | R | 3.7 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 20 U | 19 U | 20 U | 19 U | 19 U | 20 U | 19 U |
| Endrin ketone | 1,000 | NA | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 3.9 U | 3.7 U |
| Endrin aldehyde | 1,000 | NA | 3.8 U | 3.8 U | 3.7 U | 3.9 U | 3.8 U | 3.6 U | 3.9 U | 3.7 U |
| alpha-Chlordane | 500 | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| gamma-Chlordane | 500 | NA | 2 U | 2 U | 1.9 U | 2 U | 1.9 U | 1.9 U | 2 U | 1.9 U |
| Toxaphene | 600 | 200 | 200 U | 200 U | 190 U | 200 U | 190 U | 190 U | 200 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 78 U | 77 U | 74 U | 79 U | 76 U | 74 U | 80 U | 74 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 38 U | 38 U | 37 U | 39 U | 38 U | 36 U | 39 U | 37 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| *PESTICIDES/PCBs* | | | *SB-08-02* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-01 | SB-08-03 | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 |
| Traffic Report No. | USEPA | New Jersey Non- | BXQ77 | BXQ76 | BXR19 | BXR20 | BXR21 | BXQ71 | BXQ72 | BXQ73 |
| Matrix | *Soil Screening* | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | *Level (SSL)* | *Direct Contact* | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 10 | 15 | 12 | 15 | 11 | 15 | 14 | 12 |
| Depth (in feet) | | | 6 - 8 | 10 - 12 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 11 - 12* |
| alpha-BHC | 0.5 | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| beta-BHC | 3 | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| delta-BHC | NA | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Heptachlor | 100 | 650 | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Aldrin | 40 | 170 | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Endosulfan I | 18,000 | 50,000 | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Dieldrin | 4 | 180 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 3.7 U | 2.4 J | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 19 U | 20 U | 19 U | 20 U | 19 U | 20 U | 20 U | 19 U |
| Endrin ketone | 1,000 | NA | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 3.7 U | 3.9 U | 3.8 U | 3.9 U | 3.7 U | 3.9 U | 3.8 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| gamma-Chlordane | 500 | NA | 1.9 U | 2 U | 1.9 U | 2 U | 1.9 U | 2 U | 2 U | 1.9 U |
| Toxaphene | 600 | 200 | 190 U | 200 U | 190 U | 200 U | 190 U | 200 U | 200 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 37 U | 39 U | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 74 U | 79 U | 76 U | 79 U | 75 U | 79 U | 78 U | 76 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 37 U | 39 U | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 37 U | 39 U | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 37 U | 39 U | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 37 U | 35 J | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 37 U | 39 U | 38 U | 39 U | 37 U | 39 U | 38 U | 38 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
*J - estimated value, compound present below CRQL but above IDL*
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | SB-11-02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-11-01 | SB-11-02 | SB-DUP-06 | SB-11-03 | SB-12-01 | SB-12-02 | SB-12-03 | SB-13-01 |
| Traffic Report No. | USEPA | New Jersey Non- | BXR40 | BXR41 | BXR24 | BXR42 | BXQ93 | BXQ94 | BXQ95 | BXQ96 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 15 | 15 | 14 | 16 | 15 | 7 | 10 | 16 |
| Depth (in feet) | | | 1 - 3* | 3 - 5* | 3 - 5* | 7 - 9* | 1 - 3* | 5 - 7* | 11 - 13* | 1 - 3* |
| alpha-BHC | 0.5 | NA | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| beta-BHC | 3 | NA | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| delta-BHC | NA | NA | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-BHC | 9 | 2,200 | [redacted] | 7.4 | 4.8 | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Heptachlor | 100 | 650 | R | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Aldrin | 40 | 170 | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Heptachlor epoxide | 70 | NA | R | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Dieldrin | 4 | 180 | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| Endrin | 1,000 | 310,000 | R | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| Endosulfan II | 18,000 | 50,000 | R | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 19 U | 18 U | 19 U | 20 U | 18 U | 19 U | 20 U |
| Endrin ketone | 1,000 | NA | 3.6 U | 3.7 U | 3.5 U | 3.7 U | 6.7 E | 4.6 E | 3.7 U | 3.9 U |
| Endrin aldehyde | 1,000 | NA | R | 3.7 U | 1.4 J | 3.7 U | 3.9 U | 3.5 U | 3.7 U | 3.9 U |
| alpha-Chlordane | 500 | NA | 1.8 U | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-Chlordane | 500 | NA | 1.4 J | 1.9 U | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Toxaphene | 600 | 200 | 180 U | 190 U | 180 U | 190 U | 200 U | 180 U | 190 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 72 U | 76 U | 71 U | 74 U | 79 U | 72 U | 74 U | 80 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 36 U | 37 U | 35 U | 37 U | 39 U | 35 U | 37 U | 39 U |

NOTES:
**Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter**
[redacted]

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-13-02 | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ97 | BXQ98 | BXQ99 | BXR00 | BXR01 | BXQ89 | BXQ90 | BXQ91 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 6 | 9 | 16 | 7 | 7 | 15 | 6 | 5 |
| Depth (in feet) | | | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| alpha-BHC | 0.5 | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| beta-BHC | 3 | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| delta-BHC | NA | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| gamma-BHC | 9 | 2,200 | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Heptachlor | 100 | 650 | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Aldrin | 40 | 170 | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Heptachlor epoxide | 70 | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Endosulfan I | 18,000 | 50,000 | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Dieldrin | 4 | 180 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| Endrin | 1,000 | 310,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| Endosulfan II | 18,000 | 50,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 19 U | 20 U | 18 U | 18 U | R | 18 U | 18 U |
| Endrin ketone | 1,000 | NA | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| Endrin aldehyde | 1,000 | NA | 3.5 U | 3.6 U | 3.9 U | 3.5 U | 3.5 U | R | 3.5 U | 3.5 U |
| alpha-Chlordane | 500 | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| gamma-Chlordane | 500 | NA | 1.8 U | 1.9 U | 2 U | 1.8 U | 1.8 U | R | 1.8 U | 1.8 U |
| Toxaphene | 600 | 200 | 180 U | 190 U | 200 U | 180 U | 180 U | R | 180 U | 180 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 71 U | 74 U | 80 U | 72 U | 72 U | R | 71 U | 70 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 35 U | 36 U | 39 U | 35 U | 35 U | R | 35 U | 35 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | SB-15-03 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-DUP-03 | SB-16-01 | SB-16-02 | SB-16-03 | SB-17-01 | SB-17-02 | SB-17-03 | SB-18-01 |
| Traffic Report No | USEPA | New Jersey Non- | BXQ92 | BXR04 | BXR05 | BXR06 | BXR37 | BXR38 | BXR39 | BXQ80 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 7 | 18 | 8 | 7 | 14 | 9 | 6 | 13 |
| Depth (in feet) | | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* |
| alpha-BHC | 0.5 | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| beta-BHC | 3 | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| delta-BHC | NA | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| gamma-BHC | 9 | 2,200 | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 2.4 | 1.8 U | 1.7 U | 2 U |
| Heptachlor | 100 | 650 | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| Aldrin | 40 | 170 | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| Heptachlor epoxide | 70 | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| Dieldrin | 4 | 180 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 6.1 E | 3.4 U | 3.3 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 21 U | 18 U | 18 U | 18 U | 18 U | 17 U | 20 U |
| Endrin ketone | 1,000 | NA | R | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 3.5 U | 4 U | 3.6 U | 3.5 U | 3.5 U | 3.4 U | 3.3 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| gamma-Chlordane | 500 | NA | 1.8 U | 2.1 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.7 U | 2 U |
| Toxaphene | 600 | 200 | 180 U | 210 U | 180 U | 180 U | 180 U | 180 U | 170 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 72 U | 82 U | 73 U | 72 U | 70 U | 69 U | 67 U | 77 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 35 U | 40 U | 36 U | 35 U | 35 U | 34 U | 33 U | 38 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria (Soil Leachate)

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CROL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SS-18-02 | SB-18-03 | SB-19-01 | SB-19-02 | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ81 | BXQ82 | BXQ83 | BXQ84 | BXQ85 | BXR07 | BXR08 | BXR09 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 13 | 17 | 8 | 8 | 13 | 8 | 11 |
| Depth (in feet) | | | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| alpha-BHC | 0.5 | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| beta-BHC | 3 | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| delta-BHC | NA | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| gamma-BHC | 9 | 2,200 | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Heptachlor | 100 | 650 | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Aldrin | 40 | 170 | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Heptachlor epoxide | 70 | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Endosulfan I | 18,000 | 50,000 | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Dieldrin | 4 | 180 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| Endrin | 1,000 | 310,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| Endosulfan II | 18,000 | 50,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| Methoxychlor | 160,000 | 50,000 | 19 U | 20 U | R | 18 U | 18 U | 20 U | 18 U | 19 U |
| Endrin ketone | 1,000 | NA | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| Endrin aldehyde | 1,000 | NA | 3.8 U | 3.8 U | R | 3.6 U | 3.6 U | 3.8 U | 3.6 U | 3.7 U |
| alpha-Chlordane | 500 | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| gamma-Chlordane | 500 | NA | 1.9 U | 2 U | R | 1.8 U | 1.8 U | 2 U | 1.8 U | 1.9 U |
| Toxaphene | 600 | 200 | 190 U | 200 U | R | 180 U | 180 U | 200 U | 180 U | 190 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 76 U | 77 U | R | 73 U | 73 U | 77 U | 73 U | 75 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 38 U | 38 U | R | 36 U | 36 U | 38 U | 36 U | 37 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
*R - analysis did not pass EPA QA/QC*
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o *asphalt and* 18" of *concrete).* The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1 5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXR43 | BXR44 | BXR45 | BXR28 | BXR29 | BXF60 | BXF61 | BXR10 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 13 | 7 | 15 | 16 | 20 | 12 | 14 | 16 |
| Depth (in feet) | | | 1 - 3* | 5 - 7* | 7 - 9* | 1 - 3* | 9 - 11* | 1 - 3* | 3 - 5* | 2 - 4** |
| alpha-BHC | 0.5 | NA | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| beta-BHC | 3 | NA | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| delta-BHC | NA | NA | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| gamma-BHC | 9 | 2,200 | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Heptachlor | 100 | 650 | 1.7 J | 1.7 J | 1.7 J | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Aldrin | 40 | 170 | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Heptachlor epoxide | 70 | NA | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Dieldrin | 4 | 180 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 4.2 E | 3.7 J | 3.9 U |
| Endrin | 1,000 | 310,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.8 U | 3.8 U | 3.9 U |
| Endosulfan II | 18,000 | 50,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDD | 3,000 | 12,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.3 E | 2.6 J | 3.9 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.8 U | 3.8 U | 3.9 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 U | 3.8 U | 7.5 E | 3.9 U |
| Methoxychlor | 160,000 | 50,000 | 19 U | 18 U | 19 U | 20 U | 21 U | 19 U | 20 U | 20 U |
| Endrin ketone | 1,000 | NA | 3.7 U | 3.4 U | 3.8 U | 3.9 U | 4.1 E | 3.8 U | 3.8 U | 3.9 U |
| Endrin aldehyde | 1,000 | NA | 1.3 J | 3.4 U | 0.98 J | 3.9 U | 4.1 U | 3.8 U | 3.8 U | 3.9 U |
| alpha-Chlordane | 500 | NA | 1.9 U | 1.8 U | 1.9 U | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| gamma-Chlordane | 500 | NA | 2.2 | 1.8 U | 2.2 E | 2 U | 2.1 U | 1.9 U | 2 U | 2 U |
| Toxaphene | 600 | 200 | 190 U | 180 U | 190 U | 200 U | 210 U | 190 U | 200 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 39 U | 41 U | 38 U | 38 U | 39 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 75 U | 69 U | 76 U | 80 U | 84 U | 76 U | 78 U | 80 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 39 U | 41 U | 38 U | 38 U | 39 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 39 U | 41 U | 38 U | 38 U | 39 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 39 U | 41 U | 38 U | 38 U | 39 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 39 U | 41 U | 38 U | 38 U | 75 E |
| Aroclor-1260 | 1,000**** | 2,000**** | 37 U | 34 U | 38 U | 160 E | 41 U | 38 U | 38 U | 39 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-24-02 | SB-24-03 | SB-25-01 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXR11 | BXR12 | BXR25 | BXR26 | BXR27 | BXF57 | BXF58 | BXF59 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 26 | 18 | 17 | 14 | 15 | 17 | 17 | 5 |
| Depth (in feet) | | | 6 - 8** | 10 - 12** | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 8 - 10 |
| alpha-BHC | 0.5 | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2.4 E | 2 U | 1.8 U |
| beta-BHC | 3 | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| delta-BHC | NA | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| gamma-BHC | 9 | 2,200 | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| Heptachlor | 100 | 650 | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 1.8 J | 2 U | 1.8 U |
| Aldrin | 40 | 170 | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| Heptachlor epoxide | 70 | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| Endosulfan I | 18,000 | 50,000 | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| Dieldrin | 4 | 180 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| 4,4'-DDE | 2,000 | 9,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| Endrin | 1,000 | 310,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| Endosulfan II | 18,000 | 50,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| 4,4'-DDD | 3,000 | 12,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 7.5 E | 4 U | 3.5 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| 4,4'-DDT | 2,000 | 9,000 | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 27 E | 4 U | 3.5 U |
| Methoxychlor | 160,000 | 50,000 | 23 U | 21 U | 20 U | 20 U | 20 U | 20 U | 20 U | 18 U |
| Endrin ketone | 1,000 | NA | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| Endrin aldehyde | 1,000 | NA | 4.4 U | 4 U | 4 U | 3.8 U | 3.9 U | 4 U | 4 U | 3.5 U |
| alpha-Chlordane | 500 | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| gamma-Chlordane | 500 | NA | 2.3 U | 2.1 U | 2 U | 2 U | 2 U | 2 U | 2 U | 1.8 U |
| Toxaphene | 600 | 200 | 230 U | 210 U | 200 U | 200 U | 200 U | 200 U | 200 U | 180 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 90 U | 82 U | 81 U | 78 U | 79 U | 81 U | 81 U | 70 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 44 U | 40 U | 40 U | 38 U | 39 U | 40 U | 40 U | 35 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - *analysis did not pass EPA QA/QC*
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o *asphalt and 18" of concrete*). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No. | | | SB-27-01 | SB-27-02 | SB-27-03 | SB-28-01 | SB-28-02 | SB-28-03 | SB-29-01 | SB-29-02 |
|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXQ86 | BXQ87 | BXQ88 | BXR10 | BXR11 | BXR12 | BXR13 | BXR14 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 7 | 13 | 9 | 18 | 16 | 7 | 10 | 14 |
| Depth (in feet) | | | 1 - 3* | 7 - 9* | 11 - 13* | 0 - 2 | 4 - 6 | 8 - 10 | 1.5 - 3.5*** | 7.5 - 9.5*** |
| alpha-BHC | 0.5 | NA | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 0.5 J | 2 U |
| beta-BHC | 3 | NA | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| delta-BHC | NA | NA | 1.8 U | 2 U | 1.9 U | 2.2 U | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-BHC | 9 | 2,200 | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Heptachlor | 100 | 650 | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Aldrin | 40 | 170 | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Heptachlor epoxide | 70 | NA | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Endosulfan I | 18,000 | 50,000 | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Dieldrin | 4 | 180 | R | 3.8 U | 3.6 U | 4 U | 3.9 U | 0.82 J | 3.7 U | 3.8 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.5 U | 3.8 U | 3.6 U | 10 E | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| Endrin | 1,000 | 310,000 | 3.5 U | 3.8 U | 3.6 U | 8.9 EN | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| Endosulfan II | 18,000 | 50,000 | 3.5 U | 3.8 U | 3.6 U | 4 U | 0.19 EN | 3.5 U | 3.7 U | 3.8 U |
| 4,4'-DDD | 3,000 | 12,000 | 6.8 E | 3.8 U | 3.6 U | 4 U | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.5 U | 3.8 U | 3.6 U | 4 U | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.5 U | 3.8 U | 3.6 U | 4 U | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 20 U | 19 U | 21 U | 20 U | 5.8 J | 19 U | 20 U |
| Endrin ketone | 1,000 | NA | 8.3 E | 3.8 U | 3.6 U | 4 U | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| Endrin aldehyde | 1,000 | NA | 3.5 U | 3.8 U | 3.6 U | 4 U | 3.9 U | 3.5 U | 3.7 U | 3.8 U |
| alpha-Chlordane | 500 | NA | 1.8 U | 2 U | 1.9 U | 4.5 E | 2 U | 1.8 U | 1.9 U | 2 U |
| gamma-Chlordane | 500 | NA | 1.8 U | 2 U | 1.9 U | 2.1 U | 2 U | 1.8 U | 1.9 U | 2 U |
| Toxaphene | 600 | 200 | 180 U | 200 U | 190 U | 210 U | 200 U | 180 U | 190 U | 200 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 40 U | 39 U | 35 U | 37 U | 38 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 72 U | 77 U | 74 U | 82 U | 80 U | 72 U | 74 U | 78 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 40 U | 39 U | 35 U | 37 U | 38 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 40 U | 39 U | 35 U | 37 U | 38 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 40 U | 39 U | 35 U | 37 U | 38 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 230 | 39 U | 35 U | 81 E | 38 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 35 U | 38 U | 36 U | 40 U | 39 U | 35 U | 37 U | 38 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6" o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | | | SB-29-03 | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 | SB-31-02 SB-DUP-14 |
| Traffic Report No | USEPA | New Jersey Non- | BXR15 | BXF63 | BXF64 | BXF65 | BXR48RE | BXR49 | BXR50 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | 17 | 14 | 21 | 16 | 8 | 4 | 4 |
| Depth (in feet) | | | 9.5 - 11.5*** | 1 - 3* | 3 - 5* | 13 - 15* | 2 - 4 | 8 - 10 | 8 - 10 |
| alpha-BHC | 0.5 | NA | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| beta-BHC | 3 | NA | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| delta-BHC | NA | NA | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| gamma-BHC | 9 | 2,200 | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Heptachlor | 100 | 650 | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Aldrin | 40 | 170 | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Heptachlor epoxide | 70 | NA | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Endosulfan I | 18,000 | 50,000 | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Dieldrin | 4 | 180 | 4 U | 3.8 U | 4.2 E | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| 4,4'-DDE | 2,000 | 9,000 | 4 U | 3.8 U | 4.2 U | 3.9 U | 1.2 J | 3.4 U | 3.4 U |
| Endrin | 1,000 | 310,000 | 4 U | 14 EN | 2.9 J | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| Endosulfan II | 18,000 | 50,000 | 4 U | 3.8 U | 4.2 U | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| 4,4'-DDD | 3,000 | 12,000 | 4 U | 20 E | 4.2 U | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| Endosulfan sulfate | 18,000 | 50,000 | 4 U | 3.8 U | 4.2 U | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| 4,4'-DDT | 2,000 | 9,000 | 4 U | 3.8 U | 4.2 U | 3.9 U | 0.8 J | 3.4 U | 3.4 U |
| Methoxychlor | 160,000 | 50,000 | 20 U | 20 U | 22 U | 20 U | 18 U | 18 U | 68 E |
| Endrin ketone | 1,000 | NA | 4 U | 3.8 U | 4.2 U | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| Endrin aldehyde | 1,000 | NA | 4 U | 3.8 U | 4.2 U | 3.9 U | 3.5 U | 3.4 U | 3.4 U |
| alpha-Chlordane | 500 | NA | 2 U | 2 U | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| gamma-Chlordane | 500 | NA | 2 U | 17 E | 2.2 U | 2 U | 1.8 U | 1.8 U | 1.8 U |
| Toxaphene | 600 | 200 | 200 U | 200 U | 220 U | 200 U | 180 U | 180 U | 180 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 40 U | 38 U | 42 U | 39 U | 35 U | 34 U | 34 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 81 U | 78 U | 85 U | 80 U | 72 U | 70 U | 70 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 40 U | 38 U | 42 U | 39 U | 35 U | 34 U | 34 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 40 U | 38 U | 42 U | 39 U | 35 U | 34 U | 34 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 40 U | 38 U | 42 U | 39 U | 35 U | 34 U | 34 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 40 U | 480 E | 67 E | 39 U | 35 U | 34 U | 34 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 40 U | 38 U | 42 U | 39 U | 35 U | 34 U | 34 U |

NOTES:
Value is above the SSL but there is no NJDEP Soil Cleanup Criteria for this parameter
Value is above the SSL, but below the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' o asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).
*** - Sample location was covered with 1.5 feet of frozen ground
**** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDES/PCBs

| Sample ID No | | | TP-01 | TP-02 | TP-03 | TP-03A | TP-04 | TP-04A | TP-05 | TP-06 | TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | USEPA | New Jersey Non- | BXC71 | BXC72 | BXC73 | BXE91 | BXC74 | BXE92 | BXC75 | BXC76DL | BXE93 |
| Matrix | Soil Screening | Residential | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | Level (SSL) | Direct Contact | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 1 |
| Percent Moisture | | (ug/kg) | 12 | 9 | 12 | 18 | 12 | 9 | 15 | 10 | 4 |
| Depth (in feet) | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |
| alpha-BHC | 0.5 | NA | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| beta-BHC | 3 | NA | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| delta-BHC | NA | NA | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| gamma-BHC | 9 | 2,200 | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| Heptachlor | 100 | 650 | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | R | 1.7 U |
| Aldrin | 40 | 170 | 1.8 U | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| Heptachlor epoxide | 70 | NA | 6.7 E | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| Endosulfan I | 18,000 | 50,000 | 26 | 1.8 U | 1.7 U | 2 U | 1.9 U | R | 1.9 U | 18 U | 1.7 U |
| Dieldrin | 4 | 180 | [redacted] 3.6 E | 3.4 U | 3.3 U | 3.8 U | 3.6 U | R | 3.8 U | 36 U | 3.3 U |
| 4,4'-DDE | 2,000 | 9,000 | 3.6 U | 3.4 U | 3.3 U | 3.8 U | R | R | 3.8 U | 36 U | 3.3 U |
| Endrin | 1,000 | 310,000 | R | 9.7 E | 3.3 U | 3.8 U | 3.6 U | R | R | 36 U | 3.3 U |
| Endosulfan II | 18,000 | 50,000 | R | 3.4 U | 3.3 U | 3.8 U | 3.6 U | R | R | 36 U | 3.3 U |
| 4,4'-DDD | 3,000 | 12,000 | R | 17 E | 3.3 U | 3.8 U | 3.6 U | R | 3.8 U | 36 U | 3.3 U |
| Endosulfan sulfate | 18,000 | 50,000 | 3.6 U | 3.2 J | 3.3 U | 3.8 U | 3.6 U | R | 3.8 U | 36 U | 3.3 U |
| 4,4'-DDT | 2,000 | 9,000 | 3.6 U | 3.4 U | 30 EN | 3.8 U | R | R | 3.8 U | 36 U | 3.3 U |
| Methoxychlor | 160,000 | 50,000 | 18 U | 18 U | 17 U | 20 U | 19 U | R | 19 U | 180 U | 17 U |
| Endrin ketone | 1,000 | NA | R | 3.4 U | 3.3 U | 3.8 U | 3.6 U | R | 3.8 U | 36 U | 3.3 U |
| Endrin aldehyde | 1,000 | NA | R | 10 E | 3.3 U | 3.8 U | 3.6 U | R | 3.8 U | 36 U | 3.3 U |
| alpha-Chlordane | 500 | NA | 4.7 E | 1.8 U | 1.7 U | 2 U | 1.9 U | 2.5 E | 1.9 U | 18 U | 1.7 U |
| gamma-Chlordane | 500 | NA | 1.8 U | 1.8 U | 1.7 U | 2 U | 4 EN | R | 1.9 U | 18 U | 1.7 U |
| Toxaphene | 600 | 200 | 180 U | 180 U | 170 U | 200 U | 190 U | R | 190 U | 1800 U | 170 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 36 U | 34 U | 33 U | 38 U | 36 U | R | 38 U | 360 U | 33 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 73 U | 70 U | 68 U | 77 U | 74 U | R | 77 U | 730 U | 68 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 36 U | 34 U | 33 U | 38 U | 36 U | R | 38 U | 360 U | 33 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 36 U | 34 U | 33 U | 38 U | 36 U | R | 38 U | 360 U | 33 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 36 U | 34 U | 33 U | 38 U | 36 U | R | 38 U | 360 U | 33 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 36 U | 34 U | 150 E | 38 U | 36 U | R | 38 U | 360 U | 33 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 36 U | 34 U | 33 U | 38 U | 36 U | R | 38 U | 360 U | 33 U |

NOTES:
[redacted]

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
*** - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | DUPLICATE OF SD-01 | |
|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey Non- | SD-01 | SD-DUP-01 | SD-04 |
| Traffic Report No. | Soil Screening | Residential | BXR33 | BXR34 | BXR36 |
| Matrix | Level (SSL) | Direct Contact | SOIL | SOIL | SOIL |
| Units | (ug/kg) | Soil Cleanup Criteria | ug/kg | ug/kg | ug/kg |
| Dilution Factor | | (ug/kg) | 10 | 10 | 10 |
| Percent Moisture | | | 31 | 30 | 41 |
| alpha-BHC | 0.5 | NA | R | R | 2800 EN |
| beta-BHC | 3 | NA | 23 U | 22 U | R |
| delta-BHC | NA | NA | 23 U | 22 U | 1900 EN |
| gamma-BHC | 9 | 2,200 | 23 U | 22 U | 9300 |
| Heptachlor | 100 | 650 | 23 U | 22 U | 840 E |
| Aldrin | 40 | 170 | 23 U | 22 U | 2600 E |
| Heptachlor epoxide | 70 | NA | 23 U | 22 U | R |
| Endosulfan I | 18,000 | 50,000 | R | 22 U | 25 U |
| Dieldrin | 4 | 180 | 190 E | 180 E | 24000 E |
| 4,4'-DDE | 2,000 | 9,000 | 170 | 42 U | 49 U |
| Endrin | 1,000 | 310,000 | 410 E | 210 EN | R |
| Endosulfan II | 18,000 | 50,000 | 44 U | 42 U | 49 U |
| 4,4'-DDD | 3,000 | 12,000 | 44 U | 42 U | 52000 |
| Endosulfan sulfate | 18,000 | 50,000 | 44 U | 42 U | 8200 E |
| 4,4'-DDT | 2,000 | 9,000 | 44 U | 42 U | 49 U |
| Methoxychlor | 160,000 | 50,000 | 230 U | 530 EN | 250 U |
| Endrin ketone | 1,000 | NA | 430 | 42 U | 3600 EN |
| Endrin aldehyde | 1,000 | NA | 44 U | 42 U | 6900 E |
| alpha-Chlordane | 500 | NA | 670 | 500 | 20000 EN |
| gamma-Chlordane | 500 | NA | 23 U | 22 U | 760 EN |
| Toxaphene | 600 | 200 | 2300 U | 2200 U | 2500 U |
| Aroclor-1016 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |
| Aroclor-1221 | 1,000**** | 2,000**** | 890 U | 850 U | 990 U |
| Aroclor-1232 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |
| Aroclor-1242 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |
| Aroclor-1248 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |
| Aroclor-1254 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |
| Aroclor-1260 | 1,000**** | 2,000**** | 440 U | 420 U | 490 U |

NOTES:

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

U - sample concentration is non-detect

E - estimated value

R - analysis did not pass EPA QA/QC

N - presumptive evidence of the presence of the material

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - this number is for total PCBs

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDE/PCBs

| Sample ID No. | BM-WIPE-01 | BM-WIPE-02 | BM-WIPE-03 | BM-WIPE-04 | BM-WIPE-05 | BM-WIPE-06 | BM-WIPE-07 | BM-WIPE-08 | BM-WIPE-09 | BM-WIPE-10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | 9901-2309 | 9901-2310 | 9901-2311 | 9901-2312 | 9901-2314 | 9901-2315 | 9901-2316 | 9901-2317 | 9901-2318 | 9901-2319 |
| Matrix | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe |
| Units | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| Dilution Factor | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 100 | 50 |
| Percent Moisture | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-BHC | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| beta-BHC | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| delta-BHC | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| gamma-BHC (Lindane) | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| Heptachlor | 18 J | 55 J | 76 J | 721 U | 33 J | 413 U | 564 U | 41 J | 721 U | 574 |
| Aldrin | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 38 J | 574 |
| Heptachlor epoxide | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| Endosulfan I | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| Dieldrin | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| 4,4'-DDE | 608 U | 1409 U | 1512 U | 49 J | 939 J | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| Endrin | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| Endosulfan II | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| 4,4'-DDD | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| Endosulfan sulfate | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 800 J | 1148 U | 1395 U | 1148 |
| 4,4'-DDT | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 618 J | 1148 U | 1395 U | 1148 |
| Methoxychlor | 3039 U | 568 J | 7561 U | 7209 U | 633 J | 4133 U | 5636 U | 5741 U | 7209 U | 5741 |
| Endrin ketone | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 827 U | 1127 U | 1148 U | 1395 U | 1148 |
| Endrin aldehyde | 608 U | 1409 U | 1512 U | 1442 U | 1265 U | 760 J | 1127 U | 1148 U | 1395 U | 1148 |
| alpha-Chlordane | 304 U | 705 U | 756 U | 721 U | 633 U | 413 U | 564 U | 574 U | 721 U | 574 |
| gamma-Chlordane | 304 U | 705 U | 146 J | 721 U | 633 U | 560 E | 147 J | 574 U | 721 U | 574 |
| Toxaphene | 30392 U | 70455 U | 75610 U | 72093 U | 63265 U | 41333 U | 56364 U | 57407 U | 72093 U | 57407 |
| Aroclor-1016 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |
| Aroclor-1221 | 11765 U | 27273 U | 29268 U | 27907 U | 24490 U | 16000 U | 21818 U | 22222 U | 29070 U | 22222 |
| Aroclor-1232 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |
| Aroclor-1242 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |
| Aroclor-1248 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |
| Aroclor-1254 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |
| Aroclor-1260 | 6078 U | 14091 U | 15122 U | 14419 U | 12653 U | 8267 U | 11273 U | 11481 U | 13953 U | 11481 |

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #: 302-0004

PESTICIDE/PCBs

| Sample ID No. | | BM-WIPE-11 | BM-WIPE-12 | BM-WIPE-13 | BM-WIPE-14 |
|---|---|---|---|---|---|
| *Lab ID No.* | | 9901-2320 | 9901-2321 | 9901-2322 | 9901-2323 |
| Matrix | | wipe | wipe | wipe | wipe |
| Units | | ug/kg | ug/kg | ug/kg | ug/kg |
| *Dilution Factor* | | *50* | *50* | *50* | *50* |
| Percent Moisture | | NA | NA | NA | NA |
| alpha-BHC | U | 470 U | 544 U | 470 U | 525 U |
| beta-BHC | U | 470 U | 544 U | 470 U | 525 U |
| delta-BHC | U | 470 U | 544 U | 470 U | 525 U |
| gamma-BHC (Lindane) | U | 470 U | 544 U | 470 U | 525 U |
| Heptachlor | U | 45 J | 544 U | 470 U | 22 J |
| Aldrin | U | 29 J | 544 U | 470 U | 525 U |
| Heptachlor epoxide | U | 470 U | 544 U | 470 U | 525 U |
| Endosulfan I | U | 470 U | 544 U | 470 U | 525 U |
| Dieldrin | U | 939 U | 1088 U | 939 U | 1051 U |
| 4,4'-DDE | U | 939 U | 1088 U | 939 U | 1051 U |
| Endrin | U | 939 U | 1088 U | 939 U | 1051 U |
| Endosulfan II | U | 939 U | 1088 U | 939 U | 1051 U |
| 4,4'-DDD | U | 939 U | 1088 U | 939 U | 1051 U |
| *Endosulfan sulfate* | U | 939 U | 1088 U | 939 U | 1051 U |
| 4,4'-DDT | U | 939 U | 1088 U | 939 U | 1051 U |
| Methoxychlor | U | 1030 J | 5439 U | 4697 U | 5254 U |
| Endrin ketone | U | 939 U | 1088 U | 939 U | 1051 U |
| Endrin aldehyde | U | 939 U | 1088 U | 939 U | 1051 U |
| alpha-Chlordane | U | 470 U | 544 U | 470 U | 525 U |
| gamma-Chlordane | U | 470 U | 544 U | 470 U | 525 U |
| Toxaphene | U | 46970 U | 54386 U | 46970 U | 52542 U |
| Aroclor-1016 | U | 9394 U | 10877 U | 9394 U | 10508 U |
| Aroclor-1221 | U | 18182 U | 21053 U | 18182 U | 20339 U |
| Aroclor-1232 | U | 9394 U | 10877 U | 9394 U | 10508 U |
| Aroclor-1242 | U | 9394 U | 10877 U | 9394 U | 10508 U |
| Aroclor-1248 | U | 9394 U | 10877 U | 9394 U | 10508 U |
| Aroclor-1254 | U | 9394 U | 10877 U | 9394 U | 10508 U |
| Aroclor-1260 | U | 9394 U | 10877 U | 9394 U | 10508 U |

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #: 302-0004

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

PESTICIDES/PCBs

| Sample ID No. | USEPA | New Jersey | GW-MW-1S | GW-MW-1D | GW-MW-2S | GW-MW-3S | GW-MW-3D | GW-MW-4S |
|---|---|---|---|---|---|---|---|---|
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF66 | BXF67 | BXF68 | BXF69 | BXF70 | BXF71 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 |
| alpha-BHC | NA | 0.02 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| beta-BHC | NA | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| delta-BHC | NA | NA | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-BHC | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor | 0.4 | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Aldrin | NA | 0.04 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor epoxide | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.0023 J | 0.05 U | 0.05 U | 0.05 U |
| Endosulfan I | NA | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Dieldrin | NA | 0.03 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDE | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.0019 J | 0.1 U |
| Endrin | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan II | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDD | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan sulfate | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDT | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Methoxychlor | 40 | 40 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Endrin ketone | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endrin aldehyde | NA | NA | 0.02 J | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| alpha-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Toxaphene | NA | 3 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Aroclor-1016 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1221 | 0.5 | 0.5 | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| Aroclor-1232 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1242 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1248 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1254 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1260 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

NOTES:

U - sample concentration is non-detect

B - compound found in lab blank as well as sample, indicating possible/probable blank contamination

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #: 302-0004

NOTE: THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

| PESTICIDES/PCBs | | | | | | | DUPLICATE OF GW-MW-7S | |
|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-5S | GW-MW-5D | GW-MW-6S | GW-MW-7S | GW-MW-DUP01 | GW-MW-7D |
| Traffic Report No. | Maximum Contaminant | Groundwater | BXF72 | BXF73 | BXF74 | BXF75 | BXF77 | BXF76DL |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 10 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 24 - 29 | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 |
| alpha-BHC | NA | 0.02 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| beta-BHC | NA | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| delta-BHC | NA | NA | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| gamma-BHC | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Heptachlor | 0.4 | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Aldrin | NA | 0.04 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Heptachlor epoxide | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Endosulfan I | NA | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Dieldrin | NA | 0.03 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| 4,4'-DDE | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| Endrin | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| Endosulfan II | NA | 0.4 | 0.0033 JB | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| 4,4'-DDD | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| Endosulfan sulfate | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| 4,4'-DDT | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| Methoxychlor | 40 | 40 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.1 U | 5 U |
| Endrin ketone | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| Endrin aldehyde | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 1 U |
| alpha-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| gamma-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.5 U |
| Toxaphene | NA | 3 | 5 U | 5 U | 5 U | 5 U | 5 U | 50 U |
| Aroclor-1016 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |
| Aroclor-1221 | 0.5 | 0.5 | 2 U | 2 U | 2 U | 2 U | 2 U | 20 U |
| Aroclor-1232 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |
| Aroclor-1242 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |
| Aroclor-1248 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |
| Aroclor-1254 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |
| Aroclor-1260 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 10 U |

NOTES:

U - sample concentration is non-detect

B - compound found in lab blank as well as sample, indicating possible/probable blank contamination

J - estimated value, compound present below CRQL but above IDL

Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW2-MW-1S | GW2-MW-1D | GW2-MW-2S | GW2-MW-3S | DUPLICATE OF GW2-MW-3S GW2-MW-DUP-01 | GW2-MW-3D | GW2-MW-4S |
| Traffic Report No. | Maximum Contaminant | Groundwater | BTA09 | BTA10 | BTA11 | BTA12RE | BTA20RE | BTA13 | BTA14 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | ug/L | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 |
| alpha-BHC | NA | 0.02 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| beta-BHC | NA | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| delta-BHC | NA | NA | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-BHC | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor | 0.4 | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Aldrin | NA | 0.04 | 0.024 J | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor epoxide | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Endosulfan I | NA | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Dieldrin | NA | 0.03 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDE | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endrin | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan II | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDD | NA | 0.1 | 0.012 J | 0.01 J | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan sulfate | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDT | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Methoxychlor | 40 | 40 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Endrin ketone | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endrin aldehyde | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| alpha-Chlordane | 0.2 | 0.5 | 0.0037 JN | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-Chlordane | 0.2 | 0.5 | 0.05 U | 0.0089 J | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Toxaphene | NA | 3 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Aroclor-1016 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1221 | 0.5 | 0.5 | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| Aroclor-1232 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1242 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1248 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1254 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1260 | 0.5 | 0.5 | 0.29 J | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - presumptive evidence of the presence of the material

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| PESTICIDES/PCBs<br>Sample ID No.<br>Traffic Report No.<br>Matrix<br>Units<br>Dilution Factor<br>Percent Moisture<br>Screened Interval (in feet) | USEPA<br>Maximum Contaminant<br>Levels<br>(MCLs)<br>ug/L | New Jersey<br>Groundwater<br>Quality Standards<br>(ug/L) | GW2-MW-5S<br>BTA15RE<br>WATER<br>ug/L<br>1<br>--<br>7 - 17 | GW2-MW-5D<br>BTA16<br>WATER<br>ug/L<br>1<br>--<br>24 - 29 | GW2-MW-6S<br>BTA17<br>WATER<br>ug/L<br>1<br>--<br>7 - 17 | GW2-MW-7S<br>BTA18<br>WATER<br>ug/L<br>1<br>--<br>7 - 17 | GW2-MW-7D<br>BTA19<br>WATER<br>ug/L<br>1<br>--<br>24 - 29 |
|---|---|---|---|---|---|---|---|
| alpha-BHC | NA | 0.02 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| beta-BHC | NA | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| delta-BHC | NA | NA | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-BHC | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor | 0.4 | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Aldrin | NA | 0.04 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Heptachlor epoxide | 0.2 | 0.2 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Endosulfan I | NA | 0.4 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Dieldrin | NA | 0.03 | 0.1 U | 0.1 U | 0.0036 J | 0.1 U | 0.1 U |
| 4,4'-DDE | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endrin | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan II | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDD | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endosulfan sulfate | NA | 0.4 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| 4,4'-DDT | NA | 0.1 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Methoxychlor | 40 | 40 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Endrin ketone | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Endrin aldehyde | NA | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| alpha-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| gamma-Chlordane | 0.2 | 0.5 | 0.05 U | 0.05 U | 0.05 U | 0.0067 J | 0.05 U |
| Toxaphene | NA | 3 | 5 U | 5 U | 5 U | 5 U | 5 U |
| Aroclor-1016 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1221 | 0.5 | 0.5 | 2 U | 2 U | 2 U | 2 U | 2 U |
| Aroclor-1232 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1242 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1248 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1254 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |
| Aroclor-1260 | 0.5 | 0.5 | 1 U | 1 U | 1 U | 1 U | 1 U |

NOTES.

U - sample concentration is non-detect

E - estimated value

J - estimated value. compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - presumptive evidence of the presence of the material

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-2153 | 9812-2154 | 9812-2155 | 9901-0841 | 9812-2156 | 9812-2158 | 9901-0842 | 9901-0603 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 16.7 | 13.7 | 10.2 | 18 | 15.7 | 26.6 | 15.4 | 13.4 |
| Asphalt/Soil* | | | | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 7.42 | 7.87 | 4.97 | 7.05 | 6.15 | 7.05 | 7.19 | 5.44 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | 0.042 U | NR | NR | 0.091 U | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 44000 | 32000 E | 53000 E | 9800 E | 18000 E | 26000 | 18900 E | 2570 |

NOTES:
NR - not analyzed
NA - not applicable
*U - sample concentration is non-detect*
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. *If collected below asphalt*, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | | SS-09 | SS-11 | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | | 9901-0595 | 9901-0604 | 9812-1896 | 9812-1897 | 9901-0851 | 9812-1898 | 9812-2149 | 9812-2152 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | | 18.5 | 17.3 | 8.8 | 13.8 | 13.1 | 13.9 | 12.9 | 13.6 |
| Asphalt/Soil* | | | | | Asphalt | Gravel - 24" | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt |
| Sample Depth** | | | | | 3 - 14" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | | 7.54 | 6.34 | 7.89 | 6.72 | 6.73 | 7.13 | 7.74 | 6.8 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | | NR | NR | 0.024 U | NR | NR | NR | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | E | 50800 E | 24000 E | 25000 | 49000 E | 14000 | 28000 | 27000 E | 59000 |

NOTES:
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NA - not applicable
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E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT # 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | | SS-20 | SS-24 | DUPLICATE OF SS-24 SS-DUP-06 | SS-25 | DUPLICATE OF SS-25 SS-DUP-05 | SS-26 | SS-27 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | | 9901-0594 | 9901-0590 | L1440-2 1 | 9901-0591 | 9901-0589 | 9812-1427 | 9812-1428 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | | 21.2 | 16.5 | ng/g | 14.5 | 12.9 | 4 | 12.9 |
| Asphalt/Soil* | | | | | Asphalt - 12" | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt | No asphalt |
| Sample Depth** | | | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 2 - 14" | 2 - 14" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | U | 1 U | 6.6 | NR | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | | 7.43 | 5.23 | NR | 6.75 | 6.57 | 6.27 | 6.1 E |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | | NR | 19 | 18 | NR | NR | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | E | 95200 E | 21000 | NR | 16300 E | 16700 | 35000 | 23000 |

NOTES:
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NA - not applicable
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E - estimated value
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** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT # 302-0004

| Sample ID No | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | DUPLICATE OF SS-27 SS-DUP-02 | SS-28 | SS-29 | SS-30 | SS-31 | SS-32 | SS-33 | SS-37 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1426 | 9812-1429 | 9812-1889 | 9812-1890 | 9812-1891 | 9901-0599 | 9901-0600 | 9901-0843 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 5.5 | 11.9 | 11.2 | 12.9 | 10.3 | 41.9 | 18.4 | 14.9 |
| Asphalt/Soil* | | | | No asphalt | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | No asphalt |
| Sample Depth** | | | | 2 - 14" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 3 - 16" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 2.8 | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 6.21 | 6.18 | 6.89 | 7.51 | 7.69 | 6.28 | 6.93 | 7.02 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | 1.1 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 19000 | 16000 E | 6200 E | 24000 E | 31000 E | 117800 | 60200 | 12900 E |

NOTES:
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NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-40 | SS-41 | SS-42 | SS-43 | SS-44 | SS-45 | SS-46 | SS-48 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1903 | 9812-2140 | 9812-1880 | 9812-1425 | 9812-1167 | 9812-1886 | 9812-1881 | 9812-1168 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 13.7 | 12.8 | 12 | 25.4 | 12.8 | 14.7 | 14.8 | 11.9 |
| Asphalt/Soil* | | | | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt | Asphalt - 10" |
| Sample Depth** | | | | 0 - 12" | 0 - 12" | not given | 2 - 14" | 0 - 12" | 0 - 12" | not given | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 2.4 | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2, >12.5 | 6.1 | 6.87 | 4.62 E | 5.72 | 6.27 | 5.67 | 5.54 E | 6.02 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 0.03 U | NR | NR | NR | 0.032 U | NR | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 670 | 940 E | 24000 | 75000 | 2600 | 24000 E | 8800 | 110000 E |

NOTES:
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NA - not applicable
U - sample concentration is non-detect
E - estimated value
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** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-49 | SS-50 | SS-51 | SS-52 | SS-53 | SS-54 | DUPLICATE OF SS-54 SS-DUP-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1318 | 9812-1156 | 9812-1319 | 9812-1158 | 9812-1882 | 9812-1024 | 9812-1025 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 12 | 14.9 | 11.8 | 12.6 | 8.3 | 11.5 | 9.5 |
| Asphalt/Soil* | | | | Asphalt - 8" | Asphalt - 12" | Asphalt - 6" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" |
| Sample Depth** | | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 7.3 | 7.08 | 6.62 | 5.7 | 7.21 E | 6.02 E | 5.98 E |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | 0.06 U | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 24000 E | 75000 E | 55000 E | 127000 E | 20000 | 19000 | 17000 |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-55 |
|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1157 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 |
| Percent Moisture | | (ug/kg) | | 13.3 |
| Asphalt/Soil* | | | | Asphalt - 12" |
| Sample Depth** | | | | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.25 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 27000 |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
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** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-56 | SS-58 | SS-59 | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1019 | 9812-1899 | 9901-0852 | 9901-0853 | 9812-2141 | 9812-2142 | 9812-1892 | 9812-1902 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 14.8 | 14.2 | 2.1 | 20.2 | 10.9 | 12.5 | 14.8 | 10.7 |
| Asphalt/Soil* | | | | Asphalt - 12" | Asphalt - 6" | Asphalt - 8" | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" |
| Sample Depth** | | | | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.65 E | 7.44 | 5.24 | 5.94 | 7.72 | 6.93 | 7.31 | 5.17 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 31000 E | 1500 | 940 E | 1300 E | 58000 E | 9800 E | 69000 | 1200 |

NOTES.
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NA - not applicable
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** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | | SS-66 | SS-67 | SS-68 | DUPLICATE OF SS-68 SS-DUP-04 | SS-69 | SS-70 | SS-71 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | *Soil Screening* | *Residential* | *Regulatory Limit* | | 9812-1887 | 9812-1888 | 9812-2157 | 9812-2159 | 9812-2143 | 9812-2144 | 9812-1883 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | | 13.4 | 14.6 | 10.3 | 17.1 | 9.5 | 13 | 14.7 |
| Asphalt/Soil* | | | | | Asphalt | Asphalt - 14" | Asphalt - 6" | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" |
| Sample Depth** | | | | | not given | 0 - 12" | 0 - 8" | 0 - 8" | 0 - 8" | 0 - 12" | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | | 5.79 | 6.54 | 7.9 | 7.15 | 7.5 | 7.03 | 7.23 E |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | | NR | NR | NR | NR | NR | NR | 81 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | | 2800 E | 1300 E | 5600 E | 13000 E | 69000 | 25000 | 2900 E |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given *does not take into account the overlying asphalt.*

SITE NAME: White Chemical
PROJECT # 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-72 | SS-73 | SS-74 | SS-75 | SS-76 | SS-77 | SS-78 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1884 | 9812-1320 | 9812-1023 | 9812-1021 | 9812-1020 | 9812-1022 | 9812-1016 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 15.2 | 10.8 | 12.7 | 8.2 | 15 | 10.9 | 14.1 |
| Asphalt/Soil* | | | | Asphalt - 11" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12 " |
| Sample Depth** | | | | 0 - 11" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" |
| Phenolics (mg/kg) | *47,000,000* | *10,000,000* | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2, >12.5 | 5.89 E | 7.19 | 6.08 E | 7.16 E | 6.8 E | 6.85 E | 5.99 E |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 36000 E | 34000 E | 32000 E | 25000 E | 25000 | 1300 E | 13000 E |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-79 |
|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1423 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 |
| Percent Moisture | | (ug/kg) | | 15.5 |
| Asphalt/Soil* | | | | Asphalt - 10" |
| Sample Depth** | | | | 0 - 9" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 6.69 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 5200 |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SS-80 | SS-81 | SS-82 | SS-83 | DUPLICATE OF SS-83 SS-DUP-03 | SS-84 | SS-85 | SS-86 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1159 | 9812-1424 | 9812-1893 | 9812-1904 | 9812-2139 | 9812-1437 | 9901-0854 | 9901-0605 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 14.3 | 13.7 | 10 | 19.4 | 17.6 | 12.5 | 20.9 | 16.1 |
| Asphalt/Soil* | | | | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" | 0 - 18" | 1 - 11" | 0 - 14" | 0 - 12" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 |
| pH/Corrosivity (pH units) | NA | NA | <2, >12.5 | 6.5 | 7.28 | 5.38 | 6.92 | 6.95 | 5.91 | 6.44 | 6.52 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | 0.047 U | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 28000 E | 39000 E | 45000 E | 51000 | 54000 | 27000 | 15900 E | 920 |

*NOTES.*

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | | SS-87 | SS-88 | SS-89 |
|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | | 9812-1438 | 9812-1439 | 9901-0606 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | | 36.4 | 11.5 | 13.1 |
| Asphalt/Soil* | | | | | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | | | 2 - 12" | 2 - 12" | 0 - 8" |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | U | 1.9 E | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | | 6.53 | 7.45 | 7.9 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | | 190 | NR | NR |
| Total Organic Carbon (mg/kg) | NA | NA | NA | | 163000 | 55000 E | 15000 |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: *White Chemical*
*PROJECT #: 302-0004*

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9901-0596 | 9901-0597 | 9901-0598 | 9812-2160 | 9812-2161 | 9812-2162 | 9812-3233 | 9812-3234 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 14.3 | 17 | 13.9 | 11.1 | 17.6 | 14.9 | 12.7 | 17.7 |
| | | | | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3* | 3 - 5* |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 15100 | 7900 | 600 | 19000 E | 28000 E | 440 | 1200 | 570 E |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 7.72 | 7.39 | 7.54 | 7.29 | 7.21 | 7.51 | 5.52 | 5.7 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 4480 | 3790 | 2520 | 3070 | 3160 | 2080 | 2880 | 3870 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
*PROJECT #:* 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-03-03 | SB-04-01 | DUPLICATE OF SB-04-01 SB-DUP-04 | SB-04-02 | SB-04-03 | SB-05-01 | SB-05-02 | SB-05-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9901-0583 | 9812-3226 | 9812-3225 | 9812-3227 | 9812-3228 | 9812-2164 | 9812-2165 | 9812-2344 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 7 6 | 17.5 | 17.5 | 14.6 | 14.8 | 12.4 | 11.7 | 16.2 |
| | | | | 7 - 9* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 6 - 8 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 225 E | 31800 E | 14500 E | 1060 E | 660 E | 33000 | 600 E | 370 E |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2: >12.5 | 5.82 | 7.21 | 7.13 | 4.78 | 5.17 | 6.38 | 6.4 | 5.48 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 1380 | 2940 | 3250 | 2490 | 2260 | NR | 3990 | 2370 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-3216 | 9812-3217 | 9812-3218 | 9901-0607 | 9901-0608 | 9901-0840 | 9812-2358 | 9812-2359 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 14.2 | 22.1 | 9.8 | 14.5 | 12.1 | 8.7 | 15.9 | 9.6 |
| | | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 1000 E | 630 | 470 E | 2100 | 760 E | 200 | 28700 E | 2700 E |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 6.79 | 5.46 | 5.35 | 7.15 | 4.86 | 4.98 | 6.76 | 4.73 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 2630 | 2140 | 1430 | 3870 | 2740 | 1580 | 3000 | 2700 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | 0.05 U | NR | 0.057 U |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | DUPLICATE OF SB-08-02 SB-DUP-01 | SB-08-03 | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-2363 | 9812-2362 | 9901-0584 | 9901-0585 | 9901-0586 | 9812-2364 | 9812-2365 | 9812-2366 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 9.6 | 14.4 | 12.9 | 14.7 | 11.7 | 14.3 | 14 | 11.9 |
| | | | | 6 - 8 | 10 - 12 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 11 - 12* |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 880 E | 1100 E | 780 E | 300 | 250 E | 22700 E | 520 E | 170 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.6 | 5.98 | 4.78 | 6.05 | 4.82 | 5.15 | 4.85 | 5.32 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 2670 | 2280 | 3310 | 3930 | 2200 | 3830 | 2590 | 3000 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
*PROJECT #*: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-11-01 | SB-11-02 | SB-11-03 | SB-12-01 | SB-12-02 | SB-12-03 | SB-13-01 | SB-13-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9901-0860 | 9901-0861 | 9901-0862 | 9812-2793 | 9812-2794 | 9812-2795 | 9812-2796 | 9812-2797 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 15.7 | 13.5 | 15.1 | 11.1 | 6.3 | 14.7 | 6.4 | 9.2 |
| | | | | 1 - 3' | 3 - 5' | 7 - 9' | 1 - 3' | 5 - 7' | 11 - 13' | 1 - 3' | 5 - 7' |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 11100 | 340 | 220 | 40800 E | 1360 E | NR | 28400 E | 310 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | NR | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 6.12 | 6.52 | 6.59 | 5.63 | 6.18 | NR | 6.35 | 5.18 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 3180 | 2150 | 3560 | 4800 | 1780 | NR | 3060 | 1460 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 0.053 U | NR | NR | NR | NR | NR | 0.048 U | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

' - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6'" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 | DUPLICATE OF SB-15-03 SB-DUP-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-2798 | 9812-2799 | 9812-2800 | 9812-2801 | 9812-2788 | 9812-2789 | 9812-2790 | 9812-2791 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 16.2 | 25.8 | 7.7 | 6.9 | 14.7 | 6.3 | 6.8 | 7 |
| | | | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 9 - 11* |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 300 | 19200 | 350 | 290 | 18300 E | 250 | 820 E | 680 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.4 | 5.02 | 4.68 | 4.92 | 6.11 | 4.73 | 5.16 | 5.36 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 1500 | 4230 | 2230 | 2070 | 3400 | 1640 | 1870 | 1610 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | 0.11 U | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-16-01 | SB-16-02 | SB-16-03 | SB-17-01 | DUPLICATE OF SB-DUP-07 | SB-17-02 | SB-17-03 | SB-18-01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-2804 | 9812-3211 | 9812-3212 | 9901-0864 | 9901-0863 | 9901-0865 | 9901-1163 | 9812-2369 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 13.1 | 9.5 | 6.9 | 14.3 | 11.2 | 9.6 | 6.9 | 12.6 |
| | | | | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 15400 E | 390 | 400 | 2000 | 2000 E | 250 E | 270 E | 480 E |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 4.91 | 4.72 | 5.93 | 5 | 4.95 | 4.97 | 5.27 | 5.17 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 2100 | 2140 | 1810 | 3720 | 3250 | 1570 | 1780 | 2780 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 0.28 | NR | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-18-02 | SB-18-03 | SB-19-01 | SB-19-02 | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | Soil Screening | Residential | Regulatory Limit | 9812-2370 | 9812-2371 | 9812-2778 | 9812-2779 | 9812-2780 | 9812-3213 | 9812-3214 | 9812-3215 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 12.4 | 12.9 | 19 | 15.8 | 9 | 12.7 | 11 | 10.9 |
| | | | | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 430 E | 70 U | 3800 | 450 E | 1060 | 4700 | 400 | 1 U |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.45 | 5.27 | 5.26 | 5.35 | 6.24 | 5.17 | 6.75 | 5.01 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 2300 | 904 | 3140 | 2910 | 2280 | 2350 | 2010 | 910 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9901-1166 | 9901-1167 | 9901-1168 | 9901-0856 | 9901-0857 | 9812-2351 | 9812-2352 | 9812-3220 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 12.4 | 6.9 | 14.6 | 18.6 | 16.6 | 11.4 | 17.4 | 19.2 |
| | | | | 1 - 3* | 5 - 7* | 7 - 9* | 1 - 3* | 9 - 11* | 1 - 3* | 3 - 5* | 2 - 4** |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 10800 E | 280 | 370 | NR | NR | 212300 | 82800 E | 17800 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | NR | NR | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.64 | 7.09 | 6.03 | NR | NR | 7.39 E | 6.47 E | 6.66 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 3560 | 2000 | 1870 | NR | NR | NR | NR | 4010 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | NR | NR | NR | NR | 0.069 U |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-24-02 | SB-24-03 | SB-25-01 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-3223 | 9812-3224 | 9901-0844 | 9901-0845 | 9901-0846 | 9812-2346 | 9812-2347 | 9812-2348 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 24 | 14.7 | 16.7 | 22.2 | 23.9 | 17 | 16.1 | 4.6 |
| | | | | 6 - 8** | 10 - 12** | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 8 - 10 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 17800 | 1500 E | 27000 | 1600 E | 650 | 106300 E | 320 E | 310 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.67 | 5.65 | 7.32 | 7.69 | 7.59 | 5.38 | 6.97 | 7.53 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 4550 | 4280 | 4050 | 5440 | 4330 | 3000 | 3010 | 1350 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | 0.057 U | NR | NR | NR | NR | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: *White Chemical*
*PROJECT #: 302-0004*

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-27-01 | SB-27-02 | SB-27-03 | SB-28-02 | SB-28-03 | SB-29-01 | SB-29-02 | SB-29-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | Soil Screening | Residential | Regulatory Limit | 9812-2783 | 9812-2784 | 9812-2785 | 9902-0040 | 9902-0041 | 9812-3229 | 9812-3231 | 9812-3232 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 12 | 9.5 | 10.6 | 16 | 8 | 10.4 | 15.3 | 16.5 |
| | | | | 1 - 3* | 7 - 9* | 11 - 13* | 4 - 6 | 8 - 10 | 1.5 - 3.5*** | 7.5 - 9.5*** | 9.5 - 11.5*** |
| *Total Organic Carbon (mg/kg)* | NA | NA | NA | 41000 E | 1150 E | 83 E | 1178 | 223 | 4300 E | 440 E | 790 E |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2, >12.5 | 10.82 | 7.8 | 7.03 | 7.49 | 7.37 | 7.77 | 6.95 | 7.18 |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | 3270 | 3040 | 1750 | 2930 | 1530 | 2010 | 1630 | 2930 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | NR | NR | NR | 0.2* U | NR | 9.2 | NR | NR |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 | DUPLICATE OF SB-31-02 SB-DUP-14 |
|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-2353 | 9812-2354 | 9812-2355 | 9901-2863 | 9901-2864 | 9901-2865 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 11.9 | 22.4 | 15.6 | 8 | 4 | 4 |
| | | | | 1 - 3* | 3 - 5* | 13 - 15* | 2 - 4 | 8 - 10 | 8 - 10 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 44800 E | 21300 | 740 | NR | NR | NR |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 9.2 | 1 U | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 7.42 E | 6.1 E | 5.67 E | NR | NR | NR |
| Cation Exchange Capacity (ppm*) | NA | NA | NA | NR | NR | NR | NR | NR | NR |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 0.041 U | NR | NR | 0.06 U | 0.026 U | 0.034 U |

Notes:

*ppm - Expressed in ppm of Sodium (Na)

NR - not analyzed

NA - not applicable

U - sample concentration is non detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | TP-01 | TP-02 | TP-03 | DUPLICATE OF TP-03 TP-DUP-01 | TP-03A | TP-04 | TP-04A | TP-05 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1163 | 9812-1164 | 9812-1415 | L1389-2L2 | 9812-1416 | 9812-1418 | 9812-1420 | 9812-1430 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 17.3 | 8.65 | 12.2 | ng/g | 13.9 | 14 | 9.1 | 15.3 |
| Depth (in feet) | | | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U | 1 U | NR | 1 U | 1 U | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 6.93 | 4.91 | 5.46 | NR | 4.64 | 5.77 | 5.28 | 6.61 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 59000 E | 20000 E | 46000 E | NR | 720 | 29000 | 700 | 159000 E |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 0.6 | 14 | 0.039 U | 0.036 U | 0.033 U | 0.12 U | 0.0026 U | 0.43 |

NOTES:
NR - not analyzed
NA - not applicable
U - sample concentration is non-detect
E - estimated value
* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material and then were collected from 0 to 2 feet in the soil).

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | TP-06 | TP-06A |
|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9812-1433 | 9812-1434 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 11.5 | 4.4 |
| Depth (in feet) | | | | 1 - 2* | 6 - 7* |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 1 U | 1 U |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.23 | 6.67 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 4000 | 180 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 3.7 | 0.03 U |

NOTES:

NR - not analyzed

NA - not applicable

U - sample concentration is non-detect

E - estimated value

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material and then were collected from 0 to 2 feet in the soil).

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA | New Jersey Non- | USEPA RCRA Corrosivity | SD-01 | DUPLICATE OF SD-01 SD-DUP-01 | SD-04 |
|---|---|---|---|---|---|---|
| Lab ID No. | Soil Screening | Residential | Regulatory Limit | 9901-1847 | 9901-1848 | 9901-1849 |
| Matrix | Level (SSL) | Direct Contact | (pH units) | SOIL | SOIL | SOIL |
| Dilution Factor | (ug/kg) | Soil Cleanup Criteria | | 1 | 1 | 1 |
| Percent Moisture | | (ug/kg) | | 19 | 22.2 | 21.1 |
| Phenolics (mg/kg) | 47,000,000 | 10,000,000 | NA | 12 | 11 | 11 |
| Total Organic Carbon (mg/kg) | NA | NA | NA | 34500 E | 39300 E | 98300 |
| pH/Corrosivity (pH units) | NA | NA | <2; >12.5 | 5.98 | 5.69 | 5.58 |
| Polybrominated Biphenyls (PBB's) (ng/g) | NA | NA | NA | 76 E | 150 E | 750 |

Notes:
NA - not applicable
U - sample concentration is non-detect
E - estimated value

SITE NAME: White Chemical
PROJECT NO.: 302-0004

TOTAL PHENOLS

| Sample ID No. | BM-WIPE-01 | BM-WIPE-02 | BM-WIPE-03 | BM-WIPE-04 | BM-WIPE-05 | BM-WIPE-06 | BM-WIPE-07 | BM-WIPE-08 | BM-WIPE-09 | BM-WIPE-10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No | 9901-2309 | 9901-2310 | 9901-2311 | 9901-2312 | 9901-2314 | 9901-2315 | 9901-2316 | 9901-2317 | 9901-2318 | 9901-2319 |
| Matrix | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe |
| Units | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Dilution Factor | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4.9 | 2 |
| Percent Moisture | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenolics | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Polybrominated Biphenyls (PBB's) | 912 | 24 | 0.3 U | 0.5 U | 279 | 130 | 296 | 8 | 64 | 100 |

NOTES:

U - sample concentration is non-detect

SITE NAME: White Chemical
PROJECT NO.: 302-0004

TOTAL PHENOLS

| Sample ID No. | BM-WIPE-11 | BM-WIPE-12 | BM-WIPE-13 | BM-WIPE-14 |
|---|---|---|---|---|
| Lab ID No. | 9901-2320 | 9901-2321 | 9901-2322 | 9901-2323 |
| Matrix | wipe | wipe | wipe | wipe |
| Units | mg/kg | mg/kg | mg/kg | mg/kg |
| Dilution Factor | 3.6 | 8.1 | 1.9 | 2.7 |
| Percent Moisture | NA | NA | NA | NA |
| Phenolics | 1 U | 1 U | 1 U | 1 U |
| Polybrominated Biphenyls (PBB's) | 1.4 U | 600 | 275 | 0.12 U |

NOTES:
U - sample concentration is non-detect

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No | USEPA Maximum | New Jersey | GW-MW-1S | GW-MW-1D | GW-MW-2S | GW-MW-3S | GW-MW-3D | GW-MW-4S | GW-MW-5S |
|---|---|---|---|---|---|---|---|---|---|
| AXYS Lab ID No. | Contaminant | Groundwater | L1549-1 | L1549-2 | L1565-2 | L1550-1 | L1550-2 | L1562-1 | L1590-2 |
| Antech Lab ID No. | Levels | Quality Standards | 9902-2855A | 9902-2856 | 9903-0382 | 9902-2857 | 9902-2858 | 9902-2862 | 9903-0384 |
| Matrix | (MCLs) | (mg/L) | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous |
| Units | (mg/L) | | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 36 - 41 | 8 - 18 | 7 - 17 |
| Polybrominated Biphenyls (PBB's) | NA | NA | 0.88 U | 1 U | 0.74 U | 0.41 U | 0.69 U | 0.89 U | 0.53 U |
| Phenolics | NA | 4 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.0081 | 0.005 U |
| Total Organic Carbon (TOC) | NA | NA | 13 | 2.7 | 2.3 | 2.4 | 1.3 | 1.9 | 3.8 |
| Total Dissolved Solids (TDS) at 180°C | 500* | 500 | 649 | 1420 | 233 | 155 | 400 | 201 | 361 |
| Alkalinity (mg/l $CaCo_3$) | NA | NA | 299 | 121 | 21.3 | 57.8 | 139 | 26.8 | 96.5 |
| Sulfate | 500 | 250 | 250 | 46 | 63 | 25 | 87 | 62 | 71 |
| Chloride | 250* | 250 | 13 E | 400 E | 48 E | 30 E | 38 E | 12 E | 98 E |
| Nitrate (mg/l $NO_3$-N) | 10 | 10 | 0.1 U | 0.1 U | 0.1 E | 0.1 U | 2.9 E | 6.7 E | 1 E |

NOTES:

Values above the MCL and the NJDEP Groundwater Quality Criteria for the parameter

U - sample concentration is non-detect

E - estimated value

PBB results are given in ng/L; all other results are given in mg/L

NA - not applicable

* - These values are secondary drinking water standards which are unenforceable federal guidelines

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA Maximum Contaminant Levels (MCLs) (mg/L) | New Jersey Groundwater Quality Standards (mg/L) | GW-MW-5D | GW-MW-6S | GW-MW-7S | DUPLICATE OF GW-MW-7S GW-MW-DUP-01 | GW-MW-7D |
|---|---|---|---|---|---|---|---|
| AXYS Lab ID No. | | | L1583-1 | L1590-1 | L1563-1 | L1563-2 | L1565-1 |
| Antech Lab ID No. | | | 9903-0385 | 9903-0383 | 9902-2859 | 9902-2860 | 9903-0381 |
| Matrix | | | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous |
| Units | | | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| Screened Interval (in feet) | | | 24 - 29 | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 |
| Polybrominated Biphenyls (PBB's) | NA | NA | 0.65 U | 0.82 U | 1.1 U | 0.99 U | 0.79 U |
| Phenolics | NA | 4 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Total Organic Carbon (TOC) | NA | NA | 1.1 | 7.5 | 10 | 10 | 6.7 E |
| Total Dissolved Solids (TDS) at 180°C | 500* | 500 | **986** | 371 | 388 | 400 | **2510** |
| Alkalinity (mg/l $CaCo_3$) | NA | NA | 166 | 169 | 96.5 | 103 | 239 |
| Sulfate | 500 | 250 | 35 | 110 | 42 | 41 | 22 |
| Chloride | 250* | 250 | **340 E** | 53 E | 150 E | 150 E | **620 E** |
| Nitrate (mg/l $NO_3$-N) | 10 | 10 | 0.68 E | 0.1 U | 0.1 U | 0.1 U | 0.1 U |

NOTES:

Value is above the MCL and the NJDEP Groundwater Quality Criteria for this parameter

U - sample concentration is non-detect

E - estimated value

PBB results are given in ng/L; all other results are given in mg/L

NA - not applicable

* - These values are secondary drinking water standards which are unenforceable federal guidelines

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA Maximum | New Jersey | GW2-MW-1S | GW2-MW-1D | GW2-MW-2S | GW2-MW-3S | GW2-MW-3S GW2-MW-DUP-01 | GW2-MW-3D |
|---|---|---|---|---|---|---|---|---|
| AXYS Lab ID No. | Contaminant | Groundwater | L1841-1 | L1841-2 | L1849-1 | L1860-1 | L1860-2 | L1864-1 |
| Antech Lab ID No. | Levels | Quality Standards | 9907-1734 | 9907-1735 | 9907-1996 | 9907-2413 | 9907-2414 | 9907-2417 |
| Matrix | (MCLs) | (mg/L) | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous |
| Units | (mg/L) | | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 | 1 |
| Screened Interval (in feet) | | | 7 - 17 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 | 36 - 41 |
| Polybrominated Biphenyls (PBB's) | NA | NA | 8.7 | 6.3 U | 11 | 0.12 U | 0.1 U | 0.12 U |
| Phenolics | NA | 4 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Total Organic Carbon (TOC) | NA | NA | 7.9 E | 3.2 E | 4.7 E | 3.1 | 3 | 1.1 |
| Total Dissolved Solids (TDS) at 180°C | 500* | 500 | 490 E | 2570 E | 142 | 226 | 220 | 392 |
| Alkalinity (mg/l $CaCO_3$) | NA | NA | 90.3 | 122 | 2 U | 56.2 | 56.4 | 126 |
| Sulfate | 500 | 250 | 100 | 34 | 6200 | 43 | 42 | 86 |
| Chloride | 250* | 250 | 2.3 E | 570 E | 51 E | 26 E | 25 E | 41 E |
| Nitrate (mg/l $NO_3$-N) | 10 | 10 | 0.1 U | 0.1 U | 0.36 | 0.1 U | 0.1 U | 3.4 |

NOTES:
Value is above the MCL and the NJDEP Groundwater Quality Criteria for the parameter

U - sample concentration is non-detect
E - estimated value
PBB results are given in ng/L; all other results are given in mg/L
NA - not applicable
* - These values are secondary drinking water standards which are unenforceable federal guidelines

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA Maximum | New Jersey | GW2-MW-4S | GW2-MW-5S | GW2-MW-5D | GW2-MW-6S | GW2-MW-7S | GW2-MW-7D |
|---|---|---|---|---|---|---|---|---|
| AXYS Lab ID No. | Contaminant | Groundwater | L1858-1 | L1860-4 | L1864-2 | L1855-3 | L-1855-1 | L-1847-1 |
| Antech Lab ID No. | Levels | Quality Standards | 9907-2412 | 9907-2416 | 9907-2418 | 9907-2310 | 9907-2308 | 9907-1736 |
| Matrix | (MCLs) | (mg/L) | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous | Aqueous |
| Units | (mg/L) | | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L | ng/L and mg/L |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 | 1 |
| Screened Interval (in feet) | | | 8 - 18 | 7 - 17 | 24 - 29 | 7 - 17 | 7 - 17 | 24 - 29 |
| Polybrominated Biphenyls (PBB's) | NA | NA | 0.4 U | 0.15 U | 0.11 U | 0.19 U | 7.9 E | 25 |
| Phenolics | NA | 4 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Total Organic Carbon (TOC) | NA | NA | 2.2 | 3.5 | 1.2 | 11 E | 11 E | 7.3 E |
| Total Dissolved Solids (TDS) at 180°C | 500* | 500 | 221 | 468 | **1560** | 482 | 476 | **2440** |
| Alkalinity (mg/l $CaCo_3$) | NA | NA | 19.9 | 82.5 | 171 | 148 | 68.1 | 221 |
| Sulfate | 500 | 250 | 56 | 70 | 32 | 180 | 42 | 17 |
| Chloride | 250* | 250 | 15 E | 120 E | **370 E** | 58 E | 100 E | **1000 E** |
| Nitrate (mg/l $NO_3$-N) | 10 | 10 | 5 | 3.9 | 0.56 | 0.1 U | 0.1 U | 0.1 U |

NOTES:

**Value is above the MCL and the NJDEP Groundwater Quality Criteria for the parameter**

U - sample concentration is non-detect

E - estimated value

PBB results are given in ng/L; all other results are given in mg/L

NA - not applicable

* - These values are secondary drinking water standards which are unenforceable federal guidelines

SITE NAME: White Chemical
PROJECT # 302-0004

| DIOXINS | | | | | | | | | DUPLICATE OF SS-24 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | SS-03 | SS-03 | SS-06 | SS-06 | SS-12 | SS-12 | SS-24 | SS-24 | SS-DUP-06 | SS-DUP-06 | SS-37 | SS-37 | SS-40 | SS-40 |
| Traffic Report No | L1411-2 | Normalized | L1411-3A | Normalized | L1402-2Li | Normalized | L1440-1i | Normalized | L1440-2i | Normalized | L1440-2ARi | Normalized | L1404-3R | Normalized |
| Matrix | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values |
| Units | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg |
| Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Asphalt/Soil* | Asphalt - 6" | | Asphalt - 6" | | Asphalt - 16" | | No asphalt | | No asphalt | | No asphalt | | Asphalt - 8" | |
| Sample Depth** | 0 - 10" | | 0 - 15" | | 0 - 8" | | 0 - 12" | | 0 - 12" | | 3 - 16" | | 0 - 12" | |
| 2,3,7,8-TCDD | 1 U | 0 | 1 U | 0 | 1 U | 0 | 1.97 | 1.97 | 2.69 | 2.69 | 20.9 | 20.9 | 1 U | 0 |
| 1,2,3,7,8-PeCDD | 1.39 | 1.39 | 1 U | 0 | 1 U | 0 | 5.2 | 5.2 | 5.51 | 5.51 | 1 U | 0 | 1 U | 0 |
| 1,2,3,4,7,8-HxCDD | 1.55 J | 0.155 | 1 U | 0 | 1 U | 0 | 1.83 J | 0.183 | 1.24 J | 0.124 | 1 U | 0 | 1 U | 0 |
| 1,2,3,6,7,8-HxCDD | 3.29 | 0.329 | 1.41 J | 0.141 | 1.76 J | 0.176 | 4.16 E | 0.416 | 3.06 | 0.306 | 1.14 J | 0.114 | 1 U | 0 |
| 1,2,3,7,8,9-HxCDD | 4.51 | 0.451 | 2 J | 0.2 | 2.06 J | 0.206 | 3.12 | 0.312 | 3 | 0.3 | 1.19 J | 0.119 | 1 U | 0 |
| 1,2,3,4,6,7,8-HpCDD | 46 | 0.46 | 64.5 | 0.645 | 28.6 | 0.286 | 99.1 | 0.991 | 97 | 0.97 | 52.3 E | 0.523 | 10.9 | 0.109 |
| OCDD | 4400 E | 0.44 | 6360 E | 0.636 | 2230 E | 0.223 | 7330 E | 0.733 | 8140 E | 0.814 | 4140 E | 0.414 | 1840 | 0.184 |
| Total Tetra-Dioxins | 11.7 | | 3.91 | | 6.75 | | 17.5 | | 16 | | 149 | | 1 U | |
| Total Penta-Dioxins | 14.9 | | 2.23 | | 6.38 | | 112 | | 111 | | 8.67 | | 1 U | |
| Total Hexa-Dioxins | 34.3 | | 21.8 | | 8.04 | | 252 | | 324 | | 15.9 | | 1 U | |
| Total Hepta-Dioxins | 90.8 | | 168 | | 66.5 | | 206 | | 218 | | 140 | | 20.5 | |
| Total PCDDs | 4550 E | | 6560 E | | 2318 E | | 7920 E | | 8810 E | | 4454 E | | 1860 | |
| Sum of all Dioxin congeners using TEFs | | 3.23 | | 1.62 | | 0.89 | | 9.81 | | 10.71 | | 22.07 | | 0.29 |

NOTES:

There are no SSL or NRDCSCC values for dioxin, the value used is taken from an ATSDR interim policy document. This value is 1 ug/kg (1,000 ng/kg) when all the dioxin congeners have been normalized to 2,3,7,8-TCDD using the WHO toxicity equivalency factors (TEFs).

U - sample concentration is non-detect

E - estimated value

J - estimated value, compound present below CRQL but above EDL

Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME White Chemical
PROJECT # 302-0004

DIOXINS

| Sample ID No | SS-44 | SS-44 | SS-54 | SS-54 | SS-71 | SS-71 | SS-85 | SS-85 | SS-87 | SS-87 | SB-31-01 | SB-31-01 | SB-31-02 | SB-31-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Traffic Report No | L1385-2R | Normalized | L1376-1R | Normalized | L1394-8L2 | Normalized | L1449-3L | Normalized | L1394-6AL2 | Normalized | L1498-1 | Normalized | L1498-2 | Normalized |
| Matrix | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values | SOIL | Values |
| Units | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg | ng/kg |
| Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Asphalt/Soil* | Asphalt - 16" | | Asphalt - 12" | | Asphalt - 12" | | Asphalt - 12" | | No asphalt | | No asphalt | | No asphalt | |
| Sample Depth** | 0 - 12" | | 0 - 12" | | 0 - 12" | | 0 - 14" | | 2 - 12" | | 12 - 48" | | 96 - 120" | |
| 2,3,7,8-TCDD | 1 U | 0 | 1 U | 0 | 1 U | 0 | 1 U | 0 | 17.8 | 17.8 | 1 U | 0 | 1 U | 0 |
| 1,2,3,7,8-PeCDD | 1 U | 0 | 1.16 | 1.16 | 1 U | 0 | 1 U | 0 | 13.9 | 13.9 | 1 U | 0 | 1 U | 0 |
| 1,2,3,4,7,8-HxCDD | 1 U | 0 | 2.03 J | 0.203 | 2.69 U | 0.269 | 1 U | 0 | 11.8 | 1.18 | 1 U | 0 | 1 U | 0 |
| 1,2,3,6,7,8-HxCDD | 1 U | 0 | 3.02 | 0.302 | 51.9 E | 5.19 | 1.54 J | 0.154 | 51.8 E | 5.18 | 1 U | 0 | 1 U | 0 |
| 1,2,3,7,8,9-HxCDD | 1 U | 0 | 4.13 | 0.413 | 2.69 U | 0.269 | 2.04 J | 0.204 | 40.9 E | 4.09 | 1 U | 0 | 1 U | 0 |
| 1,2,3,4,6,7,8-HpCDD | 5.87 | 0.0587 | 132 | 1.32 | 114 | 1.14 | 84.4 | 0.844 | 788 | 7.88 | 37.1 | 0.371 | 1 U | 0 |
| OCDD | 1320 | 0.132 | 11700 E | 1.17 | 6460 E | 0.646 | 6410 E | 0.641 | 8390 E | 0.839 | 9710 E | 0.971 | 37.1 | 0.00371 |
| Total Tetra-Dioxins | 1 U | | 6.03 | | 6.21 | | 1 U | | 192 | | 1 U | | 1 U | |
| Total Penta-Dioxins | 1 U | | 9.08 | | 34.8 | | 1.77 | | 155 | | 1 U | | 1 U | |
| Total Hexa-Dioxins | 1 U | | 44.7 | | 21 E | | 30.1 | | 280 | | 1 U | | 1 U | |
| Total Hepta-Dioxins | 10.7 | | 329 | | 199 | | 252 | | 1490 | | 71.3 | | 1 U | |
| Total PCDDs | 1330 | | 12100 E | | 6720 E | | 6690 E | | 10500 E | | 9780 E | | 37.1 | |
| Sum of all Dioxin congeners using TEFs | | 0.19 | | 4.57 | | 7.51 | | 1.84 | | 50.87 | | 1.34 | | 0.00 |

NOTES:
There are no SSL or NRDCSCC values for dioxin; the value used is taken from an ATSDR interim policy document. This value is 1 ug/kg (1,000 ng/kg) when all the dioxin congeners have been normalized to 2,3,7,8-TCDD using the WHO toxicity equivalency factors (TEFs).
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above EDL
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME. White Chemical
PROJECT #: 302-0004

| DIOXINS | DUPLICATE OF SB-31-02 | |
|---|---|---|
| Sample ID No. | SB-DUP-14 | SB-DUP-14 |
| Traffic Report No. | L1498-3A | Normalized |
| Matrix | SOIL | Values |
| Units | ng/kg | ng/kg |
| Dilution Factor | 1 | |
| Asphalt/Soil* | No asphalt | |
| Sample Depth** | 96 - 120" | |
| 2,3,7,8-TCDD | 1 U | 0 |
| 1,2,3,7,8-PeCDD | 1 U | 0 |
| 1,2,3,4,7,8-HxCDD | 1 U | 0 |
| 1,2,3,6,7,8-HxCDD | 1 U | 0 |
| 1,2,3,7,8,9-HxCDD | 1 U | 0 |
| 1,2,3,4,6,7,8-HpCDD | 1 U | 0 |
| OCDD | 27.7 | 0.00277 |
| Total Tetra-Dioxins | 1 U | |
| Total Penta-Dioxins | 1 U | |
| Total Hexa-Dioxins | 1 U | |
| Total Hepta-Dioxins | 1 U | |
| Total PCDDs | 27.7 | |
| Sum of all Dioxin congeners using TEFs | | 0.00 |

NOTES:
There are no SSL or NRDCSCC values for dioxin; the value used is taken from an ATSDR interim policy document. This value is 1 ug/kg (1,000 ng/kg) when all the dioxin congeners have been normalized to 2,3,7,8-TCDD using the WHO toxicity equivalency factors (TEFs).
U - sample concentration is non-detect
E - estimated value
J - estimated value. compound present below CRQL but above EDL
Detection limits elevated if Dilution Factor > 1 and/or percent moisture > 0%.
* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | | SS-03 | SS-06 | SS-12 | SS-24 | SS-37 | SS-40 | SS-44 |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | 9812-2155 | 9812-2158 | 9812-1896 | 9901-0590 | 9901-0843 | 9812-1903 | 9812-1167 |
| Units | USEPA RCRA Toxicity | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | Regulatory Limit | 1 | 1, 20 | 1 | 1 | 1 | 1 | 1 |
| Asphalt/Soil* | (ug/L) | Asphalt - 6" | Asphalt - 6" | Asphalt - 16" | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 16" |
| Depth** | | 0 - 10" | 0 - 15" | 0 - 8" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" |
| **TCLP VOLATILES** | | | | | | | | |
| Vinyl chloride | 200 | 2 J | 5 U | 0.5 J | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5 | 5 U | 21 | 6 | 5 U | 5 U | 5 U |
| 2-Butanone (MEK) | 200,000 | 5 U | 3 J | 3 J | 4 J | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 3 J | 5 U | 1 J | 5 U | 5 U | 5 U | 5 U |
| Benzene | 500 | 5 U | 5 U | 0.6 J | 5 U | 5 U | 5 | 5 U |
| Tetrachloroethene | 700 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | | | | | |
| gamma-BHC (lindane) | 400 | R | 0.0139 E | 10 U | 10 U | 10 U | R | 10 U |
| Heptachlor | 8 | R | R | 0.0454 J | R | 0.5 U | 0.5 U | R |
| Endrin | 20 | 1 U | R | 1 U | R | 1 U | 1 U | 1 U |
| Methoxychlor | 10,000 | 100 U | 0.143 E | 100 U | 100 U | 100 U | 100 U | 100 U |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| **TCLP HERBICIDES** | | | | | | | | |
| 2,4-D | 10,000 | R | 19.8 E | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-TP (silvex) | 1,000 | 10 U | R | 10 U | 10 U | 10 U | 10 U | 10 U |

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | | SS-03 | SS-06 | SS-12 | SS-24 | SS-37 | SS-40 | SS-44 |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | | 9812-2155 | 9812-2158 | 9812-1896 | 9901-0590 | 9901-0843 | 9812-1903 | 9812-1167 |
| Units | USEPA RCRA Toxicity | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | Regulatory Limit | 1 | 1, 20 | 1 | 1 | 1 | 1 | 1 |
| Asphalt/Soil* | (ug/L) | Asphalt - 6" | Asphalt - 6" | Asphalt - 16" | No asphalt | No asphalt | Asphalt - 8" | Asphalt - 16" |
| Depth** | | 0 - 10" | 0 - 15" | 0 - 8" | 0 - 12" | 3 - 16" | 0 - 12" | 0 - 12" |
| **TCLP METALS** | | | | | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1230 E | 1480 E | 2320 E | 2000 | 1000 U | 1680 E | 1730 E |
| Cadmium | 1,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Lead | 5,000 | 92.8 | 50 U | 712 | 50 U | 50 U | 145 | 69.6 |
| Selenium | 1,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |

NOTES:
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
Detection limits elevated if Dilution Factor > 1
* - This indicates whether the sample was collected from below asphalt and road bed
If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | | SS-54 | SS-71 | SS-85 | SS-87 |
|---|---|---|---|---|---|
| Lab ID No. | | 9812-1024 | 9812-1883 | 9901-0854 | 9812-1438 |
| Units | USEPA RCRA Toxicity | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | Regulatory Limit | 1 | 1 | 1 | 1 |
| Asphalt/Soil* | (ug/L) | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | No asphalt |
| Depth** | | 0 - 12" | 0 - 12" | 0 - 14" | 2 - 12" |
| **TCLP VOLATILES** | | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5 U | 5 U | 5 U | 3 J |
| 2-Butanone (MEK) | 200,000 | 5 U | 3 J | 2 J | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 5 U | 0.6 J | 5 U | 5 U |
| Benzene | 500 | 5 U | 5 U | 5 U | 5 U |
| Tetrachloroethene | 700 | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U | 500 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | | |
| gamma-BHC (lindane) | 400 | 10 U | 10 U | 10 U | 0.00799 JN |
| Heptachlor | 8 | 0.5 U | R | 0.5 U | 0.5 U |
| Endrin | 20 | 1 U | R | R | 1 U |
| Methoxychlor | 10,000 | 100 U | 100 U | R | 100 U |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| **TCLP HERBICIDES** | | | | | |
| 2,4-D | 10,000 | 100 U | 100 U | R | 100 U |
| 2,4,5-TP (silvex) | 1,000 | 10 U | 10 U | 10 U | 10 U |

SITE NAME: White Chemical
PROJECT NO.: 302-0004

| Sample ID No. | | SS-54 | SS-71 | SS-85 | SS-87 |
|---|---|---|---|---|---|
| Lab ID No. | | 9812-1024 | 9812-1883 | 9901-0854 | 9812-1438 |
| Units | USEPA RCRA Toxicity | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | Regulatory Limit | 1 | 1 | 1 | 1 |
| Asphalt/Soil* | (ug/L) | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | No asphalt |
| Depth** | | 0 - 12" | 0 - 12" | 0 - 14" | 2 - 12" |
| **TCLP METALS** | | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1950 E | 1800 E | 1090 | 1750 E |
| Cadmium | 1,000 | 50 U | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 58.7 | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U | 10 U |
| Lead | 5,000 | 124 | 50 U | 50 U | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U | 100 U |

NOTES:
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
Detection limits elevated if Dilution Factor > 1
* - This indicates whether the sample was collected from below asphalt and road bed
If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.
** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | | SB-08-01 | SB-11-01 | SB-15-01 | SB-24-01 |
|---|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9812-2358 | 9901-0860 | 9812-2788 | 9812-3220 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1, 2 | 1, 5 | 1 |
| Depth (in feet) | | 0 - 2 | 1 - 3* | 1 - 3* | 2 - 4** |
| **TCLP VOLATILES** | | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5 U | 5 U | 13 | 1 J |
| 2-Butanone (MEK) | 200,000 | 2 J | 5 U | 5 U | 2 J |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 12 | 220 | **580** | 2 J |
| Benzene | 500 | 2 J | 5 U | 9 | 5 U |
| Tetrachloroethene | 700 | 5 U | 7 | 18 | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U | 500 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | | |
| gamma-BHC (lindane) | 400 | 0.0322 J | 10 U | 10 U | 0.0082 J |
| Heptachlor | 8 | 0.5 U | 0.5 U | 0.5 U | R |
| Endrin | 20 | 0.0153 JN | 1 U | 1 U | 1 U |
| Methoxychlor | 10,000 | 100 U | 100 U | 100 U | 100 U |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| **TCLP HERBICIDES** | | | | | |
| 2,4-D | 10,000 | R | 100 U | 100 U | 100 U |
| 2,4,5-TP (silvex) | 1,000 | 10 U | 10 U | 10 U | 10 U |

| Sample ID No. | | SB-08-01 | SB-11-01 | SB-15-01 | SB-24-01 |
|---|---|---|---|---|---|
| Lab ID No | USEPA RCRA Toxicity | 9812-2358 | 9901-0860 | 9812-2788 | 9812-3220 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1, 2 | 1, 5 | 1 |
| Depth (in feet) | | 0 - 2 | 1 - 3* | 1 - 3* | 2 - 4** |
| **TCLP METALS** | | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1 U | 1000 U | 1240 E | 2120 |
| Cadmium | 1,000 | 50 U | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 50 U | 55.7 | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U | 100 U |

NOTES:

Value is above the RCRA regulatory limit for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1
* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

SITE NAME: White Chemical
PROJECT NO.: 302-0004

**TEST PITS**

| Sample ID No. | | TP-01 | TP-02 | TP-03 | DUPLICATE OF TP-03 TP-DUP-01 | TP-03A | TP-04 | TP-04A |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9812-1163 | 9812-1164 | 9812-1415 | 9812-1417 | 9812-1416 | 9812-1418 | 9812-1420 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Depth (in feet) | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* |
| **TCLP VOLATILES** | | | | | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 1 J | 5 U | 61 | NR | 5 U | 5 U | 5 U |
| 2-Butanone (MEK) | 200,000 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 1 J | 5 U | 1 J | NR | 5 U | 5 U | 5 U |
| Benzene | 500 | 5 U | 1 J | 4 J | NR | 2 J | 5 U | 5 U |
| Tetrachloroethene | 700 | 5 U | 2 J | 5 U | NR | 5 U | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U | NR | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | | | | | |
| gamma-BHC | 400 | R | R | 0.235 JN | 0.191 J | 0.00291 J | R | 10 U |
| Heptachlor | 8 | R | R | R | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Endrin | 20 | R | R | R | 1 U | 1 U | 1 U | 1 U |
| Methoxychlor | 10,000 | R | R | R | 100 U | 100 U | 100 U | 100 U |
| Heptachlor epoxide | 8 | R | R | R | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| **TCLP HERBICIDES** | | | | | | | | |
| 2,4-D | 10,000 | R | R | 100 U | 100 U | 100 U | 100 U | R |
| 2,4,5-TP (silvex) | 1,000 | R | R | 10 U | 10 U | 10 U | 10 U | 10 U |

SITE NAME: White Chemical
PROJECT NO.: 302-0004

**TEST PITS**

| Sample ID No. | | TP-01 | TP-02 | TP-03 | DUPLICATE OF TP-03 TP-DUP-01 | TP-03A | TP-04 | TP-04A |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9812-1163 | 9812-1164 | 9812-1415 | 9812-1417 | 9812-1416 | 9812-1418 | 9812-1420 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Depth (in feet) | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* |
| **TCLP METALS** | | | | | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Barium | 100,000 | 2000 | 1930 | 1780 | 1710 | 2350 | 1620 | 1520 |
| Cadmium | 1,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 202 E | 68.7 E | 94.4 E | 50 U | 72.3 E | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |

NOTES:
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material anc then were collected from 0 to 2 feet in the soil).

SITE NAME: White Chemical
PROJECT NO.: 302-0004

**TEST PITS**

| | | | | |
|---|---|---|---|---|
| Sample ID No. | | TP-05 | TP-06 | TP-06A |
| Lab ID No. | USEPA RCRA Toxicity | 9812-1430 | 9812-1433 | 9812-1434 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1 | 1 |
| Depth (in feet) | | 1 - 2* | 1 - 2* | 6 - 7* |
| **TCLP VOLATILES** | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5 U | 2 J | 5 U |
| 2-Butanone (MEK) | 200,000 | 5 U | 3 J | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 4 J | 9 | 5 U |
| Benzene | 500 | 2 J | 5 U | 17 |
| Tetrachloroethene | 700 | 5 U | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | |
| gamma-BHC | 400 | 10 U | R | 10 U |
| Heptachlor | 8 | 0.5 U | R | 0.5 U |
| Endrin | 20 | 1 U | R | 1 U |
| Methoxychlor | 10,000 | 100 U | R | 100 U |
| Heptachlor epoxide | 8 | 0.5 U | R | 0.5 U |
| **TCLP HERBICIDES** | | | | |
| 2,4-D | 10,000 | 100 U | 100 U | R |
| 2,4,5-TP (silvex) | 1,000 | 10 U | 10 U | 10 U |

SITE NAME: White Chemical
PROJECT NO.: 302-0004

**TEST PITS**

| | | | | |
|---|---|---|---|---|
| Sample ID No. | | TP-05 | TP-06 | TP-06A |
| Lab ID No. | USEPA RCRA Toxicity | 9812-1430 | 9812-1433 | 9812-1434 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1 | 1 |
| Depth (in feet) | | 1 - 2* | 1 - 2* | 6 - 7* |
| **TCLP METALS** | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1710 | 1310 | 1590 |
| Cadmium | 1,000 | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 50 U | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U |

NOTES:
U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required
N - presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor > 1
* - Sample location was covered with 1 foot of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material anc then were collected from 0 to 2 feet in the soil).
** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphal and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material anc then were collected from 0 to 2 feet in the soil).

SITE NAME White Chemical
PROJECT # 302-0004

| Sample ID No. | USEPA RCRA Toxicity | SD-01 | DUPLICATE OF SD-01 SD-DUP-01 | SD-04 |
|---|---|---|---|---|
| Lab ID No. | Regulatory Limit | 9901-1847 | 9901-1848 | 9901-1849 |
| Units | (ug/L) | ug/L | ug/L | ug/L |
| Dilution Factor | | 1 | 1, 10 | 1, 5 |
| **TCLP VOLATILES** | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 18 |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 6 |
| 1,2-Dichloroethane | 500 | 9 E | 790 E | 780000 |
| 2-Butanone (MEK) | 200,000 | 5 U | 5 U | 5 U |
| Carbon Tetrachloride | 500 | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 2 J | 2 J | 61 |
| Benzene | 500 | 1 J | 5 U | 5 U |
| Tetrachloroethene | 700 | 5 U | 5 U | 10 |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U |
| Total Cresol | 3,000 | 5000 U | 5000 U | 5000 U |
| Hexachloroethane | 200,000 | 500 U | 500 U | 500 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | |
| gamma BHC (lindane) | 400 | R | 0.0111 J | 10 U |
| Heptachlor | 8 | R | R | R |
| Endrin | 20 | 1 U | 1 U | 1 U |
| Methoxychlor | 10,000 | 100 U | 100 U | 100 U |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U |
| **TCLP Herbicides** | | | | |
| 2,4-D | 10,000 | 100 U | 100 U | R |
| 2,4,5-TP (silvex) | 1,000 | R | 10 U | R |

SITE NAME: White Chemical
PROJECT #: 302-0004

| Sample ID No. | USEPA RCRA Toxicity | SD-01 | DUPLICATE OF SD-01 SD-DUP-01 | SD-04 |
|---|---|---|---|---|
| Lab ID No. | Regulatory Limit | 9901-1847 | 9901-1848 | 9901-1849 |
| Units | (ug/L) | ug/L | ug/L | ug/L |
| Dilution Factor | | 1 | 1, 10 | 1, 5 |
| **TCLP Metals** | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1490 | 1400 | 1570 |
| Cadmium | 1,000 | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 50 U | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U |

NOTES:
Value is above the RCRA regulatory limit for this parameter

U - sample concentration is non-detect
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
Detection limits elevated if Dilution Factor > 1

SITE NAME: White Chemical
PROJECT #. 302-0004

| Sample ID No. | | BM-TCLP-01 | BM-TCLP-02 | BM-TCLP-03 | BM-TCLP-04 | BM-TCLP-05 | BM-TCLP-06 | BM-TCLP-07 |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9901-2329 | 9901-2330 | 9901-2331 | 9901-2333 | 9901-2334 | 9901-2335 | 9901-2336 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1, 3 | 1 | 1 | 1 | 1 | 1 |
| **TCLP VOLATILES** | | | | | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5 U | 5 U | 5 U | 5 U | 5 U | 1 J | 3 J |
| 2-Butanone (MEK) | 200,000 | 5 U | 2 J | 5 U | 2 J | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 5 U | 5 U | 5 U | 5 U | 5 U | 2 J | 5 U |
| Benzene | 500 | 5 U | 5 U | 5 U | 5 U | 5 U | 1 J | 5 U |
| Tetrachloroethene | 700 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U | 500 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | | | | | |
| gamma-BHC (lindane) | 400 | 10 U | 10 U | R | 10 U | 10 U | 10 U | 10 U |
| Heptachlor | 8 | R | R | 0.5 U | 0.5 U | R | 0.5 U | 0.5 U |
| Endrin | 20 | R | 1 U | 0.0182 J | R | R | 0.0539 J | 0.219 J |
| Methoxychlor | 10,000 | 100 U | 100 U | 100 U | 100 U | R | 100 U | R |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U | R | 0.5 U | R | 0.5 U |
| **TCLP Herbicides** | | | | | | | | |
| 2,4-D | 10,000 | R | 100 U | R | R | R | 100 U | R |
| 2,4,5-TP (silvex) | 1,000 | 10 U | R | 0.0424 J | 10 U | 10 U | R | R |

SITE NAME: White Chemical
PROJECT #.: 302-0004

| Sample ID No. | | BM-TCLP-01 | BM-TCLP-02 | BM-TCLP-03 | BM-TCLP-04 | BM-TCLP-05 | BM-TCLP-06 | BM-TCLP-07 |
|---|---|---|---|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9901-2329 | 9901-2330 | 9901-2331 | 9901-2333 | 9901-2334 | 9901-2335 | 9901-2336 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1 | 1, 3 | 1 | 1 | 1 | 1 | 1 |
| **TCLP Metals** | | | | | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U | 1000 U |
| Cadmium | 1,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |

NOTES:
Value is above the RCRA regulatory limit for the parameter

U - sample concentration is non-detect
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
Detection limits elevated if Dilution Factor >1

SITE NAME: White Chemical
PROJECT #.. 302-0004

| Sample ID No. | | BM-TCLP-08 | BM-TCLP-09 | BM-TCLP-10 |
|---|---|---|---|---|
| Lab ID No | USEPA RCRA Toxicity | 9901-2337 | 9901-2338 | 9901-2339 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1, 50 | 1 | 1 |
| **TCLP VOLATILES** | | | | |
| Vinyl chloride | 200 | 5 U | 5 U | 5 U |
| 1,1-Dichloroethene | 700 | 5 U | 5 U | 5 U |
| Chloroform | 6,000 | 1 J | 5 U | 5 U |
| 1,2-Dichloroethane | 500 | 5700 | 5 U | 3 J |
| 2-Butanone (MEK) | 200,000 | 5 U | 5 U | 5 U |
| Carbon tetrachloride | 500 | 5 U | 5 U | 5 U |
| Trichloroethene | 500 | 49 | 5 U | 5 U |
| Benzene | 500 | 5 U | 5 U | 2 J |
| Tetrachloroethene | 700 | 33 | 5 U | 5 U |
| Chlorobenzene | 100,000 | 5 U | 5 U | 5 U |
| **TCLP SEMI-VOLATILES** | | | | |
| Pyridine | 5,000 | 500 U | 500 U | 500 U |
| 1,4-Dichlorobenzene | 7,500 | 500 U | 500 U | 500 U |
| Total cresol | 200,000 | 5000 U | 5000 U | 5000 U |
| Hexachloroethane | 3,000 | 500 U | 500 U | 500 U |
| Nitrobenzene | 2,000 | 100 U | 100 U | 100 U |
| Hexachlorobutadiene | 500 | 100 U | 100 U | 100 U |
| 2,4,6-Trichlorophenol | 2,000 | 100 U | 100 U | 100 U |
| 2,4,5-Trichlorophenol | 400,000 | 5000 U | 5000 U | 5000 U |
| 2,4-Dinitrotoluene | 130 | 100 U | 100 U | 100 U |
| Hexachlorobenzene | 130 | 100 U | 100 U | 100 U |
| Pentachlorophenol | 100,000 | 5000 U | 5000 U | 5000 U |
| **TCLP PESTICIDES** | | | | |
| gamma-BHC (lindane) | 400 | 10 U | R | 10 U |
| Heptachlor | 8 | 0.5 U | 0.5 U | 0.5 U |
| Endrin | 20 | R | R | R |
| Methoxychlor | 10,000 | 100 U | 100 U | 0.17 J |
| Heptachlor epoxide | 8 | 0.5 U | 0.5 U | 0.5 U |
| **TCLP Herbicides** | | | | |
| 2,4-D | 10,000 | R | R | R |
| 2,4,5-TP (silvex) | 1,000 | R | R | 10 U |

SITE NAME: White Chemical
PROJECT #.: 302-0004

| Sample ID No. | | BM-TCLP-08 | BM-TCLP-09 | BM-TCLP-10 |
|---|---|---|---|---|
| Lab ID No. | USEPA RCRA Toxicity | 9901-2337 | 9901-2338 | 9901-2339 |
| Units | Regulatory Limit | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | 1, 50 | 1 | 1 |
| **TCLP Metals** | | | | |
| Silver | 5,000 | 50 U | 50 U | 50 U |
| Arsenic | 5,000 | 50 U | 50 U | 50 U |
| Barium | 100,000 | 1000 U | 1000 U | 1000 U |
| Cadmium | 1,000 | 50 U | 50 U | 50 U |
| Chromium | 5,000 | 50 U | 50 U | 50 U |
| Mercury | 200 | 10 U | 10 U | 10 U |
| Lead | 5,000 | 50 U | 50 U | 50 U |
| Selenium | 1,000 | 100 U | 100 U | 100 U |

NOTES:

Value is above the RCRA regulatory limit for this parameter.

U - sample concentration is non-detect

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

Detection limits elevated if Dilution Factor >1

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-06 | SS-07 | SS-08 | SS-09 | SS-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSH01 | MBSH02 | MBSH03 | MBSH04 | MBSH05 | MBSH06 | MBSH07 | MBSH08 | MBSH09 | MBSH11 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 83.4 | 87.1 | 87.3 | 82.9 | 85.2 | 83 | 85.9 | 86.6 | 85.7 | 83.1 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 12" | Asphalt - 8" | Asphalt - 6" | Asphalt - 12" | Asphalt - 10" | Asphalt | Gravel - 24" |
| Sample Depth** | | | | 0 - 12" | 0 - 10" | 0 - 10" | 0 - 12" | 0 - 14" | 0 - 15" | 0 - 12" | 0 - 12" | 3 - 14" | 0 - 12" |
| Aluminum | NA | NA | 10,480 | 10400 | 11600 | 11600 | 13600 | 12500 | 13000 | 12800 | 10800 | 9210 | 11100 |
| Antimony | 5 | 340 | ND | 0.71 U | 0.97 J | 0.68 U | 0.93 U | 1.1 J | 1 J | 0.93 U | 0.91 U | 2.4 J | 1.2 |
| Arsenic | 0.4 | 20 | 2.1 | 1.9 | 5.6 | 5.7 | 4.7 E | 5.4 | 5.9 | 3.8 E | 2.4 E | 4.5 | 5.9 |
| Barium | 1,600 | 47,000 | 52.1 | 277 | 86.1 | 156 | 74.8 | 200 | 262 | 409 | 64.6 | 133 | 164 |
| Beryllium | 0.1 | 100 | 0.44 | 0.62 | 0.7 J | 0.52 J | 0.85 J | 0.69 J | 0.71 J | 0.48 J | 0.55 U | 0.42 U | 0.55 |
| Cadmium | 8 | 100 | ND | 2.7 | 0.44 J | 0.23 U | 0.09 U | 0.59 J | 0.24 U | 0.09 U | 0.09 U | 0.2 J | 0.1 |
| Calcium | NA | NA | 931 | 4160 | 2460 | 2730 | 1420 E | 2640 | 2510 | 1040 J | 1350 E | 4930 E | 709 |
| Chromium | 38 | 6,100 | 13.8 | 42.4 | 18 | 22.6 | 17.7 | 17 | 15.7 | 18 | 18 | 13.1 | 15.1 |
| Cobalt | NA | NA | 7.1 | 9 J | 9.6 J | 9.7 J | 7.1 J | 9.1 J | 8 J | 8.8 J | 9.8 J | 7.1 J | 9.4 |
| Copper | NA | 600 | 17.3 | 2540 | 39900 | 736 | R | 484 | 111 | R | R | 743 E | 190 |
| Iron | NA | NA | 17,020 | 21600 | 20200 | 21800 | 19500 | 19200 | 17100 | 19300 | 22700 | 13300 | 15100 |
| Lead | 400 | 600 | 7.2 | 361 | 50.4 | 131 | 27.1 E | 196 | 87.2 | 61.5 E | 22.7 E | 101 E | 85.3 |
| Magnesium | NA | NA | 4,170 | 3990 | 4890 | 3970 | 3540 | 3880 | 3310 | 3600 | 4480 | 2990 | 3040 |
| Manganese | NA | NA | 374 | 403 | 351 | 168 | R | 222 | 591 | R | R | 299 | R |
| Mercury | 2 | 270 | ND | 1.1 | 0.11 U | 0.26 | 0.07 J | 1.7 | 0.28 | 0.16 E | 0.08 J | 0.24 | 0.18 |
| Nickel | 130 | 2,400 | 16.2 | 62 | 29.8 E | 50.3 | 15.9 | 25.5 E | 18.7 | 17.5 | 25.4 | 20 | 15.2 |
| Potassium | NA | NA | 1,370 | 1330 | 1590 | 1240 | 952 J | 837 J | 857 J | 1170 | 1390 | 643 J | 903 |
| Selenium | 5 | 3,100 | ND | 0.95 U | 1.3 E | 1.2 E | 1.1 J | 0.92 U | 0.97 J | 0.75 J | 0.99 J | 0.82 J | 1 |
| Silver | 34 | 4,100 | 0.4 | 1.9 J | 4.8 | 1.2 J | 0.9 J | 0.69 J | 1 J | 0.96 J | 1 J | 0.86 J | 0.96 |
| Sodium | NA | NA | 174 | 273 J | 367 J | 523 J | 216 J | 384 J | 263 J | 272 J | 291 J | 370 J | 245 |
| Thallium | 0.7 | 2 | 0.94 | 3.5 | 2.2 E | 0.7 J | 0.84 U | 1.0 E | 1.7 E | 0.84 U | 0.82 U | 0.84 U | 0.87 |
| Vanadium | 550 | 7,100 | 19.2 | 22.1 | 25.3 | 39.5 | 27.2 | 30.2 | 24.1 | 26.9 | 26.5 | 31.8 | 22.2 |
| Zinc | 12,000 | 1,500 | 43.1 | 1750 | 242 | 283 | 60.1 E | 515 | 126 | 132 E | 307 E | 135 | 96.9 |
| Cyanide | 40 | 21,000 | ND | 0.24 U | 0.23 U | 0.22 U | 0.08 U | 0.23 U | 0.24 U | 0.08 U | 0.12 J | 0.19 J | 0.09 |

NOTES:

Value is above the SSL and the Site Specific Background or below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | | | | | | | DUPLICATE OF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey Non- | Site Specific | SS-12 | SS-13 | SS-15 | SS-17 | SS-18 | SS-19 | SS-20 | SS-24 | SS-25 | SS-25 |
| CLP Number | Soil Screening | Residential | Background | MBSH12 | MBSH13 | MBSH15 | MBSH17 | MBSH18 | MBSH19 | MBSH20 | MBSH24 | MBSH27 | MBSW21 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 89.9 | 86.4 | 82.8 | 86.3 | 87.2 | 86.6 | 79.2 | 84.3 | 85.5 | 69.1 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 16" | Asphalt - 9" | Asphalt - 14" | Asphalt - 10" | Asphalt - 8" | Asphalt | Asphalt - 12" | No asphalt | No asphalt | No asphalt |
| Sample Depth** | | | | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Aluminum | NA | NA | 10,480 | 5720 | 10900 | 12700 | 8570 | 9170 | 6920 | 11200 | 8280 | 9910 | 12500 |
| Antimony | 5 | 340 | ND | J 0.79 J | 0.69 U | 0.95 U | 0.7 U | 1.6 J | 1.1 U | 1.6 J | 10.9 J | 2.5 J | 5 |
| Arsenic | 0.4 | 20 | 2.1 | E 3 | 59 | 6 E | 4 | 3.5 | 2.5 | 6.4 | 74.2 | 39.2 | 60.9 |
| Barium | 1,600 | 47,000 | 52.1 | 164 | 463 | 118 | 203 | 107 | 91.6 | 146 | 205 | 158 | 265 |
| Beryllium | 0.1 | 100 | 0.44 | J 0.87 J | 0.83 J | 0.64 J | 0.44 J | 0.51 J | 0.38 J | 0.6 J | 0.43 J | 0.5 J | 0.79 |
| Cadmium | 8 | 100 | ND | U 2 | 0.65 J | 0.1 U | 0.36 J | 0.22 U | 0.22 U | 0.73 J | 0.38 J | 0.49 J | 0.74 |
| Calcium | NA | NA | 931 | J 1560 | 1100 J | 1010 J | 845 J | 2800 | 1190 | 5120 | 917 J | 1180 E | 1490 |
| Chromium | 38 | 6,100 | 13.8 | 14.8 | 17.7 | 13.2 | 12.8 | 21.5 | 11.7 | 22.9 | 17.5 | 16.6 | 21.8 |
| Cobalt | NA | NA | 7.1 | J 10 J | 7.2 J | 5.1 J | 6.8 J | 8.3 J | 5.9 J | 9.2 J | 5.5 J | 6.4 J | 6.9 |
| Copper | NA | 600 | 17.3 | E 542 | 205 | 65.4 E | 104 | 103 | 123 | 234 E | 159 E | 662 E | 476 |
| Iron | NA | NA | 17,020 | 12000 | 20200 | 13500 | 15900 | 18700 | 12400 | 12200 | 12400 | 12000 | 14400 |
| Lead | 400 | 600 | 7.2 | E 220 | 116 | 57.8 | 58.5 | 58.2 | 41.2 | 105 E | 70.8 E | 89.3 E | 120 |
| Magnesium | NA | NA | 4,170 | 2660 | 3080 | 2350 E | 2400 | 3410 | 2280 | 3760 | 2860 | 2870 | 3270 |
| Manganese | NA | NA | 374 | 349 | 239 | 325 | 261 | 534 | 170 | 183 | 111 | 146 | 171 |
| Mercury | 2 | 270 | ND | E 0.11 U | 0.14 | 0.09 J | 0.14 | 0.58 | 0.9 | 0.3 | 1.9 | 0.43 | 0.51 |
| Nickel | 130 | 2,400 | 16.2 | 26.6 | 18.5 | 12.7 | 14.9 | 26.3 | 13.6 | 20.6 | 32.5 | 41.3 | 47.2 |
| Potassium | NA | NA | 1,370 | J 785 J | 756 J | 688 J | 490 J | 656 J | 597 J | 722 J | 974 J | 979 J | 1140 |
| Selenium | 5 | 3,100 | ND | J 0.86 U | 0.92 U | 1.1 J | 0.93 U | 1.1 U | 1.1 U | 0.77 J | 0.61 J | 0.47 J | 0.66 |
| Silver | 34 | 4,100 | 0.4 | J 0.66 J | 0.99 J | 0.47 J | 0.98 J | 0.45 U | 0.47 J | 0.96 J | 0.76 J | 1.2 J | 0.91 |
| Sodium | NA | NA | 174 | J 544 J | 420 J | 228 J | 387 J | 964 J | 174 J | 279 J | 142 J | 187 J | 265 |
| Thallium | 0.7 | 2 | 0.94 | U 0.9 U | 0.77 U | 0.85 U | 0.7 U | 0.45 U | 0.44 U | 0.91 U | 0.85 U | 0.84 U | 1 |
| Vanadium | 550 | 7,100 | 19.2 | 16 | 27.1 | 19.9 | 22 | 24.1 | 22.6 | 24.5 | 21.1 | 19.6 | 25.1 |
| Zinc | 12,000 | 1,500 | 43.1 | E 573 | 178 | 70.2 E | 105 | 110 | 98.1 | 199 | 183 | 518 | 524 |
| Cyanide | 40 | 21,000 | ND | J 0.22 U | 0.23 U | 0.08 U | 0.22 U | 0.23 U | 0.23 U | 0.22 J | 0.38 J | 0.21 J | 0.5 |

NOTES:

Value is above the SSL, the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the *SSL but below the Site Specific Background and the NJDEP* Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

*R - analysis did not pass EPA QA/QC*

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | DUPLICATE OF SS-27 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sample ID No* | USEPA | New Jersey Non- | Site Specific | SS-26 | SS-27 | SS-DUP-02 | SS-28 | SS-29 | SS-30 | SS-31 | SS-32 | SS-33 | SS-37 |
| *CLP Number* | Soil Screening | Residential | Background | MBSH28 | MBSH29 | MBSJ01 | MBSH30 | MBSH31 | MBSH32 | MBSH33 | MBSH34 | MBSH35 | MBSH39 |
| *Matrix* | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 91.7 | 87 | 84 | 88.1 | 88.6 | 86.2 | 85.9 | 57.1 | 77.2 | 84.5 |
| Asphalt/Soil* | | (mg/kg) | | No asphalt | No asphalt | No asphalt | Asphalt - 6" | Asphalt - 6" | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | No asphalt |
| Sample Depth** | | | | 2 - 14" | 2 - 14" | 2 - 14" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 3 - 16" |
| Aluminum | NA | NA | 10,480 | 7530 | 7750 | 9420 | 9680 | 8900 | 7700 | 7710 | 9580 | 6710 | 12200 |
| Antimony | 5 | 340 | ND | J 2.9 J | 1.4 J | 2.3 J | 1.1 J | 1.1 U | 1.2 U | 1.2 U | 185 E | 13.6 E | 5.4 U |
| Arsenic | 0.4 | 20 | 2.1 | 125 | 233 E | 279 | 16.3 | 7.4 | 5.3 | 5.1 | 17.1 | 5.81 | 4.9 E |
| Barium | 1,600 | 47,000 | 52.1 | 144 | 238 E | 237 | 221 | 82.7 | 218 | 260 | 135 | 291 | 104 |
| Beryllium | 0.1 | 100 | 0.44 | J 0.48 J | 0.48 J | 0.51 J | 0.58 J | 0.55 J | 0.51 J | 0.44 J | 0.31 J | 0.48 J | 0.61 J |
| Cadmium | 8 | 100 | ND | J 0.22 U | 0.79 J | 0.89 J | 2.5 | 0.23 U | 0.23 U | 1.14 | 0.14 U | 1.2 J | 0.12 J |
| Calcium | NA | NA | 931 | E 1730 | 1870 | 2180 | 3070 | 1500 | 4540 | 9070 | 7400 E | 16900 E | 3170 E |
| Chromium | 38 | 6,100 | 13.8 | 16.7 | 17.7 E | 38 | 35.2 | 12.7 | 18.6 | 89.9 | 180 | 38.8 | 32.5 |
| Cobalt | NA | NA | 7.1 | J 7.2 J | 7.4 J | 9.3 J | 13.6 | 6.3 J | 5.7 J | 9.5 J | 7.6 J | 7.2 J | 11.6 J |
| Copper | NA | 600 | 17.3 | E 248 | 276 E | 351 | 3530 | 57.7 | 350 | 3850 | 232 E | 497 E | R |
| Iron | NA | NA | 17,020 | 14800 | 15900 | 23000 | 22000 | 15100 | 13800 | 18800 | 78800 | 19500 | 21100 |
| Lead | 400 | 600 | 7.2 | E 63.4 | 119 E | 161 | 247 | 33.8 | 115 | 240 | 701 E | 302 E | 145 E |
| Magnesium | NA | NA | 4,170 | 2950 | 2560 | 3110 | 3540 | 2710 | 2440 | 3340 | 2940 | 6610 | 4530 |
| Manganese | NA | NA | 374 | 381 | 343 | 405 | 468 | 229 | 162 | 273 | 207 | 303 | R |
| Mercury | 2 | 270 | ND | 0.75 | 0.97 E | 0.96 | 2.7 | 0.11 U | 1.6 | 1.5 | 104 E | 24 | 0.19 E |
| Nickel | 130 | 2,400 | 16.2 | 17.6 | 20.9 | 26.8 | 44.1 | 11.2 | 13.2 | 66.8 | 38.7 | 23.1 | 29 |
| Potassium | NA | NA | 1,370 | J 723 J | 687 J | 873 J | 689 J | 805 J | 567 J | 635 J | 1100 J | 544 J | 1360 |
| Selenium | 5 | 3,100 | ND | J 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 2.5 E | 0.97 J | 0.44 U |
| Silver | 34 | 4,100 | 0.4 | J 0.43 U | 0.46 U | 0.5 J | 5.2 | 0.45 U | 0.46 U | 0.62 J | 5.5 | 2 J | 1.4 J |
| Sodium | NA | NA | 174 | J 159 J | 127 J | 148 J | 153 J | 148 J | 226 J | 388 J | 640 J | 249 J | 211 J |
| Thallium | 0.7 | 2 | 0.94 | U 0.43 U | 0.51 J | 0.47 U | 1.1 | 0.45 U | 0.46 U | 0.46 U | 1.3 U | 0.93 U | 0.84 U |
| Vanadium | 550 | 7,100 | 19.2 | 28.3 E | 51.9 E | 66.7 E | 37.5 E | 20.2 | 23.4 | 30 | 67 | 41.2 | 40.4 |
| Zinc | 12,000 | 1,500 | 43.1 | 225 | 217 E | 266 | 1150 | 76.2 | 322 | 1340 | 188 | 391 | 424 E |
| Cyanide | 40 | 21,000 | ND | J 0.21 U | 0.23 U | 0.23 U | 0.22 U | 0.22 U | 0.23 U | 0.23 U | 1.4 | 0.76 | 0.23 J |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-40 | SS-41 | SS-42 | SS-43 | SS-44 | SS-45 | SS-46 | SS-48 | SS-49 | SS-50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *CLP Number* | *Soil Screening* | *Residential* | Background | MBSH42 | MBSH43 | MBSH44 | MBSH45 | MBSH46 | MBSH47 | MBSH48 | MBSH50 | MBSH51 | MBSH52 |
| *Matrix* | Level | *Direct Contact* | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 81.1 | 87.8 | 87.7 | 73.0 | 88.1 | 84.5 | 85.7 | 88.1 | 88.5 | 86.1 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 8" | Asphalt - 8" | No asphalt | No asphalt | Asphalt - 16" | Asphalt - 8" | No asphalt | Asphalt - 10" | Asphalt - 8" | Asphalt - 12" |
| Sample Depth** | | | | 0 - 12" | 0 - 12" | not given | 2 - 14" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 12" | 0 - 12" |
| Aluminum | NA | NA | 10,480 | 14800 | 9180 | 6820 | 6260 | 10900 | 12200 | 8050 | 7410 | 7970 | 6440 |
| Antimony | 5 | 340 | ND | 0.73 U | 0.78 J | 1.1 U | 720 | 1.1 U | 1.2 U | 1.7 J | 1.1 U | 1.1 U | 1.5 J |
| Arsenic | 0.4 | 20 | 2.1 | 2 J | 3.2 | 4.7 | 15.2 | 0.88 U | 1.1 U | 2.2 U | 3 | 2 | 4.7 |
| Barium | 1,600 | 47,000 | 52.1 | 62.2 | 66 | 461 | 178 | 44.6 | 342 | 91.4 | 80.8 | 126 | 136 |
| Beryllium | 0.1 | 100 | 0.44 | 0.64 J | 0.65 J | 0.4 J | 0.27 J | 0.82 J | 0.68 J | 0.47 J | 0.71 J | 0.64 J | 0.54 J |
| Cadmium | 8 | 100 | ND | 0.26 J | 0.22 U | 0.23 U | 0.27 U | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.22 U | 0.39 J |
| Calcium | NA | NA | 931 | 1310 | 1350 | 798 J | 3020 | 1000 J | 807 J | 528 J | 1230 | 1570 | 1570 |
| Chromium | 38 | 6,100 | 13.8 | 21.1 | 17.6 | 10.5 | 270 | 13.1 | 16.5 | 14.5 | 14.4 | 13.5 | 10.8 |
| Cobalt | NA | NA | 7.1 | 12.3 | 7.7 J | 5.4 J | 13.9 | 7.7 J | 8.1 J | 4.4 J | 8 J | 6.2 J | 5.9 J |
| Copper | NA | 600 | 17.3 | 19 | 15.6 | 41.3 | 408 | 46.5 | 65 | 59.7 | 65.6 | 44.3 | 98.2 |
| Iron | NA | NA | 17,020 | 27500 | 22300 | 15200 | 231000 | 14700 | 20300 | 13700 | 12300 | 13400 | 11100 |
| Lead | 400 | 600 | 7.2 | 12.4 | 9.5 | 50 | 434 | 9 | 57 | 19.8 | 39.2 | 44.7 | 58.6 |
| Magnesium | NA | NA | 4,170 | 7410 | 3860 | 2240 | 2100 | 4230 | 3250 | 2440 | 2740 | 2590 | 1580 |
| Manganese | NA | NA | 374 | 634 | 366 | 274 | 571 | 395 | 247 | 118 | 299 | 492 | 201 |
| Mercury | 2 | 270 | ND | 0.12 U | 0.11 U | 0.11 U | 2.6 | 0.11 U | 0.44 | 0.11 U | 0.51 | 0.11 U | 0.15 E |
| Nickel | 130 | 2,400 | 16.2 | 28.1 | 15.4 | 9 J | 44 | 17.6 | 12.4 | 10.5 | 15.8 | 14.1 | 13.4 |
| Potassium | NA | NA | 1,370 | 1920 | 952 J | 520 J | 388 J | 1180 E | 753 J | 570 J | 640 J | 660 J | 291 J |
| Selenium | 5 | 3,100 | ND | 0.97 U | 0.89 U | 1.1 U | 4.3 | 1.1 U | 1.2 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U |
| Silver | 34 | 4,100 | 0.4 | 1 J | 0.81 J | 0.45 U | 1.1 J | 0.44 U | 0.47 U | 0.46 U | 0.45 U | 0.43 U | 0.46 U |
| Sodium | NA | NA | 174 | 320 J | 404 J | 133 J | 234 J | 180 J | 170 J | 99.2 J | 137 J | 158 J | 151 J |
| Thallium | 0.7 | 2 | 0.94 | 0.94 J | 0.67 U | 0.45 U | 0.54 U | 0.44 U | 0.85 J | 0.46 U | 0.45 U | 0.43 U | 0.46 U |
| Vanadium | 550 | 7,100 | 19.2 | 27.9 | 27.2 | 17 | 57.8 E | 18 | 27.8 | 17 | 17.3 | 17.5 | 20.2 |
| Zinc | 12,000 | 1,500 | 43.1 | 70.3 | 43.5 | 34 | 734 | 63.5 | 73.4 | 81.6 | 92.6 | 87.5 | 72.9 |
| Cyanide | 40 | 21,000 | ND | 0.24 U | 0.23 U | 0.23 U | 0.27 U | 0.23 U | 0.24 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given: however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | DUPLICATE OF SS-54 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-51 | SS-52 | SS-53 | SS-54 | SS-DUP-01 | SS-55 | SS-56 | SS-58 | WC-SS-59 |
| *CLP Number* | Soil Screening | Residential | Background | MBSH53 | MBSH54 | MBSH55 | MBSH56 | MBSH55 | MBSH57 | MBSH58 | MBSH60 | MBSH61 |
| *Matrix* | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 87.8 | 87.9 | 90.8 | 86.7 | 86.6 | 86.4 | 84.2 | 86.6 | 87.3 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 6" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 6" | Asphalt - 6" |
| Sample Depth** | | | | 0 - 12" | 0 - 12" | 0 - 8" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" |
| Aluminum | NA | NA | 10,480 | 7740 | 5050 | 10100 | 15200 | 15000 | 10700 | 10600 | 10600 | 8660 |
| Antimony | 5 | 340 | ND | 1.1 U | 1.5 J | 1.2 U | 1.2 U | 1.2 U | 1.1 U | 1.2 U | 0.67 U | 0.92 U |
| Arsenic | 0.4 | 20 | 2.1 | 4.2 | 2.7 | 6.4 | 7.3 | 7.1 | 3.5 | 3.1 | 1.5 J |
| Barium | 1,600 | 47,000 | 52.1 | 148 | 98.9 | 176 | 274 | 293 | 241 | 208 | 65.6 | 46 |
| Beryllium | 0.1 | 100 | 0.44 | 0.52 J | 0.46 J | 0.52 J | 0.78 J | 0.87 J | 0.92 J | 0.88 J | 0.47 J | 0.51 J |
| Cadmium | 8 | 100 | ND | 0.23 U | 0.22 U | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.23 U | 0.22 U | 0.09 U |
| Calcium | NA | NA | 931 | 1190 | 874 J | 6100 | 3280 E | 2070 E | 616 J | 1070 J | 1420 | 775 J |
| Chromium | 38 | 6,100 | 13.8 | 12.7 | 10.4 | 18.6 | 23.3 | 19.6 | 19.8 | 21.9 | 14.6 | 13.7 |
| Cobalt | NA | NA | 7.1 | 6.4 J | 6.7 J | 10.3 J | 9.9 J | 8.4 J | 4.4 J | 5.6 J | 7.2 J | 7.3 J |
| Copper | NA | 600 | 17.3 | 41.6 | 116 | 375 | 127 | 133 | 50.9 | 89.7 | 16.7 | 12.5 E |
| Iron | NA | NA | 17,020 | 12200 | 9910 | 27100 | 29600 | 25200 | 20900 | 18900 | 20900 | 14600 |
| Lead | 400 | 600 | 7.2 | 57.7 | 50.8 | 59 | 97.3 | 93.4 | 28.7 | 53.5 | 11.4 | R |
| Magnesium | NA | NA | 4,170 | 2300 | 1290 | 5430 | 5200 | 4290 | 2380 | 2480 | 3220 | 3020 E |
| Manganese | NA | NA | 374 | 193 | 248 | 370 | 247 | 201 | 132 | 154 | 282 | 449 |
| Mercury | 2 | 270 | ND | 0.11 U | 0.11 U | 0.1 U | 0.15 E | 0.15 E | 0.12 U | 0.14 E | 0.12 U | 0.05 U |
| Nickel | 130 | 2,400 | 16.2 | 14.1 | 14.5 | 17.8 | 21.2 | 23.3 | 12.4 | 13.2 | 14.5 | 12.9 |
| Potassium | NA | NA | 1,370 | 594 J | 287 J | 548 J | 599 J | 726 J | 569 J | 549 J | 643 J | 958 J |
| Selenium | 5 | 3,100 | ND | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 1.1 U | 1.2 U | 0.89 U | 0.83 J |
| Silver | 34 | 4,100 | 0.4 | 0.45 U | 0.44 U | 0.44 U | 0.46 U | 0.46 U | 0.45 U | 0.46 U | 0.81 J | 0.57 J |
| Sodium | NA | NA | 174 | 158 J | 154 J | 396 J | 207 J | 216 J | 121 J | 182 J | 177 J | 205 J |
| Thallium | 0.7 | 2 | 0.94 | 0.69 J | 0.44 U | 0.55 J | 0.46 U | 0.46 U | 0.45 U | 0.46 U | 0.67 U | 0.82 U |
| Vanadium | 550 | 7,100 | 19.2 | 20.7 | 24.7 | 37.9 | 38.1 | 31.4 | 36.3 | 29.8 | 25 | 20.6 |
| Zinc | 12,000 | 1,500 | 43.1 | 78.9 | 56 | 106 | 226 | 222 | 85.1 | 84.8 | 52 | 45.2 E |
| Cyanide | 40 | 21,000 | ND | 0.23 U | 0.23 U | 0.22 U | 0.34 J | 0.23 U | 0.23 U | 0.24 U | 0.23 U | 0.08 U |

NOTES:

Value is above the Soil and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | | | | DUPLICATE OF SS-68 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-60 | SS-61 | SS-62 | SS-63 | SS-65 | SS-66 | SS-67 | SS-68 | SS-DUP-04 | SS-69 |
| CLP Number | Soil Screening | Residential | Background | MBSH62 | MBSH63 | MBSI64 | MBSH65 | MBSH67 | MBSH68 | MBSH69 | MBSH70 | MBSJ78 | MBSH71 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 75.1 | 89.6 | 86.4 | 85 5 | 89 | 86.4 | 85 | 90 | 81.2 | 91 7 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 10" | Asphalt - 10" | Asphalt - 6" | Asphalt - 8" | Asphalt - 12" | Asphalt | Asphalt - 14" | Asphalt - 6" | Asphalt - 6" | Asphalt - 6" |
| Sample Depth** | | | | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 12" | 0 - 12" | not given | 0 - 12" | 0 - 8" | 0 - 8" | 0 - 8" |
| Aluminum | NA | NA | 10,480 | 6590 | 8790 | 13600 | 5030 | 9620 | 11800 | 10000 | 8000 | 8630 | 8490 |
| Antimony | 5 | 340 | ND | 1.1 U | 1.5 J | 0.68 U | 4.9 J | 0.66 U | 1.2 U | 1.2 U | 0.65 U | 1.2 U | 0.65 |
| Arsenic | 0.4 | 20 | 2.1 | 1.2 J | 32 | 2.5 | 10.6 | 5.6 | 3.4 | 2.5 | 2.1 J | 3.6 | 5.1 |
| Barium | 1,600 | 47,000 | 52.1 | 25.6 J | 59.3 | 77.5 | 731 | 51.3 | 44.3 J | 48.7 | 72.5 E | 193 E | 337 |
| Beryllium | 0.1 | 100 | 0.44 | 0.23 J | 0.49 | 0.53 | 0.26 J | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.56 | 0.54 |
| Cadmium | 8 | 100 | ND | 0.11 U | 0.3 J | 0.31 J | 1.2 | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.24 U | 4.3 |
| Calcium | NA | NA | 931 | 274 J | 2280 | 1610 | 1760 | 1040 J | 1020 J | 678 J | 4910 | 1930 | 8890 |
| Chromium | 38 | 6,100 | 13.8 | 7.3 | 15.1 | 17.1 | 80.5 | 14.1 | 15.5 | 13.9 | 13.7 E | 11.5 E | 30 |
| Cobalt | NA | NA | 7.1 | 3.1 J | 8.1 J | 9.7 J | 16.4 | 7 J | 10.4 J | 7.1 J | 7.5 J | 6.1 J | 7.6 |
| Copper | NA | 600 | 17.3 | 5.1 J | 44 | 30.8 | 3750 | 11.2 | 14.8 | 15.6 | 32.1 | 73.9 | 16500 |
| Iron | NA | NA | 17,020 | 7490 | 20100 | 22300 | 39600 | 19800 | 19700 | 17400 | 15500 | 13400 | 15600 |
| Lead | 400 | 600 | 7.2 | R | 26.2 | 17.7 | 774 | 8.7 | 9.1 | 7.3 | 12.8 E | 78.2 E | 820 |
| Magnesium | NA | NA | 4,170 | 1380 E | 3680 | 4490 | 1550 | 3230 | 3730 | 3220 | 3880 | 2760 | 4870 |
| Manganese | NA | NA | 374 | 121 | 306 | 473 | 418 | 296 | 344 | 196 | 342 | 239 | 195 |
| Mercury | 2 | 270 | ND | 0.07 U | 0.13 | 0.12 U | 2.02 | 0.11 U | 0.2 | 0.59 | 0.11 U | 0.27 | 0.13 |
| Nickel | 130 | 2,400 | 16.2 | 6.3 J | 16.1 | 19.4 | 458 | 12.6 | 17.3 | 11.3 | 17.7 E | 11.7 | 43.3 |
| Potassium | NA | NA | 1,370 | 418 J | 702 J | 1070 J | 336 J | 653 J | 791 J | 768 J | 1270 | 670 J | 990 |
| Selenium | 5 | 3,100 | ND | 0.51 U | 0.88 U | 0.91 U | 1.3 | 0.88 U | 1.2 U | 1.2 U | 0.86 U | 1.2 U | 1.6 |
| Silver | 34 | 4,100 | 0.4 | 0.29 U | 0.73 J | 0.85 J | 2.1 J | 0.74 J | 0.46 U | 0.47 U | 0.43 U | 0.48 U | 2.1 |
| Sodium | NA | NA | 174 | 82.9 J | 216 J | 162 J | 119 J | 97.7 J | 159 J | 143 J | 285 J | 151 J | 167 |
| Thallium | 0.7 | 2 | 0.94 | 0.96 U | 0.81 J | 1 J | 0.77 J | 1.3 J | 1.2 J | 0.47 U | 1.6 J | 0.48 U | 0.86 |
| Vanadium | 550 | 7,100 | 19.2 | 11.8 J | 26.4 | 24.2 | 24 | 22.7 | 24.7 | 21.9 | 22.5 | 17.3 | 26.1 |
| Zinc | 12,000 | 1,500 | 43.1 | 24.6 E | 70.8 | 87.4 | 1790 | 38.8 | 58.5 | 41.9 | 45.8 | 95.5 | 7050 |
| Cyanide | 40 | 21,000 | ND | 0.15 J | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.25 U | 0.22 |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for the parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

*Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter*

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-70 | SS-71 | SS-72 | SS-73 | SS-74 | SS-75 | SS-76 | SS-77 | SS-78 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSH72 | MBSH73 | MBSH74 | MBSH75 | MBSH76 | MBSH81 | MBSH78 | MBSH79 | MBSH80 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 86.6 | 85.6 | 84.8 | 88.8 | 86.2 | 85.6 | 84.3 | 89.3 | 85.3 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 8" | Asphalt - 12" | Asphalt - 11" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12" | Asphalt - 12 " |
| *Sample Depth*** | | | | 0 - 12" | 0 - 12" | 0 - 11" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 12" | 0 - 8" |
| Aluminum | NA | NA | 10,480 | 11600 | 9220 | 9250 | 6120 | 11300 | 11900 | 11300 | 11300 | 10700 |
| Antimony | 5 | 340 | ND | 0.67 U | 34.8 | 1.2 U | 4.3 J | 1.1 U | 1.2 U | 1.2 U | 1.1 U | 1.2 U |
| Arsenic | 0.4 | 20 | 2.1 | 5 | 4 | 6.3 | 5.1 | 6 | 7.1 | 7.8 | 1.1 J | 2.4 |
| Barium | 1,600 | 47,000 | 52.1 | 268 | 56.8 | 831 | 96.3 | 263 | 394 | 375 | 45.8 | 61.8 |
| Beryllium | 0.1 | 100 | 0.44 | 0.63 J | 0.5 J | 0.82 J | 0.55 J | 0.74 J | 0.81 J | 0.79 J | 0.61 J | 0.63 J |
| Cadmium | 8 | 100 | ND | 0.33 J | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.23 U | 0.23 U | 0.22 U | 0.23 U |
| Calcium | NA | NA | 931 | 1220 | 1890 | 866 J | 1020 J | 688 J | 4240 | 718 J | 877 J | 835 J |
| Chromium | 38 | 6,100 | 13.8 | 15 | 20.6 | 14.5 | 9 | 14 | 17.8 | 13.2 | 13.5 | 14.5 |
| Cobalt | NA | NA | 7.1 | 7.1 J | 6.1 J | 6.5 J | 4.5 J | 6.2 J | 9.7 J | 5.6 J | 7.9 J | 7.3 J |
| Copper | NA | 600 | 17.3 | 66.9 | 40.5 | 66 | 32.9 | 97.4 | 91 | 94.5 | 19.2 | 25.6 |
| Iron | NA | NA | 17,020 | 17700 | 19400 | 16100 | 11200 | 15400 | 18400 | 14700 | 16700 | 16400 |
| Lead | 400 | 600 | 7.2 | 42.5 | 29.8 | 102 | 39.2 | 70.1 | 117 | 84.2 | 7.9 | 18.1 |
| Magnesium | NA | NA | 4,170 | 2960 | 3100 | 2480 | 1790 | 2390 | 3910 | 2030 | 3200 | 2900 |
| Manganese | NA | NA | 374 | 247 | 145 | 232 | 242 | 337 | 511 | 214 | 304 | 161 |
| Mercury | 2 | 270 | ND | 0.12 U | 0.12 U | 0.12 U | 0.11 U | 0.15 E | 0.14 E | 0.21 E | 0.11 U | 0.12 U |
| Nickel | 130 | 2,400 | 16.2 | 14.2 | 13.4 | 10.8 | 9.1 | 13.9 | 18.5 | 14.1 | 16.7 | 15 |
| Potassium | NA | NA | 1,370 J | 689 J | 845 J | 541 J | 500 J | 670 J | 567 J | 558 J | 982 J | 740 J |
| Selenium | 5 | 3,100 | ND | 0.9 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.2 U | 1.2 U | 1.1 U | 1.2 U |
| Silver | 34 | 4,100 | 0.4 | 0.89 J | 0.45 U | 0.46 U | 0.45 U | 0.45 U | 0.46 U | 0.46 U | 0.44 U | 0.47 U |
| Sodium | NA | NA | 174 J | 182 J | 696 J | 163 J | 137 J | 144 J | 203 J | 338 J | 166 J | 199 J |
| Thallium | 0.7 | 2 | 0.94 J | 0.67 U | 1 J | 0.67 J | 0.45 U | 0.45 U | 0.46 U | 0.46 U | 0.44 U | 0.47 U |
| Vanadium | 550 | 7,100 | 19.2 | 24.3 | 23.5 | 24.8 | 15.9 | 21.4 | 30.4 | 21.8 | 20.6 | 23.5 |
| Zinc | 12,000 | 1,500 | 43.1 | 84.8 | 43.1 | 68.3 | 58.3 | 84.6 | 172 | 87.4 | 53.1 | 89 |
| Cyanide | 40 | 21,000 | ND | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.22 U | 0.23 U |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | DUPLICATE OF SS-83 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SS-79 | SS-80 | SS-81 | SS-82 | SS-83 | SS-DUP-03 | SS-84 | SS-85 | SS-86 |
| CLP Number | Soil Screening | Residential | Background | MBSH81 | MBSH82 | MBSH83 | MBSH84 | MBSH85 | MBSJ02 | MBSH86 | MBSH87 | MBSH88 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 85 | 85.7 | 84.6 | 86 | 80.7 | 82.1 | 90.4 | 81.5 | 84.8 |
| Asphalt/Soil* | | (mg/kg) | | Asphalt - 10" | Asphalt - 12" | Asphalt - 10" | No asphalt | Asphalt - 8" | Asphalt - 8" | No asphalt | Asphalt - 12" | Asphalt - 10" |
| Sample Depth** | | | | 0 - 9" | 0 - 12" | 0 - 10" | 0 - 12" | 0 - 18" | 0 - 18" | 1 - 11" | 0 - 14" | 0 - 12" |
| Aluminum | NA | NA | 10,480 | 9820 | 13600 | 10400 | 6950 | 7050 | 5720 | 8760 | 14500 | 14600 |
| Antimony | 5 | 340 | ND | 1.1 U | 1.4 J | 1.2 U | 1.6 U | 1.2 J | 1.1 J | 2 J | 0.95 U | 0.94 U |
| Arsenic | 0.4 | 20 | 2.1 | 1.7 J | 7.1 | 6.2 | 2 J | 7.2 | 6.7 | 2.5 | 4.2 | 3.9 E |
| Barium | 1,600 | 47,000 | 52.1 | 68.6 | 128 | 732 | 36.6 J | 944 | 690 | 63.3 | 111 | 72.8 |
| Beryllium | 0.1 | 100 | 0.44 | 0.46 B | 0.56 B | 0.47 B | 0.22 B | 0.45 B | 0.36 B | 0.37 B | 0.7 B | 0.41 B |
| Cadmium | 8 | 100 | ND | 0.23 U | 0.22 U | 0.24 U | 0.23 U | 0.53 J | 0.5 J | 0.22 U | 0.1 U | 0.09 U |
| Calcium | NA | NA | 931 | 1230 | 1190 | 4870 | 1270 | 1850 | 1520 | 3190 | 1550 E | 887 J |
| Chromium | 38 | 6,100 | 13.8 | 13 | 14.3 | 39.5 | 37.8 | 12.8 | 10.5 | 26.4 | 13.6 | 22.6 |
| Cobalt | NA | NA | 7.1 | 6.2 J | 4.8 J | 5.9 J | 7 J | 5.6 J | 4.6 J | 9.3 J | 6.5 J | 10.6 J |
| Copper | NA | 600 | 17.3 | 25.2 | 55.2 | 178 | 56.6 | 174 | 243 | 232 | 16.8 E | R |
| Iron | NA | NA | 17,020 | 13100 | 14300 | 14200 | 19300 | 13500 | 10700 | 17400 | 16400 | 24800 |
| Lead | 400 | 600 | 7.2 | 19.2 | 72 | 149 | 34.5 | 150 | 133 | 98.9 | 36.9 | R |
| Magnesium | NA | NA | 4,170 | 2540 | 2420 | 2450 | 3510 | 2360 | 1840 | 4660 | 2620 E | 4970 |
| Manganese | NA | NA | 374 | 171 | 160 | 266 | 124 | 164 | 140 | 238 | 622 | R |
| Mercury | 2 | 270 | ND | 0.11 U | 0.15 E | 0.23 | 0.8 | 0.15 | 0.14 | 0.22 | 0.06 U | 0.06 U |
| Nickel | 130 | 2,400 | 16.2 | 11.8 | 15.1 | 14.2 | 16.8 | 12.7 | 10.4 | 20.4 | 18.5 | 19.6 |
| Potassium | NA | NA | 1,370 | 549 J | 703 J | 573 J | 682 J | 482 J | 404 J | 678 J | 732 J | 1430 |
| Selenium | 5 | 3,100 | ND | 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 J | 0.99 J | 1.1 U | 1.3 E | 0.71 J |
| Silver | 34 | 4,100 | 0.4 | 0.45 U | 0.45 U | 0.47 U | 0.46 U | 1.3 J | 1.2 J | 0.89 J | 0.8 J | 1.1 J |
| Sodium | NA | NA | 174 | 187 J | 151 J | 245 J | 158 J | 180 J | 145 J | 257 J | 275 J | 534 J |
| Thallium | 0.7 | 2 | 0.94 | 0.45 U | 0.45 U | 0.76 J | 0.46 U | 0.74 U | 0.84 J | 0.43 U | 0.86 U | 0.85 U |
| Vanadium | 550 | 7,100 | 19.2 | 19.7 E | 23.5 | 25.4 E | 27 | 22.6 | 18.2 | 30.8 E | 22.8 | 34.3 |
| Zinc | 12,000 | 1,500 | 43.1 | 96.9 | 93.9 | 276 | 90.3 | 95.4 | 91.7 | 245 | 65.2 E | 69.1 E |
| Cyanide | 40 | 21,000 | ND | 0.23 U | 0.23 U | 0.23 U | 0.23 U | 0.25 U | 0.24 U | 0.22 U | 0.46 J | 0.13 J |

NOTES:

Value is above the SSL and the Site Specific Background but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No | USEPA | New Jersey Non- | Site Specific | SS-87 | SS-88 | SS-89 |
|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSH89 | MBSH90 | MBSW22 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 62 | 89.7 | 87.7 |
| Asphalt/Soil* | | (mg/kg) | | No asphalt | No asphalt | Asphalt - 10" |
| Sample Depth** | | | | 2 - 12" | 2 - 12" | 0 - 8" |
| Aluminum | NA | NA | 10,480 | 6890 | 8070 | 9320 |
| Antimony | 5 | 340 | ND | 89.4 | 1.1 U | 0.91 U |
| Arsenic | 0.4 | 20 | 2.1 | 32.5 | 4.5 | 62.7 E |
| Barium | 1,600 | 47,000 | 52.1 | 612 | 165 | 170 |
| Beryllium | 0.1 | 100 | 0.44 | 0.44 J | 0.53 J | 0.55 J |
| Cadmium | 8 | 100 | ND | 0.32 U | 0.21 U | 0.68 J |
| Calcium | NA | NA | 931 | 5920 | 2080 | 2220 E |
| Chromium | 38 | 6,100 | 13.8 | 21.8 | 20.7 | 17.6 |
| Cobalt | NA | NA | 7.1 | 9.3 J | 8.4 J | 7.7 J |
| Copper | NA | 600 | 17.3 | 296 | 625 | R |
| Iron | NA | NA | 17,020 | 63200 | 20500 | 19200 |
| Lead | 400 | 600 | 7.2 | 814 | 162 | 96.1 E |
| Magnesium | NA | NA | 4,170 | 2080 | 3290 | 3370 |
| Manganese | NA | NA | 374 | 236 | 385 | R |
| Mercury | 2 | 270 | ND | 17.5 | 0.77 | 0.08 J |
| Nickel | 130 | 2,400 | 16.2 | 54 | 32.3 | 21.7 |
| Potassium | NA | NA | 1,370 | 747 J | 927 J | 1290 |
| Selenium | 5 | 3,100 | ND | 2.9 E | 1.1 U | 0.99 J |
| Silver | 34 | 4,100 | 0.4 | 4.3 | 0.43 U | 1.2 J |
| Sodium | NA | NA | 174 | 306 J | 175 J | 242 J |
| Thallium | 0.7 | 2 | 0.94 | 0.64 U | 0.56 J | 0.82 U |
| Vanadium | 550 | 7,100 | 19.2 | 125 E | 31.4 E | 24.9 |
| Zinc | 12,000 | 1,500 | 43.1 | 303 | 466 | 263 E |
| Cyanide | 40 | 21,000 | ND | 2 | 0.22 U | 0.12 J |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

ND - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - This indicates whether the sample was collected from below asphalt and road bed. If so, the thickness of the asphalt/road bed is given; however the sample depth given does not take into account this material.

** - This indicates the depth of the sample. If collected below asphalt, the depth given does not take into account the overlying asphalt.

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | | | | | | DUPLICATE OF SB-04-01 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey Non- | Site Specific | SB-01-01 | SB-01-02 | SB-01-03 | SB-02-01 | SB-02-02 | SB-02-03 | SB-03-01 | SB-03-02 | SB-03-03 | SB-04-01 | SB-DUP-04 | SB-04-02 |
| CLP Number | Soil Screening | Residential | Background | MBSJ03 | MBSJ04 | MBSJ05 | MBSJ06 | MBSJ07 | MBSJ08 | MBSJ09 | MBSJ10 | MBSJ11 | MBSJ12 | MBSW14 | MBSJ13 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 86.4 | 83.5 | 86.5 | 88 | 80.9 | 85.8 | 88.5 | 88.5 | 93 | 83.9 | 84.4 | 86.4 |
| Depth (in feet) | | (mg/kg) | | 1 - 3" | 5 - 7" | 7 - 9" | 0 - 2 | 8 - 10 | 12 - 14 | 1 - 3" | 3 - 5" | 7 - 9" | 1 - 3" | 1 - 3" | 5 - 7" |
| Aluminum | NA | NA | 10,480 | 9120 | 11300 | 11200 | 6940 | 7950 | 6030 | 10700 | 10900 | 5140 | 10400 | 9960 | 9400 |
| Antimony | 5 | 340 | ND | 0.93 U | 0.96 U | 0.92 U | 1.1 U | 1.2 U | 1.1 U | 0.9 U | 0.9 U | 0.86 U | 0.95 U | 0.95 U | 0.93 U |
| Arsenic | 0.4 | 20 | 2.1 | 3.6 | 2.4 J | 1.5 J | 3.6 | 3.3 | 1.4 J | 1.3 J | 1.6 J | 0.43 U | 3.3 | 3.7 | 2.5 |
| Barium | 1,600 | 47,000 | 52.1 | 102 | 60.4 | 31.9 J | 136 | 112 | 62.8 | 53.8 | 94.2 | 34 J | 194 | 256 | 41.7 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.58 J | 0.39 J | 0.42 J | 0.42 J | 0.51 J | 0.47 J | 0.9 J | 0.79 J | 0.39 J | 0.4 J | 0.4 J | 0.36 J |
| Cadmium | 8 | 100 | ND | 0.22 J | 0.1 U | 0.09 U | 0.22 U | 0.26 J | 0.23 U | 0.09 U | 0.09 U | 0.09 U | 0.1 J | 0.11 J | 0.09 U |
| Calcium | NA | NA | 931 | 2160 E | 1340 E | 890 J | 2710 | 5510 | 16900 | 1370 E | 864 J | 533 J | R | R | 689 J |
| Chromium | 38 | 6,100 | 13.8 | 14.6 | 12.2 | 11.6 | 16.9 | 10.8 | 11.7 | 15.6 | 15.5 | 7.2 | 14.9 | 14.8 | 16 |
| Cobalt | NA | NA | 7.1 | 7.7 J | 4.8 J | 6.4 J | 7.6 J | 5 J | 6.7 J | 11.4 | 10.1 J | 4.4 J | 5.2 J | 5.2 J | 6.5 J |
| Copper | NA | 600 | 17.3 | 129 E | 30.6 E | 22 E | 174 | 103 | 11.5 | 28.2 E | 25.3 | 18.1 E | 89.1 E | 83 E | 19.9 |
| Iron | NA | NA | 17,020 | 14800 | 11400 | 13000 | 18500 | 11600 | 14900 | 15700 | 14300 | 7360 | 13900 | 12800 | 20900 |
| Lead | 400 | 600 | 7.2 | 55.9 E | 17.1 E | R | 97.7 | 52.4 | 6 | 10.4 E | R | R | 76 E | 92.6 E | 10.3 E |
| Magnesium | NA | NA | 4,170 | 3690 | 2500 | 2970 | 2790 | 2350 | 4360 | 5590 | 5360 | 2950 | 2590 E | 2490 E | 3700 E |
| Manganese | NA | NA | 374 | 311 | 180 | 250 | 285 | 321 | 405 | 461 | 484 | 235 | 207 E | 189 E | 254 E |
| Mercury | 2 | 270 | ND | 0.25 | 0.06 J | 0.06 U | 0.57 | 0.14 | 0.11 U | 0.06 U | 0.06 U | 0.05 U | 0.08 J | 0.1 J | 0.06 U |
| Nickel | 130 | 2,400 | 16.2 | 17.2 | 12 | 13.5 | 105 | 11.5 | 13.1 | 22 | 20 | 11.2 | 15.2 E | 14.2 E | 15.5 E |
| Potassium | NA | NA | 1,370 | 1060 J | 765 J | 1030 J | 604 J | 418 J | 1300 | 1620 | 1490 | 1050 J | 715 J | 752 J | 1030 J |
| Selenium | 5 | 3,100 | ND | 0.44 U | 0.65 J | 0.44 U | 1.1 U | 1.2 U | 1.1 U | 0.43 U | 0.43 U | 0.41 U | 0.45 U | 0.49 J | 0.44 U |
| Silver | 34 | 4,100 | 0.4 | 0.68 J | 0.43 J | 0.65 J | 0.46 J | 0.52 J | 0.46 U | 0.96 J | 0.57 J | 0.36 J | 1 J | 1.2 J | 0.9 J |
| Sodium | NA | NA | 174 | 189 J | 144 J | 140 J | 350 J | 301 J | 227 J | 407 J | 250 J | 165 J | 375 J | 366 J | 259 J |
| Thallium | 0.7 | 2 | 0.94 | 0.83 U | 0.86 U | 0.83 U | 0.45 U | 1.7 J | 0.68 J | 0.81 U | 0.88 J | 0.77 U | 0.86 U | 0.85 U | 0.83 U |
| Vanadium | 550 | 7,100 | 19.2 | 21.4 | 17.3 | 18.1 | 36 | 18.2 | 15.3 | 24.4 | 22.5 | 10 J | 27 | 27.5 | 26.1 |
| Zinc | 12,000 | 1,500 | 43.1 | 125 | 49 | 53.1 | 263 | 115 | 36.2 | 58.2 | 47.6 | 28.8 | 96.7 | 91.3 | 45.4 |
| Cyanide | 40 | 21,000 | ND | 0.24 J | 0.22 J | 0.16 J | 0.23 U | 0.25 U | 0.23 U | 0.09 J | 0.08 U | 0.16 J | 0.08 U | 0.08 U | 0.08 U |

*NOTES:*

Value is above the SSL and the Site Specific Background but below the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME White Chemical
PROJECT # 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SB-04-03 | SB-05-01 | SB-05-02 | SB-05-03 | SB-06-01 | SB-06-02 | SB-06-03 | SB-07-01 | SB-07-02 | SB-07-03 | SB-08-01 | SB-08-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSJ14 | MBSJ15 | MBSJ16 | MBSJ17 | MBSJ18 | MBSJ19 | MBSJ20 | MBSJ21 | MBSJ22 | MBSJ23 | MBSJ24 | MBSJ25 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 84.4 | 87.8 | 88.7 | 84.6 | 86.3 | 88.7 | 89.7 | 85.5 | 89.2 | 92.1 | 83.8 | 90.7 |
| Depth (in feet) | | (mg/kg) | | 9 - 11* | 0 - 2 | 4 - 6 | 6 - 8 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 0 - 2 | 6 - 8 |
| Aluminum | NA | NA | 10,480 | 8950 | 9290 | 5460 | 4930 | 10100 | 7120 | 6440 | 11400 | 8690 | 6230 | 14200 | 13000 |
| Antimony | 5 | 340 | ND | 0.95 U | 0.67 U | 0.66 U | 0.68 U | 0.93 U | 0.98 J | 0.88 U | 0.94 U | 0.9 U | 0.85 U | 18.3 E | 0.65 U |
| Arsenic | 0.4 | 20 | 2.1 | R | 4.6 | 1.3 J | 0.91 U | 2 J | 2.7 | 0.7 J | 1.2 J | 1.3 J | 0.68 J | 4.8 | 1.7 J |
| Barium | 1,600 | 47,000 | 52.1 | 138 | 156 | 60.4 | 20 J | 46.6 | 43 J | 35.1 J | 50.4 | 44.8 J | 26.8 J | 129 | 30.1 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.5 J | 0.56 J | 0.41 J | 0.25 J | 1.5 | 0.46 J | 0.38 J | 0.49 J | 0.41 J | 0.3 J | 0.75 J | 0.44 J |
| Cadmium | 8 | 100 | ND | 0.1 U | 0.38 J | 0.22 U | 0.23 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.23 U | 0.22 U |
| Calcium | NA | NA | 931 | 978 J | 1230 | 964 J | 376 J | 842 J | 1320 E | 836 J | 783 J | 598 J | 406 J | 2330 | 291 J |
| Chromium | 38 | 6,100 | 13.8 | 17.9 | 23 | 11.2 | 7.8 | 13.2 | 12.4 | 11 | 14.4 | 11 | 8.4 | 31.7 | 15.9 |
| Cobalt | NA | NA | 7.1 | 7.3 J | 8.7 J | 5.8 J | 4 J | 8.6 J | 7.3 J | 5.7 J | 6.6 J | 5.9 J | 4.2 J | 9.7 J | 8.1 J |
| Copper | NA | 600 | 17.3 | 23.8 E | 118 | 14.1 | 11.8 | 14 E | 17.4 E | 28.7 E | R | R | R | 134 | 25.4 |
| Iron | NA | NA | 17,020 | 30700 | 17100 | 14200 | 10600 | 17300 | 12600 | 11300 | 16900 | 13600 | 10100 | 21100 | 17800 |
| Lead | 400 | 600 | 7.2 | 10.1 E | 98.8 | 6.9 | 4.3 | R | R | 9.3 E | 9.1 E | 7.5 E | 5.3 E | 52.7 | 7.7 |
| Magnesium | NA | NA | 4,170 | 3310 E | 3010 | 3110 | 2330 | 3140 | 3360 | 3400 | 3410 | 2670 | 2320 | 3850 | 5070 |
| Manganese | NA | NA | 374 | 449 E | 225 | 324 | 250 | 406 | 280 | 307 | R | R | R | 584 | 596 |
| Mercury | 2 | 270 | ND | 0.06 U | 0.13 | 0.1 U | 0.11 U | 0.05 U | 0.18 | 0.08 J | 0.06 U | 0.05 U | 0.05 U | 1.8 | 0.11 U |
| Nickel | 130 | 2,400 | 16.2 | 17.1 E | 17.7 | 12 | 8.4 J | 13 E | 13.5 E | 13.9 E | 15.4 | 12 | 9.8 | 22.2 | 19.2 |
| Potassium | NA | NA | 1,370 | 950 J | 739 J | 690 J | 603 J | 875 J | 857 J | 1030 J | 1390 | 972 J | 842 J | 785 J | 1330 |
| Selenium | 5 | 3,100 | ND | 0.45 U | 0.89 U | 0.88 U | 0.91 U | 1.1 J | 0.56 J | 0.46 J | 0.45 J | 0.58 J | 0.4 U | 0.93 U | 0.86 U |
| Silver | 34 | 4,100 | 0.4 | 1.4 J | 0.96 J | 0.51 J | 0.47 J | 0.81 J | 8.9 | 0.91 J | 0.8 J | 0.68 J | 0.47 J | 0.46 U | 0.43 U |
| Sodium | NA | NA | 174 | 224 J | 192 J | 186 J | 101 J | 414 J | 437 J | 292 J | 181 J | 143 J | 151 J | 432 J | 161 J |
| Thallium | 0.7 | 2 | 0.94 | 0.85 U | 0.73 J | 0.69 J | 0.68 U | 0.83 U | 0.8 U | 0.79 U | 0.84 U | 0.81 U | 0.77 U | 4.2 E | 0.65 U |
| Vanadium | 550 | 7,100 | 19.2 | 32.9 | 30.7 | 16.4 | 11.6 | 24.4 | 19.8 | 16.1 | 21.1 | 16.6 | 12.4 | 29.4 | 19.2 |
| Zinc | 12,000 | 1,500 | 43.1 | 51.4 | 111 | 32.1 | 24.6 | 43.3 | 48.6 | 48.7 | 54.9 E | 38.2 E | 25.9 E | 179 | 56.3 |
| Cyanide | 40 | 21,000 | ND | 0.08 U | 0.23 U | 0.23 U | 0.24 U | 0.08 U | 0.08 U | 0.08 U | 0.11 J | 0.08 U | 0.08 U | 0.24 U | 0.22 U |

NOTES:

Value is above the SSL, the Site Specific Background, but below the NJDEP Soil Cleanup Criteria (numbers bolded)

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

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NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | DUPLICATE OF SB-08-02 | | | | | | | | | | | DUPLICATE OF SB-11-02 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey Non- | Site Specific | SB-DUP-01 | SB-08-03 | SB-09-01 | SB-09-02 | SB-09-03 | SB-10-01 | SB-10-02 | SB-10-03 | SB-11-01 | SB-11-02 | SB-DUP-06 | SB-11-03 |
| *CLP Number* | Soil Screening | Residential | Background | MBST79 | MBSJ26 | MBSJ27 | MBSJ28 | MBSJ29 | MBSJ30 | MBSJ31 | MBSJ32 | MBSW39 | MBSW40 | MBSW42 | MBSW41 |
| *Matrix* | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| *Units* | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 91 | 85.4 | 87.4 | 84.6 | 88.7 | 86.7 | 86.2 | 89 | 83.7 | 85.8 | 85.8 | 83.8 |
| Depth (in feet) | | (mg/kg) | | 6 - 8 | 10 - 12 | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 11 - 12* | 1 - 3* | 3 - 5* | 3 - 5* | 7 - 9* |
| Aluminum | NA | NA | 10,480 | 11800 | 9140 | 7220 | 10100 | 7580 | 13300 | 7440 | 9330 | 12200 | 9330 | 9140 | 7090 |
| Antimony | 5 | 340 | ND | 0.65 U | 0.69 U | 0.92 U | 0.95 U | 0.88 U | 0.69 U | 0.7 U | 0.66 U | 0.69 U | 0.7 U | 0.7 U | 0.69 U |
| Arsenic | 0.4 | 20 | 2.1 | 0.86 U | 1.6 J | 1.2 J | 1.3 J | 0.9 J | 2.3 | 0.93 U | 0.88 U | 1.6 | 2.9 | 3.2 | 1.9 J |
| Barium | 1,600 | 47,000 | 52.1 | 28.8 J | 30.1 J | 81 | 56.6 | 39.6 J | 723 | 28.9 J | 48.6 | 78.9 | 31.8 J | 27.7 J | 26.2 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.41 J | 0.41 J | 0.53 J | 0.46 J | 0.48 J | 0.5 J | 0.35 J | 0.5 J | 0.66 J | 0.53 J | 0.56 J | 0.41 J |
| Cadmium | 8 | 100 | ND | 0.22 U | 0.23 U | 0.09 U | 0.1 U | 0.09 U | 0.23 J | 0.23 U | 0.22 U | 0.37 J | 0.24 J | 0.23 U | 0.23 U |
| Calcium | NA | NA | 931 | 404 J | 676 J | 1260 E | 646 J | 578 J | 1010 J | 413 J | 712 J | 1030 J | 735 J | 668 J | 737 J |
| Chromium | 38 | 6,100 | 13.8 | 14.5 | 14.5 | 11.5 | 14.2 | 10.3 | 16.3 | 8.8 | 10.7 | 12.4 | 9.1 | 10.2 | 7.8 |
| Cobalt | NA | NA | 7.1 | 7.8 J | 7.6 J | 7.8 J | 8.7 J | 6 J | 7.7 J | 4.7 J | 7.1 J | 7.4 J | 4.4 J | 4.5 J | 3.8 J |
| Copper | NA | 600 | 17.3 | 25.3 | 15.7 | 17.3 E | 23.2 E | 21.7 E | 46.1 | 10.1 | 21.9 | 20 | 11.8 | 11.1 | 10.3 |
| Iron | NA | NA | 17,020 | 16200 | 14100 | 11900 | 16100 | 10600 | 19000 | 9110 | 11700 | 14700 | 11500 | 14300 | 9870 |
| Lead | 400 | 600 | 7.2 | 7.1 | 6.1 | R | 10.7 E | R | 49.1 | 4.3 | 5.3 | 22.6 E | 4.4 E | 5.7 E | 4 E |
| Magnesium | NA | NA | 4,170 | 4600 | 4380 | 4010 | 3740 | 3620 | 3790 | 2320 | 4530 | 3360 | 2110 | 2180 | 2000 |
| Manganese | NA | NA | 374 | 510 | 245 | 440 | 361 | 335 | 349 | 243 | 244 | 272 | 163 | 214 | 157 |
| Mercury | 2 | 270 | ND | 0.1 U | 0.12 U | 0.06 U | 0.06 U | 0.05 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.12 U | 0.11 U | 0.11 U |
| Nickel | 130 | 2,400 | 16.2 | 18.1 | 15.6 | 16.9 | 15.3 | 14 | 17.6 | 9 J | 17.4 | 15.3 E | 8.3 J | 8.1 J | 8.1 J |
| Potassium | NA | NA | 1,370 | 1160 | 1120 J | 1160 | 1010 J | 1330 | 785 J | 542 J | 1260 E | 778 J | 630 J | 903 J | 671 J |
| Selenium | 5 | 3,100 | ND | 0.86 U | 0.92 U | 0.47 J | 0.45 U | 0.42 U | 0.92 U | 0.93 U | 0.88 U | 0.92 U | 0.93 U | 0.93 U | 0.92 U |
| Silver | 34 | 4,100 | 0.4 | 0.44 J | 0.46 U | 0.48 J | 0.71 J | 0.42 J | 0.78 J | 0.46 U | 0.44 U | 0.46 U | 0.47 U | 0.47 U | 0.46 U |
| Sodium | NA | NA | 174 | 155 J | 170 J | 200 J | 196 J | 169 J | 127 J | 119 J | 177 J | 182 J | 167 J | 163 J | 201 J |
| Thallium | 0.7 | 2 | 0.94 | 0.84 J | 0.89 J | 0.82 U | 0.85 U | 0.8 U | 0.69 U | 0.7 U | 0.66 U | 0.69 U | 0.7 U | 0.7 U | 0.69 U |
| Vanadium | 550 | 7,100 | 19.2 | 18.6 | 18.1 | 16.4 | 22.8 | 13.6 | 24.2 | 10.8 J | 11.9 | 17.8 | 14.6 | 20.6 | 11.6 |
| Zinc | 12,000 | 1,500 | 43.1 | 55.1 | 50.3 | 38.2 | 40.3 | 56.5 | 56.3 | 34.5 | 56.5 | 75.9 | 25.3 | 24.7 | 23.1 |
| Cyanide | 40 | 21,000 | ND | 0.22 U | 0.23 U | 0.17 J | 0.1 J | 0.1 J | 0.23 U | 0.23 U | 0.22 U | 0.24 U | 0.23 U | 0.23 U | 0.24 U |

NOTES:

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NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT # 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SB-12-01 | SB-12-02 | SB-12-03 | SB-13-01 | SB-13-02 | SB-13-03 | SB-14-01 | SB-14-02 | SB-14-03 | SB-15-01 | SB-15-02 | SB-15-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBST94 | MBST95 | MBST96 | MBST97 | MBST98 | MBST99 | MBSW00 | MBSW01 | MBSW02 | MBST91 | MBST92 | MBST93 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 86 | 93.9 | 90.5 | 84.3 | 94.3 | 91.4 | 85.2 | 92.8 | 93.3 | 84.9 | 94.5 | 92.8 |
| Depth (in feet) | | (mg/kg) | | 1 - 3* | 5 - 7* | 11 - 13* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* |
| Aluminum | NA | NA | 10,480 | 9940 | 8910 | 10600 | 10200 | 6460 | 3560 | 12800 | 7120 | 8020 | 11100 | 6530 | 7840 |
| Antimony | 5 | 340 | ND | 1.3 J | 0.84 U | 0.86 U | 2.2 J | 0.82 U | 0.88 U | 1.2 J | 0.86 U | 0.86 U | 1.2 J | 0.85 U | 0.86 U |
| Arsenic | 0.4 | 20 | 2.1 | 6.4 | 0.62 J | 0.43 U | 24.7 | 0.46 J | 0.61 J | 6.3 | 0.47 J | 0.43 U | 15.9 | 0.42 U | 0.43 U |
| Barium | 1,600 | 47,000 | 52.1 | 838 | 34.5 J | 51.6 | 503 | 26.1 J | 16.4 J | 293 | 42.7 J | 108 | 390 | 26.7 J | 45 |
| Beryllium | 0.1 | 100 | 0.44 | 0.6 J | 0.41 J | 0.73 E | 0.65 J | 0.32 J | 0.3 J | 0.91 J | 0.36 J | 0.48 J | 0.47 J | 0.29 J | 0.45 J |
| Cadmium | 8 | 100 | ND | 0.09 U | 0.08 U | 0.09 U | 0.09 U | 0.08 U | 0.09 U | 0.09 U | 0.09 U | 0.09 U | 0.18 J | 0.09 U | 0.09 U |
| Calcium | NA | NA | 931 | 1870 E | 639 J | 975 J | 583 J | 214 J | 474 J | 438 J | 220 J | 607 J | 1080 J | 153 J | 523 J |
| Chromium | 38 | 6,100 | 13.8 | 17.4 | 10.3 | 19.7 | 12 | 7 | 6.5 | 13.4 | 8.9 | 11.9 | 13.2 | 7 | 9.8 |
| Cobalt | NA | NA | 7.1 | 6.7 J | 6 J | 6.7 J | 6.4 J | 4.1 J | 2.3 J | 6.1 J | 5.9 J | 7.1 J | 8.3 J | 4.6 J | 6.3 J |
| Copper | NA | 600 | 17.3 | 69.3 E | 19.6 E | 24.7 E | 64 E | 13.5 E | 38.1 E | 82.4 E | 19.4 E | 20.3 E | 166 E | 49 E | 77.6 E |
| Iron | NA | NA | 17,020 | 16600 | 11700 | 15800 | 12300 | 8160 | 5320 | 14200 | 9670 | 13000 | 16900 | 7200 | 10100 |
| Lead | 400 | 600 | 7.2 | 813 E | R | R | 42.7 E | R | R | 74.2 E | R | R | 88.5 E | R | R |
| Magnesium | NA | NA | 4,170 | 3120 | 3700 | 4660 | 2110 | 2470 | 1300 | 2990 | 3250 | 4240 | 2450 | 2610 | 3590 |
| Manganese | NA | NA | 374 | 332 | 418 | 423 | 477 | 284 | 89.1 | 393 | 309 | 490 | 307 | 280 | 377 |
| Mercury | 2 | 270 | ND | 0.17 | 0.05 U | 0.05 U | 0.07 J | 0.05 U | 0.05 U | 0.08 J | 0.05 U | 0.05 U | 0.08 J | 0.05 U | 0.05 U |
| Nickel | 130 | 2,400 | 16.2 | 14.9 E | 14.9 E | 18.7 E | 13 E | 10.5 E | 5.6 J | 16.3 E | 12.1 E | 16.3 E | 76.5 E | 11.7 E | 15 E |
| Potassium | NA | NA | 1,370 | 615 J | 1080 | 1270 | 509 J | 842 J | 433 J | 777 J | 1120 | 1450 | 647 J | 847 J | 1110 |
| Selenium | 5 | 3,100 | ND | 1.1 J | 0.53 J | 0.51 J | 1 J | 0.44 J | 0.42 U | 1 J | 0.41 U | 0.41 U | 0.94 J | 0.41 J | 0.41 U |
| Silver | 34 | 4,100 | 0.4 | 1.5 J | 0.58 J | 0.76 J | 0.8 J | 0.27 J | 0.24 U | 0.61 J | 0.58 J | 0.58 J | 0.8 J | 0.31 J | 0.43 J |
| Sodium | NA | NA | 174 | 236 J | 155 J | 177 J | 232 J | 97.5 J | 119 J | 152 J | 164 J | 168 J | 185 J | 129 J | 167 J |
| Thallium | 0.7 | 2 | 0.94 | 0.84 U | 0.76 U | 0.77 U | 0.85 U | 0.74 U | 0.79 U | 0.84 U | 0.78 U | 0.77 U | 0.84 U | 0.76 U | 0.78 U |
| Vanadium | 550 | 7,100 | 19.2 | 26.8 | 15.4 | 34.1 | 19.6 | 10.4 | 7.9 J | 21.1 | 13.6 | 16.5 | 22.8 | 30.8 | 12.4 |
| Zinc | 12,000 | 1,500 | 43.1 | 76.7 | 43.8 | 44.6 | 75.4 | R | 44.3 | 72.1 | 39.7 | 46 | 120 | 35.1 | 46.7 |
| Cyanide | 40 | 21,000 | ND | 0.08 U | 0.07 U | 0.08 U | 0.08 U | 0.07 U | 0.08 U | 0.08 U | 0.08 U | 0.08 U | 0.08 U | 0.07 U | 0.08 U |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above)

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | DUPLICATE OF SB-15-03 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SB-DUP-03 | SB-16-01 | SB-16-02 | SB-16-03 | SB-17-01 | SB-17-02 | SB-17-03 | SB-18-01 | SB-18-02 | SB-18-03 | SB-19-01 | SB-19-02 |
| CLP Number | Soil Screening | Residential | Background | MBST81 | MBSW03 | MBSW04 | MBSW05 | MBSW36 | MBSW37 | MBSW38 | MBST82 | MBST83 | MBST84 | MBST85 | MBST86 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 93.6 | 82.8 | 92.8 | 93.6 | 85.5 | 91.2 | 93.6 | 87.7 | 86.2 | 85.7 | 82.4 | 92.3 |
| Depth (in feet) | | (mg/kg) | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* |
| Aluminum | NA | NA | 10,480 | 7830 | 10400 | 8230 | 6660 | 15600 | 5830 | 9430 | 8480 | 10300 | 3530 | 14400 | 6010 |
| Antimony | 5 | 340 | ND | 0.85 U | 0.97 U | 0.86 U | 0.85 U | 0.7 U | 0.66 U | 0.62 U | 0.68 U | 0.68 U | 0.7 U | 0.72 U | 0.64 U |
| Arsenic | 0.4 | 20 | 2.1 | 0.43 U | 4.4 | 0.94 J | 1.2 J | 4.3 | 2.4 | 1.5 J | 0.9 U | 1.1 J | 0.93 U | 4.2 | 0.86 U |
| Barium | 1,600 | 47,000 | 52.1 | 51.1 | 226 | 60.4 | 96.3 | 47 | 23.7 J | 37.9 J | 35.4 J | 53.5 | 16.5 J | 46.4 J | 41.9 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.48 J | 0.69 J | 0.44 J | 0.44 J | 0.62 J | 0.44 J | 0.7 J | 0.38 J | 0.8 J | 0.31 J | 0.81 J | 0.45 J |
| Cadmium | 8 | 100 | ND | 0.09 U | 0.1 U | 0.09 U | 0.09 U | 0.31 J | 0.22 U | 0.23 J | 0.23 U | 0.23 U | 0.23 U | 0.24 U | 0.21 U |
| Calcium | NA | NA | 931 | 608 J | 640 J | 527 J | R | 700 J | 869 J | 483 J | 834 J | 768 J | 636 J | 337 J | 625 J |
| Chromium | 38 | 6,100 | 13.8 | 9.9 | 12.1 | 9.5 | 9.9 | 17.4 | 8.3 | 12.3 | 10.6 | 14 | 5.3 | 17.5 | 8 |
| Cobalt | NA | NA | 7.1 | 6 J | 5 J | 6.8 J | 5.8 J | 5.7 J | 4.5 J | 7 J | 6.7 J | 7.8 J | 3.2 J | 6.5 J | 5 J |
| Copper | NA | 600 | 17.3 | 79.7 E | 33 E | 21.4 E | 26.2 E | 15.1 | 11.6 | 20.3 | 24.5 | 27.6 | 11.6 | 13 | 14.7 |
| Iron | NA | NA | 17,020 | 9720 | 11100 | 10300 | 10200 | 19400 | 10600 | 14500 | 10600 | 17300 | 6500 | 23800 | 9180 |
| Lead | 400 | 600 | 7.2 | R | 50.4 E | 9.2 E | R | 9.3 E | 4.7 E | 6.5 E | 5 | 7.1 | 3 | 10.8 | 4.5 |
| Magnesium | NA | NA | 4,170 | 3650 | 1890 E | 3380 E | 3260 E | 2970 | 2210 | 4520 | 3930 | 4800 | 1730 | 2920 | 2690 |
| Manganese | NA | NA | 374 | 341 | 568 E | 518 E | 453 E | 148 | 199 | 366 | 286 | 331 | 150 | 244 | 352 |
| Mercury | 2 | 270 | ND | 0.05 U | 0.06 U | 0.05 U | 0.05 U | 0.12 U | 0.1 U | 0.1 U | 0.1 U | 0.11 U | 0.11 U | 0.12 U | 0.1 U |
| Nickel | 130 | 2,400 | 16.2 | 15.2 E | 11 E | 14.2 E | 12.8 | 11.7 E | 8.7 J | 16.2 E | 15.6 | 19.4 | 6.8 J | 12.8 | 11 |
| Potassium | NA | NA | 1,370 | 1170 | 435 J | 1260 | 1180 | 705 J | 683 J | 1200 | 896 J | 1420 E | 471 J | 682 J | 694 J |
| Selenium | 5 | 3,100 | ND | 0.42 J | 0.52 J | 0.41 U | 0.41 U | 0.94 U | 0.88 U | 0.82 U | 0.9 U | 0.9 U | 0.93 U | 0.96 U | 0.86 U |
| Silver | 34 | 4,100 | 0.4 | 0.45 J | 0.66 J | 0.55 J | 0.47 J | 0.47 U | 0.44 U | 0.41 U | 0.45 U | 0.45 U | 0.47 U | 0.48 U | 0.43 U |
| Sodium | NA | NA | 174 | 197 J | 106 J | 154 J | 149 J | 204 J | 148 J | 236 J | 173 J | 197 J | 122 J | 648 J | 219 J |
| Thallium | 0.7 | 2 | 0.94 | 0.77 U | 0.87 U | 0.78 U | 0.77 U | 0.7 U | 0.66 U | 0.62 U | 2.3 J | 0.68 U | 0.73 J | 0.72 U | 0.64 U |
| Vanadium | 550 | 7,100 | 19.2 | 13.1 | 17.6 | 13.9 | 13.3 | 25.2 | 12.4 | 14.5 | 12.7 | 17.4 | 7.2 J | 27.3 | 10.2 J |
| Zinc | 12,000 | 1,500 | 43.1 | 46.5 | 56.3 | 47.9 | 33.7 | 39.8 | 23.2 | 44.5 | 49.2 | 57.9 | 23.1 | 49.6 | 31 |
| Cyanide | 40 | 21,000 | ND | 0.07 U | 0.08 U | 0.08 U | 0.07 U | 0.23 U | 0.21 U | 0.21 U | 0.23 U | 0.23 U | 0.23 U | 0.24 U | 0.21 U |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above)

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT # 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SB-19-03 | SB-20-01 | SB-20-02 | SB-20-03 | SB-21-01 | SB-21-02 | SB-21-03 | SB-22-01 | SB-22-02 | SB-23-01 | SB-23-02 | SB-24-01 | SD-24-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBST87 | MBSW06 | MBSW07 | MBSW08 | MBSW45 | MBSW46 | MBSW47 | MBSW27 | MBSW28 | MBSJ81 | MBSJ82 | MBSW15 | MBSW16 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 91.9 | 88 | 91.9 | 90.6 | 85.2 | 93 | 85.9 | 84.3 | 82 | 89.4 | 82.7 | 83.2 | 74.7 |
| Depth (in feet) | | (mg/kg) | | 9 - 11* | 1 - 3* | 5 - 7* | 9 - 11* | 1 - 3* | 5 - 7* | 7 - 9* | 1 - 3* | 9 - 11* | 1 - 3* | 3 - 5* | 2 - 4** | 6 - 8** |
| Aluminum | NA | NA | 10,480 | 9150 | 8920 | 6320 | 3890 | 16600 | 9840 | 8010 | 12000 | 9280 | 5370 | 9390 | 10700 | 13600 |
| Antimony | 5 | 340 | ND | 0.63 U | 0.91 U | 0.86 U | 0.88 U | 0.7 U | 0.65 U | 0.7 U | 0.94 U | 0.97 U | 0.65 U | 0.71 U | 1 J | 1.1 U |
| Arsenic | 0.4 | 20 | 2.1 | 1.1 J | 1.7 J | 1.6 J | 0.44 U | 0.9 | 2.5 | 1.9 J | 2.8 | 1.6 J | 6.4 | 4.3 | R | 3.2 |
| Barium | 1,600 | 47,000 | 52.1 | 81 | 50.2 | 63.8 | 20.6 J | 50.5 | 34.9 J | 28.2 J | 71.4 | 67.7 | 123 | 87 | 136 | 119 |
| Beryllium | 0.1 | 100 | 0.44 | 0.67 J | 0.44 J | 0.48 J | 0.24 J | 0.53 J | 0.51 J | 0.56 J | 0.58 J | 0.57 J | 0.39 J | 0.3 J | 0.66 J | 0.85 J |
| Cadmium | 8 | 100 | ND | 0.21 U | 0.09 U | 0.09 U | 0.09 U | 0.36 J | 0.25 J | 0.27 J | 0.18 J | 0.1 U | 0.22 U | 0.24 U | 0.16 J | 0.18 J |
| Calcium | NA | NA | 931 | 976 J | 949 J | R | 304 J | 337 J | 369 J | 813 J | 2510 E | 4030 E | 4110 | 1700 | 1020 J | 1260 J |
| Chromium | 38 | 6,100 | 13.8 | 13.7 | 13.1 | 10.9 | 5 | 17.3 | 10.6 | 11.3 | 19.5 | 16.6 | 12 | 12.9 | 12.6 | 13.9 |
| Cobalt | NA | NA | 7.1 | 10.1 J | 7.1 J | 6.9 J | 3.2 J | 7.7 J | 5.7 J | 5 J | 8.4 J | 7.7 J | 9.1 J | 4.9 J | 6.2 J | 6.6 J |
| Copper | NA | 600 | 17.3 | 24.5 | 16.9 E | 22.4 E | 11.3 E | 20.8 | 15.2 | 15.8 | 85.1 E | 74 E | 103 | 145 | 72.6 E | 41.9 E |
| Iron | NA | NA | 17,020 | 17300 | 13600 | 10200 | 5850 | 29300 | 14400 | 11900 | 20000 | 17900 | 11700 | 8870 | 12300 | 15300 |
| Lead | 400 | 600 | 7.2 | 8.7 | R | R | R | 16.1 E | 5.9 E | 5.2 E | 21.5 | 23 | 48.9 | 71.8 | 43.7 E | 28.7 E |
| Magnesium | NA | NA | 4,170 | 4690 | 3730 E | 4000 E | 1700 E | 3240 | 2900 | 2760 | 3850 E | 4000 E | 2380 | 3070 | 2580 E | 2810 E |
| Manganese | NA | NA | 374 | 595 | 361 E | 547 E | 198 E | 316 | 330 | 318 | 290 | 385 | 145 | 164 | 301 E | 862 E |
| Mercury | 2 | 270 | ND | 0.11 U | 0.06 U | 0.05 U | 0.06 U | 0.12 U | 0.11 U | 0.11 U | 0.06 U | 0.06 U | 1.1 | 0.16 E | 0.11 J | 0.07 J |
| Nickel | 130 | 2,400 | 16.2 | 18.9 | 14.5 E | 16 E | 7.4 J | 14.8 E | 11.8 E | 10.1 E | 20.3 | 16.8 | 24.4 | 23 | 14.4 E | 18.4 E |
| Potassium | NA | NA | 1,370 | 1310 E | 1000 J | 1220 | 664 J | 1030 J | 1170 | 1010 J | 1050 J | 1360 | 348 J | 332 J | 642 J | 615 J |
| Selenium | 5 | 3,100 | ND | 0.85 U | 0.43 U | 0.41 U | 0.42 U | 0.94 U | 0.97 J | 0.93 U | 0.96 J | 0.89 J | 1.2 | 1 J | 0.46 U | 0.51 U |
| Silver | 34 | 4,100 | 0.4 | 0.42 U | 0.69 J | 0.65 J | 0.39 J | 0.47 U | 0.43 U | 0.47 U | 0.84 J | 0.74 J | 1.7 J | 0.47 U | 0.96 J | 1.3 J |
| Sodium | NA | NA | 174 | 274 J | 196 J | 224 J | 131 J | 240 J | 213 J | 278 J | 299 J | 243 J | 363 J | 249 J | 336 J | 473 J |
| Thallium | 0.7 | 2 | 0.94 | 0.97 J | 0.82 U | 0.78 U | 0.79 U | 0.7 U | 0.65 U | 0.7 U | 0.85 U | 0.87 U | 1.1 J | 0.71 U | 0.87 U | 0.96 U |
| Vanadium | 550 | 7,100 | 19.2 | 17.7 | 18.8 | 15.2 | 7.7 J | 27.5 | 16.3 | 14.5 | 35.2 | 23.5 | 32.3 | 19.6 | 19.3 | 21.4 |
| Zinc | 12,000 | 1,500 | 43.1 | 46.7 | 39.2 | 37.4 | 18.7 | 58.7 | 48.6 | 34.5 | 86.9 E | 133 E | 63 | 116 | 85.6 | 112 |
| Cyanide | 40 | 21,000 | ND | 0.22 U | 0.08 U | 0.08 U | 0.08 U | 0.23 U | 0.21 U | 0.23 U | 0.12 J | 0.13 J | 0.22 U | 0.24 U | 0.08 U | 0.09 U |

NOTES:

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Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil)

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | SB-24-03 | SB-25-01 | SB-25-02 | SB-25-03 | SB-26-01 | SB-26-02 | SB-26-03 | SB-27-01 | SB-27-02 | SB-27-03 | SB-28-01 | SB-28-02 | SB-28-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSW17 | MBSW24 | MBSW25 | MBSW26 | MBSJ75 | MBSJ76 | MBSJ77 | MBST88 | MBST89 | MBST90 | MBSW09 | MBSW10 | MBSW11 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 85.8 | 82.7 | 86.3 | 84.7 | 81.1 | 85.9 | 95.6 | 90.3 | 92.4 | 91.7 | 80.3 | 84.8 | 92.6 |
| Depth (in feet) | | (mg/kg) | | 10 - 12** | 1 - 3* | 5 - 7* | 9 - 11* | 0 - 2 | 4 - 6 | 8 - 10 | 1 - 3* | 7 - 9* | 11 - 13* | 0 - 2 | 4 - 6 | 8 - 10 |
| Aluminum | NA | NA | 10,480 | 9990 | 11500 | 13700 | 8710 | 7830 | 4120 | 3250 | 11500 | 6790 | 2860 | 10700 | 8390 | 5340 |
| Antimony | 5 | 340 | ND | 0.93 U | 1.3 J | 0.91 U | 0.94 U | 1.5 J | 0.69 U | 0.63 U | 0.9 J | 0.87 U | 0.86 U | 1.3 J | 0.7 U | 0.64 U |
| Arsenic | 0.4 | 20 | 2.1 | 2.4 | 7.1 E | 4 E | 3.8 E | 6.5 | 1.5 J | 1.1 J | 10.6 | 1.6 J | 0.52 J | 27.7 | 3.5 | 1.1 J |
| Barium | 1,600 | 47,000 | 52.1 | 106 | 876 | 59.6 | 68.1 | 204 | 41.6 J | 27.5 J | 174 | 54.8 | 18.6 J | 132 | 84.9 | 35.9 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.79 J | 0.62 J | 0.56 U | 0.69 J | 0.53 J | 0.36 J | 0.27 J | 0.4 J | 0.59 J | 0.26 J | 0.44 J | 0.75 J | 0.43 J |
| Cadmium | 8 | 100 | ND | 0.09 U | 0.26 J | 0.09 U | 0.09 U | 0.6 J | 0.23 U | 0.21 U | 0.84 J | 0.09 U | 0.09 U | 3.8 | 0.23 U | 0.21 U |
| Calcium | NA | NA | 931 | 760 J | 1540 E | 1860 E | 1850 E | 1800 | 938 J | 736 J | 17700 E | 1250 E | 595 J | 4720 | 1840 | 856 J |
| Chromium | 38 | 6,100 | 13.8 | 15.9 | 17.3 | 20.9 | 17.1 | 18.5 | 8.1 | 6.7 | 29.5 | 12.4 | 4.6 | 33.8 | 15.7 | 10 |
| Cobalt | NA | NA | 7.1 | 7 J | 7.3 J | 6.5 J | 8.5 J | 7 J | 5.1 J | 3.7 J | 13.7 | 8.4 J | 5 J | 8.3 J | 8 J | 5.4 J |
| Copper | NA | 600 | 17.3 | 25 E | R | R | R | 587 | 9.9 | 13 | 1100 E | 50.1 E | 34.3 E | 3870 | 43.3 | 18.5 |
| Iron | NA | NA | 17,020 | 16800 | 16700 | 21200 | 21000 | 29700 | 11800 | 9270 | 23400 | 11300 | 5340 | 41400 | 20100 | 12200 |
| Lead | 400 | 600 | 7.2 | 13.1 E | 197 E | R | R | 87.7 | 4.7 | 4.6 | 208 E | R | R | 642 | 11 | 5.8 |
| Magnesium | NA | NA | 4,170 | 3690 E | 2920 | 4300 | 4310 | 2770 | 2390 | 2000 | 7800 | 4220 | 1640 | 3180 | 4310 | 3380 |
| Manganese | NA | NA | 374 | 153 E | R | R | R | 199 | 333 | 210 | 325 | 348 | 245 | 318 | 468 | 257 |
| Mercury | 2 | 270 | ND | 0.06 U | 0.25 E | 0.06 U | 0.05 U | 0.69 | 0.11 U | 0.1 U | 0.65 | 0.05 U | 0.05 U | 0.61 | 0.11 U | 0.11 U |
| Nickel | 130 | 2,400 | 16.2 | 21 E | 16.7 | 16 | 18.7 | 18.7 | 11.4 | 7.1 J | 69.3 E | 17.7 E | 8.1 J | 196 | 17.8 | 13 |
| Potassium | NA | NA | 1,370 | 1400 | 916 J | 1440 | 1600 | 676 J | 503 J | 491 J | 931 J | 1170 | 612 J | 768 J | 1180 | 1010 J |
| Selenium | 5 | 3,100 | ND | 0.44 U | 1.6 E | 0.67 J | 0.44 U | 0.96 U | 0.92 U | 0.84 U | 1.1 | 0.41 U | 0.41 U | 0.99 U | 0.93 U | 0.85 U |
| Silver | 34 | 4,100 | 0.4 | 0.77 J | 1.7 J | 0.97 J | 0.96 J | 1.4 J | 0.57 J | 0.44 J | 3.5 | 0.56 J | 0.24 U | 0.49 U | 0.47 U | 0.42 U |
| Sodium | NA | NA | 174 | 343 J | 208 J | 281 J | 296 J | 149 J | 149 J | 128 J | 673 J | 267 J | 131 J | 247 J | 247 J | 159 J |
| Thallium | 0.7 | 2 | 0.94 | 0.84 U | 0.87 U | 0.82 U | 0.84 U | 0.92 J | 0.81 J | 0.63 U | 0.77 U | 0.78 U | 0.78 U | 0.74 U | 0.7 U | 0.64 U |
| Vanadium | 550 | 7,100 | 19.2 | 21.5 | 26.7 | 26.3 | 24.1 | 36.4 | 13.2 | 11.3 | 49.2 | 16.9 | 7 J | 26.8 | 24.2 | 13 |
| Zinc | 12,000 | 1,500 | 43.1 | 61 | 135 E | 51.1 E | 60.4 E | 154 | 24.8 | 22.6 | 779 | 51.4 | 50.6 | 1980 | 50.6 | 33.6 |
| Cyanide | 40 | 21,000 | ND | 0.08 U | 0.12 J | 0.08 U | 0.23 J | 0.25 U | 0.23 U | 0.21 U | 0.08 U | 0.08 U | 0.08 U | 0.25 U | 0.24 U | 0.22 U |

NOTES:

Value is above the SSL and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"" of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | | | | | DUPLICATE OF SB-31-02 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey Non- | Site Specific | SB-29-01 | SB-29-02 | SB-29-03 | SB-30-01 | SB-30-02 | SB-30-03 | SB-31-01 | SB-31-02 | SB-DUP-14 | SB-32-01 | SB-33-01 | SB-34-01 |
| CLP Number | Soil Screening | Residential | Background | MBSW18 | MBSW19 | MBSW20 | MBSJ84 | MBSJ85 | MBSJ86 | MBSW49 | MBSW50 | MBSW51 | MBSW52 | MBSW53 | MBSW54 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 89 | 85 4 | 83.2 | 86.6 | 80 | 85 6 | 91.4 | 96 | 95 7 | 87.6 | 86.4 | 88.4 |
| Depth (in feet) | | (mg/kg) | | 1.5 - 3.5*** | 7.5 - 9.5*** | 9.5 - 11.5*** | 1 - 3* | 3 - 5* | 13 - 15* | 2 - 4 | 8 - 10 | 8 - 10 | 3 - 5 | 3 - 5 | 3 - 5 |
| Aluminum | NA | NA | 10,480 | 11900 | 7440 | 7110 | 8630 | 14800 | 9430 | 11200 | 4780 | 3940 | 18200 | 10400 | 7850 |
| Antimony | 5 | 340 | ND | 1.1 J | 1.3 J | 0.96 U | 0.67 U | 0.72 U | 0.7 U | 0.66 U | 0.62 U | 0.62 U | 0.66 U | 0.67 U | 0.67 U |
| Arsenic | 0.4 | 20 | 2.1 | R | 1.5 J | 1.3 J | 5.9 | 7.4 | 4.7 | 1.8 J | 0.91 J | 1.3 J | 3.1 | 2.6 | 1.7 J |
| Barium | 1,600 | 47,000 | 52.1 | 114 | 63.7 | 64.9 | 252 | 113 | 79.1 | 38.9 J | 30.3 J | 27.1 J | 103 | 45.1 | 43.3 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.6 J | 0.39 J | 0.52 E | 0.49 J | 0.73 J | 0.67 J | 0.41 J | 0.38 J | 0.34 J | 0.66 J | 0.37 J | 0.37 J |
| Cadmium | 8 | 100 | ND | 0 09 U | 0.09 U | 0.1 U | 0.22 U | 0.24 U | 0.23 U | 0.23 J | 0.21 U | 0.21 U | 0.22 U | 0.22 U | 0.22 U |
| Calcium | NA | NA | 931 | 1620 | 2700 E | 1860 E | 17500 | 750 J | 974 J | 943 J | 745 J | 689 J | 1190 | 866 J | 912 J |
| Chromium | 38 | 6,100 | 13.8 | 18.4 | 16.6 | 12.7 | 23.6 | 15.6 | 18.3 | 13.8 | 8.3 | 7 5 | 23.6 | 12.3 | 10.9 |
| Cobalt | NA | NA | 7.1 | 8.6 J | 9.4 J | 7.4 J | 7.8 J | 7.7 J | 7.6 J | 6.2 J | 4.5 J | 4.2 J | 12.7 | 6.2 J | 5.9 J |
| Copper | NA | 600 | 17.3 | 59.4 E | 45.1 E | 22.2 E | 536 | 45.8 | 13.3 | 15.7 | 12.9 | 11.3 | 23.1 | 17.8 | 16.8 |
| Iron | NA | NA | 17,020 | 16000 | 15400 | 13600 | 14400 | 16900 | 21600 | 17000 | 10600 | 9650 | 26900 | 16000 | 14600 |
| Lead | 400 | 600 | 7.2 | 25.4 E | 17.1 E | R | 220 | 50.7 | 9.2 | 7.5 | 4.4 | 4 | 11.2 | 6.8 | 6 |
| Magnesium | NA | NA | 4,170 | 4740 E | 5010 | 3790 | 3160 | 3000 | 3400 | 3410 | 2750 | 2450 | 7860 | 3370 | 3480 |
| Manganese | NA | NA | 374 | 398 E | 212 | 541 | 494 | 315 | 190 | 183 | 240 | 228 | 747 | 363 | 338 |
| Mercury | 2 | 270 | ND | 0.48 | 0.43 | 0.13 | 0.12 U | 0.12 U | 0.11 U | 0.1 U | 0.1 U | 0.1 U | 0.11 U | 0.11 U | 0.11 U |
| Nickel | 130 | 2,400 | 16.2 | 20.9 E | 25.2 | 16.6 | 17.5 | 14.3 | 15.8 | 14.6 | 10.6 | 9.6 | 30.5 | 12.6 | 12.5 |
| Potassium | NA | NA | 1,370 | 1750 | 979 J | 1270 | 601 J | 733 J | 1140 J | 1120 | 1000 J | 723 J | 2620 | 1020 J | 1100 J |
| Selenium | 5 | 3,100 | ND | 0.43 U | 0.53 J | 0.46 U | 0.89 U | 0.96 U | 0.93 U | 0.88 U | 0.83 U | 0.83 U | 0.88 U | 0.89 U | 0.89 U |
| Silver | 34 | 4,100 | 0.4 | 1.2 J | 1 3 J | 0.69 J | 0.44 U | 0.48 U | 0.47 U | 0.44 U | 0.42 U | 0.41 U | 0.44 U | 0.45 U | 0.44 U |
| Sodium | NA | NA | 174 | 337 J | 330 J | 275 J | 249 J | 244 J | 428 J | 133 J | 180 J | 99.1 J | 302 J | 124 J | 133 J |
| Thallium | 0.7 | 2 | 0.94 | 0.81 U | 0.63 U | 0.87 U | 0.89 J | 0.91 J | 1.7 J | 0.66 U | 0.62 U | 0.65 J | 1.6 J | 0.85 J | 0.84 J |
| Vanadium | 550 | 7,100 | 19.2 | 26.7 | 28.2 | 18.8 | 19.7 | 24.2 | 29.4 | 21.3 | 11.5 | 10.4 | 29.2 | 18.2 | 15.6 |
| Zinc | 12,000 | 1,500 | 43.1 | 62.1 | 56.9 | 41.4 | 416 | 95.3 | 43 1 | 49.8 | 27.5 | 25.7 | 67.8 | 33.9 | 36.4 |
| Cyanide | 40 | 21,000 | ND | 0.08 U | 0 1 J | 0.17 J | 0.23 U | 0.25 U | 0.23 U | 0.22 U | 0.21 U | 0.2 U | 0.22 U | 0.23 U | 0.22 U |

NOTES:

Value is above the SSL, and the Site Specific Background, but below the NJDEP Soil Cleanup Criteria for this parameter

**Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter**

Value is above the SSL, the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed) The sample depth given takes into account this material (e.g., *samples collected from 1-3 feet were collected beneath 1 foot of material and* then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 2 feet of impermeable material (i.e., 6"' of asphalt and 18" of concrete). The sample depth given takes into account this material (see explanation above).

*** - Sample location was covered with 1.5 feet of frozen ground

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | USEPA | New Jersey Non- | Site Specific | WC-TP-01 | WC-TP-02 | WC-TP-03 | WC-TP-03A | WC-TP-04 | WC-TP-04A | WC-TP-05 | WC-TP-06 | WC-TP-06A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLP Number | Soil Screening | Residential | Background | MBSH94 | MBSH95 | MBSH96 | MBSJ33 | MBSH97 | MBSJ34 | MBSH98 | MBSH99 | MBSJ35 |
| Matrix | Level | Direct Contact | (mg/kg) | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria | | 87.5 | 89.5 | 89.1 | 86 | 84.9 | 91.4 | 88.7 | 89.1 | 96.1 |
| Depth (in feet) | | (mg/kg) | | 2 - 3* | 0 - 1 | 1.5 - 2.5** | 10.5 - 11.5** | 4 - 5* | 11 - 12* | 1 - 2* | 1 - 2* | 6 - 7* |
| Aluminum | NA | NA | 10,480 | 12700 | 7350 | 8700 | 6800 | 9070 | 6120 | 7510 | 9390 | 2870 |
| Antimony | 5 | 340 | ND | 1.1 U | 18.4 | 1.1 U | 1.2 U | 2.1 J | 1.1 U | 1.2 J | 2.8 J | 1 U |
| Arsenic | 0.4 | 20 | 2.1 | 9.7 | 1.1 J | 2.6 | 0.92 U | 37 | 0.85 U | 2.5 E | 1.6 J | 0.81 U |
| Barium | 1,600 | 47000 | 52.1 | 615 | 36.7 J | 169 | 54.1 | 267 | 36.1 J | 54.3 E | 67.1 | 19.5 J |
| Beryllium | 0.1 | 100 | 0.44 | 0.68 J | 0.67 J | 0.33 J | 0.23 U | 0.44 J | 0.36 J | 0.34 J | 0.39 J | 0.22 J |
| Cadmium | 8 | 100 | ND | 0.22 U | 0.22 U | 0.22 U | 0.23 U | 0.23 U | 0.21 U | 0.22 U | 0.22 U | 0.2 U |
| Calcium | NA | NA | 931 | 4980 | 689 J | 1080 J | 1180 | 919 J | 618 J | 1490 | 1360 | 441 J |
| Chromium | 38 | 6100 | 13.8 | 16.7 | 19.7 | 15.9 | 12.3 | 11.5 | 8 | 11.2 E | 13.7 | 5.1 |
| Cobalt | NA | NA | 7.1 | 9.1 J | 6.5 J | 5.8 J | 5.9 J | 7.8 J | 5 J | 7.5 J | 10.3 J | 2.9 J |
| Copper | NA | 600 | 17.3 | 81 | 119 | 91.8 | 13.2 | 67.4 | 17.3 | 68.6 E | 49.1 | 7.8 |
| Iron | NA | NA | 17,020 | 19900 | 14500 | 11200 | 12900 | 14500 | 10000 | 11600 | 18800 | 7120 |
| Lead | 400 | 600 | 7.2 | 66.9 | 72.9 | 59.3 | 6.5 | 39.6 | 5 | 35.2 E | 16.3 | 2.7 |
| Magnesium | NA | NA | 4,170 | 4700 | 2870 | 2510 | 2960 | 2130 | 2760 | 2060 | 3260 | 1500 |
| Manganese | NA | NA | 374 | 378 | 111 | 95.2 | 177 | 2310 | 308 | 223 | 289 | 174 |
| Mercury | 2 | 270 | ND | 0.11 U | 0.31 | 0.11 U | 0.11 U | 0.11 | 0.11 U | 0.11 E | 0.11 | 0.1 U |
| Nickel | 130 | 2400 | 16.2 | 17.2 | 19.9 | 13.1 | 12 | 9.3 | 8.7 | 15.9 | 11.9 | 4.8 J |
| Potassium | NA | NA | 1,370 | 812 J | 602 J | 507 J | 849 J | 437 J | 666 J | 561 J | 555 J | 375 J |
| Selenium | 5 | 3100 | ND | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1 U |
| Silver | 34 | 4100 | 0.4 | 0.45 U | 0.45 U | 0.7 J | 0.52 J | 0.45 U | 0.42 U | 0.56 J | 0.54 J | 0.42 J |
| Sodium | NA | NA | 174 | 303 J | 164 J | 301 J | 353 J | 148 J | 124 J | 204 J | 200 J | 76.2 J |
| Thallium | 0.7 | 2 | 0.94 | 0.45 U | 0.45 U | 0.43 J | 0.46 U | 3.6 | 0.42 U | 0.43 U | 0.44 U | 0.4 U |
| Vanadium | 550 | 7100 | 19.2 | 38.2 | 23.4 | 24.4 E | 18.5 E | 22.3 E | 12.8 E | 23.7 E | 25.7 E | 9.4 J |
| Zinc | 12,000 | 1500 | 43.1 | 74 | 131 | 87.4 | 39.4 | 53.8 | 30 | 63.4 E | 65.3 | 16.4 |
| Cyanide | 40 | 21000 | ND | 0.23 U | 0.22 U | 0.22 U | 0.23 U | 0.24 U | 0.22 U | 0.22 U | 0.22 U | 0.21 U |

NOTES:

Value is above the SSL and the Site Specific Background but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the NJDEP Soil Cleanup Criteria and the Site Specific Background, but below the SSL, or there is no SSL, for this parameter

Value is above the SSL but below the Site Specific Background and the NJDEP Soil Cleanup Criteria for this parameter

NOTES:

ND - non-detect

U - Sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

* - Sample location was covered with 1 foot of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1-3 feet were collected beneath 1 foot of material and then were collected from 0 to 2 feet in the soil).

** - Sample location was covered with 1.5 feet of impermeable material (i.e., asphalt and road bed). The sample depth given takes into account this material (e.g., samples collected from 1.5-3.5 feet were collected beneath 1.5 feet of material and then were collected from 0 to 2 feet in the soil).

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | DUPLICATE OF SD-01 | |
|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey Non- | SD-01 | SD-DUP-01 | SD-04 |
| CLP Number | Soil Screening | Residential | MBSW32 | MBSW33 | MBSW35 |
| Matrix | Level | Direct Contact | SOIL | SOIL | SOIL |
| Units | (SSLs) | Soil Cleanup | mg/kg | mg/kg | mg/kg |
| Percent Solids | (mg/kg) | Criteria (mg/kg) | 58 4 | 72.2 | 66.1 |
| Aluminum | NA | NA | 2640 | 1570 | 2990 |
| Antimony | 5 | 340 | 167 | 120 | 1720 |
| Arsenic | 0 4 | 20 | 12 | 9.6 | 8.8 |
| Barium | 1,600 | 47,000 | 80.2 | 60.5 | 31 J |
| Beryllium | 0 1 | 100 | 0.41 J | 0.29 J | 0.30 J |
| Cadmium | 8 | 100 | 4.5 | 2.9 | 1.9 |
| Calcium | NA | NA | 8260 | 4020 | 803 J |
| Chromium | 38 | 6,100 | 123 | 80.9 | 150 |
| Cobalt | NA | NA | 5.5 J | 4.8 J | 6.1 J |
| Copper | NA | 600 | 220 | 145 | 199 |
| Iron | NA | NA | 82100 | 86000 | 86400 |
| Lead | 400 | 600 | 229 E | 122 E | 206 E |
| Magnesium | NA | NA | 611 J | 317 J | 985 J |
| Manganese | NA | NA | 385 | 285 | 251 |
| Mercury | 2 | 270 | 5.5 | 4.3 | 4.1 |
| Nickel | 130 | 2,400 | 35.4 E | 29.6 E | 40.8 E |
| Potassium | NA | NA | 369 J | 240 J | 130 J |
| Selenium | 5 | 3,100 | 1 4 U | 1.1 U | 1.2 U |
| Silver | 34 | 4,100 | 0.68 U | 0 53 U | 0.61 U |
| Sodium | NA | NA | 439 J | 283 J | 181 J |
| Thallium | 0.7 | 2 | 1 U | 0.8 U | 0.91 U |
| Vanadium | 550 | 7,100 | 14.5 J | 10 J | 8.6 J |
| Zinc | 12,000 | 1,500 | 350 | 196 | 185 |
| Cyanide | 40 | 21,000 | 0.34 U | 0 28 U | 0.3 U |

NOTES:

Value is above the SSL but below the NJDEP Soil Cleanup Criteria for this parameter

Value is above the SSL and the NJDEP Soil Cleanup Criteria for this parameter

U - Sample concentration is non-detect
E - estimated value
J - estimated value, analyte present below CRDL but above IDL
ND - none detect
NA - not applicable

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | BM-WIPE-01 | BM-WIPE-02 | BM-WIPE-03 | BM-WIPE-04 | BM-WIPE-05 | BM-WIPE-06 | BM-WIPE-07 | BM-WIPE-08 | BM-WIPE-09 | BM-WIPE-10 | BM-WIPE-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID No. | 9901-2309 | 9901-2310 | 9901-2311 | 9901-2312 | 9901-2314 | 9901-2315 | 9901-2316 | 9901-2317 | 9901-2318 | 9901-2319 | 9901-2320 |
| Matrix | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe | wipe |
| Units | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Dilution Factor | 1, 10 | 1,10,100 | 1,10 | 1,10 | 1,10 | 1,10 | 1,10,100 | 1,10,1000 | 1,10,100 | 1 | 1,10,100 |
| Percent Moisture | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 0.13 | 0.37 | 0.07 U | 0.07 | 0.07 | 0.19 | 0.17 | 0.04 | 0.25 | 0.06 | 0.17 |
| Aluminum | 534.1 | 444.0 | 35.5 | 28.9 | 169.8 | 1373.7 | 2462.8 | 293.2 | 1701.4 | 50.7 | 479.9 |
| Arsenic | 0.90 | 2.62 | R | R | R | 1.51 | 2.82 | R | 5.88 | 0.30 | 2.45 |
| Barium | 96.0 | 21.0 | 1.5 | 1.7 | 8.2 | 14.4 | 62.3 | 4.6 | 29.7 | 4.9 | 7.3 |
| Beryllium | 0.079 | 0.035 J | 0.003 U | 0.002 U | 0.002 U | 0.020 J | 0.116 | 0.003 J | 0.024 | 0.001 U | 0.013 U |
| Calcium | 2031.7 | 17866.7 | 760.0 | R | R | 790.9 | 3652.9 | 1008.5 | 881.5 | 2014.3 | 21446.5 |
| Cadmium | 3.4 | 8.8 | 0.5 | 0.5 | 0.3 | 2.4 | 5.6 | 0.7 | 5.0 | 0.1 | 1.9 |
| Cobalt | 0.9 | 9.1 E | 0.4 | 1.9 | 0.5 | 1.6 | 4.7 | 4.1 | 4.6 E | 0.1 J | 1.6 |
| Chromium | 5.0 | R | 3.3 | 3.0 | 14.4 | 16.7 | 36.7 | 61.1 | 668.2 | 18.5 | 11.7 |
| Copper | 23.2 | 40.7 | 3.0 | 5.3 | 6.8 | 167.7 | 538.0 | 83.5 | 377.3 | 10.5 | 44.6 |
| Iron | 2222.2 | 10600.0 | 2466.7 | 3637.2 | 2641.5 | 9707.1 | 18760.3 | 1111.1 | 15497.6 | 247.9 | 7673.0 |
| Mercury | 1.43 | 0.16 | 0.24 | 0.68 | 0.09 | 0.02 | 0.64 | 0.19 | 4.67 | 1.89 | 0.93 |
| Potassium | 116.7 E | 198.0 E | 77.1 | 28.7 | 17.8 J | 83.4 | 343.0 E | 31.5 | 72.5 E | 12.2 J | 174.8 E |
| Magnesium | 353.2 | 536.0 | 33.9 | 26.7 | 41.6 | 238.4 | 1214.9 | 168.4 | 452.1 | 127.9 | 2113.2 |
| Manganese | 23.3 | 125.3 | 20.8 | 12.5 | 20.0 | 46.5 | 117.4 | 10.6 | 49.3 | 2.1 | 43.1 |
| Sodium | R | R | R | R | R | R | R | R | R | R | R |
| Nickel | 6.8 | 41.1 | R | R | 10.0 | 9.3 | 36.3 | R | 229.4 | 10.1 | 8.3 |
| Lead | 25.2 | R | 11.1 | 33.6 | 8.6 | 131.3 | 553.7 | 324.8 | 75.8 | 1.8 | 81.8 |
| Antimony | 182.5 | 3.9 | 4.7 | 28.3 | 21.7 | 242.4 | 520.7 | 33.3 | 11.8 | 6.5 | 45.9 |
| Selenium | R | 0.02 U | 0.03 U | 0.02 U | 0.02 U | 0.03 U | 0.02 U | R | 0.01 U | 0.09 | 0.02 U |
| Thallium | 0.02 U | 0.01 U | 0.03 U | 0.02 U | 0.02 U | 0.02 U | 0.02 U | 0.02 U | 0.01 U | 0.01 U | 0.01 U |
| Vanadium | 2.4 E | 16.6 E | 0.8 E | 0.9 E | 1.0 E | 4.2 E | 9.5 E | 1.6 E | 7.7 E | 0.3 E | 3.8 E |
| Zinc | 109.5 E | 673.3 E | R | R | R | 438.4 E | 1041.3 E | 18205.1 E | 223.2 E | 17.1 E | 723.3 E |
| Cyanide | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |

NOTES:
U - Sample concentration is non-detect
E - estimated value
J - estimated value, analyte present
below CRDL but above IDL
R - analysis did not pass EPA QA/QC

SITE NAME: White Chemical
PROJECT #: 302-0004

INORGANICS

| Sample ID No. | BM-WIPE-12 | BM-WIPE-13 | BM-WIPE-14 |
|---|---|---|---|
| Lab ID No. | 9901-2321 | 9901-2322 | 9901-2323 |
| Matrix | wipe | wipe | wipe |
| Units | mg/kg | mg/kg | mg/kg |
| Dilution Factor | 1 | 1 | 1,10 |
| Percent Moisture | NA | NA | NA |
| Silver | 0.20 | 0.13 | 0.03 U |
| Aluminum | 95.1 | 34.1 | 247.7 |
| Arsenic | 0.46 | R | 0.75 |
| Barium | 10.6 | 1.4 | 33.4 |
| Beryllium | 0.002 U | 0.002 U | 0.004 J |
| Calcium | 734.7 | R | 580.8 |
| Cadmium | 0.1 | 0.1 | 0.5 |
| Cobalt | 0.0 U | 0.4 | 0.4 |
| Chromium | 1.7 | 0.8 | 6.6 |
| Copper | 4.4 | R | 23.4 |
| Iron | 823.8 | 895.7 | 2576.2 |
| Mercury | 0.33 | 0.30 | 3.84 |
| Potassium | 21.4 J | 9.2 J | 44.6 |
| Magnesium | R | R | 135.6 |
| Manganese | 4.4 | 3.9 | 22.5 |
| Sodium | R | R | R |
| Nickel | 1.2 | 0.3 | 4.2 |
| Lead | 31.7 | 2.6 | 24.5 |
| Antimony | 68.3 | 2.1 | 30.5 |
| Selenium | R | R | R |
| Thallium | 0.02 U | 0.02 U | 0.01 U |
| Vanadium | 0.4 E | 0.03 U | 1.2 E |
| Zinc | 51.1 E | 19.7 E | 102.0 E |
| Cyanide | 0.1 U | 0.1 U | 0.1 U |

NOTES:

U - Sample concentration is non-de

E - estimated value

J - estimated value. analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/C

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | (dissolved) | | (dissolved) | | (dissolved) | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-1S | GW-MW-1SF | GW-MW-1D | GW-MW-1DF | GW-MW-2S | GW-MW-2SF | GW-MW-3S |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBSJ87 | MBSK03 | MBSJ88 | MBSK04 | MBSJ89 | MBSK05 | MBSJ90 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 40 - 45 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 |
| Aluminum | NA | 200 | 3050 E | 12.8 U | 96.8 J | 12.8 U | 807 E | 65 J | 264 E |
| Antimony | 6 | 20 | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U |
| Arsenic | 50 | 8 | 3.7 J | 3.7 U | 3.7 U | 4.5 J | 5.5 J | 3.7 U | 3.7 J |
| Barium | 2000 | 2000 | 62 J | 40.6 J | 249 | 251 E | 55.7 J | 49.1 J | 159 J |
| Beryllium | 4 | 20 | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| Cadmium | 5 | 4 | 1 J | 0.78 J | 0.3 U | 0.3 U | 0.62 J | 0.45 J | 1.3 J |
| Calcium | NA | NA | 102000 E | 141000 E | 207000 | 212000 E | 15700 | 17000 E | 21100 |
| Chromium | 100 | 100 | 67.9 E | 2.7 J | 7.6 J | 1.7 J | 15.1 E | 2.2 J | 56.4 E |
| Cobalt | NA | NA | 6.3 J | 5.6 J | 1.6 U | 1.6 U | 3 J | 1.7 J | 5.5 J |
| Copper | 1300 | 1000 | R | 7 J | 12.9 J | 3.6 J | 30.4 E | 6.1 J | 4.2 J |
| Iron | NA | 300 | 7280 | 2720 E | R | 284 E | R | 49 J | 2870 |
| Lead | 15 | 10 | R | 1.9 U | R | 1.9 U | R | 1.9 U | 1.9 U |
| Magnesium | NA | NA | 34100 E | 46100 E | 39900 | 40600 E | 6860 | 7580 E | 3860 J |
| Manganese | NA | 50 | 2870 E | 3870 E | 643 | 653 E | 1290 E | 1240 E | 9010 |
| Mercury | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Nickel | NA | 100 | 51.2 | 8.1 J | 10.2 J | 7.4 J | 17.6 J | 8.9 J | 51.2 |
| Potassium | NA | NA | 2630 J | 2910 J | 5870 E | 5650 E | 12000 E | 13400 E | 2110 J |
| Selenium | 50 | 50 | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U |
| Silver | NA | NA | 1.1 J | 0.78 J | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 1.9 J |
| Sodium | NA | 50000 | 13700 E | 19000 E | 58600 | 57900 E | 22500 | 24500 E | 13700 |
| Thallium | 2 | 10 | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U |
| Vanadium | NA | NA | 6.9 J | 1.4 U | 1.7 J | 1.6 J | 1.4 U | 1.4 U | 1.4 U |
| Zinc | NA | 5000 | R | 13.1 J | 13.9 J | 2.3 J | 24.1 E | 9 J | R |
| Cyanide | 200 | 200 | 2 J | NR | 0.6 U | NR | 0.6 U | NR | 0.67 J |

NOTES:

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | (dissolved) | | (dissolved) | | (dissolved) | | (dissolved) |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-3SF | GW-MW-3D | GW-MW-3DF | GW-MW-4S | GW-MW-4SF | GW-MW-5S | GW-MW-5SF |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBSK06 | MBSJ91 | MBSK07 | MBSJ92 | MBSK08 | MBSJ93 | MBSK09 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 36 - 41 | 36 - 41 | 8 - 18 | 8 - 18 | 7 - 17 | 7 - 17 |
| Aluminum | NA | 200 | 12.8 U | 438 E | 24 J | 105 J | 68.4 J | 85.9 J | 111 J |
| Antimony | 6 | 20 | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U |
| Arsenic | 50 | 8 | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 3.7 U |
| Barium | 2000 | 2000 | 159 J | 34.8 J | 38 J | 104 J | 102 J | 87.4 J | 78.8 J |
| Beryllium | 4 | 20 | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| Cadmium | 5 | 4 | 1.2 J | 0.6 J | 0.5 J | 0.46 J | 0.4 J | 0.78 J | 0.51 J |
| Calcium | NA | NA | 20600 E | 30300 E | 36600 E | 19500 | 19700 E | 17000 | 15200 E |
| Chromium | 100 | 100 | 4.6 J | 64.4 E | 5.2 J | 3.6 J | 2.4 J | 2.3 J | 1.9 J |
| Cobalt | NA | NA | 4.5 J | 3.1 J | 1.6 U | 1.6 U | 1.6 U | 1.6 U | 1.6 U |
| Copper | 1300 | 1000 | 1.5 J | R | 5.6 J | R | 15.7 J | R | R |
| Iron | NA | 300 | 2520 E | R | 598 E | R | 136 E | R | 109 E |
| Lead | 15 | 10 | 1.9 | R | 1.9 U | R | 3 E | R | R |
| Magnesium | NA | NA | 3810 J | 4800 J | 5900 E | 6160 | 6150 E | 6930 | 6130 E |
| Manganese | NA | 50 | 9000 E | 58 | 42.5 E | 393 | 381 E | 153 E | 123 E |
| Mercury | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Nickel | NA | 100 | 16.8 J | 48.3 | 4.6 J | 8.9 J | 8.6 J | 4.6 J | 3.6 J |
| Potassium | NA | NA | 2160 J | R | R | 3610 J | 3590 J | 2520 J | 2310 J |
| Selenium | 50 | 50 | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U |
| Silver | NA | NA | 1.6 J | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U | 0.7 U |
| Sodium | NA | 50000 | 14000 E | 62100 E | 85100 E | 25700 | 25700 E | 134000 | 119000 E |
| Thallium | 2 | 10 | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U |
| Vanadium | NA | NA | 1.4 U | 2.9 J | 4 J | 1.4 U | 1.4 U | 1.4 U | 1.4 U |
| Zinc | NA | 5000 | 33.9 E | R | 10.5 J | R | 7.4 J | 36 E | 42.8 E |
| Cyanide | 200 | 200 | NR | 1.5 J | NR | 0.6 U | NR | 0.6 U | NR |

NOTES:

*Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter*

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-5D | (dissolved) GW-MW-5DF | GW-MW-6S | (dissolved) GW-MW-6SF | GW-MW-7S | DUPLICATE OF GW-MW-7S GW-MW-DUP01 | (dissolved) GW-MW-7SF |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBSJ94 | MBSK10 | MBSJ95 | MBSK11 | MBSJ96 | MBSJ98 | MBSK12 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 24 - 29 | 24 - 29 | 7 - 17 | 7 - 17 | 7 - 17 | 7 - 17 | 7 - 17 |
| Aluminum | NA | 200 | 84.4 J | 134 J | 65.9 J | 83.1 J | 255 E | 165 J | 19.2 J |
| Antimony | 6 | 20 | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U | 3.5 U |
| Arsenic | 50 | 8 | 3.7 U | 3.7 U | 3.7 U | 3.7 U | 5.2 J | 3.7 U | 3.7 U |
| Barium | 2000 | 2000 | 365 | 359 E | 81 J | 75.2 J | 124 J | 125 J | 110 J |
| Beryllium | 4 | 20 | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| Cadmium | 5 | 4 | 0.3 U | 0.3 U | 0.41 J | 0.3 U | 1.2 J | 1.3 J | 1.3 J |
| Calcium | NA | NA | 189000 | 186000 E | 40500 | 36500 E | 41000 | 43300 | 36800 E |
| Chromium | 100 | 100 | 2.9 J | 1.6 J | 1.5 J | 0.76 J | 10.5 E | 3.5 J | 1.7 J |
| Cobalt | NA | NA | 1.6 U | 1.6 U | 5.1 J | 4.8 J | 21.5 J | 23.4 J | 19.3 J |
| Copper | 1300 | 1000 | 20.2 J | 16.4 J | 10.8 J | 18 J | R | 16 J | 12.7 J |
| Iron | NA | 300 | R | 76.3 J | R | 69.9 J | 16200 | 16300 | 13600 E |
| Lead | 15 | 10 | R | 10 E | 1.9 U | 3.5 E | R | 1.9 U | 1.9 U |
| Magnesium | NA | NA | 34100 | 33700 E | 30500 | 28000 E | 21800 | 22500 | 19300 E |
| Manganese | NA | 50 | 27.5 E | 23.5 E | 10400 E | 9470 E | 12000 | 12500 | 10800 E |
| Mercury | 2 | 2 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Nickel | NA | 100 | 3.1 U | 3.1 U | 8 J | 7.3 J | 15.6 J | 15.4 J | 13.4 J |
| Potassium | NA | NA | 7890 | 7880 E | 1970 J | 1910 J | 1770 J | 1780 J | 1540 J |
| Selenium | 50 | 50 | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U | 3.1 U |
| Silver | NA | NA | 0.7 U | 0.7 U | 1.8 J | 1.5 J | 3.8 J | 3.5 J | 2.3 J |
| Sodium | NA | 50000 | 49400 | 48300 E | 51100 | 47400 E | 61500 | 63500 | 54900 E |
| Thallium | 2 | 10 | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U | 4.9 U |
| Vanadium | NA | NA | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.4 U |
| Zinc | NA | 5000 | 37.5 E | 22.3 E | 20.7 E | 28.8 E | R | R | 27.4 E |
| Cyanide | 200 | 200 | 0.6 U | NR | 0.6 U | NR | 1.3 J | 1.6 J | NR |

NOTES:

*Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter*

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE FIRST ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | GW-MW-7SF (dissolved) | | (dissolved) |
|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW-MW-DUP-01F | GW-MW-7D | GW-MW-7DF |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBSK14 | MBSJ97 | MBSK13 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 24 - 29 | 24 - 29 |
| Aluminum | NA | 200 | 99.5 J | 82 J | 51.2 J |
| Antimony | 6 | 20 | 3.5 U | 3.5 U | 3.5 U |
| Arsenic | 50 | 8 | 3.7 U | 3.7 U | 3.7 U |
| Barium | 2000 | 2000 | 136 J | 647 | 636 E |
| Beryllium | 4 | 20 | 0.3 U | 0.3 U | 0.3 U |
| Cadmium | 5 | 4 | 1.3 J | 2.1 J | 2.3 J |
| Calcium | NA | NA | 43900 E | 331000 | 325000 E |
| Chromium | 100 | 100 | 3 J | 8.3 J | 1.7 J |
| Cobalt | NA | NA | 24.8 J | 17.1 J | 16.3 J |
| Copper | 1300 | 1000 | 24.5 J | 20.2 J | 24.3 J |
| Iron | NA | 300 | 17200 E | R | 687 E |
| Lead | 15 | 10 | 1.9 U | 1.9 U | 1.9 U |
| Magnesium | NA | NA | 22400 E | 114000 | 112000 E |
| Manganese | NA | 50 | 12300 E | 23600 E | 23000 E |
| Mercury | 2 | 2 | 0.1 U | 0.1 U | 0.1 U |
| Nickel | NA | 100 | 17.2 J | 44.2 | 38.3 J |
| Potassium | NA | NA | 1940 J | 10000 E | 11400 E |
| Selenium | 50 | 50 | 3.1 U | 3.1 U | 3.1 U |
| Silver | NA | NA | 3.4 J | 5.7 J | 5.5 J |
| Sodium | NA | 50000 | 66800 E | 117000 | 115000 E |
| Thallium | 2 | 10 | 4.9 U | 4.9 U | 4.9 U |
| Vanadium | NA | NA | 1.4 U | 1.4 U | 1.4 U |
| Zinc | NA | 5000 | 34.6 E | 12.5 J | 17.3 J |
| Cyanide | 200 | 200 | NR | 0.6 U | NR |

NOTES:

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW2-MW-1S | (dissolved) GW2-MW-1SF | GW2-MW-1D | (dissolved) GW2-MW-1DF | GW2-MW-2S | (dissolved) GW2-MW-2SF | GW2-MW-3S | DUPLICATE OF GW2-MW-3S GW2-MW-DUP-01 |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBLD33 | MBLD34 | MBLD35 | MBLD36 | MBLD37 | MBLD38 | MBLD39 | MBLD55 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 40 - 45 | 40 - 45 | 7 - 17 | 7 - 17 | 7 - 17 | 7 - 17 |
| Aluminum | NA | 200 | 716 E | 27.7 J | 214 E | 34.2 J | 274 E | 31.1 J | 459 E | 430 E |
| Antimony | 6 | 20 | 5.1 J | 5 U | 5 U | 5 U | 6 J | 5 U | 5.5 J | 5 U |
| Arsenic | 50 | 8 | 6 U | 6 U | 6 U | 6.6 J | 6 U | 6 U | 6 U | 6 U |
| Barium | 2000 | 2000 | 55.6 J | 350 | R | R | R | R | R | 70.1 J |
| Beryllium | 4 | 20 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Cadmium | 5 | 4 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Calcium | NA | NA | 59500 | 64700 | 214000 | 221000 | 19400 | 19600 | 24500 | 23700 |
| Chromium | 100 | 100 | 4.9 J | 4.5 J | 25.1 | 3.7 J | 25.4 | 3.2 J | 12 | 15.6 |
| Cobalt | NA | NA | 8.4 J | 8.4 J | 2 U | 2 U | 2 U | 2.2 J | 4.6 J | 4.9 J |
| Copper | 1300 | 1000 | 132 | 12.2 J | 121 | 13.7 J | 76.5 | 12.5 J | 58.7 | 63.1 |
| Iron | NA | 300 | 3910 | 1430 | 526 | 156 | 506 | 112 | 4420 | 3930 |
| Lead | 15 | 10 | 4 | 3 U | 7.4 | 3 U | 3.9 | 3 U | 21.4 | 24 |
| Magnesium | NA | NA | 16700 | 17900 | 40100 | 41500 | 8950 | 8830 | 4450 J | 4280 J |
| Manganese | NA | 50 | 5130 E | 5200 E | 464 E | 466 E | 1570 E | 1590 E | 4460 E | 4340 E |
| Mercury | 2 | 2 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Nickel | NA | 100 | 7.7 J | 6.5 J | 22.1 J | 6.7 J | 31.3 J | 16.9 J | 12.5 J | 14.5 J |
| Potassium | NA | NA | 2430 J | 2370 J | 7470 | 7080 | 4040 J | 3740 J | 745 J | 720 J |
| Selenium | 50 | 50 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 7.2 E | 6.2 E |
| Silver | NA | NA | 1.5 J | 1.4 J | 1 J | 1 U | 1 U | 1 U | 1 U | 2.7 J |
| Sodium | NA | 50000 | 35400 E | 40700 E | 49000 E | 54900 E | 20900 E | 23600 E | 15300 E | 14900 |
| Thallium | 2 | 10 | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U |
| Vanadium | NA | NA | 2 U | 2 U | 7.3 J | 5.7 J | 2 U | 2 U | 2 U | 2 U |
| Zinc | NA | 5000 | R | R | R | R | R | R | R | 43.5 E |
| Cyanide | 200 | 200 | 4 U | NR | 4 U | NR | 4 U | NR | 4 U | 4 U |

NOTES:

Value is above the MCL and the NJDEP Groundwater Quality Criteria for this parameter
Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter
Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter
Value is above the MCL but below the NJDEP Groundwater Quality Critieria for this parameter

NOTES:

U - sample concentration is non-detect
E - estimated value
J - estimated value, analyte present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required
Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | DUPLICATE OF | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No | USEPA | New Jersey | (dissolved) GW2-MW-3SF | GW-MW-3SF GW2-MW-DUP-01F | GW2-MW-3D | (dissolved) GW2-MW-3DF | GW-MW-4S | (dissolved) GW-MW-4SF | GW2-MW-5S | (dissolved) GW2-MW-5SF |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBLD40 | MBLD56 | MBLD41 | MBLD42 | MBLD43 | MBLD44 | MBLD45 | MBLD46 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 7 - 17 | 7 - 17 | 36 - 41 | 36 - 41 | 8 - 18 | 8 - 18 | 7 - 17 | 7 - 17 |
| Aluminum | NA | 200 | 36.7 J | 26.4 J | 883 E | 56.1 J | 99 J | 30.9 J | 500 E | 38.8 J |
| Antimony | 6 | 20 | 5 U | 5 U | 11.4 J | 6.1 J | 5 U | 5 U | 5 U | 5 U |
| Arsenic | 50 | 8 | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U |
| Barium | 2000 | 2000 | R | 88.9 J | R | R | R | R | R | R |
| Beryllium | 4 | 20 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Cadmium | 5 | 4 | 1 U | 1 U | 24.9 | 1 U | 6.6 | 1 U | 4.3 J | 1 U |
| Calcium | NA | NA | 24500 | 21600 | 31100 | 36700 | 18200 E | 20500 E | 12400 E | 14100 E |
| Chromium | 100 | 100 | 1.1 J | 1.9 J | 29.2 | 2.6 J | 2.7 J | 1.3 J | 40.6 | 2.8 J |
| Cobalt | NA | NA | 4.5 J | 3.4 J | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| Copper | 1300 | 1000 | 17.5 J | 13.4 J | 63.6 | 19.3 J | 66.5 | 16.5 J | 61.1 | 17.8 J |
| Iron | NA | 300 | 2820 | 2610 | 23200 | 88.4 J | 4720 | 88.5 J | 4370 | 96.4 J |
| Lead | 15 | 10 | 3 U | 3 U | 790 | 3 U | 289 | 3 U | 94.5 | 3.6 |
| Magnesium | NA | NA | 4290 J | 3770 J | 5250 E | 6080 E | 5630 E | 6240 E | 4760 J | 5070 |
| Manganese | NA | 50 | 4330 E | 3860 E | 101 E | 33.2 E | 280 E | 282 E | 161 E | 101 E |
| Mercury | 2 | 2 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Nickel | NA | 100 | 6.8 J | 7.4 J | 17.1 J | 2.9 J | 7.1 J | 7.2 J | 32.3 J | 7 J |
| Potassium | NA | NA | 716 J | 601 J | 2140 J | 2730 J | 2770 J | 3020 J | 2340 J | 2730 J |
| Selenium | 50 | 50 | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Silver | NA | NA | 1.2 J | 1.2 J | 1.1 J | 1 U | 1.2 J | 1 U | 1 U | 1 U |
| Sodium | NA | 50000 | 17400 E | 13700 | 54800 E | 65400 E | 19800 E | 24900 E | 106000 E | 123000 E |
| Thallium | 2 | 10 | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U | 7 U |
| Vanadium | NA | NA | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| Zinc | NA | 5000 | R | 47.3 E | 33.3 E | 30.3 E | R | R | R | R |
| Cyanide | 200 | 200 | NR | NR | 4 U | NR | 4 U | NR | 4 U | NR |

NOTES:

Value is above the MCL and the NJDEP Groundwater Quality Criteria for this parameter
Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter
Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter
Value is above the MCL but below the NJDEP Groundwater Quality Critieria for this parameter

NOTES:

U - sample concentration is non-detect
E - estimated value
J - estimated value, analyte present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required
Detection limits elevated if Dilution Factor > 1

THIS DATA IS FROM THE SECOND ROUND OF GROUNDWATER SAMPLING

SITE NAME: White Chemical
PROJECT #: 302-0004

| INORGANICS | | | | (dissolved) | | (dissolved) | | (dissolved) | | (dissolved) |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID No. | USEPA | New Jersey | GW2-MW-5D | GW2-MW-5DF | GW2-MW-6S | GW2-MW-6SF | GW2-MW-7S | GW2-MW-7SF | GW2-MW-7D | GW2-MW-7DF |
| Traffic Report No. | Maximum Contaminant | Groundwater | MBLD47 | MBLD48 | MBLD49 | MBLD50 | MBLD51 | MBLD52 | MBLD53 | MBLD54 |
| Matrix | Levels | Quality Standards | WATER | WATER | WATER | WATER | WATER | WATER | WATER | WATER |
| Units | (MCLs) | (ug/L) | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Dilution Factor | (ug/L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Percent Solids | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Screened Interval (in feet) | | | 24 - 29 | 24 - 29 | 7 - 17 | 7 - 17 | 7 - 17 | 7 - 17 | 24 - 29 | 24 - 29 |
| Aluminum | NA | 200 | 255 E | 33.3 J | 76.7 J | 36.1 J | 303 E | 57.2 J | 83.5 J | 21 J |
| Antimony | 6 | 20 | 5.7 J | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U | 5 U |
| Arsenic | 50 | 8 | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U | 6 U |
| Barium | 2000 | 2000 | R | R | R | R | 86.3 J | 124 J | 570 | 593 |
| Beryllium | 4 | 20 | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Cadmium | 5 | 4 | 3.7 J | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U | 1 U |
| Calcium | NA | NA | 212000 | 197000 | 45600 | 49300 | 32000 | 27200 | 316000 | 301000 |
| Chromium | 100 | 100 | 22.1 | 2.4 J | 3.3 J | 2.4 J | 25.6 | 5.8 J | 4 J | 3.6 J |
| Cobalt | NA | NA | 2 U | 2 U | 4.6 J | 5.7 J | 20.8 J | 19.4 J | 11.6 J | 10.6 J |
| Copper | 1300 | 1000 | 182 | 17.7 J | 76.2 | 23 J | 97 | 31.2 | 96.2 | 12.4 J |
| Iron | NA | 300 | 4520 | 48.9 J | 159 | 88.3 J | 15800 | 14200 | 2690 | 2280 |
| Lead | 15 | 10 | 113 | 3 U | 4.3 | 3 U | 3.1 | 3 U | 5.6 | 4.6 |
| Magnesium | NA | NA | 40900 | 38200 | 31300 | 34100 | 16100 | 12900 | 108000 | 101000 |
| Manganese | NA | 50 | 44.4 E | 20.4 E | 11400 E | 12000 E | 8180 E | 6540 E | 22200 E | 22200 E |
| Mercury | 2 | 2 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Nickel | NA | 100 | 24.7 J | 11.9 J | 8.1 J | 7.8 J | 41.8 | 26.7 J | 21.6 J | 20.9 J |
| Potassium | NA | NA | 7880 | 7230 | 1680 J | 2300 J | 1760 J | 1680 J | 9400 | 9010 |
| Selenium | 50 | 50 | 5 U | 5 U | 8 E | 5 U | 6.7 E | 5 U | 13 E | 10.7 |
| Silver | NA | NA | 4.7 J | 1 U | 2.2 J | 2.6 J | 1.6 J | 2 J | 4.1 J | 3.8 J |
| Sodium | NA | 50000 | 53500 | 52300 | 42300 E | 48600 E | 44000 | 41000 | 88300 | 79700 |
| Thallium | 2 | 10 | 7 U | 7 U | 7 U | 7.6 J | R | R | 7 U | 7 U |
| Vanadium | NA | NA | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| Zinc | NA | 5000 | 74 E | 71.8 | R | R | 70.1 E | 66.3 E | 41.3 E | 36.8 E |
| Cyanide | 200 | 200 | 4 U | NR | 4 U | NR | 4 U | NR | 4 U | NR |

NOTES:

Value is above the MCL and the NJDEP Groundwater Quality Criteria for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but below the MCL for this parameter

Value is above the NJDEP Groundwater Quality Criteria, but there is no MCL for this parameter

Value is above the MCL but below the NJDEP Groundwater Quality Criteria for this parameter

NOTES:

U - sample concentration is non-detect

E - estimated value

J - estimated value, analyte present below CRDL but above IDL

R - analysis did not pass EPA QA/QC

NR - analysis not required

Detection limits elevated if Dilution Factor > 1

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

George G. McCann, P.E.
Acting Director

WATER QUALITY MANAGEMENT ELEMENT

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

MAY 16 1986

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Elton E. Hill, Administrator
City of Newark
920 Broad Street
Newark, New Jersey 07102

Newark Dept. of Public Works

Re: NJPDES Permit No. NJ0024724
Effective Date: July 1, 1986

Dear Mr. Hill:

Enclosed is the final NJPDES/Discharge to Surface Water Permit to discharge pollutants to the Passaic River, Second River, Newark Bay, and Peripheral Ditch, all of which are classified as SE-3 waters except for Peripheral Ditch which is classified as SE-2 water, issued in accordance with the New Jersey Pollutant Discharge Elimination System Regulations, N.J.A.C. 7:14A-1 et seq. Violation of any condition of this permit may subject you to significant penalties.

Please note, Part I, Section 18 has been revised to reflect current regulations.

Within 30 calendar days following your receipt of this permit, under N.J.A.C. 7:14A-8.6 you may submit a request to the Administrator for an adjudicatory hearing to reconsider or contest the conditions of this permit. Regulations regarding the format and requirements for requesting an adjudicatory hearing may be found in N.J.A.C. 7:14A-8.9 through 8.13. The request should be made to:

Administrator
Water Quality Management Element
Division of Water Resources
CN-029
Trenton, NJ 08625

Application for renewal of this permit must be submitted at least



BAA000072

180 days prior to expiration of this permit pursuant to N.J.A.C. 7:14A-2.1(f)5.

If you have any questions on this action, please contact Mr. Ashish K. Desai at (609) 984-4429.

Sincerely,

Leroy T. Cattaneo, P.E., P.P.
Chief
Bureau of Municipal Waste Management

AD:kk

CHECKLIST OF PARTS AND MODULES COMPRISING THIS NJPDES PERMIT

1. Cover Page

2. Checklist

3. Part I (General Conditions for All NJPDES Discharge Permits)

4. Part II - Additional General Conditions for the types of NJPDES Permits checked as follows:

X Part II - A (Municipal/Sanitary)

____ Part II - B/C (Industrial/Commercial/Thermal)

____ Part II - L (SIU)

____ Part II - IWMF (Industrial Waste Management Facility)

____ Part II - DGW Specify type(s): _____

_____

_____

5. Part III - Effluent Limitations and Monitoring Requirements

X Part III - A

____ Part III - B/C

____ Part III - L

____ Part III - DGW Specify type(s): _____

_____

_____

6. Part IV - Special Conditions

X Part IV - A

____ Part IV - B/C

____ Part IV - L

____ Part IV - IWMF

____ Part IV - DGW Specify type(s): _____

_____

_____

DEPARTMENT OF ENVIRONMENTAL PROTECTION
CN 402
Trenton, N.J. 08625

# PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to the further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit.

| Permit No. | Issuance Date | Effective Date | Expiration Date |
|---|---|---|---|
| NJ0024724 | May 8, 1986 | July 1, 1986 | June 30, 1991 |

| Name and Address of Applicant | Location of Activity/Facility | Name and Address of Owner |
|---|---|---|
| City of Newark<br>Dept. of Public Works<br>926, Broad Street<br>Newark, N.J. 07102 | City of Newark<br>Dept. of Public Works<br>926, Broad Street<br>Newark, N.J. 07102 | SAME AS APPLICANT |

| Issuing Division | Type of Permit | Statute(s) | Application No. |
|---|---|---|---|
| Water Resources | Municipal/Sanitary | 58:10A-1 et seq. | NJ0024724 |

This permit grants permission to:

The applicant to discharge pollutants (from the combined sewer system) into the Passaic River, Second River, Newark Bay, and Peripheral Ditch, all of which are classified as SE-3 waters, except for Peripheral Ditch which is classified as SE-2 water, in compliance with the provisions of the (Federal) Clean Water Act and the New Jersey Water Pollution Control Act subject to the general conditions on reverse and the conditions set forth in this permit.

This permit is issued pursuant to the provisions of the Regulations Concerning the New Jersey Pollutant Discharge Elimination System (N.J.A.C. 7:14A-1).

Approved by the Department of Environmental Protection
By Authority of
John W. Gaston, Jr., P.E., Director
Division of Water Resources

Arnold Schiffman Administrator
Water Quality Management

DATE

*The word permit means "approval, certification, registration, etc."*

(GENERAL CONDITIONS ARE ON THE REVERSE SIDE.)

Form DEP-007 (8/83)

ADDITIONAL GENERAL CONDITIONS FOR NJPDES/DSW PERMITS
FROM MUNICIPAL (SANITARY) DISCHARGES

1. ADDITIONAL DEFINITIONS

A. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month or any 30 consecutive days, calculated as the sum of all daily discharges measured during a calendar month or any 30 consecutive days, divided by the number of daily discharges measured during that month (DMR's shall be calculated based on a calendar month basis.)

B. "Average weekly discharge limitation" means the highest allowable average of "daily discharges" over a calendar week or any seven consecutive days, calculated as the sum of all daily discharges measured during a calendar week or any seven consecutive days, divided by the number of daily discharges measured during that week. (DMR's shall be calculated based on a calendar week basis.)

C. "Daily discharge" means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (For purposes of sampling, "daily discharge" means an operating day or 24-hour period.)

D. "Gross" means the weight or the concentration contained in the discharge. (Unless a limitation is specified as a net limitation, the limitation contained in this permit is a gross limitation.)

E. "Maximum daily discharge limitation" means the highest allowable "daily discharge."

F. "Net" means the amount of pollutant contained in the discharge measured in appropriate units as specified herein, less the amount of a pollutant contained in the surface water body intake source, measured in the same units, over the same period of time, provided:

(1) The intake water source must be drawn from the same body of water into which the discharge is made; and

(2) In cases where the surface water body intake source is pretreated for removal of pollutants, the intake level of a pollutant to be used in calculating the net is that level contained after the pretreatment steps.

2. DISCHARGE MONITORING REPORTS

In addition to the discharge monitoring report submitted to the NJDEP in accordance with paragraph 11.1.(1) in Part I of this permit, the permittee shall also submit a duplicate signed copy of these, and all other reports required herein, to the Regional Administrator and the DRBC at the following addresses:

Regional Administrator
Region II
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278
ATTN: Permits Administration Branch - Room 432

3. FLOW MEASUREMENTS

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10% from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

A. "A Guide to Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421).

B. "Water Measurement Manual, " U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

C. "Flow Measurement in Open Channels and Closed Conduits, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

D. "NPDES Compliance Sampling Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver CO 80225).

4. PROHIBITED DISCHARGE STANDARDS

A. Pursuant to Section 307 of the Federal Act and regulations promulgated thereunder at 40 CFR 403.5, the permittee shall under no circumstances allow the introduction of the following pollutants into the POTW (publicly-owned treatment works):

(1) Pollutants which create a fire or explosion hazard in the POTW;

(2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works is specifically designed to accommodate such discharges;

(3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers, or other interference with the operation of the POTW;

(4) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge of such volume or strength as to cause interference in the POTW; and

(5) Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the treatment works influent exceeds 40°C (104°F) unless the works is designed to accommodate such heat.

B. The permittee shall under no circumstances allow the introduction of radioactive wastes except in conformance with N.J.A.C. 7:28-11.2 (Disposal of Radioactive Materials - Disposal by release into sanitary sewerage systems).

C. Compliance with the prohibited discharge standards of subsections A. and B. above is required immediately.

# EFFLUENT LIMITATIONS FOR NJPDES/DSW PERMITS FOR MUNICIPAL (SANITARY) DISCHARGES FROM COMBINED SEWER OVERFLOWS

## 1. DESCRIPTION OF COLLECTION SYSTEM

The City of Newark presently conveys domestic and industrial wastewater to the Passaic Valley Sewerage Commissioner(PVSC) regional sewage treatment facilities. However, during but not limited to periods of wet weather, overflows from the permittee's combined sewer system have been recorded.

## 2. EFFLUENT LIMITATIONS

A. Final Effluent Limitations. The permittee shall not discharge pollutants from any location(s) which are not specifically authorized by a valid NJPDES Permit. The authorized discharge locations are shown in Table III-A-1.

(1) Beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee shall discharge so as to not violate the Surface Water Quality Standards for the receiving waters shown below.

| Discharge No. | Receiving Waters | Classification |
|---|---|---|
| 001 | Second River | SE-3 |
| 002-022 | Passaic River | SE-3 |
| 023-029 | Newark Bay | SE-3 |
| 030 | Peripheral Ditch | SE-2 |

(2) Beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee shall discharge so as to not violate the Interstate Sanitation Commission (I.S.C.) Water Quality Regulations.

## 3. LOCATION OF DISCHARGES

Table III-A-1 lists the number, name, receiving waters and location of each discharge within the combined sewer system.

The previous permit identified 29 discharge locations. An additional discharge, No. 030, located at the end of Avenue A has been included in this renewal permit.

TABLE III-A-1

| Discharge Serial Number and Name of Facility | Discharge Location, Receiving Waters and U.S.G.S. Coordinates |
|---|---|
| 001 Meadowbrook Storm/Overflow Sewer | 600 feet east of Franklin Ave. Bridge Second River 40° 47' 16"-N; 74° 10'15"-W |
| 002 Verona Avenue Overflow | Foot of Verona Avenue Passaic River 40° 46'35"-N 74° 09'06"-W |
| 003 Delavan Avenue Overflow | Foot of Delavan Avenue Passaic River 40° 46'35"-N 74° 09'06"-W |
| 004 Herbert Place Overflow North Outfall | Foot of Herbert Place Passaic River 40° 45'55"-N 74° 09'35"-W |
| 005 Herbert Place Overflow South Outfall | Foot of Herbert Place Passaic River 40° 45'55"-N 74° 09'35"-W |
| 006 Overflow North of Oriental Street | 1000 feet north of Third Ave. Passaic River 40° 45'36"-N 74° 09'51"-W |
| 007 Third Avenue Overflow | Foot of Third Avenue Passaic River 40° 45'28"-N 74° 09'55"-W |
| 008 Fourth Avenue Overflow | Foot of Fourth Avenue Passaic River 40° 45'22"-N 74° 09'56"-W |
| 009 Clay Street Overflow North Outfall | Foot of Clay Street Passaic River 40° 45'03"-N;74° 09'58"-W |
| 010 Clay Street Overflow South Outfall | Foot of Clay Street Passaic River 40° 45'03"-N 74° 09'58"-W |
| 011 Orange Street Overflow | Foot of Orange Street Passaic River 40° 44'47"-N 74° 10'01"-W |

| | |
|---|---|
| 012 Bridge Street Overflow | Foot of Bridge Street<br>Passaic River<br>40° 44'41"-N 74° 10'00"-W |
| 013 Rector Street Overflow | Foot of Rector Street<br>Passaic River<br>40° 44'29"-N 74° 09'56"-W |
| 014 Saybrook Place Overflow | Foot of Saybrook Place<br>Passaic River<br>40° 44'26"-N 74° 09'55"-W |
| 015 McCarter Highway Overflow | Foot of Raymond Plaza-East<br>Passaic River<br>40° 44'07"-N 74° 09'44"-W |
| 016 Raymond Boulevard<br>Jackson Street Overflow | Foot of Jackson Street<br>Passaic River<br>40° 43'59"-N 74° 09'19"-W |
| 017 Polk Street Overflow | Foot of Polk Street<br>Passaic River<br>40° 43'59"-N 74° 09'13"-W |
| 018 Freeman Street Overflow | Foot of Freeman Street<br>Passaic River<br>40° 44'02"-N 74° 08'47"-W |
| 019 Brown Street Storm Sewer | Foot of Brown Street<br>Passaic River<br>40° 43'56"-N 74° 08'08"-W |
| 020 Lockwood Street Storm Sewer | Foot of Lockwood Street<br>Passaic River<br>40° 43'58"-N 74° 07'51"-W |
| 021 Blanchard Street Storm Sewer | Foot of Blanchard Street<br>Passaic River<br>40° 43'58"-N 74° 07'42"-W |
| 022 Roanoke Avenue Overflow | Foot of Roanoke Avenue<br>Passaic River<br>40° 43'35"-N 74° 07'17"-W |
| 023 Adams Overflow | 1000 feet east of deadend<br>along Frontage Road Newark Bay<br>40° 42'42"-N; 74° 10'16"-W |
| 024 Wheeler Overflow | Foot of Avenue "B"<br>Newark Bay<br>40° 42'47"-N 74° 10'44"-W |

| | |
|---|---|
| 025 Peddie Overflow | Foot of Peddie Steet<br>Newark Bay<br>40° 42'38"-N 74° 11'14"-W |
| 026 Queen Overflow | Foot of International Way<br>Newark Bay<br>40° 42'19"-N 74° 11'15"-W |
| 027 Waverly Overflow | 900 feet north of the McClellan Street Overpass on east side of U.S. 1 and 9 Newark Bay<br>40° 41'26"-N 74° 11'30"-W |
| 028 Haynes Avenue Combined Overflow | U.S. 1 and 9 at Peddie Ditch<br>Newark Bay<br>40° 42'22"-N 74° 10'57"-W |
| 029 Waverly (Secondary) Overflow | 900 feet north of the McClellan Street Overpass on east side of U.S. 1 and 9: Newark Bay<br>40° 41'26"-N 74° 11'30"-W |
| 030 Avenue A | South end of Avenue A |

# SPECIAL CONDITIONS FOR NJPDES/DSW PERMITS FOR MUNICIPAL (SANITARY) DISCHARGES FROM COMBINED SEWER OVERFLOWS

## 1. Special Conditions for Combined Sewer Overflows

A. The permittee shall comply with the provisions of the Northeast New Jersey Water Quality Management Plan, developed in accordance with Section 208 of the Federal Act. This permit will be reviewed at such time as the Northeast New Jersey Water Quality Management Plan, or applicable portion(s) thereof, are revised and the appropriate modifications to the permit may be made at that time.

B. The permittee shall comply with the Facilities Plan which has been developed by the Passaic Valley Sewerage Commission and adopted in accordance with Section 201 of the Federal Act.

C. The permittee shall operate the sewer system to minimize the discharge of pollutants from combined sewer overflows.

D. No new sources of storm-water inflow shall be connected to any separate sanitary sewers in the sewer system.

E. The permittee shall conduct inspections of the regulator structures within the combined sewer system as specified in the compliance schedule of this permit, Part IV-A, Section 2.

F. The permittee shall alleviate the discharge of pollutants from the combined sewer overflows by implementing the actions outlined in the compliance schedule of this permit, Part IV-A, Section 2.

G. The operation of the permittee's wastewater collection system shall be under the supervision of a licenced operator who meets the NJPDEP's requirements for the C-4 classification as contained in the changes to N.J.A.C. 7:10-13.1 et seq. which became effective July 2, 1984.

2. Compliance Schedule

A. The permittee shall achieve compliance with the requirement specified in this permit in accordance with the following schedule:

| Compliance Action | Date |
|---|---|
| (1) The permittee shall conduct inspections of the regulator structures within the combined sewer system. As a result of these inspections reports shall be generated which discuss the findings of the inspections and contain as a minimum the following information: | |
| (a) A description of all the existing problems with the regulator structures including the actions taken and/or proposed to be taken to eliminate these problems. | |
| (b) The dates by which the existing problems will be eliminated. | |
| (c) A description of any factors which tend to explain or mitigate any delays in eliminating the existing problems. | |
| Inspection reports shall be prepared on the following due dates and be submitted within 14 days thereafter. | 9/1/86 and every 3 months thereafter |
| (2) The permittee shall conduct a study and submit a report on the combined sewer overflow from discharge Nos. 001-029. As a minimum the report shall include the following: | |
| i. Description of the overflow problem including but not limited to a description of | |

the conditions which result in the discharge of overflow as well as the duration, flow rate, frequency, and volume of such discharges. In addition, the concentration of pollutants in the discharge, including but not limited to BOD5 and Suspended Solids, shall be provided.

ii. Different alternatives considered to minimize the discharges of pollutants from the combined sewer overflow. The final plan shall be selected on the basis of a cost-benefit analysis of the different alternatives and as a minimum shall result in the elimination of dry weather discharge. The complete report shall be certified by a Professional Engineer and submitted on or before 4/1/87

(3) Upon approval of the report by NJDEP, the permittee shall submit complete and acceptable final plans and specifications in order to implement the selected plan, on or before 8/1/87

(4) The permittee shall implement the above selected plan eliminating plan on or before 7/1/88

(5) The permittee may be further required to minimize the wet weather overflow at a later date.

(6) The permittee shall conduct a study and submit a report on the discharge of pollutants from discharge No. 030 located at the end of Avenue A. As a minimum, the report shall include the following:

i. Description of the discharge including but not limited to a description of the conditions which result in the discharge of pollutants as well as the duration, flow rate, frequency, and volume of such discharges. In addition, the concentration of pollutants in the discharge, including but not limited to BOD5 and suspended solids, shall be provided.

ii. Different alternatives considered to eliminate the discharge of pollutants from the discharge point located at the end of Avenue A. The final plan selected to eliminate the discharge from Avenue A shall be discussed in detail. The compete report shall be certified by a Professional Engineer and submitted on or before 1/1/87

iii. Upon approval of the report by NJDEP, the permittee shall submit complete and acceptable final plans and specifications in order to implement the selected plan on or before 4/1/87

iv. The permittee shall implement the above selected plan eliminating the discharge from Avenue A, on or before 9/1/87

Progress Reports

(7) The permittee shall submit reports to the State Director and to the Regional Administrator (at the address indicated in this permit) detailing the progress being made toward completion of the necessary compliance actions by the due dates indicated above. As a minimum these

reports shall contain the following information:

(a) Actions taken to complete the compliance actions by the due dates.

(b) Actions still needed to complete the compliance actions by the due dates.

(c) Whether the progress made to date is on, ahead of, or behind the schedule necessary to assure compliance with the due dates. If the project is behind schedule, the report shall include the following information:

(1) A description of how much the project is behind schedule.

(2) A description of why the project is behind schedule.

(3) A description of any actions taken and/or proposed to be taken to put the project back on schedule to meet the due date.

(4) A description of any actions taken and/or proposed to be taken to prevent and control further delay.

(5) A description of any factors which tend to explain or mitigate the delay.

(6) An estimate of the date by which the delay will be made up and the probability that the project will remain on schedule thereafter.

Progress reports shall be prepared on the following due dates and be submitted within 14 days thereafter

9/1/86 and every 6 months thereafter until the above actions are completed.

B. The permittee shall submit to the NJDEP and USEPA the required document(s) where a specific action is required in A. above to be taken by a certain date, and a written notice of compliance or noncompliance with the above schedule date, postmarked no later than 14 days following each elapsed date. Each notice of noncompliance shall include the following information:

(1) A short description of the noncompliance;

(2) A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirement without further delay;

(3) A description of any factors which tend to explain or mitigate the noncompliance; and

(4) An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

# GENERAL CONDITIONS FOR ALL NJPDES DISCHARGE PERMITS

## 1. Duty to Comply

A. The permittee shall comply with all conditions of this New Jersey Pollutant Discharge Elimination System (NJPDES) permit. No pollutant shall be discharged more frequently than authorized or at a level in excess of that which is authorized by the permit. The discharge of any pollutant not specifically authorized in the NJPDES permit or listed and quantified in the NJPDES application shall constitute a violation of the permit, unless the permittee can prove by clear and convincing evidence that the discharge of the unauthorized pollutant did not result from any of the permittee's activities which contribute to the generation of its wastewaters. Any permit noncompliance constitutes a violation of the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.; hereinafter referred to as the State Act) or other authority of the NJPDES regulations (N.J.A.C. 7:14A-1 et seq.) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. A permittee shall not achieve any effluent concentration by dilution. Nor shall a permittee increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality standards.

C. The permittee shall comply with applicable effluent standards or prohibitions established under Section 307 (a) of the "Federal Water Pollution Control Act" (PL 92-500 et seq.; hereinafter referred to as the Federal Act) and Section 4 of the State Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

D. The State Act provides that any person who violates a permit condition implementing the State Act is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing the State Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

E. The permittee is required to comply with all other applicable federal, state and local rules, regulations, or ordinances. The issuance of this permit shall not be considered as a waiver of any other requirements.

## 2. Permit Expiration

This permit and the authorization to discharge shall expire at midnight on the expiration date of the permit. The permittee shall not discharge after the above date of expiration of the permit.

A. Duty to Reapply. If the permittee wishes to continue an activity regulated by a NJPDES permit after the expiration date of the permit, the permittee shall apply for and obtain a new permit. (If the activity is to be continued, the permittee shall complete, sign, and submit such information, forms, and fees as are required by the Department no later than 180 days before the expiration date.) The permittee shall follow the requirements stated in paragraph 12.A. when signing any application.

B. Continuation of Expiring Permits

(1) The conditions of an expired permit are continued in force pursuant to the "Administrative Procedure Act," N.J.S.A. 52:14B-11, until the effective date of a new permit if:

a. The permittee has submitted a timely and complete application for renewal as provided in Sections 2.1 and (3.2 DSW) (4.4 IWMF) (5.8 UIC) and Subchapter 10 of the NJPDES Regulations; and

b. The Department through no fault of the permittee, does not issue a new permit with an effective date under Section 8.6 of the NJPDES Regulations on or before the expiration date of the previous permit (e.g., when issuance is impracticable due to time or resource constraints).

(2) Permits continued under this section remain fully effective and enforceable.

(3) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Department may choose to do any or all of the following:

a. Initiate enforcement action based upon the permit which has been continued;

b. Issue a notice of intent to deny the new permit under Section 8.1 of the NJPDES Regulations. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

c. Issue a new permit under Subchapters 7 and 8 of the NJPDES Regulations with appropriate conditions; or

d. Take other actions authorized by the NJPDES Regulations or the State Act.

3. Duty to Halt or Reduce Activity

A. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored to its permitted limits or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost.

4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit, including but not limited to accelerated and/or additional types of monitoring, temporary repairs or other mitigating measures.

5. Proper Operation, Maintenance and Licensing

A. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment works, facilities, and systems of treatment and control (and related appurtenances) for collection and treatment which are installed or used by the permittee for

water pollution control and abatement to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training and adequate laboratory and process controls including appropriate quality assurance procedures as described in 40 CFR Part 136 and applicable State Law and regulations. All permittees who operate a treatment works, except for sanitary landfills and land application of sludge or septage, must satisfy the licensing requirements of the "Licensing of Operators of Wastewater and Water Systems" N.J.S.A. 58:11-64 et seq. or other applicable law. This paragraph requires the operation of back-up or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit or where required by applicable law or regulation.

B. Facilities Operation and Operator Certification. The operation of any treatment works shall be under the supervision of an operator on the first day of operation of the treatment works and continually thereafter in accordance with paragraph 5.A above. The operator shall meet the requirements of the Department of Environmental Protection of the State of New Jersey pursuant to the provisions of N.J.S.A. 58:11-64 et seq. and amendments thereto. The name of the proposed operator shall be submitted to the Department in order that his qualifications may be determined prior to inititating operation of the proposed treatment works.

6. Permit Actions

A. This permit may be modified, suspended, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Causes for modification, revocation and reissuance, and suspension are set forth in N.J.A.C. 7:14A-2.12 et seq.

C. The following are causes for terminating or modifying a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) Failure to pay applicable fees (N.J.A.C. 7:14A-1.8), including the annual NJPDES permit fee which has been assessed by the New Jersey Department of Environmental Protection (NJDEP, hereinafter referred to as the Department);

(3) The permittee's failure in the application or during the permit issuance process of a National Pollutant Discharge Elimination System (NPDES), Discharge Allocation Certificate (DAC), NJPDES, Treatment Works Approval (TWA) or Construct and Operate permit to disclose fully all relevant facts, or the permittee's misrepresentation of any permit condition;

(4) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

(5) When there is a change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a Domestic Treatment Works (DTW);

(6) The nonconformance of the discharge with any applicable facility, basin or areawide plans;

(7) If such permit is inconsistent with any duly promulgated effluent limitation, permit, regulation, statute, or other applicable state or federal law; or

(8) If a toxic effluent standard or prohibition is established pursuant to New Jersey Water Pollution Control Act N.J.S.A. 58:10A-1 et seq. or the regulations adopted pursuant to it, for a toxic pollutant which is present in the discharge, and such is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified of the revision or modification and date of required compliance.

7. Property Rights, Liability, and Other Laws

A. This permit does not convey and property rights of any sort or any exclusive privileges.

B. Nothing in this permit shall be deemed to preclude the institution of any legal action nor relieve the permittee from any responsibilities or penalties to which the permittee is or may be subject to under any federal, state or local law or regulation.

C. Nothing in this permit shall be construed to exempt the permittee from complying with the rules, regulations, policies, and/or laws lodged in any agency or subdivision in this State having legal jurisdiction.

8. Duty to Provide Information

A. The permittee shall furnish to the Director, Division of Water Resources, NJDEP, (hereinafter referred to as the Director), within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

B. Where the permittee becomes aware that he failed to submit any relevant facts in a permit application, or has submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or information.

9. Inspection and Entry

A. The permittee shall allow the Regional Administrator of the United States Environmental Protection Agency (USEPA), the Department, or any authorized representative(s), upon the presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept, for purposes of inspection, sampling, copying or photographing. Photography shall be allowed only as related to the discharge;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the State Act, any substances or parameters at any location. This shall include, but not be limited to, the drilling or installation of monitoring wells for

the purpose of obtaining samples of ground water, soil and vegetation and measuring ground water elevations.

B. Any refusal by the permittee, facility land owner(s), facility lessee(s), their agents, or any other person(s) with legal authority, to allow entry to the authorized representatives of the NJDEP and/or USEPA shall constitute grounds for suspension, revocation and/or termination of this permit.

C. By acceptance of this permit, the permittee hereby agrees, consents and authorizes the representatives of the NJDEP and/or USEPA to present a copy of this permit to any municipal or state police officer having jurisdiction over the premises occupied by the permittee in order to have said officer effectuate compliance with the right of entry, should the permittee at any time refuse to allow entry to said inspectors.

D. By acceptance of this permit, the permittee waives all rights to prevent inspections by authorized representatives of the NJDEP and/or USEPA to determine the extent of compliance with any and all conditions of this permit and agrees not to, in any manner, seek to charge said representatives with the civil or criminal act of trespass when they enter the premises occupied by the permittee in accordance with the provisions of this authorization as set forth hereinabove.

1C. Ground Water Monitoring Wells

The permittee shall install and maintain ground water monitoring wells if required by this permit at locations and according to specifications provided by the Department. All permit required monitoring wells shall be installed within 30 days of the Effective Date of the Permit. The monitoring wells shall provide turbidity-free water at a minimum rate of two gallons per minute or what the formation will yield with a properly installed and developed ground water monitoring well.

When a monitoring well cannot be used for the purpose of sample collection or ground water level measurements, the permittee shall replace the well at his own expense within 30 days of the missed sampling and/or measurement date. Said unuseable wells shall be sealed, also at the permittee's own expense, in accordance with Department well sealing specifications within the same 30 day period in which the well is replaced. Monitoring wells as required in this permit shall be considered as a monitoring device, which are required to be maintained under the provisions of the New Jersey Water Pollution Control Act N.J.S.A. 58:10A-10(f).

All monitoring wells must be installed by a New Jersey licensed well driller. The elevation to the nearest hundredth of a foot of the top of each well casing shall be established by a New Jersey licensed land surveyor within 30 days of the installation of the monitoring wells. The elevation established shall be in relation to the New Jersey geodetic control datum. Ground water monitoring wells and all point source discharges to ground water shall be located by horizontal control (latitude and longitude) using third order work, class II specification and by vertical control (elevation) using third order work. Within 30 days of the installation date of the monitor well, the permittee shall submit to the Department completed "Ground Water Monitoring Well Certifications - Forms A and B for each well required to be sampled by the permit. Within 60 days of the Effective Date of the Permit, the permittee shall submit to the Department a plot plan of the facility showing the location of all discharges and the ground water monitoring well locations. The scale of the plot plan shall be at least one inch equals fifty (50) feet.

Each ground water monitoring well casing shall have permanently affixed to it a monitoring well number to be assigned by the Department, elevation of the top of the well casing, elevation of the top of the well casing above the ground level and latitude and longitude of the monitoring well.

11. Monitoring and Records

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

B. The State Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of no more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. This is specifically intended to include, but not be limited to, ground water monitoring wells and lysimeters.

C. The applicant shall perform all analyses in accordance with the analytical test procedures approved under 40 CFR Part 136. Where no approved test procedure is available, the applicant must indicate a suitable analytical procedure and must provide the Department with literature references or a detailed description of the procedure. The Department must approve the test procedure before it is used. The laboratory performing the analyses for compliance with this permit must be approved and/or certified by the Department for the analysis of those specific parameters. Information concerning laboratory approval and/or certification may be obtained from:

New Jersey Department of Environmental Protection
Office of Quality Assurance
CN 4
Trenton, New Jersey 08625
(609) 292-3950

D. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

E. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

F. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) and/or on the Department's Monitoring Report Form (MRF); or, where these forms do not apply, in another format approved by the Department.

G. If the permittee monitors any pollutant more frequently than required by the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, MRF, or other approved format.

H. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

I. Discharge Monitoring Reports

(1) Monitoring results shall be summarized and reported on the appropriate Monitoring Report Forms following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the following address:

Water Quality Management
Division of Water Resources
CN 029
Trenton, New Jersey 08625
ATTN: Monitoring Reports

(2) If a contract laboratory is utilized, the permittee shall submit the name and address of the laboratory and the parameters analyzed at the time it submits its monitoring reports (See Section II.E. above). Any change in the contract laboratory being used or the parameters analyzed shall be reported prior to or together with the monitoring report covering the period during which the change was made.

J. Monitoring Reports. Monitoring results shall be reported at the intervals and starting date specified elsewhere in this permit.

K. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

12. Signatory Requirement

A. Signature Requirements. All permit applications, except those submitted for Class II wells for a UIC discharge (see paragraph B) shall be signed as follows:

(1) For a corporation, by a principal executive officer of at least the level of vice president;

(2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

(3) For a municipality, state, federal or other public agency, by either a principal executive officer or ranking elected official.

B. Reports. All reports required by permits, other information requested by the Department and all permit applications submitted for Class II wells under N.J.A.C. 7:14A-5.8 shall be signed by a person described in paragraph A of this section or by a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph A of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as a position of plant

manager, operator of a well or well field, superintendent or person of equivalent responsibility; and

(3) The written authorization is submitted to the Department.

C. Changes to Authorization. If an authorization under paragraph B of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B of this section shall be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification (N.J.A.C. 7:14A-2.4(d)). Any person signing any document under paragraph A or B of this section shall make the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

E. False Statements. Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under the State Act shall upon conviction, be subject to a fine of not more than $10,000.00 or by imprisonment for not more than 6 months or by both.

13. Reporting Changes and Violations

A. Planned Changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. The permittee shall comply with N.J.A.C. 7:14A-12.1 et seq. which requires approval for building, installing, modifying, or operating treatment works. (NOTE: Sewer Extensions require such an approval. A connection of a single building through which less than 1000 gpd flows by gravity through a single lateral is exempt from the requirement to obtain the approval of this Department.). Construction of a sewer extension without this Department's approval will be a violation of this permit.

B. Anticipated Noncompliance. The permittee shall give reasonable advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

14. Reporting Noncompliance

A. The permittee shall report any noncompliance which may endanger health or the environment. The permittee shall provide the Department with the following information:

(1) A description of the discharge;

(2) Steps being taken to determine the cause of noncompliance;

(3) Steps being taken to reduce and eliminate the noncomplying discharge;

(4) The period of noncompliance, including exact dates and times. If the noncompliance has not been corrected, the anticipated time when the discharge will return to compliance;

(5) The cause of the noncompliance; and

(6) Steps being taken to reduce, eliminate, and prevent reoccurence of the noncomplying discharge.

B. The permittee shall orally provide the information in paragraphs A.(1) through (3) to the DEP Hotline (609) 292-7172 within 2 hours from the time the permittee becomes aware of the circumstances.

C. The permittee shall orally provide the information in paragraphs A.(4) through (5) to the DEP Hotline within 24 hours of the time the permittee becomes aware of the circumstances.

D. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the information in A.(1) through (6).

E. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs 11.J, 11.K, 13.A, and 14.A through D at the time monitoring reports are submitted. The reports shall contain the information required in the written submission listed in paragraph 14.D.

F. The following shall be reported to the Department in accordance with paragraphs 14.A through D:

(1) In the case of any discharge subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Federal Act or under Section 6 of the State Act the information required by paragraphs 14.A(1) through (3) regarding a violation of such standard shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(2) In the case of other discharges which could constitute a threat to human health, welfare, or the environment, including but not limited to, discharge of pollutants designated under Section 311 of the Federal Act, under Section 6 of the State Act, under the "Spill Compensation and Control Act", N.J.S.A. 58:10-23.11 et seq., or under the "Safe Drinking Water Act", N.J.S.A. 58:12A-1 et seq., the information required by paragraph 14.A(1) through (3) shall be provided to the Department within 2 hours from the time the permittee becomes aware of the circumstances. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances. Where the information is provided orally, a written submission covering these points must be provided within five working days of the time the permittee becomes aware of the circumstances covered by this paragraph.

(3) The information required in paragraphs 14.A(1) through (3) shall be provided to the Department within 2 hours where a discharge described under paragraphs 14.F(1) or (2) is located upstream of a potable water intake or well field. The information required by paragraphs 14.A(4) through (6) shall be provided to the Department within 24 hours. If this information is provided orally, a written submission covering these points must be provided within five days of the time the permittee becomes aware of the discharge.

(4) Any bypass which violates any effluent limitations in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable. (See Section 15.)

(5) Any upset which violates any effluent limitation in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable. (See Section 16.)

(6) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit shall be reported within 24 hours unless paragraphs 14.F(1) through (3) are applicable (See N.J.A.C. 7:14A-3.13(a)7.).

15. Bypass

A. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs B. and C. of this section.

B. Notice

(1) Anticipated Bypass. If the permittee knows in advance of the need for a bypass, he shall submit prior notice, if possible, at least thirty (30) days before the date of the bypass.

(2) Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph 14.F.(4).

C. Prohibition of Bypass

(1) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph B of this section.

(2) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph C.(1) of this section.

16. Upset

A. Effect of An Upset. An upset may constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B. of this section are met. Where no determination was made during administrative review of claims that noncompliance was caused by upset, and there has been no Departmental action for noncompliance, the lack of such determination is final administrative action subject to judicial review.

B. Conditions Necessary for A Demonstration of Upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in paragraph 14.F.(5); and

(4) The permittee complied with any remedial measures required under Section 4 above.

C. Burden of Proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

17. Emergency Plan (DSW and DGW permits only)

A. The permittee shall develop, submit, and implement an Emergency Plan report prepared in accordance with N.J.A.C 7:14A-3.12(b) unless exempted pursuant to N.J.A.C. 7:14A-3.12(e). If not previously submitted to and approved by NJDEP, the Emergency Plan (or a request for exemption) must be submitted within six (6) months of the effective date of the permit unless otherwise required by N.J.A.C. 7:14A-3.12(a).

B. Liability

(1) Submission of an Emergency Plan pursuant to this section shall not exempt a permittee from liability for violations arising from an emergency situation. A permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation. Such actions shall not be limited by the emergency operating plan and the manual of procedures.

(2) Exemption from development of an Emergency Plan under this section does not exempt the permittee from liability for violations arising from an emergency situation. Such permittee shall take all necessary actions to mitigate the damage to the waters of the State arising from an emergency situation.

C. Violations

Failure to submit an emergency plan in compliance with paragraph A. of this section and failure to implement the emergency plan shall each constitute a violation of this permit.

18. Residuals Management

A. Collected grit and screenings, scums, sand bed sands, slurries, and sludges, and all other solids from the treatment process shall be disposed of in such a manner as to prevent such materials from entering the ground and/or surface waters of the state except in accordance with a NJPDES permit. If for any reason such materials are placed in the water or on the lands where they may cause pollutants to enter the ground and/or surface waters of the State, the following information shall be reported to the Division of Water Resources Enforcement Element together with the monitoring data required in Part I, Section 11.I.:

(1) Dates of occurrence;

(2) A description of the noncomplying discharge (nature and volume);

(3) Cause of noncompliance;

(4) Steps taken to reduce and eliminate the noncomplying discharge; and

(5) Steps taken to prevent recurrence of the condition of noncompliance.

B. If the chosen sludge management method is land application, the permittee must make provisions for storage, or some other approved management strategy, for those periods when land application is prohibited, including but not limited to winter months, or when the ground is frozen or saturated with water. The permittee shall not be permitted to store sludge on-site beyond the capacity of the structural treatment and storage componenets of the treatment facility, except in accordance with a NJPDES Emergency On-site storage Permit. Nor shall, the permittee be permitted to store sludge on-site in any manner which is not in accordance with Solid Waste Management Rules, N.J.A.C. 7:26-1 et seq. Any violations must be reported by the permittee to the Division of Water Resources Enforcement Element within 24 hours.

C. The permittee shall comply with the Sludge Quality Assurance Regulations (N.J..A.C. 7:14-4.1 et seq.). Where quality information is required by these regulations analyses must reflect the quality of the final sludge product which the permittee must remove.

D. The permittee shall manage the sludge from this facility in compliance with the New Jersey Solid Waste Management Act N.J.S.A. 13:1E-1 et seq., which requires conformance with Statewide and District Sludge Management Plans, and prohibits the disposal of municipal sewage sludge in landfills. The permittee shall also comply with all applicable rules and regulations promulgated pursuant to the Federal Resource Conservation and Recovery Act governing the treatment, storage and disposal of hazardous waste.

E. The permittee shall at all times have on file with the Department proof of proper management at a facility duly licensed and permitted by the State to recieve sludge. To satisfy this requirement the permittee shall submit proof of ownership or contractual arrangement with a permitted facility for the composting, land application, thermal reduction, or other approved method of ultimate sludge management.

Where such permitted sludge management does not extend the full term of this permit, the permittee shall submit similar proof of new permitted management arrangements which shall become effective no later than the expiration date of previous arrangements. All such proofs of ultimate management must be submitted to the Municipal Waste Management in duplicate to:

Chief
Bureau of Municipal Waste Management
CN-029
Trenton, N.J. 08625
ATTN: Residuals Management Section

F. By issuance of this permit the Department hereby gives the permittee notice that the permittee is bound by the New Jersey Pollutant Discharge Elimination System regulations regarding proper sludge management (Section 25 (a)13.).

G. The permittee shall comply with the provisions concerning management of sludge in the Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, (N.J.S.A.

58:11A-1 et seq.), The New Jersey Water Pollution Control Act, (N.J.S.A. 58:10A-1 et seq.) and the Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.).

H. The permittee shall conform with the requirements under Section 405 of the Federal Act governing the management of sewage sludge from publicly owned treatment works and with Sections 4 and 6 of the State Act.

19. Discharge Permitted

The permittee shall discharge to surface waters, land or ground waters of the State, directly or indirectly, only as authorized herein and consistent with the terms and conditions of this permit.

20. Operation Restrictions

The operation of a waste treatment or disposal facility shall at no time create: (1) a direct discharge to surface waters of the State, except as authorized by NJDEP; (2) a persistent standing or ponded condition for water or waste on the permittee's property except as specifically authorized by this permit, or (3) any standing or ponded condition for water or waste on adjacent properties unless these activities are specifically included within the permit.

21. Oil and Hazardous Substance Liability

The imposition of responsibilities upon, or the institution of any legal action against the permittee under Section 311 of the Federal Act shall be in conformance with regulations promulgated pursuant to Section 311 of the Federal Act governing the applicability of Section 311 to discharges from facilities with NPDES permits.

22. Reopener Clause for Toxic Effluent Limitations

Notwithstanding any other condition of this permit, if any applicable toxic effluent standards, limitation or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Federal Clear Water Act or Sections 4 or 6 of the State Act for a toxic pollutant and that effluent standard, limitation, or prohibition is more stringent than any limitation on the pollutant in the permit (or controls a pollutant not limited in the permit), this permit shall be promptly modified or revoked and reissued to conform to that effluent standard, limitation or prohibition.

23. Availability of Information

A. NJPDES permits, effluent data, and information required by NJPDES application forms provided by the Regional Administrator or Director (including information submitted on the forms themselves and any attachments used to supply information required by the forms) shall be available for public inspection at the offices of the Director.

B. In addition to the information set forth in paragraph A., any other information submitted to EPA and/or the Department in accordance with the conditions of this permit shall be made available to the public without further notice unless a claim of business confidentiality is asserted at the time of submission in accordance with the procedures in 40 CFR Part 2 (Public Information)

and/or Subchapter 11 of the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System."

C. If a claim of confidentiality is made for information other than that enumerated in paragraph A., the information shall be treated by the Department in accordance with the procedures in N.J.A.C. 7:14A-11.1 et seq. Only information determined to be confidential under those procedures shall not be made available by NJDEP for public inspection.

24. Effective Date of Permit

A. This permit shall become effective in its entirety on the date indicated (Effective Date) on the first page of this permit unless a request for an adjudicatory hearing is granted pursuant to the provisions of N.J.A.C. 7:14A-8.11 et seq.

B. For purposes of judicial review, final agency action on a permit does not occur unless and until a party has exhausted its administrative remedies under N.J.A.C. 7:14A-8.9 et seq. Any party which neglects or fails to seek such review thereby waives its opportunity to exhaust available agency remedies.

25. Transfer of Permit

A. This permit is not transferable to any person except after notice to the Department. The Department may require modification, revocation, or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate Act. (See N.J.A.C. 7:14A-2.12; in some cases, modification or revocation and reissuance is mandatory).

B. Transfer by Modification. Except as provided in paragraph (C) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under Section 2.12(c)1.ii.) or a minor modification made (under Section 2.14(a)4. of the NJPDES Regulations), to identify the new permittee and incorporate such other requirements as may be necessary under the State and Federal Acts.

C. Automatic Transfers. As an alternative to transfers under paragraph (B) of this section, any NJPDES permit, except a UIC permit for a well injecting hazardous waste, may be automatically transferred to a new permittee if:

(1) The current permittee notified the Department in writing by certified mail of the proposed transfer as follows:

a. Where production levels, products produced, rates of discharge, and wastewater characteristics will remain unchanged, the following information shall be submitted at least 90 days prior to a proposed transfer date:

(1) Name and address of current facility;

(2) Name and address of new owners;

(3) NJPDES permit number;

(4) Names of the new principal persons responsible;

(5) Names of persons upon whom legal process can be served; and

(6) A notarized statement signed by the new principal officer stating that he has read the NJPDES permit and agrees to abide by all the conditions of the permit and that the production levels, products produced, rates of discharge, and wastewater characteristics will remain unchanged.

b. Where there will be a change in production levels, products produced, rates of discharge, or wastewater characteristics, the information required in paragraph 25.C(1)(a)above shall be submitted at least 180 days prior to a proposed transfer date.

(2) The current permittee shall include in the notice of proposed transfer a written agreement between the existing and new permittee which includes a specific date for transfer of permit responsibility, coverage, and liability between the parties. In the case of a UIC permit, the notice shall demonstrate that the financial responsibility requirements of Section 5.10(a)7. of the NJPDES Regulations will be met by the new permittee;

(3) The Department does not notify the existing permittee and the proposed new permittee, within thirty (30) days of receipt of notice of proposed transfer, of an intent to modify, revoke or revoke and reissue the permit or, for a discharge to surface water (DSW), require a DAC. A modification under this paragraph may also be a minor modification under Section 2.14 of the NJPDES Regulations. If such notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 25.C(2) of this section; and

(4) Whenever the regulated discharge has ceased prior to the proposed permit transfer, any compliance schedule shall not be automatically reinstated but shall be subject to revision or complete withdrawal if circumstances leading to its imposition have changed.

26. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

27. Stay of Conditions, N.J.A.C. 7:14-8.10

A request for an adjudicatory hearing shall not automatically result in a stay of the conditions of this permit.

28. Definitions

A. Unless otherwise stated, all terms shall be as defined in the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System", N.J.A.C. 7:14A-1 et seq.

(1) "Aliquot" means a sample of specified volume used to make up a total composite sample.

(2) "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

(3) "Composite" means a combination of individual (or continuously taken) samples (aliquots) of at least 100 milliliters, collected at periodic intervals over the entire discharge day. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For a continuous discharge, a minimum of 24

aliquots (at hourly intervals) shall be collected and combined to constitute a 24-hour composite sample. For intermittent discharges of more than 4 hours duration, aliquots shall be taken at a minimum of 30-minute intervals. For intermittent discharges of less than 4 hours duration, aliquots shall be taken at a minimum of 15-minute intervals.

(4) "EDP" means Effective Date of Permit.

(5) "Grab" means an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes.

(6) "Monthly" means one day each month (the same day each month) and a normal operating day (e.g., the 2nd Tuesday of each month).

(7) "Multiple Grab Composite" - means a combination of individual samples (aliquots) collected at a specified frequency over a specified time period. Each aliquot must be collected in a glass vial with septum cap, filled to the top leaving no air bubbles, and iced until delivered for analysis. Each aliquot shall be analyzed individually. The recorded value will be flow proportioned average of the individual analyses for the specific time period.

(8) "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

(9) "Weekly" means every seventh day (the same day each week) and a normal operating day.

29. Annual Permit Fee, N.J.A.C. 7:14A-1.8

The permittee shall pay the annual NJPDES permit fee which has been assessed by the Department.

WQM12-A/SWM:fmr

Revised 1/24/86

Central File
NJPDES - SW
City of Newark - DPW
NJ0024724

Let's protect our earth

State of New Jersey

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**DIVISION OF WATER RESOURCES**
**METRO BUREAU OF REGIONAL ENFORCEMENT**
**2 BABCOCK PLACE**
**WEST ORANGE, NEW JERSEY 07052**

GEORGE G. McCANN, P.E.
DIRECTOR

October 26, 1988

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mayor and Council
City of Newark
926 Broad Street
Newark, NJ 07102

Re: Compliance Evaluation Inspection
City of Newark - Department of Public Works
NJPDES No. NJ0024724
Newark/Essex County

Gentlemen:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on October 4, 1988. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiencies:

1) Untreated sewage continues to be discharged from the Waverly Overflow (Discharge 029) to Newark Bay during dry weather.

2) Quarterly regulator structure inspection reports have not been submitted in violation of Part IV-A Section 2A(1) of NJPDES Permit No. NJ0024724.

3) Newark has not submitted the engineering report and the plans and specifications to minimize the discharge of pollutants from Discharge Nos. 001-029 required by Part IV-A Section 2A(2,3) of the Permit.

4) Semi-annuai compliance action progress reports have not been submitted in violation of Part IV-A Section 2A(7) of the Permit.

The deficiencies noted above were brought to your attention following the inspection of March 9, 1988 and have not, as of this inspection, been corrected.

The deficiencies noted above are significant violations of the terms and conditions of your NJPDES permit and/or the Water Pollution Control Act Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch, within thirty (30) calendar days of the date of this correspondence.

You are advised that the New Jersey Water Pollution Control Act (N.J.A.C. 7:14A-1 et seq.) provides for substantial monetary and criminal penalties in cases of permit violations.

Please direct all correspondence and inquiries to Janet Budesa Carroll, the Environmental Specialist responsible for this case, who can be reached at (201) 669-3900 or by letter through this Division.

Failure to fully comply with the above will result in the initiation of enforcement action by this Department. This shall in no way be construed, however, to indicate any exemption on your part from possible penalties for violations indicated by the Compliance Evaluation Inspection, as stated above.

Very truly yours,

Thomas B. Harrington

Thomas B. Harrington
Supervisor, Compliance
Monitoring Unit
Metro Bureau of
Regional Enforcement

E120:G26

C: Dr. Richard A. Baker, USEPA
Mr. Paul Molinari, USEPA
Mr. Alvin Zach, P.E. City Engineer
Mr. Robert Grimm, H.O.

bc: Zaheer Hussain, Enforcement
Robert Candido, Criminal Justice
Central File

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

# DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0024724 NO. OF DISCHARGES 001-030 CLASS MAJ/MUN

DISCHARGER City of Newark Department of Public Works

OWNER City of Newark Department of Public Works

MUNICIPALITY Newark COUNTY Essex WATERSHED CODE P

LOCATION —

RECEIVING WATERS Passaic River; Newark Bay
Peddie Ditch; Peripheral Ditch STREAM CLASS SE-3, SE-2

LICENSED OPERATOR & PLANT CLASS Alvin Zach, Dir. of Engineering (C-4)

TRAINEE/ASSISTANT — OTHER INFO. (201) 733-8118
-8412

DEFICIENCIES OR COMMENTS Total of 11 outfalls inspected

Deficiencies: see attached letter

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR ~~Janet Budesa Carroll~~ Helen V. Wright TITLE ~~Senior Environmental Specialist~~ Env. Compliance Investigator I

INFORMATION FURNISHED BY (Name) Mr. Paul Butler

(Title) Sr. Env. Specialist (Organization) City of Newark

DATE OF INSPECTION October 4, 1988

On October 4, 1988, a Compliance Evaluation Inspection of the City of Newark's combined sewer overflows was conducted. Present during the inspection were the following:

Mr. Paul Butler - Senior Environmental Specialist, Newark Engineering
Mr. Alfred Freda - Deputy Chief, Newark Fire Department
Ms. Helen V. Wright - NJDEP, Metro Enforcement
Ms. Janet Budesa Carroll - NJDEP, Metro Enforcement

The following is a summary of the observations made during the inspection (including observations made during a Newark Fire Department Boat survey):

| Discharge No. and Location | Receiving Water | Observations |
|---|---|---|
| 017 Polk Street | Passaic River | Outfall 1/3 covered during low tide - no apparent discharge |
| 018 Freeman Street | Passaic River | Slight clear water discharge from outfall |
| 019 Brown Street | Passaic River | Outfall 1/2 covered during low tide - no apparent discharge |
| 020 Lockwood Street | Passaic River | Outfall under water during low tide |
| 021 Blanchard Street | Passaic River | Outfall under water during low tide |
| 022 Roanoke Avenue | Passaic River | Outfall 3/4 covered during low tide |
| 023 Adams Overflow | Newark Bay | No discharge at inspection |
| 025 Peddie Overflow | Newark Bay | Peddie Ditch water discharging to PSVC interceptor |
| 027, 029 Waverly Overflows | Newark Bay | Untreated sewage discharge from overflow into ditch |
| 030 Avenue A | Peripheral Ditch | Clear water discharge from outfall |

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
METRO BUREAU OF REGIONAL ENFORCEMENT
2 BABCOCK PLACE
WEST ORANGE, NEW JERSEY 07052

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

April 19, 1989

Mayor and Council
City of Newark
City Hall
926 Broad Street
Newark, NJ 07102

Re: Compliance Evaluation Inspection
City of Newark - Department of Public Works
NJPDES No. NJ 0024724
Newark/Essex County

Gentlemen:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on March 29, 1989. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiencies:

1) Untreated sewage continues to be discharged from the Waverly Overflow (Discharge 029) to Newark Bay during dry weather. A Notice of Violation (NOV) was issued on March 1, 1989 for this discharge.

2) Quarterly regulator structure reports still have not been submitted in violation of Part IV-A Section 2A(1) of the permit.

3) Newark has not submitted the engineering report and the plans and specifications to minimize the discharge of pollutants from Discharge Nos. 001-029.

The deficiencies noted above were brought to your attention following the inspections of March 9, 1988 and October 4, 1988 and have not, as of this inspection, been corrected.

The deficiencies noted above are significant violations of the terms and conditions of your NJPDES permit and/or the Water Pollution Control Act Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch within thirty (30) calendar days of the date of this correspondence.

You are advised that the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) provides for substantial monetary and criminal penalties in cases of permit violations.

Please direct all correspondence and inquiries to Janet Budesa Carroll, the Environmental Specialist responsible for this case, who can be reached at (201) 669-3900, or by letter through this Division.

Failure to fully comply with the above will result in the initiation of enforcement action by this Department. This shall in no way be construed, however, to indicate any exemption on your part from possible penalties for violations indicated by the Compliance Evaluation Inspection, as stated above.

Very truly yours,

Thomas B. Harrington
Supervisor, Surface
Water Unit
Metro Bureau of
Regional Enforcement

E120:G25

c: Dr. Richard A. Baker, USEPA
Mr. Paul Molinari, USEPA
Mr. Alvin Zach, P.E., City Engineer
Mr. Robert Grimm, H.O.

Enclosure

bc: Zaheer Hussain, Enforcement
James Lyko, Criminal Justice
Central File

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

# DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0024724 NO. OF DISCHARGES 001-030 CLASS MAJ/MUN

DISCHARGER City of Newark Department of Public Works

OWNER City of Newark Department of Public Works

MUNICIPALITY Newark COUNTY Essex WATERSHED CODE P

LOCATION —

RECEIVING WATERS Passaic River, Second River, Newark Bay, Peripheral Ditch STREAM CLASS SE-3, SE-2

LICENSED OPERATOR & PLANT CLASS Alvin Zach, Director of Engineering (C-4)

TRAINEE/ASSISTANT — OTHER INFO. (201) 733-7944

DEFICIENCIES OR COMMENTS See attached letter

Total of 5 outfalls inspected

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR Janet Bridesa Carroll TITLE Senior Environmental Specialist

INFORMATION FURNISHED BY (Name) Paul Butler

(Title) Senior Environmental Specialist (Organization) City of Newark

DATE OF INSPECTION March 29, 1989

On March 29, 1989, a Compliance Evaluation Inspection of the City of Newark's combined sewer overflows was conducted. Present during the inspection were the following:

Mr. Paul Butler - Senior Environmental Specialist
Newark Engineering

Ms. Janet Budesa Carroll - NJDEP, Metro Enforcement

The following is a summary of the observations made during the inspection.

| Discharge No. and Location | Receiving Water | Observations |
|---|---|---|
| 023 Adams Overflow | Newark Bay | No discharges at inspection |
| 025 Peddie Overflow | Newark Bay | Peddie Ditch water discharging to PVSC interceptor |
| 027, 029 Waverly Overflows | Newark Bay | Untreated sewage discharge overflow into ditch |
| 030 Avenue A | Peripheral Ditch | Clear water discharges from outfall |

12/88

# State of New Jersey
## DEPARTMENT OF ENVIRONMENTAL PROTECTION
### DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

GEORGE G. McCANN, P.E.
DIRECTOR

## NOTICE OF VIOLATION

DATE March 1, 1989

Metro — ENFORCEMENT ELEMENT
BUREAU OF REGIONAL ENFORCEMENT
TELEPHONE NO. 201 669 3900

PCWS # _____ TYPE SUPPLY _____ NJPDES # City of Newark DPW NJ0024724 TYPE DISCH SW RCRA# _____
NAME OF FACILITY City of Newark - DPW
LOCATION OF FACILITY City Hall MUN. Newark COUNTY Essex
FACILITY REPRESENTATIVE AND TITLE Paul Duffer Engineering Office

You are hereby NOTIFIED that during an inspection of your facility on the above date, the following violations were noted and remedial actions are required:

DESCRIPTION OF VIOLATION/REMEDIAL ACTION: Discharge from Waverly Overflow during dry weather

Take dry weather discharge from Waverly Overflow

The above noted violations are in violation of the following N.J. Statutes/Regulation, and will be recorded as part of the permanent enforcement history of your facility:

- ☒ New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Safe Drinking Water Act (N.J.S.A. 58:12A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Water Supply Management Act (N.J.S.A. 58:1A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Underground Storage of Hazardous Substance Act (N.J.S.A. 58:10A-21 et seq.) and appropriate Regulations.

Remedial action to correct the violations must be initiated immediately. Within five (5) calendar days of receipt of this Notice of Violation, you shall telephone the investigator issuing this notice at the above number with the corrective measures you have initiated to attain compliance. The issuance of this document serves as notice to you that the Department has determined that a violation has occurred and does not preclude the State of New Jersey or any of its agencies, from initiation of further administrative or judicial enforcement action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are subject to penalties of up to $25,000 per day.

Further enforcement action, which will require a written response, may be issued on these violation(s) and any additional violations found during the inspection.

Investigator, Division of Water Resources, DEP

Violation received by
refused to sign 3/1/89 GBC

White - Original  Canary - Bureau File  Pink - Criminal Justice  Goldenrod - Central File

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State of New Jersey

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**DIVISION OF WATER RESOURCES**
**METRO BUREAU OF REGIONAL ENFORCEMENT**
**2 BABCOCK PLACE**
**WEST ORANGE, NEW JERSEY 07052**

Eric J. Evenson
Acting Director

November 1, 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mayor and Council
City of Newark
City Hall
Newark, New Jersey 07102

Re: Compliance Evaluation Inspection
City of Newark - Department of Public Works (Newark)
NJPDES No. NJ0024724
Newark/Essex County

Gentlemen:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on October 25, 1989. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiencies:

1) Untreated sewage was being discharged from the Avenue A Overflow (Discharge 030) during dry weather conditions.

2) Quarterly regulator structure reports still have not been submitted in violation of Part IV-A Section 2A(1) of the Permit.

3) Newark has not submitted the engineering report and the plans and specifications to minimize the discharge of pollutants from Discharge Nos. 001 - 029.

A Notice of Violation (NOV) was issued on October 25, 1989 for Deficiency No. 1. above. Newark addressed the NOV and ceased the Avenue A overflow on

89 NOV -9 PM 2:55



BAA000075

October 25, 1989.

Deficiencies No. 2 and No. 3 were brought to your attention following numerous previous inspections and have not, as of this inspection, been corrected.

Deficiencies No. 2 and No. 3 noted above are significant violations of the terms and conditions of your NJPDES permit and/or the Water Pollution Control Act Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch, within thirty (30) calendar days of the date of this correspondence.

You are advised that the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) provides for substantial monetary and criminal penalties in cases of permit violations.

Please direct all correspondence and inquiries to Janet Budesa Carroll, the Senior Environmental Specialist responsible for this case, who can be reached at (201) 669-3900 or by letter through this Division.

Failure to fully comply with the above will result in the initiation of enforcement action by this Department. This shall in no way be construed, however, to indicate any exemption on your part from possible penalties for violations indicated by the Compliance Evaluation Inspection, as stated above.

Very truly yours,

Thomas B. Harrington
Supervisor, Surface Water Section
Metro Bureau of
Regional Enforcement

E120

cc: Chief, Permits Adm., USEPA
Patrick Durack, USEPA
Dr. Trout, H.O.

Enclosure

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

# DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0024724 NO. OF DISCHARGES 001-030 CLASS MAJ/MUN

DISCHARGER City of Newark Department of Public Works

OWNER City of Newark Department of Public Works

MUNICIPALITY Newark COUNTY Essex WATERSHED CODE P

LOCATION —

RECEIVING WATERS Passaic River, Second River, Newark Bay, Peripheral Ditch STREAM CLASS SE-2, SE-3

LICENSED OPERATOR & PLANT CLASS Alvin Zach, Director of Engineering, CC-4,

TRAINEE/ASSISTANT — OTHER INFO. (201) 733-4300

DEFICIENCIES OR COMMENTS See attached letter

Total of 6 outfalls inspected.

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR ~~Janet Rudesa Carroll~~ Helen V. Wright TITLE ~~Senior Environmental Specialist~~ Env Compliance Investigator I

INFORMATION FURNISHED BY (Name) Andrea Hall, Mike Lemongello

(Title) Engineer, Assistant (Organization) City of Newark DPW

DATE OF INSPECTION Oct Dec 25, 1989

On October 25, 1989, a Compliance Evaluation Inspection of the City of Newark's combined sewer overflows was conducted. Present during the inspection were the following:

Ms. Andrea Hall --- Engineer, City of Newark
Mr. Mike Lemongello --- Assistant, City of Newark DPW
Mr. Paul Butler --- Engineer, City of Newark
Ms. Janet Budesa Carroll --- Metro Enforcement, NJDEP
Ms. Helen V. Wright --- Metro Enforcement, NJDEP

The following is a summary of the observations made during the inspection.

| Discharge No. and Location | Receiving Water | Observations |
|---|---|---|
| 022 Roanoke Avenue | Passaic River | Slight clear water discharge to river. |
| 025 Peddie Overflow | Newark Bay | Peddie Ditch water discharging to PVSC interceptor. |
| 026 Queen Overflow | Newark Bay | Overflow ditch removed. |
| 027, 029 Waverly Overflows | Newark Bay | Slight discharge from overflow into ditch. |
| 030 Avenue A | Peripheral Ditch | Rt. 21 and Emmet Street regulator discharging to Avenue A overflow during dry weather conditions. |

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Central File

State of New Jersey

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**DIVISION OF WATER RESOURCES**
**METRO BUREAU OF REGIONAL ENFORCEMENT**
**2 BABCOCK PLACE**
**WEST ORANGE, NEW JERSEY 07052**

Eric J. Evenson
Acting Director

November 1, 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mayor and Council
City of Newark
City Hall
Newark, New Jersey 07102

Re: Compliance Evaluation Inspection
City of Newark - Department of Public Works (Newark)
NJPDES No. NJ0024724
Newark/Essex County

Gentlemen:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Division on October 25, 1989. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiencies:

1) Untreated sewage was being discharged from the Avenue A Overflow (Discharge 030) during dry weather conditions.

2) Quarterly regulator structure reports still have not been submitted in violation of Part IV-A Section 2A(1) of the Permit.

3) Newark has not submitted the engineering report and the plans and specifications to minimize the discharge of pollutants from Discharge Nos. 001 - 029.

A Notice of Violation (NOV) was issued on October 25, 1989 for Deficiency No. 1. above. Newark addressed the NOV and ceased the Avenue A overflow on

October 25, 1989.

Deficiencies No. 2 and No. 3 were brought to your attention following numerous previous inspections and have not, as of this inspection, been corrected.

Deficiencies No. 2 and No. 3 noted above are significant violations of the terms and conditions of your NJPDES permit and/or the Water Pollution Control Act Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details of remedial measures to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch, within thirty (30) calendar days of the date of this correspondence.

You are advised that the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) provides for substantial monetary and criminal penalties in cases of permit violations.

Please direct all correspondence and inquiries to Janet Budesa Carroll, the Senior Environmental Specialist responsible for this case, who can be reached at (201) 669-3900 or by letter through this Division.

Failure to fully comply with the above will result in the initiation of enforcement action by this Department. This shall in no way be construed, however, to indicate any exemption on your part from possible penalties for violations indicated by the Compliance Evaluation Inspection, as stated above.

Very truly yours,

Thomas B. Harrington
Supervisor, Surface Water Section
Metro Bureau of
Regional Enforcement

E120

cc: Chief, Permits Adm., USEPA
Patrick Durack, USEPA
Dr. Trout, H.O.

Enclosure

bc: Zaheer Hussain
Central File
Criminal Justice

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

# DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0024724 NO. OF DISCHARGES 001-030 CLASS MAJ/MUN

DISCHARGER City of Newark Department of Public Works

OWNER City of Newark Department of Public Works

MUNICIPALITY Newark COUNTY Essex WATERSHED CODE P

LOCATION —

RECEIVING WATERS Passaic River, Second River, Newark Bay, Peripheral Ditch STREAM CLASS SE-2, SE-3

LICENSED OPERATOR & PLANT CLASS Alvin Zach, Director of Engineering (C-1)

TRAINEE/ASSISTANT — OTHER INFO. (201) 733-4300

DEFICIENCIES OR COMMENTS See attached letter

Total of 6 outfalls inspected.

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR ~~Janet Rudesa Carroll~~ Helen V. Wright TITLE ~~Senior Environmental Specialist~~ Env. Compliance Investigator I

INFORMATION FURNISHED BY (Name) Andrea Hall, Mike Lemongelle

(Title) Engineer, Assistant (Organization) City of Newark DPW

DATE OF INSPECTION October 25, 1989

On October 25, 1989, a Compliance Evaluation Inspection of the City of Newark's combined sewer overflows was conducted. Present during the inspection were the following:

Ms. Andrea Hall --- Engineer, City of Newark
Mr. Mike Lemongello --- Assistant, City of Newark DPW
Mr. Paul Butler --- Engineer, City of Newark
Ms. Janet Budesa Carroll --- Metro Enforcement, NJDEP
Ms. Helen V. Wright --- Metro Enforcement, NJDEP

The following is a summary of the observations made during the inspection.

| Discharge No. and Location | Receiving Water | Observations |
|---|---|---|
| 022 Roanoke Avenue | Passaic River | Slight clear water discharge to river. |
| 025 Peddie Overflow | Newark Bay | Peddie Ditch water discharging to PVSC interceptor. |
| 026 Queen Overflow | Newark Bay | Overflow ditch removed. |
| 027, 029 Waverly Overflows | Newark Bay | Slight discharge from overflow into ditch. |
| 030 Avenue A | Peripheral Ditch | Rt. 21 and Emmet Street regulator discharging to Avenue A overflow during dry weather conditions. |

DWR-047
12/88

# State of New Jersey
## DEPARTMENT OF ENVIRONMENTAL PROTECTION
### DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

GEORGE G. McCANN, P.E.
DIRECTOR

## NOTICE OF VIOLATION

DATE _____

_____ ENFORCEMENT ELEMENT
BUREAU OF REGIONAL ENFORCEMENT
TELEPHONE NO. _____

PCWS # _____ TYPE SUPPLY _____ NJPDES # _____ TYPE DISCH _____ RCRA# _____
NAME OF FACILITY _____
LOCATION OF FACILITY _____ MUN. _____ COUNTY _____
FACILITY REPRESENTATIVE AND TITLE _____

You are hereby NOTIFIED that during an inspection of your facility on the above date, the following violations were noted and remedial actions are required:

DESCRIPTION OF VIOLATION/REMEDIAL ACTION: _____

The above noted violations are in violation of the following N.J. Statutes/Regulation, and will be recorded as part of the permanent enforcement history of your facility:

- ☐ New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Safe Drinking Water Act (N.J.S.A. 58:12A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Water Supply Management Act (N.J.S.A. 58:1A-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.) and appropriate Regulations.
- ☐ New Jersey Underground Storage of Hazardous Substance Act (N.J.S.A. 58:10A-21 et seq.) and appropriate Regulations.

Remedial action to correct the violations must be initiated immediately. Within five (5) calendar days of receipt of this Notice of Violation, you shall telephone the investigator issuing this notice at the above number with the corrective measures you have initiated to attain compliance. The issuance of this document serves as notice to you that the Department has determined that a violation has occurred and does not preclude the State of New Jersey or any of its agencies, from initiation of further administrative or judicial enforcement action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are subject to penalties of up to $25,000 per day.

Further enforcement action, which will require a written response, may be issued on these violation(s) and any additional violations found during the inspection.

Violation received by

_____ _____

*Investigator, Division of Water Resources, DEP*

White - Original  Canary - Bureau File  Pink - Criminal Justice  Goldenrod - Central File

*New Jersey Is An Equal Opportunity Employer*

# White Chemical Corporation

**New Jersey**

EPA ID#: NJD980755623

**EPA REGION 2**

Congressional District(s): 10

Essex

NPL LISTING HISTORY
Proposed Date: 5/9/1991
Final Date: 9/25/1991

## Site Description

The White Chemical Corporation site is a 4.4-acre, inactive facility that formerly manufactured acid chlorides and flame retardant compounds. The site is located in a heavily populated and industrialized area of Newark, Essex County, New Jersey. The site consists of five major buildings and three smaller, facility support buildings. White Chemical Corporation (WCC) operated the facility from 1983 until July 1990 when it ceased most operations. During its operational years, WCC was issued numerous violations of the Resource Conservation and Recovery Act (RCRA) by the New Jersey Department of Environmental Protection (NJDEP). During an initial investigation of the site, EPA found over 10,000 55-gallon drums and other containers of hazardous substances precariously stacked or in other ways improperly stored throughout the site. Drums and other containers were found in various stages of deterioration, fuming or leaking their contents onto the soil. Other containers found on the site included 150 gas cylinders; 126 storage tanks, vats, and process reactors; hundreds of fiberpack drums; glass and plastic bottles; carboys; and boxes. In addition, an on-site laboratory was found to contain approximately 12,000 laboratory-size containers haphazardly stored on structurally unsound shelving, or stacked in piles on the floor.

Site Responsibility: This site is being addressed through Federal and State actions.

## Threat and Contaminants

Approximately 12,000 people are estimated to live and work within a one-quarter mile radius of the site. Potentially exposed populations included nearby residents, workers, trespassers, fire-fighting personnel and railway commuters. The predominant route of exposure was deemed inhalation for all of the exposed populations, and direct contact for trespassers or fire-fighting personnel. Initial site conditions could have resulted in a catastrophic chemical release, most likely consisting of a plume with hazardous concentrations of acid gases and toxic substances, posing a threat to residents, workers, and commuters in the area. Now that all chemicals in containers have been removed, the remaining site contamination is a potential threat to on-site construction workers and local residents.

## Cleanup Approach

The site is being addressed in four stages: an immediate action, interim remedial response, a long-term remedial response phase focusing on the cleanup of the site buildings and soils and a long-term response focusing on the site groundwater.

Response Action Status

Immediate/Emergency Action: A removal action to stabilize the site was initiated by NJDEP on May 15, 1990, under the New Jersey Spill Compensation and Control Act. However, in August 1990, after removing 1,000 drums, NJDEP requested that EPA take over the removal action at the site. EPA initiated its removal action in October 1990 and completed it in October 1992.

Interim Remedial Response (Surface Contamination): EPA signed a Record of Decision (ROD) on September 26, 1991 for the remedy of surface contamination, which included: tanks; drums; vats; laboratory-size containers and other vessels. Implementation of the remedy began on September 27, 1991. On May 11, 1992, three Potentially Responsible Parties complied with a Unilateral Administrative Order to perform certain elements of the surface contamination cleanup. On November 9, 1992, the Respondents mobilized on-site to conduct the remaining activities relating to the surface contamination cleanup. On April 3, 1993 the Respondents completed all cleanup activities for the surface contamination.

Buildings and Soils Long Term Remedial Response: In September 2000, EPA provided the City of Newark a



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redevelopment grant to identify potential users of the property after remediation is complete. EPA completed a Remedial Investigation of the site in April 2003 which focused on defining the nature and extent of contamination at the site. Samples collected include surface and subsurface soil, sump sediment, groundwater and building materials. Although significant remedial investigation work was performed, additional information regarding the groundwater is needed, therefore, a decision was made to address the groundwater in a separate remedial phase. On September 29, 2005, EPA signed a ROD which calls for the demolition and off-site disposal of site buildings, the removal of above-ground storage tanks, the excavation and off-site disposal of approximately 21,000 cubic yards of contaminated soils and deed restrictions.

The final phase of work will involve the investigation and remediation of groundwater.

Site Facts: In 1999, the EPA and the former site owner, AZS Corporation, together with four corporate affiliates, entered into a Consent Decree. This settlement recovers costs incurred and expected to be incurred to remediate the on-site contamination.

# Cleanup Progress

All cleanup activities associated with surface contamination have been completed. This included 7,787 drums of hazardous substances, 4,497 empty drums, contents of 191 tanks and vessels, 58 gas cylinders and 14,806 laboratory containers. In addition, all process piping associated with the process tanks (approximately 2,600 linear feet of metal piping, 590 linear feet of glass piping and 750 linear feet of polyvinyl chloride (PVC)) were flushed and decontaminated.

The demolition and off-site disposal of the buildings and above-ground storage tanks on site began in March 2006. Demolition of above-ground structures was completed in July 2006. Disposal of demolition debris was completed in Summer 2007. Design of the soil removal began in September 2006. The soil remedial action is scheduled to begin in Summer 2008. Preliminary field reconnaissance for the groundwater remedial investigation began in Fall 2007.

# Site Repositories

U.S. EPA Records Center, Region 2 290 Broadway, 18th Floor. New York, New York 10007-1866 Hours: Monday-Friday - 9 am to 5 pm

Newark Public Library 5 Washington Street Newark, N.J. 07102 Hours: Monday, Tuesday, Wednesday, Friday, and Saturday - 9 am - 5:30 pm; Thursday 9 am - 8:30 pm

Superfund Program
Proposed Plan

U.S. Environmental Protection Agency, Region 2

# White Chemical Corporation Site

**August 2005**

## EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives that the U.S. Environmental Protection Agency (EPA) considered to remediate contaminated soils, sump sediments, buildings and tanks at the White Chemical Corporation Superfund Site (Site) located in Newark, New Jersey and identifies EPA's preferred alternative with the rationale for this preference. The Preferred Alternative calls for the excavation, transportation and disposal of an estimated 21,185 cubic yards of contaminated soil. The soil that is highly contaminated would be treated off-site (if required) prior to land disposal. This Proposed Plan includes summaries of all cleanup alternatives for contaminated soil evaluated for use at this Site. This document is issued by EPA, the lead agency for Site activities, and the New Jersey Department of Environmental Protection (NJDEP), the support agency for this project. EPA, in consultation with NJDEP, will select a final soil remedy for the Site after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with NJDEP, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan. A final groundwater remedy will be addressed in a future Proposed Plan and Record of Decision.

EPA is issuing this Proposed Plan as part of its community relations program under section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). This Proposed Plan summarizes information that can be found in greater detail in the White Chemical Corporation Remedial Investigation and Feasibility Study (RI/FS) reports and other documents contained in the Administrative Record file for this Site. EPA and NJDEP encourage the public to review these documents to gain a more comprehensive understanding of the Site and Superfund activities that have been conducted at the Site.

Dates to remember:
**MARK YOUR CALENDAR**

**PUBLIC COMMENT PERIOD:**
**August 4 - September 2, 2005**
U.S. EPA will accept written comments on the Proposed Plan during the public comment period.

**PUBLIC MEETING: August 9, 2005**
U.S. EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at the **Newark City Hall Council Chambers, 920 Broad Street, Newark, NJ**

**For more information, see the Administrative Record at the following locations:**

U.S. EPA Records Center, Region II
290 Broadway, 18th Floor.
New York, New York 10007-1866
(212)-637-3261
*Hours: Monday-Friday - 9 am to 5 pm*

Newark Public Library
5 Washington Street
Newark, N.J. 07102
(973) 733-5412
Hours: Monday, Tuesday, Wednesday, Friday, and Saturday - 9 am - 5:30 pm; Thursday 9 am - 8:30 pm

## SITE HISTORY

The White Chemical Corporation (WCC) Site measures 4.4 acres, and is located at 660 Frelinghuysen Avenue (Block 3872, Lot 109), Newark, Essex County, NJ. Frelinghuysen Avenue is a major thoroughfare with significant residential, commercial, and industrial populations. The Site is located immediately east of two large manufacturing facilities: a leather company and a sportswear manufacturer. An airport-support services complex is currently located north of the Site. The eastern border of the Site is adjacent to Conrail and Amtrack

rail lines that serve as a major rail corridor in New Jersey. Weequahic Park (including Weequahic Lake and a golf course), a school, and several large housing complexes, high-rise senior citizen residences, and cemeteries, are located to the west, within 0.4 mile of the Site.

Major Site features include nine buildings, a former aboveground storage tank (AST) farm (tank farm), an underground tunnel, and a railroad spur. Five large buildings (Building Numbers 33, 34, 34A, 35 and 36), three smaller, facility-support buildings (Boiler Room, Pump House and Maintenance Shop), and a decontamination (decon) shed are located on the western portion of the property. The majority of these buildings are grouped around the former tank farm located near the center of the Site. The underground tunnel originates in the western portion of Building No. 34 and leads to the south. See Plate 1.

In September 1970, Central Services Corporation (CSC) purchased the property from the Union Carbide Corporation. It is believed that much of the present Site infrastructure, including sewer and utility conduits, and buildings, may date from the time of Union Carbide's ownership. CSC sold the property to the Lancaster Chemical Company, a division of the AZS Corporation, in August 1975.

The White Chemical Corporation (WCC) leased the Site in 1983 and moved its operations from Bayonne, NJ to Newark, NJ. WCC produced three primary groups of chemical products: acid chlorides, brominated organics (both aliphatic and aromatic), and mineral acids, most notably hydriodic acid. The finished products, mostly solids and powders, were generally formulated in small batches following customer specifications.

Beginning in 1989 and continuing through the present, the Site has been the subject of numerous inspections, site assessments, investigations, and removal actions. NJDEP conducted several inspections of the Site between June and September 1989 pursuant to the Resource Conservation and Recovery Act (RCRA). Based on these inspections, NJDEP issued several Notices of Violations for a variety of infractions including improper drum management, leaking drums, open containers, and inadequate aisle space. In October 1989, WCC initiated Chapter 11 bankruptcy proceedings. Between May and August 1990, NJDEP removed approximately 1,000 drums from the Site. On September 7, 1990, EPA performed a preliminary assessment of the WCC facility and found numerous air- and water-reactive substances in 55-gallon drums. Approximately 10,900 55- gallon drums of hazardous substances were precariously stacked or improperly stored throughout the Site. Drums and other containers were found in various stages of deterioration fuming and leaking their contents onto the soil. Numerous stains were observed on the soil. Other containers observed were 150 gas cylinders, 126 storage tanks, vats and process reactors, hundreds of fiberpack drums, glass and plastic bottles, and approximately 18,000 laboratory-type containers.

The on-site laboratory contained thousands of unsegregated laboratory chemicals in deteriorating conditions. These containers were haphazardly stored on structurally unsound shelving, or stacked in piles on the floor. EPA overpacked 11 fuming drums and secured them for future handling. In total, 4,200 empty drums were shipped off-site for disposal, and 6,700 drums were staged on-site for later characterization and disposal. In 1990, the EPA Technical Assistance Team reported that five extremely hazardous substances were present at the Site including: allyl alcohol; bromine; chlorine; red phosphorous; and, phosphorous trichloride.

In September 1990, EPA issued a Unilateral Administrative Order (UAO) barring WCC from continuing on-site operations and ordering evacuation of all personnel. In October 1990, the U.S. District Court for the District of New Jersey issued an order enforcing the UAO. In November 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) issued a health consultation that concluded that the Site posed an imminent and substantial health and safety threat to nearby residents and workers. A Public Health Advisory was issued by ATSDR in November 1990. Between 1990 and 1991, EPA removed several thousand drums and performed several assessments at the Site.

Based on the known contamination at the property, EPA proposed the Site for inclusion on the National Priorities List (NPL) on May 9, 1991, and the Site

was listed on September 25, 1991. The Operable Unit 1 (OU1) Record of Decision (ROD), issued on September 26, 1991, required appropriate security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and appropriate environmental monitoring.

activities on October 27, 1992 and completing them on March 1993. In total, the PRP group removed approximately 7,900 drums, the contents of more than 100 tanks, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, and 14 gas cylinders.

In 1996, the City of Newark acquired the Site through foreclosure after AZS failed to pay property taxes.

| RESPONSE ACTIONS | DESCRIPTION AND STATUS |
|---|---|
| • NJDEP Removal Action (May, 1990-August, 1990). | Approximately 1,000 drums were removed from the Site during a NJDEP removal action. Completed when NJDEP reached its project cost ceiling and requested EPA to take the lead on subsequent removal actions. |
| ROD 1 (September 1991)<br>• OU-1 | Implementation of security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site Storage tanks and process piping, and appropriate environmental monitoring. |
| • PRP Removal Action (1992) | EPA issued a UAO to implement the OU1 ROD which resulted in the removal of 7,900 drums, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, 14 gas cylinders, and draining and cleaning process tank piping and the contents of 100 tanks. The PRPs completed the removal action in March 1993. |
| ROD 2 (2005) (the subject of this Proposed Plan)<br>• OU-2 | Remediation of Site buildings, tanks, sump sediment and contaminated soils. Reduce the potential for exposure by direct contact or ingestion of unsaturated soils with contaminants above remediation goals. Reduce the potential for exposure through inhalation of vapors that may migrate from unsaturated soils. Reduce the potential for the further migration of contaminants from the unsaturated soils to the groundwater. |

In March, 1992, EPA issued a UAO to eleven potentially responsible parties (PRPs). The eleven PRPs included AZS, the landowner at the time, WCC, the operator of the Site, WCCs president, and eight generators. Three of the generator PRPs complied with the UAO, initiating the response

In 1998, the EPA Environmental Response Team (ERT) conducted a soil and building material investigation at the Site. Results of the sampling activities indicated the presence of heavy metals and polybrominated biphenyls (PBBs) in soil, sump sediment, and building material wipe samples. Semi-volatile organic compounds (SVOCs), heavy metals, and dioxin were also found in the soils and sediments, and asbestos was found in the on-site buildings.

## SITE CHARACTERISTICS

The OU2 remedial investigation (RI) field work was conducted from October 1998 through July 1999. The OU2 RI was completed in April 2003 and focused on defining the nature and extent of contamination at the Site. Samples collected include surface and subsurface soil, sump sediment, groundwater and building materials.

**Soils**

The majority of the soils contamination at the Site is the result of improper staging, control and maintenance of process chemicals contained in drums, laboratory chemical containers, storage tanks and process tanks. Although soil contamination is present throughout the Site, the majority is located within the top two feet of soil. The OU2 RI concluded that it is unlikely that contaminants migrated off-site through the unsaturated soil. VOCs were detected in numerous surface and subsurface soil samples at concentrations that exceeded screening levels. The screening levels used were the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Soil Cleanup Criteria (NRDCSCC), and/or NJDEP Impact to Groundwater Soil Criteria (IGWSCC). These criteria are not Applicable or Relevant and Appropriate Regulations (ARARs) under CERCLA, but are "To Be Considered" criteria (TBCs) for the Site. A total of nine VOCs were detected in the surface soil (0-2 feet below ground surface) and three VOCs were detected in the subsurface soil at concentrations that exceeded the TBCs; the majority of these are chlorinated VOCs.

Surface Soil

Contamination in the surface soil is distributed throughout the Site while the subsurface contamination is primarily found near the eastern/northeastern Site boundary. In the surface soils, VOCs that were detected at very elevated concentrations exceeding TBCs included: 1,1,2,2-tetrachloroethane (28,000 parts per billion (ppb)), 1,1,2-trichloroethane (1,400 ppb), 1,2-dichloroethane (31,000 ppb), ethylbenzene (130,000 ppb), m,p,-xylene (500,000 ppb), o-xylene (260,000 ppb), and trichloroethene (130,000 ppb).

Three primary areas at the Site contain surface soil SVOC contamination above the TBCs, between the gate and the eastern Site boundary, the southeast corner (south of the concrete tank pad connected to Building No. 35), and the center of the Site (between Building Nos. 34 and 35). Seven SVOCs were detected in the surface soil and six SVOCs were detected in the subsurface soil at concentrations that exceeded the TBCs. The majority of these compounds are polycyclic aromatic hydrocarbons (PAHs).

Three pesticides/polychlorinated biphenyls (PCBs) were detected in the surface soil. In general, elevated pesticide/PCB concentrations were found in very few soil samples and at shallow depths (< 4 feet). The highest concentration of PCBs detected in surface soils was 13 parts per million.

Detectable levels of dioxin were found in all 11 surface soil samples analyzed for dioxin; however, the maximum concentration detected, 50.87 parts per trillion, is considered acceptable for commercial/industrial properties.

Although inorganics (or metal) contamination was found at depths up to 12 feet bgs, the majority of the metal contamination was present in the top two feet of soil. Seven inorganic contaminants were detected at concentrations above the TBCs.

Detectable levels of polybrominated biphenyls (PBBs) were found in nine of 23 surface soil samples. PBB concentrations ranged from 0.28 ppb to 190 ppb. There are no federal or state ARARs/TBCs for PBBs.

Subsurface Soil

In subsurface soils, 1,1,2,2-tetrachloroethane, 1,2 - dichloroethane, and trichloroethene exceeded TBCs. Although VOC contamination was found at depths up to 12 feet bgs, the majority of the contamination is found in the top two feet.

Subsurface soil SVOC contamination at

concentrations above the TBCs was primarily found near the center of the Site. Although SVOC contamination was found at depths up to ten feet bgs, the majority of the contamination is found in the top two feet. There were only three SVOCs that exceeded TBCs in subsurface soils.

Only one pesticide (dieldrin) was detected at a subsurface soil concentration that exceeded the TBC.

Subsurface soils contained only thallium at a concentration above the NRDCSSC for that inorganic.

Detectable levels of PBBs were found in one of eight subsurface soil samples. PBBs were found at a maximum depth of 3.5 feet bgs at a concentration of 9.2 ppb. There are no federal or state ARARs/TBCs or Soil Screening Levels for PBBs.

RCRA TCLP Soil Sampling

Twenty surface soil and four subsurface soil samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) parameters to determine if the soils are RCRA hazardous waste. The majority of the compounds/analytes were detected at trace levels; however, one surface soil sample contained one TCLP contaminant (trichloroethene) at a concentration (580 parts per billion) that exceeded the RCRA TCLP- regulatory limit. Based on these results, the majority of soil on the Site would not be characterized as a RCRA hazardous waste.

**Building 34 Sump Sediment**

Two sump sediment samples were collected from the Site to determine what types of contaminants may have been used in the buildings and to determine if the sumps/floor drains could be potential sources of soil and groundwater contamination. The majority of the contamination was found in the sump sediment sample collected from Building No. 34. VOC concentrations measured in the sump were sufficiently high to indicate that free-phase product may have accumulated in the sump. Residual contamination may exist around and under this sump. The VOCs that were detected include chlorinated compounds methylene chloride (25,230,000 ppb), 1,2-dichloroethane (27,460,000 ppb), trichloroethene (230,000 ppb), 1,1,2-trichloroethane (560,000 ppb), 1,1,2,2-tetrachloroethane (560,000 ppb), and the hydrocarbons ethylbenzene (200,000 ppb), o-xylene (400,000 ppb), and m,p-xylene (3,800,000 ppb).

The only semi-volatile contaminant detected at concentrations that exceeded TBCs was benzo(a)pyrene (2,900 ppb).

Five pesticides were detected at concentrations that exceeded the TBCs. These include Gamma-BHC , heptachlor, aldrin, dieldrin, 4,4'-DDD.

There are no federal or state ARARs/TBCs for PBB compounds but PBBs were detected in the two sump samples analyzed at concentrations up to 750 ppb.

Only one inorganic, antimony, was detected at a concentration that exceeded the NRDCSCC.

RCRA TCLP Sump Sediment Sampling

Two sump samples were analyzed for TCLP parameter and one contaminant 1,2-dichloroethane was detected at a concentration that exceeded an ARAR. 1,2-dichloroethane was detected at concentrations up to 760,000 ppb which exceeded the RCRA TCLP-regulatory limit of 500 ppb.

**Building Materials**

Asbestos-containing materials (ACMs) both friable and non-friable, were found in all of the Site buildings except the Decon Shed and Pump House. The majority of the ACMs were from laboratory related furnishings, caulking, and miscellaneous debris.

Lead-based paint was detected in Building Nos. 33,34,35 and 36, the Boiler Room, and the Pump House. With the exception of a wooden door casing, all lead-based paint was found on steel or other metal substrates such as columns, beams,

windows doors, stairs, ladders, a wall, an elevator, and a fire escape.

One TCLP compound, 1,2-dichloroethane, was detected in a building material sample at a concentration that exceeded the RCRA TCLP-regulatory limit. This sample was collected from the exterior of Building No. 33.

Wipe samples were collected from three buildings; Building Nos. 33,34 and 35. Analysis of these samples indicated the presence of 24 SVOCs, eight pesticides, PBBs, and 21 metals. None of the detected concentrations can be compared to any standard since there are not federal or state ARARs/TBCs for wipe samples.

**WHAT IS A "PRINCIPAL THREAT"?**

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water or air, or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in groundwater may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

Based on the results of the sampling conducted at the Site, the principal threats posed by the Site are portions of the highly contaminated surface and subsurface soils, and the building sump sediments.

## SCOPE AND ROLE OF THE ACTION

As previously discussed, EPA is addressing the remediation of the White Chemical Corporation Site in a phased approach. This ROD, the second of three RODs planned for the Site, focuses on the remediation of the on-site buildings, above-ground storage tanks, on-site soil and sump sediment. The OU1 ROD, issued on September 26, 1991, and the 1990 and 1992 removal actions at the Site resulted in stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and environmental monitoring. The third and final ROD for the Site will focus on groundwater contamination.

## SUMMARY OF SITE RISKS

Based upon the results of the OU2 RI, a baseline risk assessment was conducted to estimate the risks associated with current and future Site conditions.

The baseline risk assessment estimates the human health and ecological risk which could result from the contamination at the Site if no remedial action were taken. Based on current zoning and future development plans, the Site is likely to remain commercial/industrial, and no residential land use is expected at the Site, although surrounding properties are a mix of commercial/industrial facilities and residential homes. Therefore, the baseline human health risk assessment focused on health effects for populations that are likely to be present under these land use scenarios (trespassers, commercial/industrial workers, construction workers and off-site residents) and that could result from current and future direct contact with contaminated surface and subsurface soils, such as incidental ingestion of contaminated soils or inhalation of particulate dust at the Site and off the Site. It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health or welfare from actual or threatened releases of hazardous substances into the environment.

### Human Health Risks

The human health risk assessment evaluated exposure to surface and subsurface soils at the Site under several exposure scenarios, including direct contact exposures to current trespassers exposed to surface soils, and future exposure to surface and subsurface soils by on-site commercial/industrial workers and construction workers, as well as current and future exposures to off-site residents and off-site workers to fugitive dust and vapors generated from on-site soils.

No unacceptable cancer risks or non-cancer hazards were estimated for current trespassers at the Site.

Direct contact exposure, including incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust and vapors emanating from soils, is associated with excess lifetime cancer risks of $9 \times 10^{-4}$ for the commercial/industrial worker. The non-cancer hazard index of 3 exceeds EPA's benchmark of 1. In both estimates, trichloroethene contributes most significantly to the cancer risk and non-cancer hazard.

The evaluation of exposure to future construction workers at the Site results in a non-cancer hazard index of 18, with trichloroethene and 1,2-dichloroethane contributing most significantly to the total hazard. The excess lifetime cancer risk is within acceptable levels.

Off-site residents, both adult and children, were evaluated for exposures to air-borne fugitive dust and vapors from on-site soils migrating off Site. The excess lifetime cancer risks are $6 \times 10^{-3}$ and $2 \times 10^{-3}$ for adult and child residents, respectively. The non-cancer hazard index for the child resident is 5; the non-cancer hazard index for the adult is below the benchmark of 1. The risk driving chemicals for both the cancer effects and the non-cancer effects are trichloroethene, 1,2-dichloroethane and xylenes.

**WHAT IS RISK AND HOW IS IT CALCULATED?**

Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

*Hazard Identification:* In this step, the contaminants of concern at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

*Exposure Assessment:* In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

*Toxicity Assessment:* In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

*Risk Characterization:* This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a $10^{-4}$ cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of $10^{-4}$ to $10^{-6}$ (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk). For non-cancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which non-cancer health effects are not expected to occur.

For the off-site worker exposed to fugitive dust and vapors generated from on-site soils, the excess lifetime cancer risk is estimated at $8 \times 10^{-4}$, with trichloroethene as the most significant contributor to the cancer risk. The non-cancer hazard index is

2, with trichloroethene and xylenes as most significant contributors.

These risks and hazard levels indicate that there is significant potential risk to workers from direct exposure to contaminated soil and to off-site residents and workers from on-site contaminants in the soils. The risk estimates are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to the soil and the airborne dust and vapors, as well as the toxicity of the chemicals of concern, including trichloroethene, 1,2-dichloroethane, and xylenes.

The results of the baseline risk assessment were used to derive Site-specific Risk-Based Action Levels (RBALs) for those chemicals in soil with the potential to cause human health risks in excess of EPA acceptable levels. RBALs were derived for trichloroethene, 1,2-dichloroethane and xylenes.

**Ecological Risks**

The Site offers limited habitat value to wildlife since it is within a highly urbanized location and contains very little vegetation or open space. This is also likely to be the case under the future-use scenario. Therefore, no further action is recommended with regard to ecological receptors at the Site.

## REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards such as ARARs and appropriate criteria, advisories, and guidance (i.e., TBCs) and RBALs established based on the risk assessment. Remedial action objectives developed for the soil considers all identified Site concerns and contaminant pathways, and are listed below:

- Reduce or eliminate the direct contact threat associated with contaminated soil to levels protective of a commercial/industrial use.
- Reduce or eliminate exposure through inhalation of vapors that may migrate from contaminated soils.
- Minimize or eliminate contaminant migration to the groundwater.
- Maximize consistency with the future development of the Site.

This proposed action would reduce the direct contact excess cancer risk associated with exposure to contaminated soils to below one in a million for commercial/industrial Site uses. This will be achieved by reducing the concentration of the surface and subsurface soil contaminants to at or below RBALs indicated in Table 1.

Because soils are contaminated with VOCs at levels that could result in continuing sources of groundwater contamination, this proposed action would reduce the threat to groundwater posed by VOCs in these soils by addressing the VOCs in soils in excess of the NJDEP IGWSCC, as indicated in Table 1, to the extent practicable. Therefore, the NJDEP IGWSCC are selected as PRGs for VOCs in soils at the Site. The estimated depth of the soil excavation of up to 8 feet below ground surface is based on the depth to groundwater which averages 8 feet across the Site.

## SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA requires that each selected Site remedy be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The "construction time" for each alternative reflects only the time required to construct or implement the remedy and does not include the time required to design the remedy. It generally takes 1-2 years for planning, design and

procurement prior to subsequent construction of the remedial alternative.

The OU2 FS report evaluates in detail six remedial alternatives for contaminated soils.

The OU 2 FS estimates the volume of soil that requires remediation to be 21,185 cubic yards (CY). This includes the soil under all Site buildings and ASTs, which have not been sampled and an additional 30% for slope cutback. Based on the limited TCLP sampling results, it is estimated that approximately 2,000 CY would be considered hazardous under RCRA. A total of six alternatives (S1 through S6) were developed for the soils at the Site.

In addition to the technologies indicated under each alternative, all of the alternatives would require an Institutional Control such as a deed restriction because contaminants would remain on-site above levels that would allow for residential use.

**SUMMARY OF REMEDIAL ALTERNATIVES**

| Medium | RI/FS Designation | Description |
|---|---|---|
| **Site-Wide Soils** | S-1 | No Action |
| | S-2 | Asphalt Cap - Building demolition and above-ground storage tank removal, followed by construction of an asphalt cap. |
| | S-3 | Soil Vapor Extraction, Asphalt Cap - Building demolition and above-ground storage tank removal, followed by *in situ* treatment of VOC-contaminated soils through SVE and containment of residual contaminated soils under an asphalt cap. |
| | S-4 | Steam Injection, Asphalt Cap - Building demolition and above ground storage tank removal, followed by *in situ* treatment of VOC-contaminated soils through steam injection and containment of residual contaminated soils under an asphalt cap. |
| | S-5 | Off-site Disposal - This alternative consists of building demolition and AST removal, followed by removal of all VOC-contaminated soil above PRGs and transportation off-site to an appropriate disposal facility. Excavated areas would be backfilled with select fill. The Site would be seeded in preparation for redevelopment. |
| | S-6 | Low Temperature Thermal Desorption - Building demolition and above-ground storage tank removal, followed by *ex situ* low temperature thermal desorption and construction of an asphalt cap. |

**Alternative S-1 : No Action**

| | |
|---|---|
| Estimated Capital Cost: | $0 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $0 |
| Estimated Construction Time: | None |

CERCLA and the National Contingency Plan (NCP) require the evaluation of No Action as a baseline to which other alternatives are compared. No active remediation or containment of any contamination associated with the soils/buildings/tanks would be performed. However, this alternative would include five-year reviews of Site data as required by CERCLA for sites where contamination remains after initiation of the remedial action.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-2: Containment**

| | |
|---|---|
| Estimated Capital Cost: | $2,640,000 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $2,717,000 |
| Estimated Construction Time: | 6-12 months |

Alternative S-2 consists of the demolition of all on-site buildings, AST removal, and placement of an asphalt cap over the Site. Prior to building demolition, abatement of asbestos and lead-based paint would be required. All removed asbestos and lead-based paint would be disposed of at an appropriately licensed off-site facility.

As a result of the presence of building material which exceeds TCLP for 1,2-dichloroethane in one sample from Building 33, additional building material samples would be collected during the pre-design or design phase from this building to verify the extent of the contamination. Any hazardous building materials would be segregated and disposed of at an appropriate off-site location. Non-hazardous demolition debris would be disposed of at a sanitary landfill. During building demolition, the existing on-site asphalt would be removed and disposed of at an appropriate facility.

Prior to removal of on-site ASTs, the tanks would be tested for the presence of asbestos and lead based paint. No sampling of the ASTs was conducted during the OU2 RI; however, visual evidence indicates the likely presence of both lead paint and asbestos. Following any abatement necessitated by the sampling, the interior of the ASTs would be decontaminated (removal of product or sludge) and removed.

Because greater than 5,000 square feet of the Site would be disturbed during AST removal and building demolition, a Soil Erosion and Sediment Control Plan would be developed. The requirements of this plan would likely include: installation of a silt fence around the Site, construction of a crushed stone stabilized construction entrance, and protection of any on-site catch basins. The Soil Erosion and Sediment Control Plan would also cover any further remedial work at the Site.

Following building demolition and AST removal, the entire Site would be paved with an asphalt cap. The cap would be placed on top of existing Site soil and graded to provide drainage towards existing catch basins. The catch basins would be modified so that they would remain level with the top of the asphalt cap. The asphalt cap would consist of (from bottom to top): a geomembrane liner, one foot of crushed stone sub-base, eight inches of asphalt base and three inches of top course. In addition, a deed restriction would be placed on the Site to limit future intrusive Site activities. Long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-3: Soil Vapor Extraction, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $3,941,420 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $4,019,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with Soil Vapor Extraction (SVE). The exact design of the SVE treatment process for the Site would be developed in the design phase through a pilot study. In general, though, a series of vertical wells would be installed around the Site, and a vacuum would be applied to the soil to induce the flow of air and remove the VOCs. Vapors that are recovered by the wells would be treated using Granular Activated Carbon (GAC). The GAC would need to be periodically removed for off-site regeneration and replacement. After completion of the SVE, the entire Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-4: Steam Injection, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $4,998,980 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $5,076,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with steam injection. As with SVE, the steam injection process option is intended to remove volatile organic contaminants in the soil. A pilot test would be required prior to design. In general, a series of steam injection wells would be installed to a depth just below the bottom of the vadose zone (approximately eight feet below grade). Steam would be injected through these wells, heating the overlying soil, and thereby volatilizing the VOCs. The resulting vapors would then be removed through SVE. While the initial costs for steam injection are higher than for standard SVE, it is possible that these costs can be recouped through a greater efficiency in removal. After completion of the steam injection treatment, the Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-5: Excavation and Off-site Disposal**

| | |
|---|---|
| Estimated Capital Cost: | $7,664,440 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $7,664,440 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described previously under Alternative S-2, all soil contaminated above PRGs would be excavated and disposed of off-site. There are no foreseen space constraints for the removal of soil at the Site. Excavation could proceed utilizing conventional sloping or benching techniques to provide worker protection and minimize cave-in and/or wall collapse. Following excavation, soil would be stockpiled on-site prior to transportation to an off-site disposal facility. After removal, the excavated areas would be backfilled with select fill, and then covered with top soil and seed.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-6: Low Temperature Thermal Desorption**

| | |
|---|---|
| Estimated Capital Cost: | $8,176,560 |
| Estimated Annual O&M Cost: | $5,000 |

| | |
|---|---|
| Estimated Present Worth: | $8,177,000 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described in Alternative S-2, all soil contaminated above PRGs would be excavated, as described in Alternative S-5, and treated on-site using *ex situ* low-temperature thermal desorption. During treatment, any oversized objects, such as boulders, would be segregated and decontaminated. Following treatment, the treated soil would be backfilled. Additional select fill would be brought on-site to replace soil volume lost during treatment. The Site would then be covered by topsoil and seeded.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

## EVALUATION OF ALTERNATIVES

In selecting its preferred alternative, EPA uses the nine
NCP criteria below to evaluate the viable remedial alternative treatment technologies and resource

recovery alternatives to the maximum extent practicable. In alternatives developed for a site. CERCLA requires that each selected site remedy be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

## COMPARATIVE ANALYSIS

This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria described below.

| EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES |
|---|
| ***Overall Protectiveness of Human Health and the Environment*** determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment. |
| ***Compliance with ARARs*** evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified. |
| ***Long-term Effectiveness and Permanence*** considers the ability of an alternative to maintain protection of human health and the environment over time. |
| ***Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment*** evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present. |
| ***Short-term Effectiveness*** considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation. |
| ***Implementability*** considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services. |
| ***Cost*** includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent. |
| ***State/Support Agency Acceptance*** considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan. |

***Community Acceptance*** considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

1. **Overall Protection of Human Health and the Environment**

Alternatives S-5 and S-6 would be equally protective of human health and the environment, since all contaminated soil above PRGs would be treated or removed from the Site. Alternatives S-3 and S-4 would be slightly less protective since residual contaminated soil may remain on the Site, but any residual risks would be mitigated by placement of an asphalt cap and a deed restriction. The residual risks for Alternative S-2 would be the highest of all other alternatives with the exception of S-1 and the residual risk would be mitigated by placement of an asphalt cap and a deed restriction. Alternative S-1 would not be protective of human health and the environment.

2. **Compliance with ARARs**

Alternatives S-3, S-4, S-5, and S-6 would be performed in accordance with location-and action-specific ARARs to the extent practicable. These alternatives would also comply with chemical-specific ARARs and TBC guidance. Alternatives S-1 and S-2 would not satisfy ARARs.

3. **Long-term Effectiveness and Permanence**

Alternatives S-5 and S-6 would provide the highest long-term effectiveness, since the contaminated soil would be treated or removed from the Site. The long-term effectiveness of Alternatives S-3 and S-4 would be slightly lower since residual contamination may remain on-site. Cap maintenance would be required. Alternatives S-1 and S-2 have the highest residual contamination left on-site. Alternative S-2, S-3 and S-4 provide an asphalt cap to mitigate existing risks; Alternative S-1 does not provide any mechanism for mitigating risk.

4. **Reduction of Toxicity, Mobility, or Volume of Contaminants Through Treatment**

Alternative S-5 provides the greatest reduction in toxicity, mobility and volume of contamination at the Site, but the reduction is via removal and off-site disposal, which may not necessarily include treatment. Alternatives S-3, S-4, and S-6 employ treatments (SVE, steam injection and low temperature thermal desorption (LTTD), respectively) that would address source removal, thereby reducing the toxicity, mobility and volume of contaminants. Alternative S-2 would reduce the mobility of contaminants via capping, but would not alter the toxicity or volume of contaminated material. Alternative S-1 provides no reduction in toxicity, mobility, or volume.

5. **Short-term Effectiveness**

Alternative S-1 would pose no risk to workers or the community during implementation, since no remedial activities would be conducted. Any risk to workers during implementation of Alternative S-2 would be limited during building/tank demolition and construction of the cap. Alternatives S-3, and S-4 would pose low risks to workers, since the *in situ* treatments associated with these alternatives would cause substantially less disturbance of contaminated soil than Alternatives S-5 and S-6. Alternatives S-3, S-4 and S-6 would also generate volatile emissions which would need to be controlled to protect workers and the community. Alternatives S-5 and S-6 would require excavation of contaminated soil; Alternative S-5 would also require off-site transportation. The potential volatile and dust emissions from both of these alternatives would need to be controlled to protect workers and the community.

6. **Implementability**

*Technical Feasibility*

Alternative S-1 is the easiest alternative to implement, since no remedial activities would take

place. Alternative S-2 would be the next easiest to implement with only the construction of an asphalt cap. Alternatives S-3 and S-4 would require a pilot test. Alternatives S-5 and S-6 would employ conventional excavation techniques that are readily available from multiple vendors. Alternative S-6 would require construction of an on-site treatment facility. Should additional remedial activities be deemed necessary in the future, Alternatives S-5 and S-6 would best facilitate such activities. Alternatives S-2, S-3 and S-4 would require disturbance and replacement of the asphalt cap.

*Administrative Feasibility*

Alternatives S-1 and S-2 would leave contamination above PRGs on-site. Alternatives S-3 and S-4 may leave residual contamination. Each of these alternatives, therefore, would require a deed notice, five-year reviews, and coordination with state and local authorities to make decisions with regard to remedial activities.

*Availability of Services and Materials*

Alternative S-1 would not require any services or materials. Alternatives S-2, S-3, S-4, S-5 and S-6 would require common construction services and materials for implementation of the remedies. Alternatives S-2, S-3 and S-4 would also require Operation and Maintenance services for the cap and/or engineering controls.

**7. Cost**

There would be no capital or O&M costs associated with Alternative S-1. The remaining alternatives have net present worth costs ranging from $2,821,000 to $8,177,000, increasing in the following order: S-2, S-3, S-4, S-5 and S-6.

**8. State/Support Agency Acceptance**

The State of New Jersey is still evaluating EPA's preferred alternative presented in this Proposed Plan.

**9. Community Acceptance**

Community acceptance of the preferred alternatives will be evaluated after the public comment period ends and will be described in the Responsiveness Summary of the ROD, the document that officially formalizes the selection of the remedy.

## SUMMARY OF THE PREFERRED ALTERNATIVE

Based upon an evaluation of the various alternatives, EPA recommends Soil Alternative S-5, Off-site Disposal, as the preferred alternative for the remediation of soils, above-ground storage tanks and buildings at the White Chemical Corporation Site. Along with Alterative S-6, Low Temperature Thermal Desorption, Alternative S-5 is the most protective of human health and the environment and provides the highest long-term effectiveness, because all soil above PRGs will be removed from the Site. Alternative S-5 also complies with all Site-specific ARARs and TBCs for the Site. The excavation and off-site disposal of the contaminated soil can be accomplished safely using conventional equipment and techniques and does note require a pilot test to insure its effectiveness. Alternative S-5 will not require any restriction on commercial redevelopment of the Site although as for all alternatives evaluated, Institutional Controls such as a deed restriction that prevents residential development at the Site would be required since the New Jersey Residential Direct Contact Soil Screening Criteria were not considered TBCs for the Site. Finally, of the alternatives that are most protective of human health and the environment and provide the greatest long-term effectiveness (S-5 and S-6), Alternative S-5 is the more cost effective.

Based on information currently available, EPA believes the Preferred Alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA §121(b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-

effective; 4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfy the preference for treatment as a principal element if treatment of contaminated soil is required prior to disposal.

## COMMUNITY PARTICIPATION

EPA and the State of New Jersey provide information regarding the cleanup of the White Chemical Corporation Site to the public through public meetings, the Administrative Record file for the Site, and announcements published in the Star Ledger. EPA and the State encourage the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site.

The dates for the public comment period, the date, location and time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan. EPA Region 2 has designated a Regional Public Liaison Manager as a point-of-contact for community concerns and questions about the federal Superfund program in New York, New Jersey, Puerto Rico and the U.S. Virgin Islands. To support this effort, the Agency has established a 24-hour, toll-free number that the public can call to request information, express their concerns or register complaints about Superfund.

**For further information on the White Chemical Corporation Site, please contact:**


| Romona Pezzella | Pat Seppi |
|---|---|
| Remedial Project Manager | Community Relations Coordinator |
| (212) 637-4385 | (212) 637-3679 |

**U.S. EPA**
290 Broadway 19th Floor.
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The Regional Public Liaison Manager for EPA's Region 2 office is:

George H. Zachos
Accelerated Cleanup Manager
Toll-free (888) 283-7626 or (732) 321-6621

U.S. EPA Region 2
2890 Woodbridge Avenues, MS-211
Edison, New Jersey 08837

**TABLE 1**
**PRELIMINARY REMEDIATION GOALS**
**SOIL**
**WHITE CHEMICAL CORPORATION SITE**

| Contaminant | Risk Based Action Levels [1] | NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) | NJDEP Impact to Ground Water Soil Criteria (IGWSCC) | Preliminary Remediation Goals |
|---|---|---|---|---|
| 1,2 Dichloroethane | 61,000 µg/kg | 24,000 µg/kg | 1,000 µg/kg | 1,000 ug/kg |
| cis-1,2,-Dichloroethene | - | 100,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Ethylbenzene | - | 100,000 ug/kg | 100,000 ug/kg | 100,000 ug/kg |
| 1,1,2,2,-Tetrachloroethane | - | 310,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Tetrachloroethene (PCE) | - | 6,000 ug/kg | 1000 ug/kg | 1,000 ug/kg |
| 1,1,2-Trichloroethane | - | 420,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Trichloroethene | 1,190 µg/kg | 54,000 µg/kg | 1,000 µg/kg | 1,000 ug/kg |
| m,p-Xylenes | 163,000 µg/kg | 1,000,000 µg/kg [2] | 67,000 µg/kg [2] | 67,000 ug/kg [2] |
| o-Xylenes | 155,000 µg/kg | | | |

Note:
[1] Risk Based Action Levels were developed based on a $10^{-6}$ risk factor.
[2] Value provided for xylenes (total).

EPA/ROD/R02-05/033
2005

# EPA Superfund
# Record of Decision:

**WHITE CHEMICAL CORP.**
**EPA ID: NJD980755623**
**OU 02**
**NEWARK, NJ**
**09/29/2005**

# RECORD OF DECISION
# Operable Unit 2 - Soils, Buildings and Above-Ground Storage Tanks
# White Chemical Corporation Site, Newark, Essex County, New Jersey

**United States Environmental Protection Agency**
**Region II**
**September 2005**

# DECLARATION STATEMENT

# RECORD OF DECISION

## SITE NAME AND LOCATION

White Chemical Corporation Site (EPA ID# NJD980755623)
Newark, Essex County, New Jersey
Operable Unit 2 for Soils, Buildings and Above-Ground Storage Tanks

## STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy to address contaminated soils, sump sediments, buildings and tanks at the White Chemical Corporation Superfund Site (Site) in Newark, New Jersey, which was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, as amended, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record file for the Site. The State of New Jersey concurs with the Selected Remedy.

## ASSESSMENT OF THE SITE

The response action selected in this Record of Decision (ROD) is necessary to protect public health or welfare or if the environment from actual or threatened releases of hazardous substances from the Site into the environment.

## DESCRIPTION OF THE SELECTED REMEDY

The Selected Remedy addresses an estimated 21,185 cubic yards of contaminated soil, nine on-site buildings and above-ground storage tanks on the Site. A previous ROD was signed on September 26J1991. The 1991 ROD required appropriate security measures stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination arid off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and appropriate environmental monitoring. An additional action will be necessary to address groundwater contamination underlying the Site.

The major components of the selected response measure include:

- demolition and off-site disposal of nine on-site buildings;
- removal and off-site disposal of above-ground storage tanks;
- excayation of an estimated 21,185 cubic yards of contaminated soil;
- off-site transportation and disposal of contaminated soil, with treatment as necessary;

- backfilling and grading of all excavated areas with clean soil and seeding the areas;
- placement of a deed notice to restrict land use to non-residential (commercial/light industrial) uses; and
- appropriate environmental monitoring to ensure the effectiveness of the remedy.

This remedy excavates and treats the most highly contaminated soil and, therefore, satisfies EPA's preference for treatment of the principal threat wastes at the Site.

## DECLARATION OF STATUTORY DETERMINATIONS

### Part 1: Statutory Requirements

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

### Part 2: Statutory Preference for Treatment

The Selected Remedy satisfies the statutory preference for treatment as a principal element of the remedy because it addresses the principal threat wastes at the Site.

### Part 3: Five-Year Review Requirements

Because this remedy results in hazardous substances, pollutants, or contaminants remaining on the Site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years of the initiation of the remedial action to ensure that the remedy is, or will be, protective of human health and the environment, unless determined otherwise at the completion of the remedial action.

## ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for the Site.

- Chemicals of concern and their respective concentrations maybe found in the "Site Characteristics" section.
- Baseline risk represented by the chemicals of concern may be found in the "Summary of Site Risks" section.
- A discussion of cleanup levels for chemicals of concern may be found in the "Remedial Action Objectives" section.
- A discussion of source materials constituting principal threats may be found in the "Principal Threat Waste" section.

- Current and reasonably anticipated future land use assumptions are discussed in the "Current and Potential Future Site and Resource Uses" section.
- A discussion of potential land uses that will be available at the Site as a result of the Selected Remedy is found in the "Current and Potential Future Site and Resource Uses" section.
- Estimated capital, annual operation and maintenance (O&M), and total present worth costs are discussed in the "Description of Alternatives" section.
- Key factor(s) that led to selecting the remedy (i.e., how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision) may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections.

George Pavlou, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region II

9/29/05
Date

# Decision Summary
# Operable Unit 2 - Soils, Buildings and Above-Ground Storage Tanks
# White Chemical Corporation Site, Newark, Essex County, New Jersey

**United States Environmental Protection Agency**
**Region II**
**September 2005**

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## SITE NAME, LOCATION AND BRIEF DESCRIPTION

The White Chemical Corporation Site measures 4.4 acres, and is located at 660 Frelinghuysen Avenue (Block 3872, Lot 109), Newark, Essex County, NJ. Frelinghuysen Avenue is a major thoroughfare with significant residential, commercial, and industrial populations. The Site is located immediately east of two large manufacturing facilities: a leather company and a sportswear manufacturer. An airport-support services complex is currently located north of the Site, The eastern border of the Site is adjacent to Conrail and Amtrak rail lines that serve as a major rail corridor in New Jersey. Weequahic Park (including Weequahic Lake and a golf course), a school, and several large housing complexes, high-rise senior citizen residences, and cemeteries, are located to the west, within 0.4 mile of the Site.

Major Site features include nine buildings, a former aboveground storage tank (AST) farm (tank farm), an underground tunnel, and a railroad spur. Five large buildings (Building Numbers 33, 34,34A, 35 and 36), three smaller, facility-support buildings (Boiler Room, Pump House and Maintenance Shop), and a decontamination (decon) shed are located on the western portion of the property. Most of these buildings are grouped around the former tank farm near the center of the Site. The Underground tunnel originates in the western portion of Building No. 34 and leads to the south. See Plate 1.

The Site is on the U.S. Environmental Protection Agency's (EPA's) National Priorities List. EPA is the lead agency, and the New Jersey Department of Environmental Protection (NJDEP) is the support agency.

## SITE HISTORY AND ENFORCEMENT ACTIVITIES

In September 1970, Central Services Corporation (CSC) purchased the property from the Union Carbide Corporation. It is believed that much of the present Site infrastructure, including sewer and utility commits, and buildings, may date from the time of Union Carbide's ownership. CSC sold the property to the Lancaster Chemical Company, a division of the AZS Corporation, in August 1975.

The White Chemical Corporation (WCC) leased the Site in 1983 and moved its operations from Bayonne, NJ to Newark, NJ. WCC produced three primary groups of chemical products: acid chlorides, brominated organics (both aliphatic and aromatic), and mineral acids, most notably hydriodic acid. The finished products, mostly solids and powders, were generally formulated in small batches following customer specifications.

Beginning in 1989 and continuing through the present, the Site has been the subject of numerous inspections, site assessments, investigations, and removal actions. NJDEP conducted several inspections of the Site between June and September 1989 pursuant to the Resource Conservation and Recovery Act (RCRA). Based on these inspections, NJDEP issued several Notices of Violations for a variety of infractions including improper drum management, leaking drums, open containers, and inadequate aisle space. In October 1989, WCC initiated Chapter 11 bankruptcy

proceedings. Between May and August 1990, NJDEP removed approximately 1,000 drums from the Site. On September 7,1990, EPA performed a preliminary assessment of the WCC facility and found numerous air- and water-reactive substances in 55-gallon drums. Approximately 10,900 55-gallon drums of hazardous substances were precariously stacked or improperly stored throughout the Site. Drums and other containers were found in various stages of deterioration fuming and leaking their contents onto the soil. Numerous stains were observed on the soil. Other containers observed were 150 gas cylinders, 126 storage tanks, vats and process reactors, hundreds of fiberpack drums, glass and plastic bottles, and approximately 18,000 laboratory-type containers.

The on-site laboratory contained thousands of unsegregated laboratory chemicals in deteriorating conditions. These containers were haphazardly stored on structurally unsound shelving, or stacked in piles on the floor. EPA overpacked 11 fuming drums and secured them for future handling. In total, 4,200 empty drums were shipped off-site for disposal, and 6,700 drums were staged on-site for later characterization and disposal. In 1990, the EPA Technical Assistance Team reported that five extremely hazardous substances were present at the Site including: allyl alcohol; bromine; chlorine; red phosphorous; and, phosphorous trichloride.

In September 1990, EPA issued a Unilateral Administrative Order (UAO) barring WCC from continuing on-site operations and ordering evacuation of all personnel. In October 1990, the U.S. District Court for the District of New Jersey issued an order enforcing the UAO. In November 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) issued a health consultation that concluded that the Site posed an imminent and substantial health and safety threat to nearby residents and workers. A Public Health Advisory was issued by ATSDR in November 1990. Between 1990 and 1991, EPA removed several thousand drums and performed several assessments at the Site. EPA also developed an interim remedy to stabilize the Site, as described below.

## Interim Remedy: Stabilizing the Site (OU1)

EPA typically addresses sites in separate phases or operable units. In developing an overall site strategy, EPA identified the interim remedy as Operable Unit 1 (OU1), this soil, building and above-ground storage tank remedy as Operable Unit 2 (OU2), and the groundwater as Operable Unit 3 (OU3).

Based on the known contamination at the property, EPA proposed the Site for inclusion on the National Priorities List (NPL) on May 9,1991, and the Site was listed on September 25, 1991. The OU1 Record of Decision (ROD), issued on September 26, 1991, required appropriate security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and appropriate environmental monitoring.

In June 1991, EPA issued notice letters to potentially responsible parties (PRPs) with notification that they may bje required to conduct response actions at the Site. In March 1992, EPA issued a UAO to eleven PRPs to remove drums, tank contents, laboratory containers, liquids and gas

cylinders that were remaining at the site following EPA and NJDEP removal actions. The eleven PRPs included AZS, the landowner at the time, WCC, the operator of the Site, WCC's president, and eight generators. On October 27, 1992, a PRP group consisting of three PRPs complied with the UAO by initiating the response activities and completing them on March 1993. In total, the PRP group removed approximately 7,900 drums, the contents of more than 100 tanks, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, and 14 gas cylinders.

### Final Remedy: Soils, Buildings and Above-Ground Storage Tanks (OU2)

The OU2 remedial investigation (RI) field work was conducted from October 1998 through July 1999. The OU2 RI was completed in April 2003 and focused on defining the nature and extent of contamination at the Site. Samples collected include surface and subsurface soil, sump sediment, groundwater and building materials. After completion of the OU2 RI, EPA determined that additional information was needed to evaluate the nature and extent of contamination in the groundwater. Therefore, EPA designated the soils, buildings and above-ground storage tanks as OU2 and the groundwater as OU3.

## HIGHLIGHTS OF COMMUNITY PARTICIPATION

On August 4, 2005, EPA released the Proposed Plan and supporting documentation for the on-site soil, buildings and above-ground storage tank remedy (OU2) to the public for comment. EPA made these documents available to the public in the administrative record repositories maintained at the EPA Region II office (290 Broadway, New York, New York) and the Newark Public Library (5 Washington Street, Newark, NJ 07102). EPA published a notice of availability for these documents in the Newark Star Ledger newspaper and opened a public comment period on the documents from August 4,2005 to September 2,2005. On August 9,2005, EPA conducted a public meeting at the Newark City Hall Council Chambers to inform local officials and interested jcitizens about the Superfund process, to review the planned remedial activities at the Site, and to respond to any questions from area residents and other attendees. Responses to the comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (see Appendix . V).

## SCOPE AND ROLE OF OPERABLE UNIT

As with many Superfund sites, the problems at the White Chemical Corporation site are complex and, therefore, EPA has organized the work into three phases or operable units (OUs):

- Operable Unit 1: an interim remedy to stabilize the Site and remove leaking drums and other containers of chemical waste (completed in 1993):
- Operable Unit 2: remedy to address contaminated surface and sub-surface soil, nine on-site buildings and above-ground storage tanks.
- Operable Unit 3: groundwater under and near the Site.

EPA selected the interim remedy for OU1 in a ROD signed on September 26, 1991. In March 1993, the PRP group completed construction of this interim remedy. OU2, the subject of this ROD, addresses the surface and deeper subsurface contaminated soil on the Site, nine on-site buildings and above-ground storage tanks. EPA will continue its groundwater investigation for OU3 and propose a remedy for the groundwater in the future.

## SUMMARY OF SITE CHARACTERISTICS

Surface elevations across the Site range from approximately 20 feet above mean sea level (msl) in the western and central portions of the property to approximately 14 feet above msl in the southern portion of the property. The Site and immediate vicinity are generally flat and graded with a gentle easterly slope toward the railroad tracks. Most of the Site is covered with asphalt pavement, concrete slabs, or abandoned buildings with small patches of exposed dirt (and some vegetation) on the northern and southern portions of the property and in the area surrounding Building No. 36. No streams or surface water bodies are present on the Site and surface drainage is generally poor. During periods of heavy precipitation, ponding occurs on some portions of the property.

### Geology

The Site is located in the Piedmont (Lowlands) Physiographic Province, which is characterized by gently sloping hills. The Lowlands are bounded by the Coastal Plain to the south and east, the New England Uplands to the north, and the Piedmont Uplands to the west. The geology of the region is characterized by unconsolidated sediments deposited on sedimentary bedrock of Triassic Age. The Site is predominantly underlain by deposits consisting of clayey silt and fine to coarse sand. Fill material, ranging in thickness from approximately 2 to 10 feet, is present across the Site. The fill consists mostly of silt with trace sand and gravel. Beneath the fill, clayey silt deposits (alluvium) ranging in thickness from approximately 2 to 10 feet are present. Beneath the alluvium, fine to coarse sand with varying amounts of silt and gravel is present with an occasional silt lens, ranging in thickness from approximately 4 to 40 feet. Weathered shale bedrock is present beneath the sand and ranges in depth from 37 feet below ground surface (bgs) to 55 feet bgs. The thickness of the weathered bedrock ranges from 6 to 10 feet. The surface of the bedrock is relatively flat in the northern portions of the Site, but dips to the east in the eastern portions of the Site and to the south in the southern portions of the Site.

### Hydrogeological Characteristics

Data collected during four rounds of synoptic water level measurements (February and July 1999, April and October 2000) indicate that the depth to groundwater ranged from approximately 8 to 13 feet bgs across the Site. These measurements suggest that shallow groundwater flow radiates from a mound that exists near Building No. 34 (see Plate 1), creating a groundwater divide across the center of the Site. Mounding of groundwater near Building No. 34 may be caused by a flooded tunnel that exists under this building. North of the divide, groundwater flows in an easterly direction; south of the divide groundwater flows more uniformly to the south. The groundwater divide is not evident at depth. The direction of deeper groundwater flow generally follows the surface of the underlying

bedrock. In the southern portions of the Site, the main component of groundwater flow at depth is to the south, with groundwater flow in the northern portion of the Site varying from northeasterly to southeasterly.

## Surface Waters and Wetlands

Two surface water bodies are located near the Site; Weequahic Lake, located west of the Site approximately 11,500 feet from Frelinghuysen Avenue, and the Elizabeth River, located approximately two miles southwest of the Site. Newark Bay lies approximately three miles east of the Site. No direct surface water connections from the Site to any of these water bodies exist. Surface water ponds in several small areas on the property during periods of high rainfall; there are no channels conveying surface water runoff away from the Site.

No federally regulated wetlands are located within the Site boundaries. National Wetland Inventory (NWI) mapping (Elizabeth, NJ-NY quadrangle) for the Site and surrounding area indicates that Weequahic Lake is classified as L1OW (Lacustrine, Limnetic, Open Water). Other wetlands near the Site are associated with either the Elizabeth River or drainage patterns within Newark Liberty International Airport. New Jersey State wetland mapping shows a similar configuration of wetlands in the Site vicinity.

## Soils Contamination

Most of the soil contamination at the Site is the result of improper staging, control and maintenance of process chemicals contained in drums, laboratory chemical containers, storage tanks and process tanks. Although soil contamination is present throughout the Site, the majority is located in the top two feet of soil. The OU2 RI concluded that it is unlikely that contaminants migrated off-site through the unsaturated soil.

Surface Soil

Contamination in the surface soil is found in "hot spots" throughout the Site. In the surface soils, volatile organic compounds (VOCs) detected at elevated concentrations included: 1,1,2,2-tetrachloroethane (maximum concentration 28,000 parts per billion (ppb)), 1,1,2-trichloroethane (maximum concentration 1,400 ppb), 1,2-dichloroethane (maximum concentration 31,000 ppb), ethylbenzene (maximum concentration 130,000 ppb), m, p,-xylene (maximum concentration 500,000 ppb), o-xylene (maximum concentration 260,000 ppb), and trichloroethene (maximum concentration 1130,000 ppb).:

Three primary areas at the Site contain surface soil semi-volatile organic compound (SVOC) contamination, between the gate and the eastern Site boundary, the southeast corner (south of the concrete tank pad connected to Building No. 35), and the center of the Site (between Building Nos. 34 and 35). Most of the SVOCs detected in the surface soils are polycyclic aromatic hydrocarbons (PAHs). Although inorganics (or metal) contamination was found at depths up to 12 feet bgs, most of the metal contamination was present in the top two feet of soil. Seven inorganic contaminants

were detected at concentrations above established screening criteria. Three pesticides/ polychlorinated biphenyls (PCBs) were detected in the surface soil. In general, elevated pesticide/PCB concentrations were found in very few soil samples and at shallow depths (<4 feet). The highest concentration of PCBs detected in surface soils was 13 parts per million. Detectable levels of polybrominated biphenyls (PBBs) were found in nine of 23 surface soil samples. PBB concentrations ranged from 0.28 ppb to 190 ppb. Detectable levels of dioxin were found in all 11 surface soil samples analyzed for dioxin; however, the maximum concentration detected, 50.87 parts per trillion, is considered acceptable for commercial/industrial properties.

Subsurface Soil

Contamination in the subsurface soils was primarily found near the eastern/northeastern Site boundary. In subsurface soils, 1,1,2,2-tetrachloroethane (maximum concentration 4,300 ppb), 1,2-dichloroethane (maximum concentration 43,000 ppb), and trichloroethene (maximum concentration 6,100 ppb) were detected at elevated levels. Although VOC contamination was found at depths up to 12 feet bgs, most of the contamination is found closer to the surface.

Subsurface soil SVOC contamination was primarily found near the center of the Site. Although SVOC contamination was found at depths up to ten feet bgs, most of the contamination is found closer to the surface. The only inorganic present in subsurface soils at an elevated concentration was thallium. Only one pesticide (dieldrin) was detected in a subsurface soil at a concentration above established screening criteria. Detectable levels of PBBs were found in one of eight subsurface soil samples. PBBs were found at a maximum depth of 3.5 feet bgs at a concentration of 9.2 ppb.

## Building 34 Sump Sediment Contamination

Two sump sediment samples were collected from the Site to determine what types of contaminants may have been used in the buildings and to determine if the sumps/floor drains could be potential sources of soil and groundwater contamination. The majority of the contamination was found in the sump sediment sample collected from Building No. 34. VOC concentrations measured in the sump were sufficiently high to indicate that free-phase product may have accumulated in the sump. Residual contamination may exist around and under this sump. The VOCs detected include methylene chloride (maximum concentration 25,230,000 ppb), 1,2-dichloroethane (maximum concentration 27,460,000 ppb), trichloroethene (maximum concentration 230,000 ppb), 1,1,2-trichloroethane (maximum concentration 560,000 ppb), 1,1,2,2-tetrachloroethane (maximum concentration 870,000 ppb), and the hydrocarbons ethylbenzene (maximum concentration 200,000 ppb), o-xylene (maximum concentration 400,000 ppb), and m, p-xylene (maximum concentration 3,800,000 ppb).

The only semi-volatile contaminant detected at an elevated concentration was benzo(a) pyrene. Only one inorganic, antimony, was detected at an elevated concentration. Five pesticides were detected at concentrations that exceeded the screening criteria. These include Gamma-BHC, heptachlor, aldrin, dieldrin, 4,4'-DDD. PBBs were detected in the two sump samples analyzed at concentrations up to 750 ppb.

### Building Materials

Asbestos-containing materials (ACMs) both friable and non-friable, were found in all of the Site buildings except the Decon Shed and Pump House. The majority of the ACMs were from laboratory related furnishings, caulking, and miscellaneous debris.

Lead-based paint was detected in Building Nos. 33, 34, 35 and 36, the Boiler Room, and the Pump House. Except for a wooden door casing, all lead-based paint was found on steel or other metal substrates such as columns, beams, windows, doors, stairs, ladders, a wall, an elevator, and a fire escape.

One Toxicity Characteristic Leaching Procedure (TCLP) compound, 1,2-dichloroethane, was detected in a building material sample at a concentration that exceeded the RCRA TCLP-regulatory limit. This sample was collected from the exterior of Building No. 33.

Wipe samples were collected from three buildings; Building Nos. 33, 34 and 35. Analysis of these samples indicated the presence of 24 SVOCs, eight pesticides, PBBs, and 21 metals. Based on the results of the sampling conducted at the Site, the principal threats posed by the Site are portions of the highly contaminated surface and subsurface soils, and the building sump sediments.

## CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

The City of Newark is an urban industrial center on the eastern edge of Essex County. Land use on and immediately adjacent to the Site falls almost entirely within the Level I category of Urban or Built-up Land. The Level I Urban or Built-up Land category is characterized by intensive land use where human activities have altered the landscape. Predominant land use surrounding the Site is industrial. The industrial areas are interspersed with some residential and some commercial and service to the southwest of the Site. Immediately to the west of the Site are Weequahic Park and Weequahic Lake. There is some recreational land west of Weequahic Park. The White Chemical Corporation site is currently zoned commercial/industrial. Based upon discussions with the City of Newark, the zoning of this land will not change.

## SUMMARY OF SITE RISKS

Based upon the results of the RI, a baseline risk assessment was conducted to estimate the risks associated with current and future Site conditions. The baseline risk assessment estimates the human health risk that could result from the contamination at the Site if no remedial action were taken.

### Human Health Risk Assessment

A four-step process is used for assessing site-related human health risks for a reasonable maximum exposure scenario: Hazard Identification - identifies the contaminants of concern at the site based on several factors such as toxicity, frequency of occurrence, and concentration. Exposure Assessment -

estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed. Toxicity Assessment - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of effect (response). Risk Characterization - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks.

Hazard Identification

EPA conducted a baseline risk assessment to evaluate the potential risks to human health and the environment associated with the White Chemical Corporation Superfund site in its current state. Although the risk assessment evaluated many contaminants identified in the soils, the conclusions of the risk assessment indicate that the significant risks are limited to 1,2-dichloroethane, trichloroethene, and xylenes in the soils at the Site, primarily through inhalation of vapors from VOCs in the soils. This section of the decision summary will focus on the risks associated with these contaminants in the soils. A summary of the concentrations of the contaminants of concern in the soils is provided in Table 1.

Exposure Assessment

EPA's baseline risk assessment addressed the potential risks to human health by identifying several potential exposure pathways by which the public may be exposed to contaminant releases at the Site under current and future land use and groundwater use conditions. Future use of the Site is likely to be commercial/industrial, based on historical land use, surrounding property use, current zoning, and future plans for redevelopment. Therefore, exposure to surface and subsurface soils on the White Chemical Company property were evaluated for commercial/industrial workers and construction workers. In addition, due to the potential for exposure from inhalation of vapors from the VOCs in the soils by off-site workers and nearby residents, this pathway was also evaluated in the baseline human health risk assessment, based on modeled air concentrations for the VOCs. For all media, the reasonable maximum exposure, which is the greatest exposure that is likely to occur at the Site, was evaluated.

Toxicity Assessment

Under current EPA guidelines, the likelihood of carcinogenic (cancer-causing) and noncarcinogenic (systemic) effects due to exposure to Site chemicals are considered separately. Consistent with EPA guidance, it was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, carcinogenic and noncarcinogenic risks associated with exposures to individual contaminants of concern were summed to indicate the potential risks associated with mixtures.

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intake and safe levels of intake (reference doses and inhalation reference doses). Reference doses (RfDs) and inhalation reference doses (RfDis) have been developed by EPA for indicating the potential for adverse health effects. RfDs and RfDis, which are expressed in units

of milligrams per kilogram per day (mg/kg-day), are estimates of daily exposure levels for humans thought to be safe over a lifetime (including sensitive individuals). Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical vapor inhaled) are compared with the RfD or RfDi to derive the hazard quotient for the contaminant in the particular medium. The HI is derived by adding the hazard quotients for all compounds within a particular medium that impact a particular receptor population.

An HI greater than 1 indicates that the potential exists for noncarcinogenic health effects to occur because of Site-related exposures. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. The toxicity values, including reference doses and inhalation reference doses for the contaminants of potential concern at the Site, are presented in Table 2.

Potential carcinogenic risks were evaluated using the cancer slope factors developed by EPA for the contaminants of potential concern. Cancer slope factors (SFs) and inhalation cancer slope factors (SFis) have been developed for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. SFs and SFis, which are expressed in units of $(mg/kg\text{-}day)^{-1}$ are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to generate an upper-bound estimate of the excess lifetime cancer risk associated with exposure to the compound at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the SF or SFi. Use of this approach makes the underestimation of the risk highly unlikely. The SF and SFi values used in this risk assessment for 1,2-dichloroethane, trichloroethene, and xylenes are presented in Table 3.

Risk Characterization

The noncarcinogenic hazard indices (HI) that exceed EPA's acceptable level are presented in Table 4. At the White Chemical Company property, HI values are 3.1 for the future commercial/industrial on-site worker, 21 for the future construction worker, and 2.0 for the current/future off-site commercial/industrial worker. The off-site adult resident is estimated to have an HI value of 9, while the off-site child resident is estimated to have an HI value of 20. In every scenario, inhalation of vapors from soils is the exposure pathway of concern, and 1,2-dichloroethane, trichloroethene, and xylenes are the risk driving contaminants.

For known or suspected carcinogens, EPA considers excess upper-bound individual lifetime cancer risks of between $10^{-4}$ to $10^{-6}$ to be acceptable. This level indicates that an individual has no more than approximately a one in ten thousand to one in one million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year period under specific exposure conditions at a site. Excess lifetime cancer risks estimated at this site are presented in Table 5. At the White Chemical Superfund Site, the excess lifetime cancer risks are $1 \times 10^{-3}$ for the future commercial/industrial on-site worker, $3 \times 10^{-5}$ for the construction worker, and $9 \times 10^{-4}$ for the current/future commercial/industrial off-site worker. The off-site adult resident is estimated to have an excess lifetime cancer risk of $6 \times 10^{-5}$, while the off-site child resident is estimated to have an excess lifetime cancer risk of $3 \times 10^{-5}$. In every scenario, inhalation of vapors from soils is the exposure pathway of concern, and trichloroethene is the risk driving contaminant.

Almost all of these are above the National Contingency Plan's (NCP's) acceptable risk range. The calculations were based on reasonable maximum exposure scenarios. These estimates were developed by taking into account various conservative assumptions about the likelihood of a person being exposed to these media.

## Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- environmental parameter measurement
- fate and transport modeling
- exposure parameter estimation
- toxicological data

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources, including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Fate and transport modeling is also associated with a certain level of uncertainty. Factors such as the concentrations in the primary medium, rates of transport, ease of transport, and environmental fate all contribute to the inherent uncertainty in fate and transport modeling.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually; come in contact with the chemicals of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, and from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the site, and is highly unlikely to underestimate actual risks related to the site.

More specific information concerning public health and environmental risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the risk assessment report.

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in the ROD, may present an imminent and substantial endangerment to the public health, welfare, or the environment.

### Ecological Risk Assessment

The potential exposure to chemicals in surface soil by small mammals, through ingestion of vegetation, was considered in the screening-level ecological risk assessment. The cottontail rabbit was chosen as the receptor for the surface soil evaluation. The potential for risks to small mammals was (identified for trichloroethene, xylenes, antimony, arsenic and copper in surface soil, at the maximum concentrations. These risks; however, were deemed to be insignificant given the following Site-specific conditions and assessment uncertainties:

- Lack of a significant habitat on or next to the Site,
- High degree of human activity in the Site vicinity,
- Impermeable surfaces, buildings, etc. covering surface soils, and
- Conservative exposure assumptions related to diet, home range, and exposure point concentrations.

The Site offers limited habitat value to wildlife since it is within a highly urbanized location and contains very little vegetation or open space. This is also likely to be the case under the future scenario. Therefore, no further action is recommended regarding ecological receptors at the Site.

## REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards such as ARARs and appropriate criteria, advisories, and guidance (i.e., To Be Considered or "TBCs") and risk-based action levels established based on the risk assessment. Remedial action objectives developed for the soil considers all identified Site concerns and contaminant pathways, and are listed below:

- Reduce or eliminate the direct contact threat associated with contaminated soil to levels protective of a commercial/industrial use.
- Reduce or eliminate exposure through inhalation of vapors that may migrate from contaminated soils.
- Minimize or eliminate contaminant migration to the groundwater.
- Maximize consistency with the future development of the Site.

This proposed action would reduce the direct contact excess cancer risk associated with exposure to contaminated soils to below one in a million for commercial/industrial Site uses. This proposed action would also reduce the excess non-cancer risk associated with inhalation exposure to vapors from contaminated soils to below 1 for commercial/industrial Site uses. This will be achieved by reducing the concentration of the surface and subsurface soil contaminants to at or below risk-based levels developed in the risk assessment as shown in Table 6. These risk-based levels are the Remediation Goals for the Site.

Because soils are contaminated with VOCs at levels that could result in continuing sources of groundwater contamination, this proposed action would reduce the threat to groundwater posed by

VOCs in these soils by addressing the VOCs in soils with concentrations in excess of the NJDEP Impact to Groundwater Soil Cleanup Criteria, as indicated in Table 6, to the extent practicable. The estimated depth of the soil excavation of up to 8 feet below ground surface is based on the depth to groundwater which averages 8 feet across the Site. To satisfy the remedial action objectives, an estimated 21,185 cubic yards of contaminated soil would require remediation by each of the active alternatives. This estimate includes the removal of all soil to a depth of 8 feet under Site buildings and tanks because contaminated soil above the remedial goals is believed to be present there. Post demolition soil sampling will confirm the actual depth of soil excavation necessary to achieve Remediation Goals. The location of soil under the buildings and ASTs is shown on Plate 2.

## DESCRIPTION OF ALTERNATIVES

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requires that each remedial alternative be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery technologies to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility or volume of hazardous substances.

### Common Elements

Many of the remedial alternatives include common components. The "construction time" for each alternative reflects only the time required to construct or implement the remedy and does not include the time required to design the remedy. It generally takes 1-2 years for planning, design and procurement before subsequent construction of the remedial alternative.

The OU2 FS estimates the volume of soil that requires remediation to be 21,185 cubic yards (CY). This includes the soil under all Site buildings and ASTs, which have not been sampled and an additional 30% for slope cutback. Based on the limited TCLP sampling results, it is estimated that approximately 2,000 CY would be considered hazardous under RCRA.

In addition to the technologies indicated under each alternative, all of the alternatives would require an Institutional Control such as a deed restriction because contaminants would remain on Site above levels that would allow for residential use.

Under each alternative, hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. Therefore, EPA would review such action at least every five years.

Each alternative, except S-1, No Action, will require the demolition and off-site disposal of buildings and above-ground storage tanks.

**Alternative S-l : No Action**

| | |
|---|---|
| Estimated Capital Cost: | $0 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $0 |
| Estimated Construction Time: | None |

CERCLA and the NCP require the evaluation of No Action as a baseline to which other alternatives are compared. No active remediation or containment of any contamination associated with the soils/buildings/tanks would be performed. However, this alternative would include five-year reviews of Site data as required by CERCLA for sites where contamination remains after initiation of the remedial action.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-2: Containment**

| | |
|---|---|
| Estimated Capital Cost: | $2,640,000 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $2,717,000 |
| Estimated Construction Time: | 6-12 months |

Alternative S-2 consists of the demolition of all on-site buildings, AST removal, and placement of an asphalt cap over the Site. Before building demolition, abatement of asbestos and lead-based paint would be required. All removed asbestos and lead-based paint would be disposed of at an appropriately licensed off-site facility.

As a result of the presence of building material which exceeds TCLP for 1,2-dichloroethane in one sample from Building 33, additional building material samples would be collected during the pre-design or design phase from this building to verify the extent of the contamination. Any hazardous building materials would be segregated and disposed of at an appropriate off-site location. Non-hazardous demolition debris would be disposed of at a sanitary landfill. During building demolition, the existing on-site asphalt would be removed and disposed of at an appropriate facility.

Before removal of on-site ASTs, the tanks would be tested for the presence of asbestos and lead-based paint. No sampling of the ASTs was conducted during the OU2 RI; however, visual evidence indicates the likely presence of both lead paint and asbestos. Following any abatement required by the sampling, the interior of the ASTs would be decontaminated (removal of product or sludge) and removed.

Because greater than 5,000 square feet of the Site would be disturbed during AST removal and building demolition, a Soil Erosion and Sediment Control Plan would be developed. The

requirements of this plan would likely include: installation of a silt fence around the Site, construction of a crushed stone stabilized construction entrance, and protection of any on-site catch basins. The Soil Erosion and Sediment Control Plan would also cover any further remedial work at the Site.

Following building demolition and AST removal, the entire Site would be paved with an asphalt cap. The cap would be placed on top of existing Site soil and graded to provide drainage toward existing catch basins. The catch basins would be modified so that they would remain level with the top of the asphalt cap. The asphalt cap would consist of (from bottom to top): a geomembrane liner, one foot of crushed stone sub-base, eight inches of asphalt base and three inches of top course. In addition, a deed restriction would be placed on the Site to limit future intrusive Site activities. Long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-3: Soil Vapor Extraction, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $3,941,420 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $4,019,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with Soil Vapor Extraction (SVE). The exact design of the SVE treatment process for the Site would be developed in the design phase through a pilot study. In general, though, a series of vertical wells would be installed around the Site, and a vacuum would be applied to the soil to induce the flow of air and remove the VOCs. Vapors recovered by the wells would be treated using Granular Activated Carbon (GAC). The GAC would need to be periodically removed for off-site regeneration and replacement. After completion of the SVE, the entire Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-4: Steam Injection, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $4,998,980 |
| Estimated Animal O&M Cost: | $5,000 |
| Estimated Present Worth: | $5,076,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with steam injection. As with SVE, the steam injection process option is intended to remove volatile organic contaminants in the soil. A pilot test would be required before design. In general, a series of steam injection wells would be installed to a depth just below the bottom of the vadose zone (approximately eight feet below grade). Steam would be injected through these wells, heating the overlying soil, and volatilizing the VOCs. The resulting vapors would then be removed through SVE. While the initial costs for steam injection are higher than for standard SVE, it is possible that these costs can be recouped through a greater efficiency in removal. After completion of the steam injection treatment, the Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

### Alternative S-5: Excavation and Off-site Disposal

| | |
|---|---|
| Estimated Capital Cost: | $7,664,440 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $7,664,440 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described previously under Alternative S-2, all soil contaminated above the Remediation Goals would be excavated and disposed of off-site. There are no foreseen space constraints for the removal of soil at the Site. Excavation could proceed utilizing conventional sloping or benching techniques to provide worker protection and minimize cave-in and/or wall collapse. Following excavation, soil would be stockpiled on-site before transportation to an off-site disposal facility. After removal, the excavated areas would be backfilled with select fill, and then covered with top soil and seed. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

### Alternative S-6: Low Temperature Thermal Desorption

| | |
|---|---|
| Estimated Capital Cost: | $8,176,560 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $8,177,000 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described in Alternative S-2, all soil contaminated above Remediation Goals would be excavated, as described in Alternative S-5, and treated on-site using *ex situ* low-temperature thermal desorption. During treatment, any oversized objects, such as boulders, would be segregated and decontaminated. Following treatment, the treated soil would be backfilled. Additional select fill would be brought on Site to replace soil volume lost during treatment. The Site would then be covered by topsoil and seeded. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

## COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy, EPA considered the factors set out in CERCLA § 121, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial response measures pursuant to the NCP, 40 CFR § 300.430(e)(9) and OSWER Directive 9355.3-01. The detailed analysis consisted of an assessment of the individual response measure against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each response measure against the criteria.

**Threshold Criteria** - *The first two criteria are known as "threshold criteria " because they are the minimum requirements that each response measure must meet to be eligible for selection as a remedy.*

### 1. Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled, through treatment, engineering controls, and/or institutional controls.

Alternative S-1 The No Action alternative would not be protective of human health and the environment because contaminated soil and sump material would remain on Site above remediation goals. Therefore, long-term health threats to construction workers, off-site residents, and commercial/industrial workers would not be addressed and the potential remains for future exposure through soil exposure or changes in land use.

Alternative S-2 Overall protection of human health and the environment would be improved under Alternative S-2 because contact with the contaminated soil would be limited by the placement of the impervious cap. However, deed restrictions would need to be imposed that would restrict future digging in subsurface soils and construction at the Site. Since the City of Newark has indicated that the future use of the Site property will be commercial/light industrial, construction in the subsurface soils could occur in the future and this alternative would significantly limit the options for property

redevelopment. Migration of VOCs from the soil to the groundwater would be reduced because infiltration would be reduced.

Alternatives S-3 and S-4 Under these alternatives, the overall protection of human health and the environment would be achieved by removal of the VOCs in the soil through on-site treatment. These alternatives are protective of human health and the environment but since residual contaminated soil remains on-site under the asphalt cap a deed restriction would be required to maintain protectiveness.

Alternatives S-5 Under Alternative S-5, protection of human health would be achieved by removing contaminated soil from the Site and placing it in an appropriate off-site facility.

Alternative S-6 Under this alternative, the overall protection of human health and the environment would be achieved by direct removal of the organic contaminants through on-site treatment.

Because the no action alternative (Alternative S-l) is not fully protective of human health and the environment it was eliminated from consideration under the remaining eight criteria.

**2. Compliance with applicable or relevant and appropriate requirements (ARARs)**

Section 121 (d) of CERCLA and NCP § 300.430(f)(l)(ii)(B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate Federal and State requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA section 121(d)(4). Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those State standards identified by a state in a timely manner and that are more stringent than Federal requirements may be applicable.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those State standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate. Compliance with ARARs addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes or provides a basis for an invoking waiver.

Alternatives S-2, S-3, S-4, S-5 and S-6 would comply with ARARs. Major ARARs are briefly described below.

There are no chemical-specific ARARs for the contaminated soils. The Remediation Goals are risk-based for the surface soils. In addition, NJDEP has developed Impact to Groundwater Soil Cleanup Criteria to address sources of groundwater contamination in soils, which are also TBCs. Alternatives S-2 through S-6 would satisfy these cleanup goals through containment, treatment or removal of contaminated soil.

Air standards set forth in 40 CFR 50 and NJAC 7:27-13 would be addressed through monitoring during remedial activities.

The Resource Conservation and Recovery Act (RCRA) is a federal law that mandates procedures for treating, transporting, storing, and disposing of hazardous substances. All portions of RCRA that were applicable or relevant and appropriate to the proposed remedy for the Site would be met by Alternative S-2 through S-6.

Hazardous waste identification and listing would be performed in accordance with 40 CFR 261 and NJAC 7:25G-5. Hazardous waste disposal would be performed in accordance with 40 CFR 268.45 and NJAC 7:26G11.

Because the documentation regarding the source of contamination is inconclusive, EPA has concluded that; the soil contaminants are not RCRA-listed hazardous waste. Some soil testing has identified soils' that exhibit hazardous characteristics, and these soils would need to be treated off-site to remove these characteristics, in accordance with RCRA, prior to land disposal.

Transport and disposal of solid and hazardous wastes would be performed in accordance with regulations specified by the U.S. Department of Transportation (DOT) 49 CFR 170-179, RCRA (40 CFR 258,263, 264, and 265) and New Jersey (NJAC 7: 26G, NJAC 16: 49).

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**Primary Balancing Criteria** - *The next five criteria, criteria 3 through 7, are known as "primary balancing criteria." These criteria are factors with which tradeoffs between response measures are assessed so that the best option will be chosen, given site-specific data and conditions.*

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### 3. Long-term effectiveness and permanence

Long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over tune, once clean-up levels have been met. This criterion includes the consideration of residual risk that will remain on site (following remediation and the adequacy and reliability of controls.

Alternative S-2 Capping with asphalt is an effective means of preventing contact with contaminated soil. The long-term effectiveness of Alternative S-2 would be dependent on maintenance of the cap and therefore this is the least certain of the five remaining alternatives. The cap would need to be maintained for an indefinite time period to prevent contact with contaminated! soil.

Alternatives S-3 and S-4 Under these alternatives, long-term risks would be minimized and permanence nearly achieved for VOC contaminated soil because SVE, or steam injection and SVE would remove most VOC contaminants and the off-gas would be treated. The effectiveness of minimizing contact with residual contamination would be dependent on maintenance of the cap.

Alternative S-5 Under this alternative, the contaminated soil is not treated, but relocated to an off-site location permitted to accept the material for disposal. The off-site location will have the appropriate controls and be licensed to accept this material. Long-term on-site risks will be reduced, because the contaminated soil will be removed. This alternative is considered permanent.

Alternative S-6 Using low-temperature thermal desorption, long-term risks would be eliminated and permanence achieved for VOC contaminated soil because treatment would remove VOC contaminants from the soil, and the off-gas would be treated.

**4. Reduction of toxicity, mobility, or volume**

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that maybe included as part of a remedy.

Alternative S-2 This alternative does not reduce the toxicity or volume of contaminated soil, but the mobility of the contaminants would be decreased because of the reduction of rainwater infiltration after installation of the asphalt cap.

Alternatives S-3 and S-4 These alternatives would reduce the toxicity and volume of the VOCs in the soil through the removal of the VOCs and treatment of the off-gas. The mobility of any residual contamination would be reduced by the installation of the cap.

Alternative S-5 Under this alternative, there would be a reduction in the mobility, toxicity and volume of contaminated soil at the Site through proper disposal in an off-site facility. Minimal reduction in toxicity and volume of VOC contaminated soil may occur when the soil is mixed with other wastes in the landfill. If the hazardous soil requires pretreatment, a reduction of the volume and toxicity would occur.

Alternative S-6 This alternative would reduce the toxicity, mobility, and volume of the organics in the soil through the removal and off-gas treatment.

**5. Short-Term Effectiveness**

Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community and the environment during construction and operation of the remedy until cleanup levels are achieved.

Alternative S-2 This alternative would involve minimal short-term risks to workers and the community during building/tank demolition and installation of the asphalt cap. The short-term risks

will be controlled with proper personal protective equipment (PPE), air monitoring, and Site controls.

Alternative S-3 and S-4 These alternatives contains some short-term risks to workers and the community, associated with handling of, and exposure to, off-gases generated during SVE equipment operation. These short-term risks to workers and the community will be controlled with proper PPE, air monitoring, and Site controls.

Alternatives S-3 and S-4 would provide significant impediments to the City of Newark's redevelopment plans for the Site since the placement of recovery wells and treatment systems would limit available land for redevelopment for a significant time period following construction and until remediation goals are achieved. Given the significant levels of contamination remaining in the soil, treatment would potentially be required for a number of years. Before demobilization of equipment there would need to be a monitoring period to ensure that remediation goals were achieved. During the time period required to design, pilot test, implement, arid monitor the results the Site will not be available for redevelopment.

Alternative S-5 This alternative poses short-term risks to on-site workers during building/tank demolition. In addition, during excavation, there are some short-term risks to on-site workers resulting from dust generation, direct contact with contaminated soil and open excavations during treatment. These risks will be reduced with proper PPE, air monitoring, and Site controls. Additional short-term risks are posed during the transport of the contaminated soil to the off-site disposal facility, from accidental spills on roadways.

Alternative S-5 offers the fewest constraints in terms of redevelopment of the property since the excavation and removal will only require a relatively short time period to design and implement.

Alternative S-6 This alternative contains some short-term risks to workers and the community, associated with handling of, and exposure to, off-gases generated during treatment. In addition, during excavation, there are some short-term risks to on-site workers resulting from dust generation, direct contact with contaminated soil and open excavations during treatment. These short-term risks to workers and the community could be controlled with proper PPE, air monitoring, arid Site controls.

## 6. Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

Alternative S-2 This alternative is easily implemented using standard construction techniques.

Alternatives S-3 SVE has been implemented at many similar sites. A pilot test would be required prior to implementation.

Alternative S-4 *In situ* steam injection could be implemented successfully in a relatively short period of time. Steam injection is a relatively newer and innovative technology, so a pilot test would be required prior to implementation.

Alternative S-5 Excavation and off-site disposal utilizes conventional means and equipment. No new techniques or pilot tests would be required.

Alternative S-6 Low temperature thermal desorption (LTDD) is feasible; however, there have been some problems with the removal of halogenated VOCs at some sites. Because of the proximity of residential areas to the Site there may be community concerns regarding the implementation of LTDD. Care must be taken in the selection of the appropriate thermal desorption equipment.

### 7. Cost

Includes estimated capital and O&M costs, and net present worth value of capital and O&M costs.

Alternative S-2 costs are estimated to be $2,717,000; Alternative S-3 costs are estimated to be $4,019,000; Alternative S-4 costs are estimated to be $5,076,000; Alternative S-5 costs are estimated to be $7,664,440; and, Alternative S-6 cost are estimated to be $8,177,000.

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**Modifying Criteria** - *The final two evaluation criteria, criteria 8 and 9, are called "modifying criteria " because new information or comments from the state or the community on the Proposed Plan may modify the preferred response measure or cause another response measure to be considered.*

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### 8. State acceptance

Indicates whether based on its review of the RI/FS reports and the Proposed Plan, the state supports, opposes, and/or has identified any reservations with the selected response measure.

The State of New Jersey concurs with Alternative S-5.

### 9. Community acceptance

Summarizes the public's general response to the response measures described in the Proposed Plan and the RI/FS reports. This assessment includes determining which of the response measures the community supports, opposes, and/or has reservations about. EPA solicited input from the community on the remedial response measures proposed for the Site. The attached Responsiveness Summary addresses the comments received by the community. The community is supportive of Alternative S-5.

## PRINCIPAL THREAT WASTE

This action is considered the final remedy for the soils, buildings and above-ground storage tanks at the Site. This action addresses the contaminated soil and building sump sediments, some of which are considered principal threat wastes because the chemicals of concern are found at concentrations that pose a significant risk. The treatment; alternatives, including Alternatives S-3, S-4 and S-6, and, to a degree, S-5, will meet the "principal threat" waste requirements for considering treatment as a principal element.

## SELECTED REMEDY

Based upon consideration of the results of the Site investigation, the requirements of CERCLA, the detailed analysis of the response measures, and public comments, EPA has determined that Alternative S -5 is the appropriate remedy for addressing the contaminated soil and debris at the Site. Alternative S-5 (Excavation; Off-site Disposal with Treatment) satisfies the requirements of CERCLA § 121 and the NCP's nine evaluation criteria for remedial alternatives, 40 CFR § 300.430 (e)(9). Alternative S-5 is comprised of the following components:

- demolition and off-site disposal of nine on-site buildings;
- removal and off-site disposal of above-ground storage tanks;
- excavation of an estimated 21,185 cubic yards of contaminated soil;
- off-site transportation and disposal of contaminated soil, with treatment as necessary;
- backfilling and grading of all excavated areas with clean soil and seeding the areas;
- placement of a deed notice to restrict land use to non-residential (commercial/light industrial) uses; and
- appropriate environmental monitoring to ensure the effectiveness of the remedy.

As part of the implementation of the selected remedy, additional information will be collected to further define the limits of contamination at the Site. For example, soil sampling will be conducted after the on-site buildings and all on-site sumps have been demolished to determine the volume of soil that must be removed from these areas, and to confirm the limits of excavation, including in those areas where contaminated material extends to the property line. In addition, investigations will be conducted where anomalies were detected during ground penetrating radar surveys. Finally, post-excavation sampling will confirm that all contaminated material with concentrations above the remediation goals has been removed.

The estimated cost of Alternative S-5 is $7,664,440. A summary of the estimated remedy cost for Alternative S-5 is included as Table 7 of this ROD. The information in the cost estimate summary table is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in a memorandum in the Administrative Record file, an Explanation of Significant Differences, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

The selection of Alternative S-5 provides the best balance of tradeoffs among response measures with respect to the nine evaluation criteria. EPA believes that Alternative S-5 will be protective of human health and the environment, will be cost effective, and will utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

## STATUTORY DETERMINATIONS

As was previously noted, CERCLA § 121(b)(l) mandates that a remedial action must be protective of human health and the environment, cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(l) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity or mobility of the hazardous substances, pollutants, or contaminants at a site. CERCLA § 121(d) further specifies that a remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA § 121(d)(4).

### Protection of Human Health and the Environment

The Selected Remedy, Alternative S-5, will adequately protect human health and the environment through off-site disposal, with treatment as needed, and deed restrictions. The Selected Remedy will eliminate all significant direct-contact risks to human health and the environment associated with the soil and debris. In addition, this action will eliminate and/or reduce substantial sources of contamination to the groundwater. This action will result in the reduction of exposure levels to acceptable risk levels within EPA's generally acceptable risk range of $10^{-4}$ to $10^{-6}$ for carcinogens and below an HI of 1 for non-carcinogens. Implementation of the Selected Remedy will not pose unacceptable short-term risks or adverse cross-media impacts.

### Compliance with ARARs

Alternative S-5 will comply with ARARs as described below. Air standards set forth in 40 CFR 50 and NJAC 7:27-13 will be addressed through monitoring during remedial activities. Hazardous waste identification and listing will be performed in accordance with 40 CFR 261 and NJAC 7:25G-5. Hazardous waste disposal will be performed in accordance with 40 CFR 268.45 and NJAC 7:26G11. Transport and disposal of solid and hazardous wastes will be performed in accordance with regulations specified by the U.S. Department of Transportation (DOT) 49 CFR 170-179, RCRA (40 CFR 258, 263,264, and 265) and New Jersey (NJAC 73266, NJAC 16:49). A complete list of all ARARs may be referenced in Table 8.

### Cost Effectiveness

In the lead agency's judgment, the Selected Remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A

remedy shall be cost-effective if its costs are proportional to its overall effectiveness." (NCP § 300.430(f)(l)(ii)(D)) This was accomplished by evaluating the "overall effectiveness" of those alternatives that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). Overall effectiveness was then compared with costs to determine cost-effectiveness. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and therefore this alternative represents a reasonable value for the money to be spent.

The total present worth for Alternative S-5 is estimated to be $7,664,440. Alternative S-l was determined not to be an acceptable alternative. Alternative S-2 is estimated to cost $2,717,000, Alternative S-3 is estimated to cost $4,019,000, and Alternative S-4 is estimated to cost $5,076,000. However, these alternatives are not as protective of human health as the selected alternative. Alternative S-6 is estimated to cost $8177,000. Therefore, the selected alternative is cost effective as it has been determined to provide the greatest overall protectiveness for its present worth. costs.

## Utilization of Permanent Solutions and Alternative Treatment Technologies

EPA has determined that the Selected Remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. Of those alternatives that are protective of human health and the environment and comply with ARARs. EPA has determined that the Selected Remedy provides the best balance of trade-offs in terms of the five balancing criteria, while also considering the statutory preference for treatment as a principal element and bias against off-site treatment and disposal and considering State and community acceptance. The Selected Remedy satisfies the criteria for long-term effectiveness and permanence by removing all excavated contaminated source material from the Site. The selected remedy does not present short-term risks different from the other alternatives. There are no special implementability issues since the remedy employs standard technologies.

## Preference for Treatment as a Principal Element

This remedy excavates and treats the most highly contaminated soil off-site and, therefore, addresses the principal threat wastes at the Site.

## Five-Year Review Requirements

Because this remedy results in hazardous substances, pollutants, or contaminants remaining on the Site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years of the initiation of the remedial action for this operable unit, to ensure that the remedy is, or will be, protective of human health and environment, unless determined otherwise at the completion of the remedial action.

## DOCUMENTATION OF SIGNIFICANT CHANGES

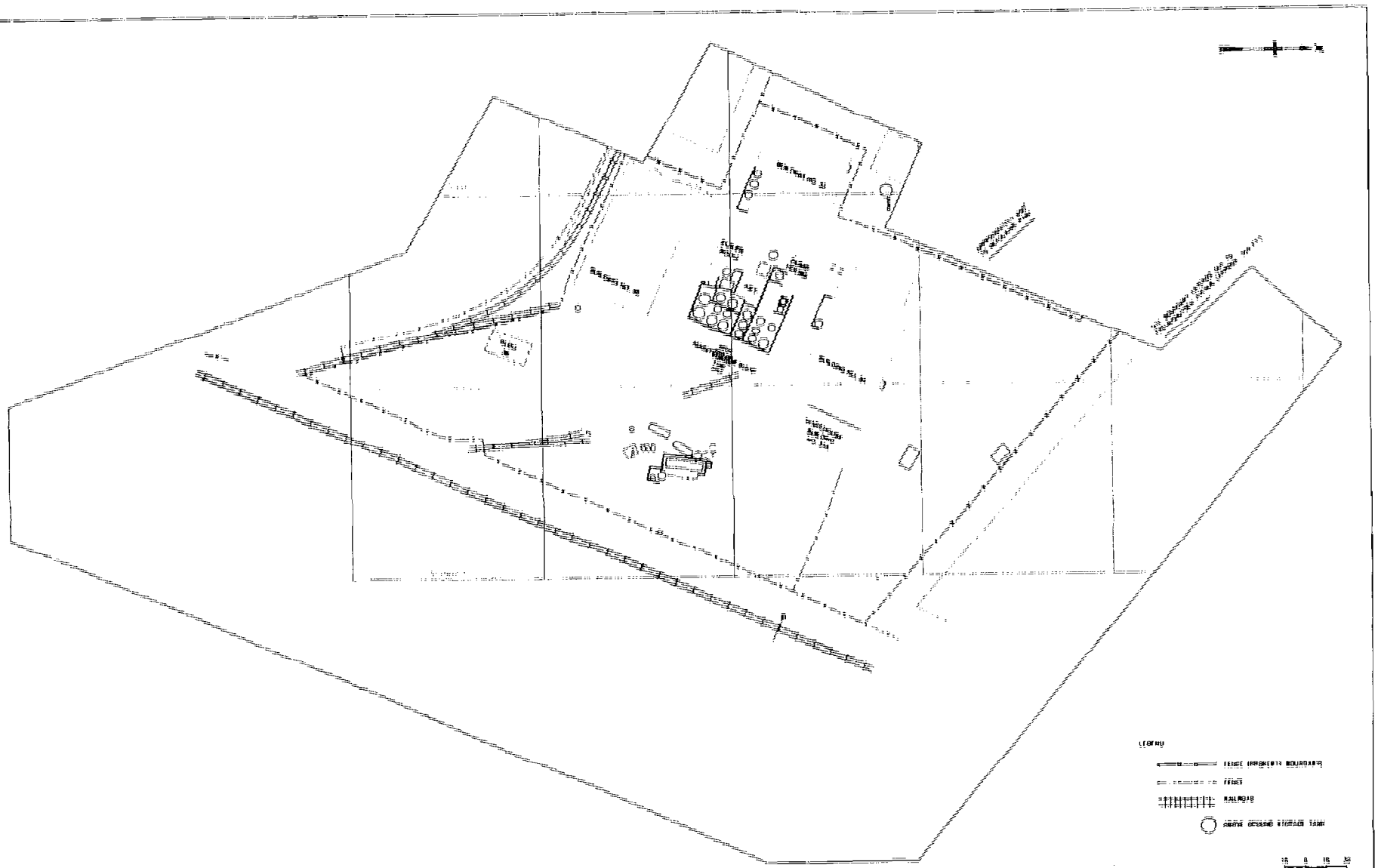
The Proposed Plan for the White Chemical Corporation site was released for public comment on August 4, 2005. The Proposed Plan identified Alternative S-5, Excavation and Off-site Disposal as EPA's preferred alternative. EPA reviewed all written and verbal comments submitted during the public comment period. It was determined that no significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate.

As part of the implementation of the selected remedy, additional information will be collected to further define the limits of contamination at the Site. For example, soil sampling will be conducted after the on-site buildings and all on-site sumps have been demolished to determine the volume of soil that must be removed from these areas, and to confirm the limits of excavation, including in those areas where contaminated material extends to the property line. In addition, investigations will be conducted where anomalies were detected during ground penetrating radar surveys. Finally, post-excavation sampling will confirm that all contaminated material with concentrations above the remediation goals has been removed.

All building sumps, including those that have not been sampled, are expected to be removed during the implementation of the selected remedy.

# Appendix I

# Figures



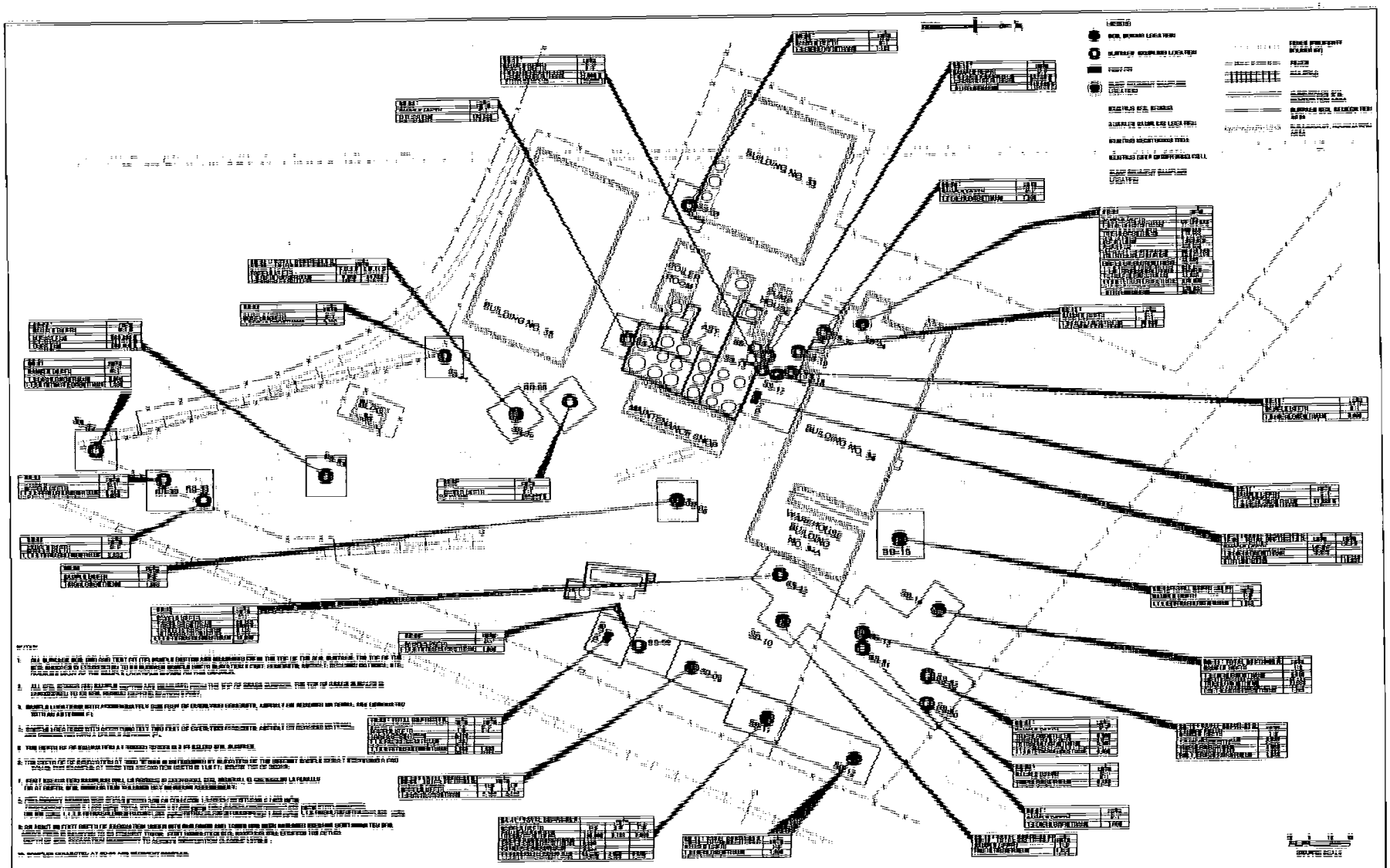
MALCOLM PIRNIE

TETRA TECH, INC.

WHITE CHEMICAL CORPORATION SUPERFUND SITE
NEWARK, NEW JERSEY
USEPA RAC II PROGRAM
CONTRACT NO. 68-W-98-214; W.A. NO. 127-RICO-026J

SITE BASE MAP

PLATE 1




MALCOLM PIRNIE

TETRA TECH EC, INC

WHITE CHEMICAL CORPORATION SUPERFUND SITE
NEWARK, NEW JERSEY
USEPA RAC II PROGRAM
CONTRACT NO. 68-W-98-214; W.A. NO. 127-RICO-026J

SURFACE AND SUBSURFACE SOIL REMEDIATION
AREAS WHERE VOCs EXCEED PRGs

PLATE 2

# Appendix II

# Tables

## TABLE 1

### Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

**Scenario Timeframe:** Current/Future
**Medium:** All Soils
**Exposure Medium:** *All Soils*

| Exposure Point | Chemical of Potential Concern | Concentration Detected | | Concentration Units | Frequency of Detection | Exposure Point Concentration | Exposure Point Concentration Units | Statistical Measure |
|---|---|---|---|---|---|---|---|---|
| | | Min | Max | | | | | |
| White Chemical All Soils | 1,2-Dichloroethane | 0.071 | 43 | mg/kg | 55/172 | 3.12 | mg/kg | 95% UCL - C |
| | Trichloroethene | 0.077 | 130 | mg/kg | 62/172 | 5.36 | mg/kg | 95% UCL - C |
| | m,p-Xylenes | 0.071 | 500 | mg/kg | 33/172 | 21.8 | mg/kg | 95% UCL - C |
| | o-Xylenes | 0.075 | 260 | mg/kg | 31/172 | 8.92 | mg/kg | 95% UCL - C |

**Key**
mg/kg: milligrams per kilogram
95% UCL - C: 95% Chebyshev Upper Confidence Limit

**Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations**

The table presents the chemicals of potential concern (COPCs) and exposure point concentration for each of the COPCs detected in media at the White Chemical Superfund site (*i.e.*, the concentration that will be used to estimate the exposure and risk from each COPC in each medium). 1,2-Dichloroethane, trichloroethene, and m-,p-xylenes and o-xylenes are the COPCs in all soils. The table includes the range of concentrations detected for each COPC in all soils, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the exposure point concentration (EPC), and how the EPC was derived. Risks and hazards from inhalation of airborne contaminants in vapors emanating from onsite soils are modeled from the all soils EPCs presented and can be found in the Final Risk Assessment Report for the White Chemical Superfund Site.

## TABLE 2

## Non-Cancer Toxicity Data Summary

**-Ingestion**

| Chemical of Potential Concern | Chronic/ Subchronic | Oral RfD Value | Oral RfD Units | Adjusted RfD (for Dermal) | Adjusted Dermal RfD Units | Primary Target Organ | Uncer-tainty /Modify Factors | Sources of RfD: Target Organ | Dates of RfD: |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | Chronic | 2E-02 | mg/kg-day | 2E-02 | mg/kg-day | Kidney | 3000 | NCEA | 10/02 |
| Trichloroethene | Chronic | 3E-04 | mg/kg-day | 3E-04 | mg/kg-day | Liver | 3000 | NCEA | 08/01 |
| Xylenes (total) | Chronic | 2E-01 | mg/kg-day | 2E-01 | mg/kg-day | Body Weight | 1000 | IRIS | 02/03 |

**-Inhalation**

| Chemical of Potential Concern | Chronic/ Subchronic | Inhal. RfC | Inhal. RfC Units | Inhalation RfD | Inhalation RfD Units | Primary Target Organ | Uncer-tainty /Modify Factors | Sources of RfD: Target Organ | Dates of RfC: |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | Chronic | 5E-03 | mg/m$^3$ | 1.4E-03 | mg/kg-day | GI Tract | 3000 | NCEA | 04/93 |
| Trichloroethene | Chronic | 4E-02 | mg/m$^3$ | 1.1E-02 | mg/kg-day | Liver, CNS | 1000 | NCEA | 08/01 |
| Xylenes (total) | Chronic | 1E-01 | mg/m$^3$ | 2.9E-02 | mg/kg-day | CNS | 300 | IRIS | 02/03 |

Key
NA: No information available
CNS: Central Nervous System Effects
GI Tract: Gastrointestinal Tract
NCEA: National Center for Environmental Assessment, U.S. EPA
IRIS: Integrated Risk Information System, U.S. EPA
mg/kg: milligrams per kilogram
mg/m$^3$: milligrams per cubic meter

Summary of Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to *1,2-dichloroethane, trichloroethene,* and *xylenes (total)*, the contaminants of potential concern in surface soils at the White Chemical Superfund Site. The toxicity values for xylenes (total) are applied to both m-,p-xylenes and o-xylenes.

## TABLE 3

## Cancer Toxicity Data Summary

**-Ingestion, Dermal Contact**

| Chemical of Potential Concern | Oral Cancer Slope Factor | Units | Adjusted Cancer Slope Factor (for Dermal) | Slope Factor Units | Weight of Evidence/ Cancer Guideline Description | Source | Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | 9.1E-02 | $(mg/kg\text{-}day)^{-1}$ | B2 | IRIS | 01/91 |
| Trichloroethene | 4E-01 | $(mg/kg\text{-}day)^{-1}$ | 4E-01 | $(mg/kg\text{-}day)^{-1}$ | B2-C | NCEA | 08/01 |
| Xylenes (total) | NA | $(mg/kg\text{-}day)^{-1}$ | NA | $(mg/kg\text{-}day)^{-1}$ | | | |

**-Inhalation**

| Chemical of Potential Concern | Unit Risk | Units | Inhalation Cancer Slope Factor | Slope Factor Units | Weight of Evidence/ Cancer Guideline Description | Source | Date |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | NA | $(mg/m^3)^{-1}$ | NA | $(mg/kg\text{-}day)^{-1}$ | | | |
| Trichloroethene | NA | $(mg/m^3)^{-1}$ | 4E-01 | $(mg/kg\text{-}day)^{-1}$ | B2-C | NCEA | 08/01 |
| Xylenes (total) | NA | $(mg/m^3)^{-1}$ | NA | $(mg/kg\text{-}day)^{-1}$ | | | |

**Key**

NCEA : National Center for Environmental Assessment
IRIS: Integrated Risk Information System

**EPA Group:**

A - Human carcinogen
B1 - Probable Human Carcinogen - Indicates that limited human data are available
B2 - Probable Human Carcinogen - Indicates sufficient evidence in animals associated with the site and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

**Summary of Toxicity Assessment**

This table provides carcinogenic risk information which is relevant to 1,2-dichloroethane, trichloroethene, and xylenes (total), the contaminants of potential concern in surface soils at the White Chemical Superfund Site.

## TABLE 4

Page 1 of 2

### Risk Characterization Summary - Non-Carcinogens

**Scenario Timeframe:** Future
**Receptor Population:** Commercial/Industrial Onsite Worker
**Receptor Age:** Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Primary Target Organ | Non-Carcinogenic Hazard Quotient | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | 1,2-Dichloroethane | Kidney | – | 0.2 | – | 0.2 |
| | | | Trichloroethene | Liver | – | 0.3 | – | 0.3 |
| | | | Xylenes | Body Weight | – | 0.5 | – | 0.5 |
| | | | | | | | Total Hazard Index = | 1.1 |

**Scenario Timeframe:** Future
**Receptor Population:** Construction Worker
**Receptor Age:** Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Primary Target Organ | Non-Carcinogenic Hazard Quotient | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | 1,2-Dichloroethane | Kidney | – | 0.5 | – | 0.5 |
| | | | Trichloroethene | Liver | – | 0.1 | – | 0.1 |
| | | | Xylenes | Body Weight | – | 0.05 | – | 0.05 |
| | | | | | | | Total Hazard Index = | 0.7 |

**Scenario Timeframe:** Current/Future
**Receptor Population:** Off-site Resident
**Receptor Age:** Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Primary Target Organ | Non-Carcinogenic Hazard Quotient | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | 1,2-Dichloroethane | Kidney | – | 2 | – | 2 |
| | | | Trichloroethene | Liver | – | 3 | – | 3 |
| | | | Xylenes | Body Weight | – | 4 | – | 4 |
| | | | | | | | Total Hazard Index = | 9 |

## TABLE 4

**Page 2 of 2**

### Risk Characterization Summary - Non-Carcinogens

**Scenario Timeframe:** Current/Future
**Receptor Population:** Off-site Resident
**Receptor Age:** Child

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Primary Target Organ | Non-Carcinogenic Hazard Quotient | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | 1,2-Dichloroethane | Kidney | -- | 4 | -- | 4 |
| | | | Trichloroethene | Liver | -- | 6 | -- | 6 |
| | | | Xylenes | Body Weight | -- | 9 | -- | 9 |
| | | | | | | | **Total Hazard Index =** | 20 |

**Scenario Timeframe:** Current/Future
**Receptor Population:** Commercial/Industrial Off-site Worker
**Receptor Age:** Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Primary Target Organ | Non-Carcinogenic Hazard Quotient | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | 1,2-Dichloroethane | Kidney | -- | 0.3 | -- | 0.3 |
| | | | Trichloroethene | Liver | -- | 0.5 | -- | 0.5 |
| | | | Xylenes | Body Weight | -- | 0.2 | -- | 0.2 |
| | | | | | | | **Total Hazard Index =** | 2.0 |

**Summary of Risk Characterization for Non-Carcinogens**

The noncancer risk estimates presented represent both the noncarcinogenic hazards associated with exposure to the contaminants of potential concern as well as the total noncancer hazard index from exposure to all site-related contaminants detected. As shown in the table, the most significant contribution to the total noncancer hazard is from arsenic; no other individual contaminant contributed significantly to the total noncancer hazard.

# TABLE 5

Page 1 of 2

## Risk Characterization Summary - Carcinogens

Scenario Timeframe: Future
Receptor Population: Commercial/Industrial On-Site Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | Trichloroethene | -- | 6E-04 | -- | 6E-04 |
| | | | | | | Total Risk = | 1E-03 |

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | Trichloroethene | -- | 7E-06 | -- | 7E-06 |
| | | | | | | Total Risk = | 3E-05 |

Scenario Timeframe: Current/Future
Receptor Population: Off-Site Resident
Receptor Age: Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | Trichloroethene | -- | 6E-03 | -- | 6E-03 |
| | | | | | | Total Risk = | 6E-03 |

Scenario Timeframe: Current/Future
Receptor Population: Off-site Resident
Receptor Age: Child

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ingestion | Inhalation | Dermal | Exposure Routes Total |
| All Soils | Air | Vapors in Outdoor Air | Trichloroethene | -- | 3E-03 | -- | 3E-03 |
| | | | | | | Total Risk = | 3E-03 |

## TABLE 5

**Page 2 of 2**

### Risk Characterization Summary - Carcinogens

**Scenario Timeframe:** *Current/Future*
**Receptor Population:** Commercial/Industrial Off-site Worker
**Receptor Age:** Adult

| Medium | Exposure Medium | Exposure Point | Chemical of Potential Concern | Carcinogenic Risk | | | |
|---|---|---|---|---|---|---|---|
| | | | | *Ingestion* | *Inhalation* | *Dermal* | *Exposure* Routes Total |
| All Soils | Air | Vapors in Outdoor Air | Trichloroethene | -- | 8E-04 | -- | 8E-04 |
| | | | | | | **Total Risk =** | 9E-04 |

**Summary of Risk Characterization for Carcinogens**

The cancer risk estimates presented represent both the cancer risk associated with exposure to the contaminant of concern, Trichloroethene, as well as the total cancer risk from exposure to all site-related contaminants detected. As shown in the table, the most significant contribution to the total cancer risk is from TCE; no other contaminant contributed significantly to the total cancer risk.

| TABLE 6<br>REMEDIATION GOALS<br>SOIL<br>WHITE CHEMICAL CORPORATION SITE | | | | |
|---|---|---|---|---|
| Contaminant | Risk Based Action Levels | NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) | NJDEP Impact to Ground Water Soil Criteria (IGWSCC) | Remediation Goals |
| 1,2 Dichloroethane | 61,000 ug/kg | 24,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| cis-1,2,-Dichloroethene | - | 100,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Ethylbenzene | - | 100,000 ug/kg | 100,000 ug/kg | 100,000 ug/kg |
| 1,1,2,2,-Tetrachloroethane | - | 310,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Tetrachloroethene (PCE) | - | 6,000 ug/kg | 1000 ug/kg | 1,000 ug/kg |
| 1,1,2-Trichloroethane | - | 420,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Trichloroethene | 1,190 ug/kg | 54,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| m,p-Xylenes | 163,000 ug/kg | 1,000,000 µg/kg [2] | 67,000 µg/kg [2] | 67,000 ug/kg [2] |
| o-Xylenes | 155,000 ug/kg | | | |

Note:

[1] Risk Based Action Levels were developed based on a $10^{-6}$ risk factor.

[2] Value provided for xylenes (total).

**Table 7**
**REMEDIAL ACTION ALTERNATIVE COST ESTIMATE**
**White Chemical Corporation Site**
**Alternative S-2; Asphalt Cap**

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | COST |
|---|---|---|---|---|
| BUILDING/AST DEMOLITION, ASPHALT CAP | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Asbestos and Lead Paint Abatement (Buildings) | 1 | lump sum | $250,000 | $250,000 |
| Building Demolition | 1 | lump sum | $450,000 | $450,000 |
| Asbestos and Lead Paint Abatement (AST) | 1 | lump sum | $125,000 | $125,000 |
| AST Removal | 1 | lump sum | $200,000 | $200,000 |
| Backfill and Regrading | 3,000 | cu yd | $25 | $75,000 |
| Asphalt Cap Construction (materials and placement) | | | | |
| Geomembrane | 21,300 | sq yd | $5 | $106,500 |
| 1 foot crushed stone | 7,100 | cu yd | $20 | $142,000 |
| 8 inches asphalt base course | 21,300 | sq yd | $11 | $234,300 |
| 3 inches asphalt top course | 21,300 | sq yd | $13 | $276,900 |
| | | | | $1,959,700 |
| SUB-TOTAL CAPITAL COSTS | | | | $293,955 |
| Engineering (15%) | | | | $489,925 |
| Contingency (25%) | | | | $2,743,580 |
| TOTAL CAPITAL COSTS | | | | |
| ANNUAL O&M COSTS: | | | | |
| Cap Maintenance | 1 | lump sum | $5,000.00 | $5,000 |
| TOTAL ANNUAL O&M COSTS | | | | $5,000 |
| PRESENT WORTH COSTS: | | | | |
| Present worth of annual O&M costs, 5% rate over 30 years | | | | $76,862 |
| Total capital costs | | | | $2,743,580 |
| TOTAL PRESENT WORTH | | | | $2,821,000 |

*Table 7*
**REMEDIAL ACTION ALTERNATIVE COST ESTIMATE**
**White Chemical Corporation Site**
**Alternative S-3: Soil Vapor Extraction, Asphalt Cap**

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | COST |
|---|---|---|---|---|
| BUILDING/AST DEMOLITION, ASPHALT CAP | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Asbestos and Lead Paint Abatement (Buildings) | 1 | lump sum | $250,000 | $250,000 |
| Building Demolition | 1 | lump sum | $450,000 | $450,000 |
| Asbestos and Lead Paint Abatement (AST) | 1 | lump sum | $125,000 | $125,000 |
| AST Removal | 1 | lump sum | $200,000 | $200,000 |
| Backfill and Regrading | 3,000 | cu yd. | $25 | $75,000 |
| Asphalt Cap Construction (materials and placement) | | | | |
| Geomembrane | 21,300 | sq yd | $5 | $106,500 |
| 1 foot crushed stone | 7,100 | cu yd | $20 | $142,000 |
| 8 inches asphalt base course | 21,300 | sq yd | $11 | $234,300 |
| 3 inches asphalt top course | 21,300 | sq yd | $13 | $276,900 |
| SOIL VAPOR EXTRACTION | | | | |
| Mobilization | 1 | lump sum | $15,000 | $15,000 |
| Pilot Test | 1 | lump sum | $40,000 | $40,000 |
| Treatment (includes well installation, equipment, et cetera) | 21,185 | cu yd | $30 | $635,550 |
| Decontamination/Demobilization | 1 | lump sum | $50,000 | $50,000 |
| Permitting | 1 | lump sum | $40,000 | $40,000 |
| Consulting/Monitoring/Reporting | 1 | lump sum | $75,000 | $75,000 |
| SUB-TOTAL CAPITAL COSTS | | | | $2,815,300 |
| Engineering (15%) | | | | $422,295 |
| Contingency (25%) | | | | $703,825 |
| TOTAL CAPITAL COSTS | | | | $3,941,420 |
| ANNUAL O&M COSTS: | | | | |
| Cap Maintenance | 1 | lump sum | $5,000.00 | $5,000 |
| TOTAL ANNUAL O&M COSTS | | | | $5,000 |
| PRESENT WORTH COSTS: | | | | |
| Present worth of annual O&M costs, 5% rate over 30 years | | | | $76,862 |
| Total capital costs | | | | $3,941,420 |
| TOTAL PRESENT WORTH | | | | $4,019,000 |

**Table 7**
**REMEDIAL ACTION ALTERNATIVE COST ESTIMATE**
**White Chemical Corporation Site**
**Alternative S-4: Steam Injection, Asphalt Cap**

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | COST |
|---|---|---|---|---|
| BUILDING/AST DEMOLITION, ASPHALT CAP | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Asbestos and Lead Paint Abatement (Buildings) | 1 | lump sum | $250,000 | $250,000 |
| Building Demolition | 1 | lump sum | $450,000 | $450,000 |
| Asbestos and Lead Paint Abatement (AST) | 1 | lump sum | $125,000 | $125,000 |
| AST Removal | 1 | lump sum | $200,000 | $200,000 |
| Backfill and Regrading | 3,000 | cu yd. | $25 | $75,000 |
| Asphalt Cap Construction (materials and placement) | | | | |
| Geomembrane | 21,300 | sq yd | $5 | $106,500 |
| 1 feet crushed stone | 7,100 | cu yd | $20 | $142,000 |
| 8 inches asphalt base course | 21,300 | sq yd | $11 | $234,300 |
| 3 inches asphalt top course | 21,300 | sq yd | $13 | $276,900 |
| STEAM INJECTION | | | | |
| Mobilization | 1 | lump sum | $165,000 | $165,000 |
| Pilot Test | 1 | lump sum | $50,000 | $50,000 |
| System Installation | 1 | lump sum | $690,000 | $690,000 |
| Treatment (includes well installation, equipment, et cetera) | 1 | lump sum | $591,000 | $591,000 |
| Permitting | 1 | lump sum | $40,000 | $40,000 |
| Consulting/Monitoring/Reporting | 1 | lump sum | $75,000 | $75,000 |
| SUB-TOTAL CAPITAL COSTS | | | | $3,570,700 |
| Engineering (15%) | | | | $535,605 |
| Contingency (25%) | | | | $892,675 |
| TOTAL CAPITAL COSTS | | | | $4,998,980 |
| ANNUAL O&M COSTS: | | | | |
| Cap Maintenance | 1 | lump sum | $5,000.00 | $5,000 |
| TOTAL ANNUAL O&M COSTS | | | | $5,000 |
| PRESENT WORTH COSTS: | | | | |
| Present worth of annual O&M costs, 5% rate over 30 years | | | | $76,862 |
| Total capital costs | | | | $4,998,980 |
| TOTAL PRESENT WORTH | | | | $5,076,000 |

**Table 7**
**REMEDIAL ACTION ALTERNATIVE COST ESTIMATE**
**White Chemical Corporation Site**
**Alternative S-5: Excavation and Off-Site Disposal of All Contaminated Soil**

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | COST |
|---|---|---|---|---|
| BUILDING/AST DEMOLITION | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Asbestos and Lead Paint Abatement (Buildings) | 1 | lump sum | $250,000 | $250,000 |
| Building Demolition | 1 | lump sum | $450,000 | $450,000 |
| Asbestos and Lead Paint Abatement (AST) | 1 | lump sum | $125,000 | $125,000 |
| AST Removal | 1 | lump sum | $200,000 | $200,000 |
| EXCAVATION AND OFF-SITE DISPOSAL | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Removal and Stockpiling of Asphalt and Concrete | 4,969 | cu yd. | $25 | $124,227 |
| Excavation and Stockpiling of Contaminated Soil | 19,065 | cu yd. | $25 | $476,625 |
| Excavation and Stockpiling of RCRA Hazardous Soil | 2,120 | cu yd. | $25 | $53,000 |
| Transportation & Offsite Disposal of Asphalt and Concrete | 4,969 | cu yd. | $50 | $248,453 |
| Transportation & Offsite Disposal of Contaminated Soil | 19,065 | cu yd. | $60 | $1,143,900 |
| Transportation & Offsite Disposal of RCRA Hazardous Soil | 2,120 | cu yd. | $525 | $1,113,000 |
| Post-Excavation Sampling and Analysis | 120 | sample | $350 | $42,000 |
| Backfill and Regrading | 29,154 | cu yd. | $25 | $728,852 |
| Topsoil/Seed (4 inches) | 21,300 | sq yd | $15 | $319,500 |
| SUB-TOTAL CAPITAL COSTS | | | | $5,474,600 |
| Engineering (15%) | | | | $821,190 |
| Contingency (25%) | | | | $1,368,650 |
| TOTAL CAPITAL COSTS | | | | $7,664,440 |
| ANNUAL O&M COSTS: | | | | |
| No Maintenance Required | 1 | lump sum | $0.00 | $0 |
| TOTAL ANNUAL O&M COSTS | | | | $0 |
| PRESENT WORTH COSTS: | | | | |
| Present worth of annual O&M costs, 5% rate over 30 years | | | | $0 |
| Total capital costs | | | | $7,664,440 |
| TOTAL PRESENT WORTH | | | | **$7,665,000** |

**Table 7**
**REMEDIAL ACTION ALTERNATIVE COST ESTIMATE**
**White Chemical Corporation Site**
**Alternative S-6: Ex Situ Low Temperature Thermal Desorption**

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | COST |
|---|---|---|---|---|
| BUILDING/AST DEMOLITION | | | | |
| Mobilization | 1 | lump sum | $100,000 | $100,000 |
| Asbestos and Lead Paint Abatement (Buildings) | 1 | lump sum | $250,000 | $250,000 |
| Building Demolition | 1 | lump sum | $450,000 | $450,000 |
| Asbestos and Lead Paint Abatement (AST) | 1 | lump sum | $125,000 | $125,000 |
| AST Removal | 1 | lump sum | $200,000 | $200,000 |
| LOW TEMPERATURE THERMAL DESORPTION: | | | | |
| Removal and Stockpiling of Asphalt and Concrete | 4,969 | cu yd. | $25 | $124,227 |
| Mobilization | 1 | lump sum | $150,000 | $150,000 |
| Excavation and Stockpiling of Contaminated Soils | 21,185 | cu yd. | $25 | $529,625 |
| Treatment with Low Temperature Thermal Desorption | 21,185 | cu yd. | $125 | $2,648,125 |
| Post-Treatment Sampling and Analysis | 45 | sample | $350 | $15,750 |
| Post-Excavation Sampling and Analysis | 100 | sample | $350 | $35,000 |
| Transportation & Offsite Disposal of Asphalt and Concrete | 4,969 | cu yd. | $50 | $248,453 |
| Permitting | 1 | lump sum | $40,000 | $40,000 |
| Backfill and Regrading | 21,185 | cu yd. | $25 | $564,625 |
| Topsoil/Seed (4 inches) | 21,300 | sq yd | $15 | $319,500 |
| SUB-TOTAL CAPITAL COSTS | | | | $5,840,400 |
| Engineering (15%) | | | | $876,060 |
| Contingency (25%) | | | | $1,460,100 |
| TOTAL CAPITAL COSTS | | | | $8,176,560 |
| ANNUAL O&M COSTS: | | | | |
| No Maintenance Required | 1 | lump sum | $0.00 | $0 |
| TOTAL ANNUAL O&M COSTS | | | | $0 |
| PRESENT WORTH COSTS: | | | | |
| Present worth of annual O&M costs, 5% rate over 30 years | | | | $0 |
| Total capital costs | | | | $8,176,560 |
| TOTAL PRESENT WORTH | | | | $8,177,000 |

# Table 8
## Page 1 of 5
## Chemical Specific ARARs and TBCs
## White Chemical Corporation Site

| Regulatory Level | ARAR/TBC Identification | Status | Requirement Synopsis | FS Considerations |
|---|---|---|---|---|
| Federal | 40 CFR, Part 268.40 Treatment Standards found in Table 1 in 40 CFR Part 261.24 | ARAR | Hazardous constituents in hazardous waste or in treated residue must be at or below values found in the table ("total waste standards") for that waste and the extract of treated residue must be at or below the values found in the "waste extract standards" and the waste must be treated using specified technology | Technology standards or an equivalent treatment technology approved by the administrator exists for wastes prior to land disposal. |
| Federal | 40 CFR, Part 268 | ARAR | Land Disposal Restrictions (LDRs) identifies hazardous wastes that are restricted from land disposal and defines the limited circumstances under which an otherwise prohibited waste may be land disposed. | Soil removed for off-site disposal may contain contaminants at concentrations which trigger LDRs. |
| Federal | OSWER 9355.4-14FSA Soil Screening Guidance | TBC | Overall approach for developing soil screening levels for specific contaminants and exposure pathways at hazardous waste sites under residential use scenario. | Remedial action alternatives include options for in-situ remediation. |
| Federal | 40 CFR Part 265, subparts I and J | ARAR | Defines time frame wastes may be stored on-site. The date on which the accumulation began must be clearly indicated on each container. | Remedial action alternatives may require the temporary storage of hazardous wastes on-site prior to transfer or on-site disposal. |
| State | New Jersey Soil Cleanup Criteria for Contaminated Sites | TBC | Provides soil cleanup criteria for contaminated sites. | Some alternatives include soil treatment. |
| State | New Jersey Water Pollution Discharge Elimination System (NJAC:7:14A) | ARAR | Provides requirements for NJPDES-DGW including Underground Injection Control Permit (NJAC 14A-8). | Some remedial action alternatives may require an Underground Injection Control Permit for in-situ injection of material into an aquifer. |

**Table 8**
**Page 2 of 5**
**Location Specific ARARs and TBCs**
**White Chemical Corporation Site**

| Regulatory Level | ARAR/TBC Identification | Status | Requirement Synopsis | FS Considerations |
|---|---|---|---|---|
| Federal | Executive Order on Floodplain Management and Protection of Wetlands E.O. 11988 and 11990 | ARAR | Must be developed if remedial action impacts floodplains - avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains. | Determine floodplains and potential to transport contamination in soil removal alternative. |
| New Jersey | NJAC 7:13 - Flood Hazard Area Regulations | ARAR | Purpose is to control development in floodplain areas in order to avoid or mitigate the detrimental effects. | Determine floodplains and potential to transport contamination in soil removal alternative or other detrimental effects from in-situ alternatives. |
| New Jersey | New Jersey's threatened plant species list | TBC | New Jersey's Threatened Plant Species. Division of Parks and Forestry, New Jersey Department of Environmental Conservation | Determine if any plants listed are in the areas to be used for remediation. |

## Table 8
## Page 3 of 5
## Action Specific ARARs and TBCs
## White Chemical Corporation Site

| Regulatory Level | ARAR/TBC Identification | Status | Requirement Synopsis | FS Considerations |
|---|---|---|---|---|
| Federal | 40 CFR, Part 268 | ARAR | Land Disposal Restrictions (LDRs) identifies hazardous wastes restricted from land disposal and defines the limited circumstances under which an otherwise prohibited waste may be land disposed. | LDRs contain requirements for testing, treatment, storage, notification, certification of compliance, variances and record keeping. Wastes may be excluded from the ban under select circumstances defined in 40 CFR 268. |
| Federal | 40 CFR, Part 262 | ARAR | Standards applicable to generators of hazardous waste. | Remedial actions may generate hazardous waste for treatment and disposal. |
| Federal | 40 CFR, Part 263 | ARAR | Standards applicable to transporters of hazardous waste. | Remedial actions may require transportation and off-site disposal of hazardous wastes. |
| Federal | OSWER Off-site Policy Directive Number 9834.11 | ARAR | This ensures that facilities authorized to accept CERCLA generated wastes comply with RCRA operating standards. | Remedial action alternatives include options for off-site disposal. |
| Federal | OSHA - General Industry Standards (29 CFR 1910) | ARAR | Specify the 8-hour TWA concentration for worker exposure to various organic compounds. Training requirements specified in 29 CFR 1910. | Applicable during remedial actions during construction of facilities for soil remediation. |
| Federal | OSHA - Safety and Health Standards (29 CFR 1926) | ARAR | OSHA Construction Industry Standards for workers. | Applicable during remedial actions during construction of facilities for soil remediation. |

**Table 8**
**Page 4 of 5**
**Action Specific ARARs and TBCs**
**White Chemical Corporation Site**

| Regulatory Level | ARAR/TBC Identification | Status | Requirement Synopsis | FS Considerations |
|---|---|---|---|---|
| Federal | 40 CFR, Part 268 | ARAR | Land Disposal Restrictions (LDRs) identifies hazardous wastes restricted from land disposal and defines the limited circumstances under which an otherwise prohibited waste may be land disposed. | LDRs contain requirements for testing, treatment, storage, notification, certification of compliance, variances and record keeping. Wastes may be excluded from the ban under select circumstances defined in 40 CFR 268. |
| Federal | OSHA - Safety and Health Standards (29 CFR 1904) | ARAR | OSHA Record Keeping, Reporting and Related Regulations. | Applicable during construction of facilities for soil remediation for reporting occupational illnesses or injuries. |
| Federal | OSWER Directive #9355.7-04, Land Use in the CERCLA Remediation Selection Process | TBC | Consider land use in making remedy selection decisions with a particular focus on the community's desired future use of property. | Land use in and about the source of contamination. |
| State | "Brownfield and Contaminated Site Remediation Act," N.J.S.A. 58:10B-13.1a(2)(a). Codified in NJAC 7:26-6.4(g). | ARAR | As a condition of the No Further Action/Covenant Not to Sue, the engineering and institutional controls must be evaluated every two years. | Consider for the No Action and Excavation Alternatives if these require any institutional controls or deed restrictions. Require biennial certification submittal. |
| Federal | DOT Rules for Transportation of Hazardous Materials (49 CFR 107, 171.1-172.558). | ARAR | Provides regulations for the transportation of hazardous waste. | Consider for the soil excavation alternative. |

**Table 8**
**Page 5 of 5**
**Action Specific ARARs and TBCs**
**White Chemical Corporation Site**

| | | | | |
|---|---|---|---|---|
| State | New Jersey 7:26 Subchapter 3 | TBC | Provides regulations of the transportation of solid wastes in New Jersey. | Consider for the soil excavation alternative. |
| State | New Jersey 7:26E: "Technical Requirements for Site Remediation" | ARAR | Provides requirements for Site Remediation in New Jersey. | Applies to all alternatives. |
| Federal | RCRA Standards for Excavation and Fugitive Dust 40 CFR 264.251-1264.254. | ARAR | Presents RCRA standards for excavation of hazardous soil. | Consider for the excavation alternative. |

# Appendix III

# ADMINISTRATIVE RECORD INDEX

September 22, 2005

Mr. George Hawley
Newark Public Library
5 Washington Street
Newark, New Jersey 07102

Dear Mr. Hawley:

Enclosed please find a copy of the Administrative Record file for the White Chemical Corporation Superfund site, Operable Unit 2. This is a compilation of the information upon which the Environmental Protection Agency based its selection of the response action for this site. An index is also enclosed.

Thank you for accepting these volumes and any future additions to the Administrative Record. Please make these documents available for public review and treat them as a non-circulating reference - not to be removed from your facility.

If you have any questions, please call me at (212) 637-4296 or Ms. Romona Pezzella, the Project Manager, at (212) 637-4385. If at any time you can no longer maintain the Administrative Record at your facility, please call us and we will arrange to have it moved.

Thank you again for your help.

Sincerely yours,

Jennie Delcimento
Environmental Protection Specialist
Emergency and Remedial Response Division

Enclosure

bcc: R. Pezzella
J. Josephson
H. Drohan

**WHITE CHEMICAL CORPORATION SITE**
**OPERABLE UNIT TWO**
**ADMINISTRATIVE RECORD**
**INDEX OF DOCUMENTS**

## 1.0 SITE IDENTIFICATION

### 1.5 Previous Operable Unit Information

P. 100001 - 100005 — Report: Five-Year Review Report. Type la. White Chemical Corp. Site, Newark. New Jersey, prepared by U.S. EPA, Region 2, September 30, 1997.

P. 1.00006 - 100018 — Memorandum to Mr. George Pavlou, Director, Emergency and Remedial Response Division, U.S. EPA, Region 2, from Mr. Robert Vaughn, Chief, Special Projects Branch, U.S. EPA, Region 2, re: White Chemical Corporation Site, Second Five-Year Review, September 25, 2002. (Attachment: Five-Year Review Report, White Chemical Superfund Site. Newark, Essex County, New Jersey, prepared by U.S. EPA, Region 2, September 26, 2002.)

## 3.0 REMEDIAL INVESTIGATION

### 3.3 Work Plans

P. 300001 - 300015 — Letter to Mr. John J. Bachmann, Jr., Contracting Officer, and Mr. Keith Moncino, Project Officer, U.S. EPA, Region 2, from Dev Sachdev, PhD, PE, RAC II Program Manager, Foster Wheeler Environmental Corporation, re: RAC II Program - Contract No. 68-W-98-214, Work Assignment No. 027-RICO- 026J, White Chemical RI/FS, Letter Work Plan, June 17, 1999.

### 3.4 Remedial Investigation Reports

P. 300016 - 300191 — Report: Final Remedial Investigation Report, White Chemical Corporation, Newark, New Jersey, Volume I of III, prepared by Malcolm Pirnie, Foster Wheeler Environmental Corporation, prepared for U.S. EPA, Region 2, April 2003.

P. 300192 - 300651 — Report: Final Remedial Investigation Report, White Chemical Corporation, Newark, New Jersey, Volume II of III, prepared by Malcolm Pirnie, Foster Wheeler Environmental - Corporation, prepared for U.S. EPA, Region 2, April 2003.

| | | |
|---|---|---|
| P. | 300652 - 301219 | Report: Final Remedial Investigation Report. White Chemical Corporation, Newark, New Jersey, Volume III of III, prepared by Malcolm Pirnie, Foster Wheeler Environmental Corporation, prepared for U.S. EPA, Region 2, April 2003. |
| P. | 301220 - 301689 | Report: Final Risk Assessment Report. White Chemical Corporation, Newark, New Jersey, prepared by Malcolm Pirnie, Foster Wheeler Environmental Corporation, prepared for U.S. EPA, Region 2, May 2003. |
| P. | 301690 - 301694 | Report: Technical Memorandum Number 1, Work Assignment Number 027-RICO-026J, White Chemical RI/FS, Screening of Remedial Alternatives, April 28, 2004. |

**3.5 Correspondence**

| | | |
|---|---|---|
| P. | 301695 - 3017112 | Letter to Mr. Matthew Westgate, U.S. EPA, Region, from Mr. Thomas E. Imbrigiotta, Hydrologist, U.S. Geological Survey, re: Evaluation of the White Chemical Site in New Jersey, April 24, 2003 |

**4.0 FEASIBILITY STUDY**

**4.3 Feasibility Study Reports**

| | | |
|---|---|---|
| P. | 400001 - 400099 | Report: Final Feasibility Study Report for Operable Unit 2: On-Site Soil, Buildings and Tanks, White Chemical Corporation Site, Newark, New Jersey, prepared by Malcolm Pirnie, Inc., and Tetra Tech EC, Inc., prepared for U.S. EPA, Region 2, August 2005. |

**4.6 Correspondence**

| | | |
|---|---|---|
| P. | 400100- 400101 | Memorandum to Mr. Matthew Westgate, Remedial Project Manager, ERRD/SPB/Mega Projects Team, U.S. EPA, Region 2, from Mr. Michael Sivak, Risk Assessor, ERRD/PSB/Technical Support Team, U.S. EPA, Region 2, re: Draft Feasibility Study Report, White Chemical Superfund Site, February 2004, April 16, 2004. |
| P. | 400102 - 400109 | Facsimile Transmittal Form (with attachments) to Mr. Matthew Westgate, U.S. EPA, Region 2, from Mr. Luis Sanders, State of New Jersey, Department of Environmental Protection, re: White Chemical Corporation, Draft Feasibility Study Report, NJDEP Review and Comments, June 9, 2004. |

**7 .0 ENFORCEMENT**

**7.4 Consent Decrees**

| | | |
|---|---|---|
| P. | 700001 - 700040 | United States District Court for the District of New Jersey, United States of America, Plaintiff, v. AZS Corporation, Toyo Soda (America), Inc., Tosoh Corporation, Tosoh America, Inc., and Tosoh USA, Inc., Defendants, Civil Action No. 99-464 (ORD), Notice of Lodging of Consent Decree, February 1, 1999. |

## 10.0 PUBLIC PARTICIPATION

### 10.1 Comments and Responses

| | | |
|---|---|---|
| P. | 10.00001-10.00018 | Letter (with attachment) to Mr. Jeff Josephson, Team Leader, U.S. EPA, Region 2, from Sharpe James, Mayor, City of Newark, re: White Chemical Company Superfund Site OU-2 (White Chemical Site), Feasibility Study for Buildings, Tanks & Contaminated Soils (June, 2005) (Proposed Plan), August 26, 2005. |

### 10.3 Public Notices

| | | |
|---|---|---|
| P. | 10.00019-10.00019 | United States Environmental Protection Agency Invites Public Comment on the Proposed Plan for the White Chemical Corporation Superfund Site, Essex County, New Jersey, undated. |

### 10.4 Public Meeting Transcripts

| | | |
|---|---|---|
| P. | 10.00020-10.00057 | Letter (with enclosure) dated August 11, 2005, to Ms. Romona Pezzella, U.S. EPA, Region 2, from Mr. Richard J. Feeney, P. E., Tetra Tech EC, Inc., re: USEPA RAC II Contract Number: 68-W-98-214, Work Assignment Number: 127-RICO-026J, White Chemical RI/FS, Transcript from Public Meeting on 9 August 2005. |

### 10.9 Proposed Plan

| | | |
|---|---|---|
| P. | 10.00058-10.00074 | Superfund Program Proposed Plan, White Chemical Corporation Site, prepared by U.S. EPA, Region 2, August 2005. |

# Appendix IV

# STATE CONCURRENCE LETTER

State of New Jersey
Department of Environmental Protection

Richard J. Codey
Acting Governor

Bradley M. Campbell
Commissioner

SEP 2 9 2005

Honorable Alan J. Steinberg, Regional Administrator
United States Environmental Protection Agency Region II
290 Broadway
New York, NY 10007-1866

RE: Record of Decision (ROD) Operable Unit #2
White Chemical Corporation Site, Newark, Essex County, NJ

Dear Mr. Steinberg:

The New Jersey Department of Environmental Protection (Department) has completed review of the September 2005 Draft Record of Decision (ROD) for Operable Unit #2 (OU2) submitted for the referenced site. The OU2 ROD addresses on-site buildings, above-ground storage tanks (ASTs), surface debris, and subsurface soil. The Department is pleased to concur with the chosen remedy.

The selected remedy for OU2 is Alternative S-5 (Excavation; Offsite Disposal with Treatment). Alternative S-5 is comprised of the following components:

- demolition and off-site disposal of nine on-site buildings
- removal and off-site disposal of above ground storage tanks
- excavation of an estimated 21,185 cubic yards of contaminated soil
- off-site transportation and disposal of contaminated soil, with treatment as necessary
- backfilling and grading of all excavated areas
- placement of a deed notice to restrict land use to non-residential use
- appropriate environmental monitoring to ensure the effectiveness of the remedy

As part of remedy implementation, EPA states that it will collect additional sampling information during post excavation. This will allow confirmation of the limits of the various excavation areas, and that all contaminated material with concentrations above the remediation goals have been removed.

# Attachment A
# Superfund Program Proposed Plan
# White Chemical Corporation Site

Superfund Program
Proposed Plan

U.S. Environmental Protection Agency, Region II

# White Chemical Corporation Site

August 2005

## EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives that the U.S. Environmental Protection Agency (EPA) considered to remediate contaminated soils, sump sediments, buildings and tanks at the White Chemical Corporation Superfund Site (Site) located in Newark, New Jersey and identifies EPA's preferred alternative with the rationale for this preference. The Preferred Alternative calls for the excavation, transportation and disposal of an estimated 21,185 cubic yards of contaminated soil. The soil that is highly contaminated would be treated off-site (if required) prior to land disposal. This Proposed Plan includes summaries of all cleanup alternatives for contaminated soil evaluated for use at this Site. This document is issued by EPA, the lead agency for Site activities, and the New Jersey Department of Environmental Protection (NJDEP), the support agency for this project. EPA, in consultation with NJDEP, will select a final soil remedy for the Site after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with NJDEP, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan. A final groundwater remedy will be addressed in a future Proposed Plan and Record of Decision.

EPA is issuing this Proposed Plan as part of its community relations program under section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). This Proposed Plan summarizes information that can be found in greater detail in the White Chemical Corporation Remedial Investigation and Feasibility Study (RI/FS) reports and other documents contained in the Administrative Record file for this Site. EPA and NJDEP encourage the public to review these documents to gain a more comprehensive understanding of the Site and Superfund activities that have been conducted at the Site.

Dates to remember:
**MARK YOUR CALENDAR**

**PUBLIC COMMENT PERIOD:**
**August 4 - September 2, 2005**
U.S. EPA will accept written comments on the Proposed Plan during the public comment period.

**PUBLIC MEETING: August 9, 2005**
U.S. EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at the Newark City Hall Council Chambers, 920 Broad Street, Newark, NJ

For more information, see the Administrative Record at the following locations:

U.S. EPA Records Center, Region II
290 Broadway, 18th Floor
New York, New York 10007-1866
(212)-637-3261
Hours: Monday-Friday - 9 am to 5 pm

Newark Public Library
5 Washington Street
Newark, N.J. 07102
(973) 733-5412
Hours: Monday, Tuesday, Wednesday, Friday, and Saturday - 9 am - 5:30 pm; Thursday 9 am - 8:30 pm

## SITE HISTORY

The White Chemical Corporation (WCC) Site measures 4.4 acres, and is located at 660 Frelinghuysen Avenue (Block 3872, Lot 109), Newark, Essex County, NJ. Frelinghuysen Avenue is a major thoroughfare with significant residential, commercial, and industrial populations. The Site is located immediately east of two large manufacturing facilities: a leather company and a sportswear manufacturer. An airport-support services complex is

currently located north of the Site. The eastern border of the Site is adjacent to Conrail and Amtrack rail lines that serve as a major rail corridor in New Jersey. Weequahic Park (including Weequahic Lake and a golf course), a school, and several large housing complexes, high-rise senior citizen residences, and cemeteries, are located to the west, within 0.4 mile of the Site.

Major Site features include nine buildings, a former aboveground storage tank (AST) farm (tank farm), an underground tunnel, and a railroad spur. Five large buildings (Building Numbers 33, 34, 34A, 35 and 36), three smaller, facility-support buildings (Boiler Room, Pump House and Maintenance Shop), and a decontamination (decon) shed are located on the western portion of the property. The majority of these buildings are grouped around the former tank farm located near the center of the Site. The underground tunnel originates in the western portion of Building No. 34 and leads to the south. See Plate 1.

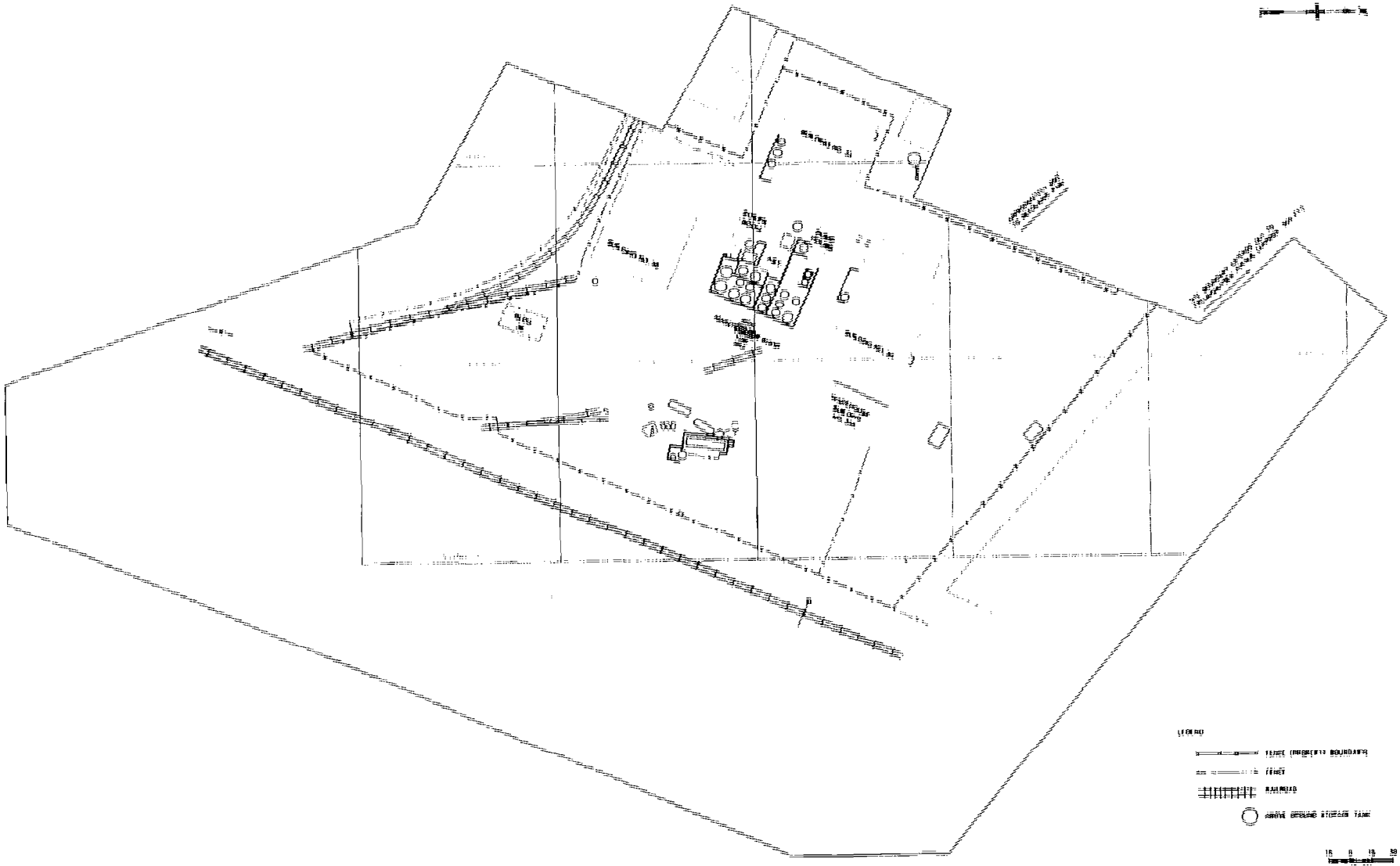
In September 1970, Central Services Corporation (CSC) purchased the property from the Union Carbide Corporation. It is believed that much of the present Site infrastructure, including sewer and utility conduits, and buildings, may date from the time of Union Carbide's ownership. CSC sold the property to the Lancaster Chemical Company, a division of the AZS Corporation, in August 1975.

The White Chemical Corporation (WCC) leased the Site in 1983 and moved its operations from Bayonne, NJ to Newark, NJ. WCC produced three primary groups of chemical products: acid chlorides, brominated organics (both aliphatic and aromatic), and mineral acids, most notably hydriodic acid. The finished products, mostly solids and powders, were generally formulated in small batches following customer specifications.

Beginning in 1989 and continuing through the present, the Site has been the subject of numerous inspections, site assessments, investigations, and removal actions. NJDEP conducted several inspections of the Site between June and September 1989 pursuant to the Resource Conservation and Recovery Act (RCRA). Based on these inspections, NJDEP issued several Notices of Violations for a variety of infractions including improper drum management, leaking drums, open containers, and inadequate aisle space. In October 1989, WCC initiated Chapter 11 bankruptcy proceedings. Between May and August 1990, NJDEP removed approximately 1,000 drums from the Site. On September 7, 1990, EPA performed a preliminary assessment of the WCC facility and found numerous air- and water-reactive substances in 55-gallon drums. Approximately 10,900 55- gallon drums of hazardous substances were precariously stacked or improperly stored throughout the Site. Drums and other containers were found in various stages of deterioration fuming and leaking their contents onto the soil. Numerous stains were observed on the soil. Other containers observed were 150 gas cylinders, 126 storage tanks, vats and process reactors, hundreds of fiberpack drums, glass and plastic bottles, and approximately 18,000 laboratory-type containers.

The on-site laboratory contained thousands of unsegregated laboratory chemicals in deteriorating conditions. These containers were haphazardly stored on structurally unsound shelving, or stacked in piles on the floor. EPA overpacked 11 fuming drums and secured them for future handling. In total, 4,200 empty drums were shipped off-site for disposal, and 6,700 drums were staged on-site for later characterization and disposal. In 1990, the EPA Technical Assistance Team reported that five extremely hazardous substances were present at the Site including: allyl alcohol; bromine; chlorine; red phosphorous; and, phosphorous trichloride.

In September 1990, EPA issued a Unilateral Administrative Order (UAO) barring WCC from continuing on-site operations and ordering evacuation of all personnel. In October 1990, the U.S. District Court for the District of New Jersey issued an order enforcing the UAO. In November 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) issued a health consultation that concluded that the Site posed an imminent and substantial health and safety threat to nearby residents and workers. A Public Health Advisory was issued by ATSDR in November 1990. Between 1990 and 1991, EPA removed several thousand drums and performed several assessments at the Site.



MALCOLM PIRNIE

TETRA TECH EM INC

WHITE CHEMICAL CORPORATION SUPERFUND SITE
NEWARK, NEW JERSEY
USEPA RAC II PROGRAM
CONTRACT NO. 68-W-98-214; W.A. NO. 127-RICO-026J

SITE BASE MAP

PLATE 1

Based on the known contamination at the property, EPA proposed the Site for inclusion on the National Priorities List (NPL) on May 9, 1991, and the Site was listed on September 25, 1991. The Operable Unit 1 (OU1) Record of Decision (ROD), issued on September 26, 1991, required appropriate security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and appropriate environmental monitoring.

| RESPONSE ACTIONS | DESCRIPTION AND STATUS |
|---|---|
| • NJDEP Removal Action (May, 1990–August, 1990). | Approximately 1,000 drums were removed from the Site during a NJDEP removal action. Completed when NJDEP reached its project cost ceiling and requested EPA to take the lead on subsequent removal actions. |
| ROD 1 (September 1991)<br>• OU-1 | Implementation of security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site Storage tanks and process piping, and appropriate environmental monitoring. |
| • PRP Removal Action (1992) | EPA issued a UAO to implement the OU1 ROD which resulted in the removal of 7,900 drums, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, 14 gas cylinders, and draining and cleaning process tank piping and the contents of 100 tanks. The PRPs completed the removal action in March 1993. |
| ROD 2 (2005) (the subject of this Proposed Plan)<br>• OU-2 | Remediation of Site buildings, tanks, sump sediment and contaminated soils. Reduce the potential for exposure by direct contact or ingestion of unsaturated soils with contaminants above remediation goals. Reduce the potential for exposure through inhalation of vapors that may migrate from unsaturated soils. Reduce the potential for the further migration of contaminants from the unsaturated soils to the groundwater. |

In March, 1992, EPA issued a UAO to eleven potentially responsible parties (PRPs). The eleven PRPs included AZS, the landowner at the time, WCC, the operator of the Site, WCC's president, and eight generators. Three of the generator PRPs complied with the UAO, initiating the response activities on October 27, 1992 and completing them on March 1993. In total, the PRP group removed approximately 7,900 drums, the contents of more than 100 tanks, approximately 12,500 laboratory chemical containers, approximately 50,000 gallons of liquid contained in process tanks, and 14 gas cylinders.

In 1996, the City of Newark acquired the Site through foreclosure after AZS failed to pay property taxes.

In 1998, the EPA Environmental Response Team (ERT) conducted a soil and building material investigation at the Site. Results of the sampling activities indicated the presence of heavy metals and polybrominated biphenyls (PBBs) in soil, sump

sediment, and building material wipe samples. Semi-volatile organic compounds (SVOCs), heavy metals, and dioxin were also found in the soils and sediments, and asbestos was found in the on-site buildings.

## SITE CHARACTERISTICS

The OU2 remedial investigation (RI) field work was conducted from October 1998 through July 1999. The OU2 RI was completed in April 2003 and focused on defining the nature and extent of contamination at the Site. Samples collected include surface and subsurface soil, sump sediment, groundwater and building materials.

### Soils

The majority of the soils contamination at the Site is the result of improper staging, control and maintenance of process chemicals contained in drums, laboratory chemical containers, storage tanks and process tanks. Although soil contamination is present throughout the Site, the majority is located within the top two feet of soil. The OU2 RI concluded that it is unlikely that contaminants migrated off-site through the unsaturated soil. VOCs were detected in numerous surface and subsurface soil samples at concentrations that exceeded screening levels. The screening levels used were the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Soil Cleanup Criteria (NRDCSCC), and/or NJDEP Impact to Groundwater Soil Criteria (IGWSCC). These criteria are not Applicable or Relevant and Appropriate Regulations (ARARs) under CERCLA, but are "To Be Considered" criteria (TBCs) for the Site. A total of nine VOCs were detected in the surface soil (0-2 feet below ground surface) and three VOCs were detected in the subsurface soil at concentrations that exceeded the TBCs; the majority of these are chlorinated VOCs.

<u>Surface Soil</u>

Contamination in the surface soil is distributed throughout the Site while the subsurface contamination is primarily found near the eastern/northeastern Site boundary. In the surface soils, VOCs that were detected at very elevated concentrations exceeding TBCs included: 1,1,2,2-tetrachloroethane (28,000 parts per billion (ppb)), 1,1,2-trichloroethane (1,400 ppb), 1,2-dichloroethane (31,000 ppb), ethylbenzene (130,000 ppb), m,p,-xylene (500,000 ppb), o-xylene (260,000 ppb), and trichloroethene (130,000 ppb).

Three primary areas at the Site contain surface soil SVOC contamination above the TBCs, between the gate and the eastern Site boundary, the southeast corner (south of the concrete tank pad connected to Building No. 35), and the center of the Site (between Building Nos. 34 and 35). Seven SVOCs were detected in the surface soil and six SVOCs were detected in the subsurface soil at concentrations that exceeded the TBCs. The majority of these compounds are polycyclic aromatic hydrocarbons (PAHs).

Three pesticides/polychlorinated biphenyls (PCBs) were detected in the surface soil. In general, elevated pesticide/PCB concentrations were found in very few soil samples and at shallow depths (< 4 feet). The highest concentration of PCBs detected in surface soils was 13 parts per million.

Detectable levels of dioxin were found in all 11 surface soil samples analyzed for dioxin; however, the maximum concentration detected, 50.87 parts per trillion, is considered acceptable for commercial/industrial properties.

Although inorganics (or metal) contamination was found at depths up to 12 feet bgs, the majority of the metal contamination was present in the top two feet of soil. Seven inorganic contaminants were detected at concentrations above the TBCs.

Detectable levels of polybrominated biphenyls (PBBs) were found in nine of 23 surface soil samples. PBB concentrations ranged from 0.28 ppb to 190 ppb. There are no federal or state ARARs/TBCs for PBBs.

<u>Subsurface Soil</u>

In subsurface soils, 1,1,2,2-tetrachloroethane, 1,2-dichloroethane, and trichloroethene exceeded TBCs. Although VOC contamination was found at depths up to 12 feet bgs, the majority of the contamination is found in the top two feet.

Subsurface soil SVOC contamination at concentrations above the TBCs was primarily found near the center of the Site. Although SVOC contamination was found at depths up to ten feet bgs, the majority of the contamination is found in the top two feet. There were only three SVOCs that exceeded TBCs in subsurface soills.

Only one pesticide (dieldrin) was detected at a subsurface soil concentration that exceeded the TBC.

Subsurface soils contained only thallium at a concentration above the NRDCSSC for that inorganic.

Detectable levels of PBBs were found in one of eight subsurface soil samples. PBBs were found at a maximum depth of 3.5 feet bgs at a concentration of 9.2 ppb. There are no federal or state ARARs/TBCs or Soil Screening Levels for PBBs.

RCRA TCLP Soil Sampling

Twenty surface soill and four subsurface soil samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) parameters to determine if the soills are RCRA hazardous waste. The majority of the compounds/analytes were detected at trace levels; however, one surface soil sample contained one TCLP contaminant ((trichloroethene) at a concentration (580 parts per billion) that exceeded the RCRA TCLP- regulatory limit. Based on these results, the majority of soil on the Site would not be characterized as a RCRA hazardous waste.

**Building 34 Sump Sediment**

Two sump sediment samples were collected from the Site to determine what types of contaminants may have been used in the buildings and to determine if the sumps/floor drains could be potential sources of soil and groundwater contamination. The majority of the contamination was found in the sump sediment sample collected from Building No. 34. VOC concentrations measured in the sump were sufficiently high to indicate that free-phase product may have accumulated in the sump. Residual contamination may exist around and under this sump. The VOCs that were detected include chlorinated compounds methylene chloride (25,230,000 ppb), 1,2-dichloroethane (27,460,000 ppb), trichloroethene (230,000 ppb)), 1,1,2-trichloroethane (560,000 ppb), 1,1,2,2-tetrachloroethane (560,000 ppb)), and the hydrocarbons ethylbenzene (200,000 ppb), o-xylene (400,000 ppb), and m,p-xylene (3,800,000 ppb)).

The only semi-volatile contaminant detected at concentrations that exceeded TBCs was benzo(a)pyrene (2,900 ppb).

Five pesticides were detected at concentrations that exceeded the TBCs. These include Gamma-BHC, heptachlor, aldrin, dieldrin, 4,4'-DDD.

There are no federal or state ARARs/TBCs for PBB compounds but PBBs were detected in the two sump samples analyzed at concentrations up to 750 ppb.

Only one inorganic, antimony, was detected at a concentration that exceeded the NRDCSCC.

RCRA TCLP Sump Sediment Sampling

Two sump samples were analyzed for TCLP parameter and one contaminant 1,2-dichloroethane was detected at a concentration that exceeded an ARAR. 1,2-dichloroethane was detected at concentrations up to 760,000 ppb which exceeded the RCRA TCLP-regulatory limit of 500 ppb.

**Building Materials**

Asbestos-containing materials (ACMs) both friable and non-friable, were found in all of the Site buildings except the Decon Shed and Pump House. The majority of the ACMs were from laboratory related furnishings, caulking, and miscellaneous debris.

Lead-based paint was detected in Building Nos. 33,34,35 and 36, the Boiler Room, and the Pump House. With the exception of a wooden door casing, all lead-based paint was found on steel or other metal substrates such as columns, beams, windows doors, stairs, ladders, a wall, an elevator, and a fire escape.

One TCLP compound, 1,2-dichloroethane, was detected in a building material sample at a concentration that exceeded the RCRA TCLP-regulatory limit. This sample was collected from the exterior of Building No. 33.

Wipe samples were collected from three buildings; Building Nos. 33,34 and 35. Analysis of these samples indicated the presence of 24 SVOCs, eight pesticides, PBBs, and 21 metals. None of the detected concentrations can be compared to any standard since there are not federal or state ARARs/TBCs for wipe samples.

**WHAT IS A "PRINCIPAL THREAT"?**

*The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water or air, or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in groundwater may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.*

Based on the results of the sampling conducted at the Site, the principal threats posed by the Site are portions of the highly contaminated surface and subsurface soils, and the building sump sediments.

## SCOPE AND ROLE OF THE ACTION

As previously discussed, EPA is addressing the remediation of the White Chemical Corporation Site in a phased approach. This ROD, the second of three RODs planned for the Site, focuses on the remediation of the on-site buildings, above-ground storage tanks, on-site soil and sump sediment. The OU1 ROD, issued on September 26, 1991, and the 1990 and 1992 removal actions at the Site resulted in stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and environmental monitoring. The third and final ROD for the Site will focus on groundwater contamination.

## SUMMARY OF SITE RISKS

Based upon the results of the OU2 RI, a baseline risk assessment was conducted to estimate the risks associated with current and future Site conditions.

The baseline risk assessment estimates the human health and ecological risk which could result from the contamination at the Site if no remedial action were taken. Based on current zoning and future development plans, the Site is likely to remain commercial/industrial, and no residential land use is expected at the Site, although surrounding properties are a mix of commercial/industrial facilities and residential homes. Therefore, the baseline human health risk assessment focused on health effects for populations that are likely to be present under these land use scenarios (trespassers, commercial/industrial workers, construction workers and off-site residents)) and that could result from current and future direct contact with contaminated surface and subsurface soils, such as incidental ingestion of contaminated soils or inhalation of particulate dust at the Site and off the Site. It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health or welfare from actual or threatened releases of hazardous substances into the environment.

## Human Health Risks

The human health risk assessment evaluated exposure to surface and subsurface soils at the Site under several exposure scenarios, including direct contact exposures to current trespassers exposed to surface soils, and future exposure to surface and subsurface soils by on-site commercial/industrial workers and construction workers, as well as current and future exposures to off-site residents and off-site workers to fugitive dust and vapors generated from on-site soils.

No unacceptable cancer risks or non-cancer hazards were estimated for current trespassers at the Site.

Direct contact exposure, including incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust and vapors emanating from soils, is associated with excess lifetime cancer risks of $9 \times 10^{-4}$ for the commercial/industrial worker. The non-cancer hazard index of 3 exceeds EPA's benchmark of 1. In both estimates, trichloroethene contributes most significantly to the cancer risk and non-cancer hazard.

The evaluation of exposure to future construction workers at the Site results in a non-cancer hazard index of 18, with trichloroethene and 1,2-dichloroethane contributing most significantly to the total hazard. The excess lifetime cancer risk is within acceptable levels.

Off-site residents, both adult and children, were evaluated for exposures to air-borne fugitive dust and vapors from on-site soils migrating off Site. The excess lifetime cancer risks are $6 \times 10^{-3}$ and $2 \times 10^{-3}$ for adult and child residents, respectively. The non-cancer hazard index for the child resident is 5; the non-cancer hazard index for the adult is below the benchmark of 1. The risk driving chemicals for both the cancer effects and the non-cancer effects are trichloroethene, 1,2-dichloroethane and xylenes.

### WHAT IS RISK AND HOW IS IT CALCULATED?

Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

*Hazard Identification:* In this step, the contaminants of concern at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

*Exposure Assessment:* In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

*Toxicity Assessment:* In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

*Risk Characterization:* This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a $10^{-4}$ cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of $10^{-4}$ to $10^{-6}$ (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk). For non-cancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which non-cancer health effects are not expected to occur.

For the off-site worker exposed to fugitive dust and vapors generated from on-site soils, the excess lifetime cancer risk is estimated at $8 \times 10^{-4}$, with trichloroethene as the most significant contributor to the cancer risk. The non-cancer hazard index is

2,, with trichloroethene and xylenes as most significant contributors.

These risks and hazard levels indicate that there is significant potential risk to workers from direct exposure to contaminated soil and to off-site residents and workers from on-site contaminants in the soills. The risk estimates are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual"s exposure to the soil and the airborne dust and vapors, as well as the toxicity of the chemicals of concern, including trichloroethene,, 1,2-dichloroethane, and xylenes.

The results of the baseline risk assessment were used to derive Site-specific Risk-Based Action Levels (RBALs) for those chemicals in soil with the potential to cause human health risks in excess of EPA acceptable levels. RBALs were derived for trichloroethene,, 1,2-dichloroethane and xylenes.

**Ecological Risks**

The Site offers limited habitat value to wildlife since it is within a highly urbanized location and contains very little vegetation or open space. This is also likely to be the case under the future-use scenario. Therefore,, no further action is recommended with regard to ecological receptors at the Site.

## REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards such as ARARs and appropriate criteria, advisories, and guidance (i.e., TBCs) and RBALs established based on the risk assessment. Remedial action objectives developed for the soil considers all identified Site concerns and contaminant pathways, and are listed below:

- Reduce or eliminate the direct contact threat associated with contaminated soill to levels protective of a commercial/industrial use.
- Reduce or eliminate exposure through inhalation of vapors that may migrate from contaminated soills.
- Minimize or eliminate contaminant migration to the groundwater.
- Maximize consistency with the future development of the Site.

This proposed action would reduce the direct contact excess cancer risk associated with exposure to contaminated soils to below one in a million for commercial/industrial Site uses. This will be achieved by reducing the concentration of the surface and subsurface soil contaminants to at or below RBALs indicated in Table 1.

Because soils are contaminated with VOCs at levels that could result in continuing sources of groundwater contamination,, this proposed action would reduce the threat to groundwater posed by VOCs in these soils by addressing the VOCs in soils in excess of the NJDEP IGWSCC, as indicated in Table 1, to the extent practicable. Therefore, the NJDEP IGWSCC are selected as PRGs for VOCs in soils at the Site. The estimated depth of the soil excavation of up to 8 feet below ground surface is based on the depth to groundwater which averages 8 feet across the Site.

## SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA requires that each selected Site remedy be protective of human health and the environment, be cost effective, comply with other statutory laws,, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition,, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The "construction time" for each alternative reflects only the time required to construct or implement the remedy and does not include the time required to design the remedy. It generally takes 1-2 years for planning,, design and procurement prior to subsequent construction of the remedial alternative.

The OU2 FS report evaluates in detail six remedial alternatives for contaminated soils.

The OU 2 FS estimates the volume of soil that requires remediation to be 21,185 cubic yards (CY). This includes the soil under all Site buildings and ASTs, which have not been sampled and an additional 30% for slope cutback. Based on the limited TCLP sampling results, it is estimated that approximately 2,000 CY would be considered hazardous under RCRA. A total of six alternatives (S1 through S6) were developed for the soils at the Site.

In addition to the technologies indicated under each alternative, all of the alternatives would require an Institutional Control such as a deed restriction because contaminants would remain on-site above levels that would allow for residential use.

**SUMMARY OF REMEDIAL ALTERNATIVES**

| Medium | RI/FS Designation | Description |
|---|---|---|
| Site-Wide Soils | S-1 | No Action. |
| | S-2 | Asphalt Cap - Building demolition and above-ground storage tank removal, followed by construction of an asphalt cap. |
| | S-3 | Soil Vapor Extraction, Asphalt Cap - Building demolition and above-ground storage tank removal, followed by *in situ* treatment of VOC-contaminated soils through SVE and containment of residual contaminated soils under an asphalt cap. |
| | S-4 | Steam Injection, Asphalt Cap - Building demolition and above ground storage tank removal, followed by *in situ* treatment of VOC-contaminated soils through steam injection and containment of residual contaminated soils under an asphalt cap. |
| | S-5 | Off-site Disposal - This alternative consists of building demolition and AST removal, followed by removal of all VOC-contaminated soil above PRGs and transportation off-site to an appropriate disposal facility. Excavated areas would be backfilled with select fill. The Site would be seeded in preparation for redevelopment. |
| | S-6 | Low Temperature Thermal Desorption - Building demolition and above-ground storage tank removal, followed by *ex situ* low temperature thermal desorption and construction of an asphalt cap. |

**Alternative S-1 : No Action**

| | |
|---|---|
| Estimated Capital Cost: | $0 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $0 |
| Estimated Construction Time: | None |

CERCLA and the National Contingency Plan (NCP) require the evaluation of No Action as a baseline to which other alternatives are compared. No active remediation or containment of any contamination associated with the soils/buildings/tanks would be performed. However, this alternative would include five-year reviews of Site data as required by CERCLA for sites where contamination remains after initiation of the remedial action.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-2: Containment**

| | |
|---|---|
| Estimated Capital Cost: | $2,640,000 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $2,717,000 |
| Estimated Construction Time: | 6-12 months |

Alternative S-2 consists of the demolition of all on-site buildings, AST removal, and placement of an asphalt cap over the Site. Prior to building demolition, abatement of asbestos and lead-based paint would be required. All removed asbestos and lead-based paint would be disposed of at an appropriately licensed off-site facility.

As a result of the presence of building material which exceeds TCLP for 1,2-dichloroethane in one sample from Building 33, additional building material samples would be collected during the pre-design or design phase from this building to verify the extent of the contamination. Any hazardous building materials would be segregated and disposed of at an appropriate off-site location. Non-hazardous demolition debris would be disposed of at a sanitary landfill. During building demolition, the existing on-site asphalt would be removed and disposed of at an appropriate facility.

Prior to removal of on-site ASTs, the tanks would be tested for the presence of asbestos and lead based paint. No sampling of the ASTs was conducted during the OU2 RI; however, visual evidence indicates the likely presence of both lead paint and asbestos. Following any abatement necessitated by the sampling, the interior of the ASTs would be decontaminated (removal of product or sludge) and removed.

Because greater than 5,000 square feet of the Site would be disturbed during AST removal and building demolition, a Soil Erosion and Sediment Control Plan would be developed. The requirements of this plan would likely include: installation of a silt fence around the Site, construction of a crushed stone stabilized construction entrance, and protection of any on-site catch basins. The Soil Erosion and Sediment Control Plan would also cover any further remedial work at the Site.

Following building demolition and AST removal, the entire Site would be paved with an asphalt cap. The cap would be placed on top of existing Site soil and graded to provide drainage towards existing catch basins. The catch basins would be modified so that they would remain level with the top of the asphalt cap. The asphalt cap would consist of (from bottom to top): a geomembrane liner, one foot of crushed stone sub-base, eight inches of asphalt base and three inches of top course. In addition, a deed restriction would be placed on the Site to limit future intrusive Site activities. Long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-3: Soil Vapor Extraction, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $3,941,420 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $4,019,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with Soil Vapor Extraction (SVE). The exact design of the SVE treatment process for the Site would be developed in the design phase through a pilot study. In general, though, a series of vertical wells would be installed around the Site, and a vacuum would be applied to the soil to induce the flow of air and remove the VOCs. Vapors that are recovered by the wells would be treated using Granular Activated Carbon (GAC). The GAC would need to be periodically removed for off-site regeneration and replacement. After completion of the SVE, the entire Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-4: Steam Injection, Asphalt Cap**

| | |
|---|---|
| Estimated Capital Cost: | $4,998,980 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $5,076,000 |
| Estimated Construction Time: | 2 years |

Following building demolition and AST removal, as described previously under Alternative S-2, VOC-contaminated soil would be treated with steam injection. As with SVE, the steam injection process option is intended to remove volatile organic contaminants in the soil. A pilot test would be required prior to design. In general, a series of steam injection wells would be installed to a depth just below the bottom of the vadose zone (approximately eight feet below grade). Steam would be injected through these wells, heating the overlying soil, and thereby volatilizing the VOCs. The resulting vapors would then be removed through SVE. While the initial costs for steam injection are higher than for standard SVE, it is possible that these costs can be recouped through a greater efficiency in removal. After completion of the steam injection treatment, the Site will be paved with an asphalt cap, as described in Alternative S-2. A deed restriction would be placed on the Site, and long-term maintenance of the asphalt cap would be required.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-5: Excavation and Off-site Disposal**

| | |
|---|---|
| Estimated Capital Cost: | $7,664,440 |
| Estimated Annual O&M Cost: | $0 |
| Estimated Present Worth: | $7,664,440 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described previously under Alternative S-2, all soil contaminated above PRGs would be excavated and disposed of off-site. There are no foreseen space constraints for the removal of soil at the Site. Excavation could proceed utilizing conventional sloping or benching techniques to provide worker protection and minimize cave-in and/or wall collapse. Following excavation, soil would be stockpiled on-site prior to transportation to an off-site disposal facility. After removal, the excavated areas would be backfilled with select fill, and then covered with top soil and seed.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

**Alternative S-6: Low Temperature Thermal Desorption**

| | |
|---|---|
| Estimated Capital Cost: | $8,176,560 |
| Estimated Annual O&M Cost: | $5,000 |
| Estimated Present Worth: | $8,177,000 |
| Estimated Construction Time: | 1 year |

Following building demolition and AST removal, as described in Alternative S-2, all soil contaminated above PRGs would be excavated, as described in Alternative S-5, and treated on-site using *ex situ* low-

temperature thermal desorption. During treatment, any oversized objects, such as boulders, would be segregated and decontaminated. Following treatment, the treated soil would be backfilled. Additional select fill would be brought on-site to replace soil volume lost during treatment. The Site would then be covered by topsoil and seeded.

Because this alternative would result in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA would review such action at least every five years.

## EVALUATION OF ALTERNATIVES

In selecting its preferred alternative, EPA uses the nine NCP criteria below to evaluate the viable remedial alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In alternatives developed for a site, CERCLA requires that each selected site remedy be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions and addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

## COMPARATIVE ANALYSIS

This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria described below.

| EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES |
|---|
| *Overall Protectiveness of Human Health and the Environment* determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment. |
| *Compliance with ARARs* evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified. |
| *Long-term Effectiveness and Permanence* considers the ability of an alternative to maintain protection of human health and the environment over time. |
| *Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment* evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present. |
| *Short-term Effectiveness* considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation. |
| *Implementability* considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services. |
| *Cost* includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent. |
| *State/Support Agency Acceptance* considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan. |
| *Community Acceptance* considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance. |

1. **Overall Protection of Human Health and the Environment**

Alternatives S-5 and S-6 would be equally protective of human health and the environment, since all contaminated soil above PRGs would be treated or removed from the Site. Alternatives S-3 and S-4 would be slightly less protective since residual contaminated soil may remain on the Site, but any residual risks would be mitigated by placement of an asphalt cap and a deed restriction. The residual risks for Alternative S-2 would be the highest of all other alternatives with the exception of S-1 and the residual risk would be mitigated by placement of an asphalt cap and a deed restriction. Alternative S-1 would not be protective of human health and the environment.

2. **Compliance with ARARs**

Alternatives S-3, S-4, S-5, and S-6 would be performed in accordance with location-and action-specific ARARs to the extent practicable. These alternatives would also comply with chemical-specific ARARs and TBC guidance. Alternatives S-1 and S-2 would not satisfy ARARs.

3. **Long-term Effectiveness and Permanence**

Alternatives S-5 and S-6 would provide the highest long-term effectiveness, since the contaminated soil would be treated or removed from the Site. The long-term effectiveness of Alternatives S-3 and S-4 would be slightly lower since residual contamination may remain on-site. Cap maintenance would be required. Alternatives S-1 and S-2 have the highest residual contamination left on-site. Alternative S-2, S-3 and S-4 provide an asphalt cap to mitigate existing risks; Alternative S-1 does not provide any mechanism for mitigating risk.

4. **Reduction of Toxicity, Mobility, or Volume of Contaminants Through Treatment**

Alternative S-5 provides the greatest reduction in toxicity, mobility and volume of contamination at the Site, but the reduction is via removal and off-site disposal, which may not necessarily include treatment. Alternatives S-3, S-4, and S-6 employ treatments (SVE, steam injection and low temperature thermal desorption (LTTD), respectively) that would address source removal, thereby reducing the toxicity, mobility and volume of contaminants. Alternative S-2 would reduce the mobility of contaminants via capping, but would not alter the toxicity or volume of contaminated material. Alternative S-1 provides no reduction in toxicity, mobility, or volume.

5. **Short-term Effectiveness**

Alternative S-1 would pose no risk to workers or the community during implementation, since no remedial activities would be conducted. Any risk to workers during implementation of Alternative S-2 would be limited during building/tank demolition and construction of the cap. Alternatives S-3, and S-4 would pose low risks to workers, since the *in situ* treatments associated with these alternatives would cause substantially less disturbance of contaminated soil than Alternatives S-5 and S-6. Alternatives S-3, S-4 and S-6 would also generate volatile emissions which would need to be controlled to protect workers and the community. Alternatives S-5 and S-6 would require excavation of contaminated soil; Alternative S-5 would also require off-site transportation. The potential volatile and dust emissions from both of these alternatives would need to be controlled to protect workers and the community.

6. **Implementability**

***Technical Feasibility***

Alternative S-1 is the easiest alternative to implement, since no remedial activities would take place. Alternative S-2 would be the next easiest to implement with only the construction of an asphalt cap. Alternatives S-3 and S-4 would require a pilot test. Alternatives S-5 and S-6 would employ conventional excavation techniques that are readily available from multiple vendors. Alternative S-6 would require construction of an on-site treatment

facility. Should additional remedial activities be deemed necessary in the future, Alternatives S-5 and S-6 would best facilitate such activities. Alternatives S-2, S-3 and S-4 would require disturbance and replacement of the asphalt cap.

*Administrative Feasibility*

Alternatives S-1 and S-2 would leave contamination above PRGs on-site. Alternatives S-3 and S-4 may leave residual contamination. Each of these alternatives, therefore, would require a deed notice, five-year reviews, and coordination with state and local authorities to make decisions with regard to remedial activities.

*Availability of Services and Materials*

Alternative S-1 would not require any services or materials. Alternatives S-2, S-3, S-4, S-5 and S-6 would require common construction services and materials for implementation of the remedies. Alternatives S-2, S-3 and S-4 would also require Operation and Maintenance services for the cap and/or engineering controls.

**7. Cost**

There would be no capital or O&M costs associated with Alternative S-1. The remaining alternatives have net present worth costs ranging from $2,821,000 to $8,177,000, increasing in the following order: S-2, S-3, S-4, S-5 and S-6.

**8. State/Support Agency Acceptance**

The State of New Jersey is still evaluating EPA's preferred alternative presented in this Proposed Plan.

**9. Community Acceptance**

Community acceptance of the preferred alternatives will be evaluated after the public comment period ends and will be described in the Responsiveness Summary of the ROD, the document that officially formalizes the selection of the remedy.

## SUMMARY OF THE PREFERRED ALTERNATIVE

Based upon an evaluation of the various alternatives, EPA recommends Soil Alternative S-5, Off-site Disposal, as the preferred alternative for the remediation of soils, above-ground storage tanks and buildings at the White Chemical Corporation Site. Along with Alterative S-6, Low Temperature Thermal Desorption, Alternative S-5 is the most protective of human health and the environment and provides the highest long-term effectiveness, because all soil above PRGs will be removed from the Site. Alternative S-5 also complies with all Site-specific ARARs and TBCs for the Site. The excavation and off-site disposal of the contaminated soil can be accomplished safely using conventional equipment and techniques and does note require a pilot test to insure its effectiveness. Alternative S-5 will not require any restriction on commercial redevelopment of the Site although as for all alternatives evaluated, Institutional Controls such as a deed restriction that prevents residential development at the Site would be required since the New Jersey Residential Direct Contact Soil Screening Criteria were not considered TBCs for the Site. Finally, of the alternatives that are most protective of human health and the environment and provide the greatest long-term effectiveness ((S-5 and S-6), Alternative S-5 is the more cost effective.

Based on information currently available, EPA believes the Preferred Alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA §121(b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective; 4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfy the preference for treatment as a principal element if treatment of contaminated soil is required prior to disposal.

## COMMUNITY PARTICIPATION

EPA and the State of New Jersey provide information regarding the cleanup of the White Chemical Corporation Site to the public through public meetings, the Administrative Record file for the Site, and announcements published in the Star Ledger. EPA and the State encourage the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site.

The dates for the public comment period, the date, location and time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan. EPA Region 2 has designated a Regional Public Liaison Manager as a point-of-contact for community concerns and questions about the federal Superfund program in New York, New Jersey, Puerto Rico and the U.S. Virgin Islands. To support this effort, the Agency has established a 24-hour, toll-free number that the public can call to request information, express their concerns or register complaints about Superfund.

**For further information on the White Chemical Corporation Site, please contact:**

| | |
|---|---|
| Romome Pezzella<br>Remedial Project Manager<br>(212) 637-4385 | Pat Seppi<br>Community Relations Coordinator<br>(212) 637-3679 |

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**TABLE 1**
**PRELIMINARY REMEDIATION GOALS**
**SOIL**
**WHITE CHEMICAL CORPORATION SITE**

| Contaminant | Risk Based Action Levels [1] | NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) | NJDEP Impact to Ground Water Soil Criteria (IGWSCC) | Preliminary Remediation Goals |
|---|---|---|---|---|
| 1,2 Dichloroethane | 61,000 µg/kg | 24,000 µg/kg | 1,000 µg/kg | 1,000 ug/kg |
| cis-1,2,-Dichloroethene | - | 100,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Ethylbenzene | - | 100,000 ug/kg | 100,000 ug/kg | 100,000 ug/kg |
| 1,1,2,2,-Tetrachloroethane | - | 310,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Tetrachloroethene (PCE) | - | 6,000 ug/kg | 1000 ug/kg | 1,000 ug/kg |
| 1,1,2-Trichloroethane | - | 420,000 ug/kg | 1,000 ug/kg | 1,000 ug/kg |
| Trichloroethene | 1,190 µg/kg | 54,000 µg/kg | 1,000 µg/kg | 1,000 ug/kg |
| m,p-Xylenes | 163,000 µg/kg | 1,000,000 µg/kg [2] | 67,000 µg/kg [2] | 67,000 ug/kg [2] |
| o-Xylenes | 155,000 µg/kg | | | |

Note:
[1] Risk Based Action Levels were developed based on a $10^{-6}$ risk factor.
[2] Value provided for xylenes (total).

**Attachment B**
**Newspaper Articles**

## e, yet seeks same seat

the judges," Roberts wrote 20 years earlier. "There is much to be said for changing life tenure to a term of years, without the possibility of re-appointment."

In the same memo, Roberts railed against what he described as an overreaching federal judiciary. He suggested that lifetime tenure was defensible only if judges stuck to interpreting — rather than making — law. It was a frequent complaint through his writings of the time.

"It is certainly appropriate to protect judges from popular pressure if their task is limited to discerning and applying the intent of the framers or legislators," he wrote. "The federal judiciary today benefits from an insulation from political pressure even as it usurps the roles of the political branches."

His criticisms weren't limited to lifetime tenure. Writing to Fielding earlier that year, Roberts scoffed at a proposal by then-Chief Justice Warren Burger to lighten the Supreme Court's caseload.

ROBERTS

Burger suggested creating a "special temporary panel" of federal appeals court judges to hear cases referred by the Supreme Court.

In a Feb. 10, 1983, memo, Roberts wrote that "a new tier of judicial review is a terrible idea." The justices were to blame for taking too many cases and issuing "opinions so confusing that they often do not even resolve the questions presented," Roberts wrote.

To cut its caseload, he suggested that the high court consider "abdicating the role of fourth or fifth guesser in death penalty cases."

"'So long as the court views itself as ultimately responsible for governing all aspects of our society, it will, understandably, be overworked,'" Roberts wrote. "'A new court will not solve this problem.'"

Monaghan would not provide any details of how the three evaded the international arrest warrant facing them. He insisted he did not consider himself "on the run" — and hoped that Ireland would not extradite them to Colombia.

## U.N. appeals for $80M to fight Niger famine

GARIN GOUBLI, Niger — The United Nations appealed yesterday for $80 million to fight a food crisis

paused to reload his army-issued M-16 rifle.


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### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY INVITES PUBLIC COMMENT ON THE PROPOSED PLAN FOR THE WHITE CHEMICAL CORPORATION SUPERFUND SITE ESSEX COUNTY, NEW JERSEY

The U.S Environmental Protection Agency (EPA) invites you to attend a public meeting to discuss the Proposed Plan to address contaminated soils, sump sediments, buildings and above-ground storage tanks (ASTs) at the White Chemical Corporation Superfund Site (Site). EPA's preferred remedy for these contaminated areas of the Site is Excavation and Off-Site Disposal. This alternative requires the demolition of all on-Site buildings and ASTs and excavation of contaminated soil. All building material, tank material and soil would be disposed of at appropriately licensed off-Site facilities. The excavated area would be backfilled and the Site would then be covered with topsoil and seeded. EPA evaluated a total of six alternatives. During the public meeting, EPA representatives will address all of the alternatives, present additional information supporting the recommendation of the preferred remedy and receive public comments.

The public meeting will be held on August 9, 2005 at 7:00 pm at the Newark City Hall Council Chambers located at:

920 Broad St., Newark, NJ 07102

To request copy of the Proposed Plan you can:

email Pat Seppi, Community Involvement Coordinator: seppi.pat@epa.gov

call Pat at (212) 637-3679 or toll-free at 1-800-346-5009

or visit EPA's website: http://www.epa.gov/region2/superfund/npl/whitechemical/proposal2005.htm

Site-related documents are available for public review at the information repositories established for the Site at the following locations:

Newark Public Library: 5 Washington Street, Newark, NJ 07102, ((973) 733-5412, Hours: Monday, Tuesday, Wednesday, Friday, and Saturday – 9 am-5:30 pm; Thursday 9 am-8:30 pm

USEPA Region III: Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007-1866, ((212) 637-4308, Hours: Monday-Friday 9 am-5 pm

The public comment period for this Proposed Plan runs from August 4, 2005 to September 2, 2005. All written comments or questions should be mailed to:

Jeff Josephson, Team Leader
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, New York 10007-1866
Telephone: (212) 637-4404; fax: (212) 637-4393
Internet: josephson.jeff@epa.gov


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# Attachment C
# Transcript of Public Meeting

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

| | | |
|---|---|---|
| PUBLIC HEARING RE: WHITE CHEMICAL CORPORATION SUPERFUND SITE | : | TRANSCRIPT OF PROCEEDINGS |

Tuesday, August 9, 2005
7:00 p.m.
Municipal Courthouse
Council Chambers
Broad Street
Newark, New Jersey

PRESENT:

PAT SEPPI
JEFF JOSEPHSON
ROMONA PEZZELLA
DENNIS McGRATH
MICHAEL SIVAK
BILL COLVEN

PUBLIC SPEAKERS:

WILBUR J. McNEIL
ALLEN LITTLE
KIM GADDY

COMPUTER TRANSCRIPTION BY
PROUT & CAMMAROTA, L.L.C.
CERTIFIED SHORTHAND REPORTERS
147 COLUMBIA TURNPIKE

FLORHAM PARK, N. J. 07932

TEL: (973) 660-0600 FAX: (973) 660-1966

CERTIFICATE OF OFFICER

I, PATRICIA A. NIEMIEC, a Certified Shorthand Reporter and a Notary Public of the State of New Jersey, do hereby certify that the following is a true and accurate transcript of the testimony taken stenographically by and before me at the date, time and place aforementioned.

I DO FURTHER CERTIFY that I am neither a relative nor employee, nor attorney or counsel to any parties involved; that I am neither related to nor employed by any such attorney or counsel, and that I am not financially interested in the action.

A NOTARY PUBLIC OF THE STATE OF NEW JERSEY
My Commission Expires: May 19, 2005
C. S. R. License No. 993

MS. SEPPI: Okay. Thank you for being here. We appreciate it.

My name is Pat Seppi, I'm with the Environmental Protection Agency out of Region II, we're headquartered in New York City. And I'd like the people that are also here to introduce themselves to you.

MS. PEZZELLA: Romona Pezzella, EPA Manager for the site.

MR. JOSEPHSON: Jeff Josephson, Team Leader for the New Jersey State Coordination Team. I'm a supervisor in the Superfund Program located in EPA at 290 Broadway in New York City.

MR. SIVAK: I'm Michael Sivak, I'm the Human Health Risk Assessor who works on the project.

MR. COLVIN: I'm Bill Colvin, I work for a company that's contracted to EPA and we execute the projects planned with the EPA.

MR. McGRATH: My name is Dennis McGrath, I also work with a company Malcolm Pirnie (phonetic), who is working for EPA and we conducted the investigations.

MS. SEPPI: Okay. Thank you.

MR. McNEIL: I'm Wilbur McNeil, the

President of the Weequahic Park Association, an organization that received $3 million from the U.S. EPA to do some restoration to or park. We've been concerned about the White Chemical site for sometime. We've had two previous meetings about this site and our concern early on was the groundwater flow and whether it had been tested.

At the time of our last meetings, there was no testing on the aquifer beneath the ground because we're interested in it going into our 80 acre lake. There was an assumption that it might be traveling east, but we were wondering if the EPA had actually done the testing to see which way the water was flowing. But we're also interested as a community organization in developing that site for the community.

MS. SEPPI: Okay. Thank you. We'll address that tonight.

MR. LITTLE: I'm Allen Little, one of the founders of the Weequahic Park Association and a resident of the community.

MS. SEPPI: Great, Thank you.

Well, the reason we're here tonight is to talk about cleaning up White Chemicals, We've come up with a few different alternatives and then

an alternative that the EPA feels is the best one to deal with the site, to deal with contaminated soils on the site, to deal with the sediments that are contaminated, and also what to do with the buildings and tanks on the site. We've chosen an alternative, as I've said, that we think is the best way to deal with the site.

We're here for public comment. It started on August 4th and it will continue until September 2nd, and that's where we get your input on what we would like to do. You may agree or you may disagree. This is your time to let us know that.

Now, of course you just got a copy of this plan tonight so you'll have some comments I'm sure, but if you go home tonight and you have additional comments, on the back of the proposed plan, the last page is Romona's address and I think her e-mail address also. You can certainly write or e-mail those additional comments, you have until September 2nd to do that. And it's very important that you make those comments so that they'll become part of our public record. That's why we have the stenographer here this evening, any comment that we hear tonight will also become part of that public record and those comments will be addressed. That's

a very important part of this process.

There is a sign in sheet, I know you did sign in, I appreciate that. We wanted to generate a mailing list so the next time we'll be able to notify people when we come out here and have a meeting.

And that's really what I have to say, I think, so I'll turn it over to Jeff now, who is going to talk a little bit about the Superfund program.

MR. JOSEPHSON: I'm just going to talk very quickly and briefly in a manner to summarize the Superfund process so that the rest of the meeting could be put into context.

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act, which is more commonly known as the Superfund law. The Superfund law provides for the ability of federal funds to be used for the cleanup of uncontrolled and abandoned hazardous waste sites and for responding to emergencies that involve hazardous substances.

Upon discovery potential abandoned hazardous waste site, EPA will conduct one or more inspections and make a determination if the site

should be placed onto the National Priorities List, which is the list of the nation's worst hazard wastes sites.

Once a site is placed on the National Priorities List, selection of a remedy usually requires the conduct of a remedial investigation and feasibility study. The work necessary to clean up a hazardous waste site is often complex and is frequently conducted in stages. EPA often calls the stages operable units. An operable site or unit determines the nature and extent of the contamination as well as the risks to the human health the environment posed by the contamination.

The purpose of the feasibility study is to identify and evaluate remedial alternatives to address the site contamination. Once the feasibility study is completed, EPA develops a proposed plan and presents EPA's preferred clean up alternative to the public.

Public participation is an important element of the Superfund process. The public is provided the opportunity to comment on the results of the studies and proposed remedy. After consideration of the public comments, EPA will document the selected cleanup alternative in the

Record of Decision. Once that Record of Decision is final, the remedial design process begins where the specifications and plans for the selected remedy are developed. Remedial action is initiated after the design is completed and is the stage where construction and cleanup activity occur at the site. To the degree that it's necessary, post cleanup monitoring is conducted, and once the site no longer poses a threat to human health or the environment, it is removed from the Superfund National Priorities List.

Tonight's public hearing will review the results of the operable unit two Remedial Investigation/Feasibility Study, and Romona will be discussing remedial alternatives evaluated in the proposed plan. We will provide EPA's preferred alternative for buildings, contaminated soils, sumps, and tanks at the White Chemical Superfund site.

I'll now turn it over to Romona.

MS. PEZZELLA: Thanks.

I'm going to just briefly present the site history and then I'm going to talk about the sampling that EPA has done to determine the extent of contamination at this site, and then I'll go

through the cleanup alternatives that we looked at to address contamination. As Pat said, right now we're looking at contamination of the soils and the buildings on-site and in above ground storage tanks.

All right. Obviously you both know where the site is, so this is just a site map. I wasn't sure who would be here today, whether they'd be familiar with the site. It shows the site location.

The White Chemical Corporation leased that site in 1983. and they produced primarily three groups of chemicals. They had a history of improperly handling the chemicals at the site that they dealt with. Based upon that, in 1990 the State of New Jersey came on to the site and removed about a thousand drums from the site.

In that same year, EPA did an inspection at this site and found significant evidence that materials were being handled improperly at the site. Such evidence included leaking drums and leaking containers. As part of that inspection, EPA shipped about 4,000 empty drums off of this site and also staged almost 7,000 drums to be handled and removed from the site later on.

In 1991 we signed a Record of

Decision for the site. A Record of Decision is a document that we use to describe our cleanup plan for an operable unit. That operable unit that we signed a Record of Decision for in 1991 focused on stabilizing the site, it focused on the drums that were there and other chemical waste.

Starting in 1992, a group of potentially responsible parties took on that cleanup, and among other things that they did was remove almost 8,000 drums from the site and also shipped the contents of more than a hundred tanks off-site.

The next stage of the cleanup for the EPA or the work on the site for the EPA was to look at whether the chemicals of the site had impact on the soil and groundwater, as well as look at the buildings and above ground storage tanks that remained on the site. From 1998 to 1999 EPA collected samples of soil, groundwater, samplings within the buildings, including some sediments, to determine what the extent of contamination was. And I think you're going to be disappointed by what I'm going to say next, which is what we didn't have enough information on the groundwater yet to make a determination about what the best cleanup option for

the groundwater would be. And as part of the decision that we're making tonight, we're also talking about what we need to do to get additional information about the groundwater. We're not going to talk about that much tonight, but that is going to be part of the decision that we're making at this stage, that we need to go out and do some additional sampling of groundwater.

But what we did have was enough information to make a determination about what we should do with the soils. The data showed that the contamination on the site was mainly in the top two feet, what we call surface soil, although there were some hot spots that were deeper. We found lead-based paint and asbestos and some chemical contaminants in the building and we also found some contamination in sump sediments.

We issued a remedial investigation report in April of 2003 that documented the results of all the sampling that we had done at the site. Also in 2003, EPA performed a risk assessment to determine if this contamination that we found on the site could potentially pose a risk to the community or to future users of this site, and the results of that risk assessment confirmed that indeed there

were several contaminants in the soil that could potentially cause a risk in the future. So the EPA at that stage we began evaluating alternatives for cleaning up the soil and to address the buildings and the above ground storage tanks.

Based on the risk assessment and the remedial investigation, EPA determined that removal of all the site buildings and above ground storage tanks would be necessary and we would have to address about 21,000 cubic yards of contaminated soil on this site. That figure, which I'm not sure how much you can see, but what it shows is the buildings that are on the site that would be removed, the above ground storage tank locations which kind of are in the center of the site, and then you can see -- I don't know, can you see the green and the red outlines? Those are just the hot spots that contain the soil that we need to address. In green are the surface soil locations, that's the top two feet, and the red boxes represent contaminated soil that's below two feet. So you can see there are hot spots, it's not the entire site that has contamination above levels of concern, it's certain hot spots.

In addition, we didn't sample under

the buildings because it was obviously it's hard to do sampling under the buildings while they're still there, so what we assumed in those 21,000 yards of soil is that contamination under the buildings extends down to about eight feet, and that's just an estimate. Once the buildings are removed from the site we're going to do additional sampling to determine how this soil needs to be removed from under the buildings.

We looked at a total of six alternatives to address the buildings and soils at the site. There are some common elements of all the alternatives, based on the current land use, the cleanup addressed risk associated with a commercial or industrial use of this site, therefore -- I should say a non-residential use of the site, therefore deed restrictions would be necessary on the site to restrict the use of the site to non-residential. And that goes for all of the alternatives that we're looking at.

In addition, the EPA will review all the data from the site at least every five years to make sure that the cleanup that we've chosen is still working the way it should.

The first alternative that we looked

at is no action. That's something that our law that we operate under requires us to look at. We use it as a baseline, that's not what we're selecting or presenting for this site. The cost of that would be zero, it's basically no further action taken at the site except for that five year review that I spoke about previously.

All the remaining alternatives will include removal of the buildings and tanks, so I won't keep repeating that. All the other alternatives that we're looking at include removing all the buildings and the above ground storage tanks on the site.

Something else that I need to note for the other alternatives is when we talk about construction time, that just relates to the actual physical construction on the site. There's also time to design the cleanup, which usually takes about one or two years, so you have to add that to the construction time.

Okay. Alternative two is an asphalt cap. Asphalt cap would be installed across the site after the buildings and tanks were removed. That would help prevent contact with contaminated material. The cost of that is about $3 million and

we estimate it would take less than one year to construct that.

The third alternative that we looked at was vapor extraction. Under vapor extraction a series of wells are installed around the site and the vacuum is used to pull contamination out from the contaminated areas. It basically addresses volatiles, which are contaminants that easily turn into gases. Those are the contaminants we' re most concerned with at this site. The cost of that is $4 million and the time that we estimate that would take is two years. After that process was done, this alternative also requires that an asphalt cap be placed across the site.

The fourth alternative we looked at is steam injection. It's similar to the vapor extraction; it's basically that you inject steam, warm the soil, and you promote the contaminants turning into gases so they can be extracted. This would also require an asphalt cap when the work was done. The cost is about $5 million and the time frame is the same as alternative three.

Alternative five is excavation and off-site disposal. The approximately 21,000 yards of soil that I talked about previously would be

excavated from the site, excavated and sent off-site for disposal. We then bring fill material in from off-site, fill in the excavated areas. The site would be covered with topsoil and seeded. So that doesn't include an asphalt cap. The cost of that is about seven and a half million dollars, and we estimate it would take about one year to complete that.

And finally the last alternative is low temperature thermal desorption. A thermal treatment unit would be brought to the site under this alternative. The soil would be excavated as an in alternative five, instead of being shipped off-site, it would be treated in this unit on-site. The thermal treatment unit causes contaminants to turn into gases as well, leave the soil and collect it. The treated soil is then back filled on this site. Under that one also the site would be seeded once the work was done. The estimated cost of that is $8 million and construction time is one year.

The EPA is required to evaluate each of these alternatives against nine criteria, which I list here. I'm going to go through them very briefly:

Overall protectiveness of human

health and the environment is pretty obvious. It focuses on the reduction of health risk to the public and environment.

The compliance with ARARS, does each meet the regulations.

The long term effectiveness is how well would the cleanup maintain its performance over time.

Reduction of toxicity, mobility, or volume of contaminants through treatment. It relates to the use of treatment to reduce the effects of contamination.

Short term effectiveness is how quickly can the remedy be implemented and also addresses protection of workers and the communities during the work while the cleanup work is going on.

Implementability focuses on the readily -- how readily available the equipment is that's needed for the remedy and how readily available is the technology.

And cost is pretty self-explanatory.

State support, we look to the State of New Jersey to give us feedback on our remedies or all the alternatives that we produced.

And community acceptance, both Pat

and Jeff will discuss we're in the middle of the public comment period and this public meeting is part of that to get feedback from the community on the EPA's preferred alternative.

So EPA is recommending alternative five, which is off-site, excavation and off-site disposal, as the preferred alternative for the remediation of soils, buildings, tanks, at this site. Along with -- the reason -- some of the reasons, I'll just go through it real quickly, along with alternative six, which is thermal desorption, alternative five offers the most protection of -- the protection of the environment and public health as well as the greatest long term effectiveness, since contaminated soil will be taken off this site. It meets all of the applicable regulations. It can be done safely and it will allow for redevelopment of the site.

Of the alternatives that are the most protective of human health and the environment, which are S-6, thermal desorption, and S-5, off-site disposal, S-5 is the most cost effective, so these were the factors that we used to determine that our preferred alternative was excavation and off-site disposal.

And that's it. If anyone has questions, comments?

MS. SEPPI: Would you like to come up here and use the mic, then everyone can hear you.

MR. MCNEIL: My name is Wilbur McNeil, I'm President of the Weequahic Park Association. It's a nonprofit 501:C3 organization in Newark charged with the restoration of historic Weequahic Park that's located less than a mile from the White Chemical site.

We've had two meetings about the White Chemical site with the U.S. EPA and Schorr DePalma in the City of Newark. Schorr DePalma was the contractor hired to evaluate the property for the EPA to make recommendations at the time. January of 2003 was the last of two meetings and what we were concerned about is a level playing field for the community.

You know, most people bring these proposals to the community and then they ask the community for input and they don't give them a dollar so they can perfect the assistance or they can bring alternative plans. Well, we flat out rejected the encapsulating of that soil because the ground soil hadn't been tested, you know, and not

only that, we believe that most of these things are driven by other non profits like the Port Authority, who has money but don't pay any taxes and come in our community, and when those lands are ready to develop after the government cleans them up with our tax dollars, then they bring in their people to have a proposal and to stagger us with magnificent plans. The last plan Schorr DePalma brought in they brought in a plan for a warehouse and then subsequently they placed a basketball court around some trees and say this will be for the community. That's preposterous.

We not only reject those kinds of proposals brought into our community, and then you ask for community input when we don't have any input at all because we don't have any money. We are in that community because that community is an empowering zone, we represent the city, because it's a depressed area. We also represent that community as an enterprise which is also an enterprise community. It's also a community that's in need of not only jobs and money, but they need to develop some of those lands that the federal government has cleaned up with our tax dollars, so we could submit something that would gain financial backing. We

certainly reject the encapsulation of that land no matter how deep you go unless you test the aquifer water beneath it, because we have an 80 acre lake that we're trying to cleanup. We always find it hard that we can't get our lake, our 80 acre lake cleaned up, but the government can cleanup the Port Authority, a whole port in Newark Bay, and for a company that doesn't pay any taxes. The Port Authority is tax free. But the citizens of that poor community can't get our 80 acre lake cleaned up.

And we believe that this whole thing, this meeting today when you ask for community output, there was no outreach, how can you have a meeting like this and not contact the main community organization that's been there for 13 years, working to improve that community and not be notified. It's preposterous. If you have anybody doing outreach, you should have at least the WPA doing the outreach so that you could have people come to this kind of meeting. You have four or five people here, you know, that's what you want. You put a few notices in the paper and then you ask the community for input, then you don't give the community any money, that's preposterous.

I'd say we want to go over this and we'll have some additional written comments, but the whole thing, you know, as far as we're concerned, is that you bring these kinds of proposals to the community. We certainly want the White Chemical site cleaned up, you know, we've been bombarded from the polluted soil and the contaminated soil in our community, but we also from the pollutants coming from that airport, you can read about it in the records, that airport is the James Bond of our community, they have a license to kill us. There are more people -- the New Jersey EPA said that more people die from the pollutants from the Port of Newark and the airport than from homicides or traffic accidents, yet, you know, the papers highlight those things.

Well, we have a solid killer in our midst that's not going to pay its way, and that's the Port Authority. So if this site is being given by the Port Authority, we also reject that, because we believe they're not paying their fair share.

Thank you.

MS. SEPPI: Thank you.

MS. GADDY: My name is Kim Gaddy, Environmental Justice and North Jersey organizer for

New Jersey Environmental Federation. And I agree with everything that Mr. McNeil said from the WPA.

It is very unfortunate that I found out about this meeting -- I was out of town Saturday and I got a call at my office this morning and I called the resident back, and he said Kim, I know you're going to attend this meeting. I said what meeting?

I've been a life-long resident of Newark for many, many years, and that's the problem that we have with cleanups, especially with cleanups of Superfund sites; sometimes it takes the community 25 to 30 years to cleanup these areas, and surely you cannot do that without embracing those anchoring institutions, those community based grass roots organizations that can extend outside to the community. You have to provide some kind of technical assistance so that those individuals can empower themselves with this information, review what you have, and make some very important decisions about what should happen to this site. If you don't do that, that is an injustice. And that's some of the issues that we are faced with in the City of Newark.

All the environmental injustices, we

can have polluting companies come here and tear our communities up. When they're finished with our community, they leave, they leave them just like the White Chemical. We can name all the toxic sites that we have in the City of Newark, which our urban community has to deal with on a daily basis, and it's very, very unfortunate. So I needed to come down here this evening just to express this.

We will be reviewing what I downloaded from the Internet and we will be submitting information in writing, because not only am I the EJ organizer for the New Jersey Environmental Federation, I'm the New Jersey Environmental Justice allies, I'm the North Jersey Chair, so we will be submitting something in writing and I really think that it will be advantageous to have some kind of meeting with WPA and those community based organizations who have turned that park around, who have began to empower and educate those communities. So I hope that that park, it was a very small line of our community outreach, and that's the disrespect that we are given on a daily basis, especially when it comes to environmental issues in urban communities, they really don't care what the community has to say.

So we want that on record and we'll submit it in writing but I just think it's time that you bring those groups to the table so that we can see what the plans are. We have qualified individuals with degrees and the like and we have community folk that know when they wake up in the morning there's an unfamiliar taste or smell that they have over the years because of the contamination, so it's really important that we engage those folks in the conversation.

Thank you.

MS. SEPPI: Thank you. Thank you for your comments.

Anybody else? Any questions or comments?

MS. GADDY: I have a question. When you say dispose of the -- I walked in kind of late and you talked about your plan to dispose. Where will you be taking it?

MS. PEZZELLA: Where we take it is depending on whether the soil tests as hazardous or non hazardous, and that's just a distinction that relates to disposal.

What usually happens is once we select a remedy we go into the design phase, and

even during design and then construction, that's the time that we make the decisions about what facility specifically would take the soil. It would have to be a facility that was licensed to take it, take the type of contamination that's in the soil.

MS. GADDY: Okay. And you guys have been engaged with the State holders here, the Council members of the City of Newark, because just going on the history, the City of Newark acquired this property some time ago, right, so who are you contracting with? I'm just trying to edify myself in who you're doing the work for. Is it the City of Newark that applied to EPA or I'm trying to figure out what's going on?

MS. PEZZELLA: It's a Superfund site, we're not contracted with the City of Newark at all. As a land owner we talked in the beginning, I'm not sure if you were here, about the need for deed restrictions. That's something that we would go to the property owner for as part of the remedy. Other than that, it goes through the same process that a Superfund site would go through.

MR. LITTLE: I would like to know the testing that you're doing. Because there was at one time the Passaic River ran underground right to our

lake; will the lake be tested too? Because of the water that goes underground.

MS. PEZZELLA: Would the lake be tested? It's something that we've looked at and we're having -- because, as I said, we didn't get enough information when we went and looked at the groundwater the first time, so we've gotten recommendations for doing additional work at the site and I can go through that list. Jeff might have some information.

MR. JOSEPHSON: In the public library we placed a feasibility study and in that feasibility study it indicates the recommendations that were made to the EPA on what firm the work needs to be done to the groundwater and that includes what interaction the groundwater has with the surface water, which would be the lake there. We're going to evaluate all the recommendations in the feasibility study in that next phase and make a decision which ones we need to do in order to really understand the groundwater situation at the white Chemical site. So your concern about the lake and the park would be looked at in that further unit.

What EPA looked at in terms of the current conditions there, it's our understanding

that there is a water main of some sort that runs underneath the facility, and that seems to be complicating the groundwater flow direction, our understanding of the direction of groundwater flow. In other words it seems to be contributing to the flow direction. Once we take down the buildings at the facility, we move all the material, we can address that pipeline that's underneath there and stop the interaction between that pipeline and the actual groundwater flow, and that will help us understand the actual flow direction from the facility.

You know, if you look at the maps that we produced in the remedial investigation report, you'll see that the flow direction is generally away from the lake, and that's what we believe today.

MS. GADDY: That's what you believe?

MR. JOSEPHSON: Yes.

MS. GADDY: And the next question, just a point of clarification, the feasibility study you said is in the Newark library?

MR. JOSEPHSON: Yes.

MS. GADDY: You don't have a copy for the community that could be disseminated?

MR. JOSEPHSON: Well, the one in the library is available to the community as a public repository, that is a repository for the Superfund site. We did not bring copies of that for everybody, no.

MS. GADDY: Okay.

MS. SEPPI: Are there any other questions?

Okay. If not, we appreciate you coming tonight. Again, I said, you know, you weren't here, as I said before, we did have a real problem getting the word out about this meeting. We didn't have a mailing list, you know. We put notices in the paper, we did a press release, you know, but you're absolutely right, I should have called probably the City and said can you give me the names of any local environmental groups or local groups and gotten in contact. And I do apologize for that, I definitely should have done that. I certainly will make sure I do that in the future, if you would please sign in so I have your name and address so that I can contact you in the future.

But in the mean time, as I said to the other two gentlemen, if you speak to anybody, any of your friends, take some of those proposals

with you, pass that out. We have until September 2nd to get additional comments. It will also be part of the record, so it's important that people get those comments into us. And if you need more plans, let me know. My name is at the back of the proposed plan along with Romona's, and we'll make sure that as many plans as you need get out to anybody that you think would be interested in this.

MS. GADDY: Does the EPA still have an environmental justice person?

MS. SEPPI: Yes, we do.

MS. GADDY: And that person was not engaged in this process to reach out to?

MS. SEPPI: Well, we do have an environmental justice person, but I have to say they really don't get that involved with coming to public meetings of Superfund sites.

MS. GADDY: No, I'm saying just to reach out to the community, because they have a relationship with the State DEP, and if they reached out to Jeremy Johnson, then it would have gone out to a lot of other organizations.

MS. SEPPI: Yes, we do have, Terry Wesley is our environmental justice person, and if you'd like to get in touch with him I can get you

that information. And please, don't hesitate to call Romona or me if you have any other questions.

Thank you.

**Attachment D**
**Written Comments Received by**
**EPA During the Public Comment Period**

SHARPE JAMES
MAYOR
NEWARK, NEW JERSEY
07102

August 26, 2005

Jeff Josephson
Team Leader
United States Environmental Protection Agency (EPA)
New Jersey Projects
290 Broadway, 19th Floor
New York, NY 10007-1866

RE: **White Chemical Company Superfund Site OU-2 (White Chemical Site)**
**Feasibility Study for Buildings, Tanks & Contaminated Soils (June, 2005) (Proposed Plan)**

Dear Mr. Josephson:

The City of Newark through the Department of Economic & Housing Development (Department) acknowledges receipt of the EPA's above referenced Proposed Plan for the White Chemical Site. We appreciate the time you and your staff took to review the Proposed Plan and the process for implementing such plan with key members of the Department and the entity being considered for designation as ""redeveloper" for the White Chemical Site and surrounding properties.

By this letter, on behalf of the City, I hereby voluntary accept the Proposed Plan and the EPA's recommendation for submitting as a remedial alternative for addressing the contamination on the White Chemical Site, Alternative S-5: Excavation and Off-Site Disposal of all Contaminated Soil. We also voluntary accept the imposition of a deed restriction on the White Chemical Site that its uses be limited to ""industrial, commercial uses.""

The City thanks the EPA for its diligent efforts in working with the City to redevelop the White Chemical Site into productive use, starting first with ""clean-up.""

Respectfully,

Sharpe James
Mayor

Cc: Nathan Allen, PhD, Director of Economic & Housing Development
Johnny Jones, Assistant Director of Economic & Housing Development
Joaquin Matias, Director of Division of Economic Development

# Appendix V

# RESPONSIVENESS SUMMARY

# WHITE CHEMICAL CORPORATION
# SUPERFUND SITE
# NEWARK, ESSEX COUNTY, NEW JERSEY

## RESPONSIVENESS SUMMARY

## A. OVERVIEW

As part of its public participation responsibilities, the U.S. Environmental Protection Agency (EPA) held a public comment period from August 4, 2005 to September 2, 2005, for interested parties to comment on EPA's Proposed Plan to address the contaminated soil at the White Chemical Corporation site in Newark, New Jersey. In addition, on August 9, 2005, EPA conducted a public meeting to receive oral comments on the Proposed Plan. The Proposed Plan described the alternatives that EPA considered, including EPA's Preferred Alternative S-5: Excavation and Off-Site Disposal. In addition to comments received during the public meeting, EPA received written comments throughout the public comment period. Judging by the comments received, the community supports EPA's preferred alternative.

The responsiveness summary contains the following sections:

A. OVERVIEW
B. BACKGROUND OF COMMUNITY INVOLVEMENT
C. SUMMARY OF ORAL COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND AGENCY RESPONSES

The last section of the Responsiveness Summary includes attachments, which document public participation in the remedy selection process for this site. They are as follows: Attachment A contains the Proposed Plan distributed to the public for review and comment; Attachment B contains newspaper articles chronicling the public's view about the proposed remedy; Attachment C contains the transcript of the public meeting; and Attachment D contains the written comments received by EPA during the public comment period.

## B. BACKGROUND OF COMMUNITY INVOLVEMENT

Before releasing the Proposed Plan for the Operable Unit 2 (OU2) cleanup of the White Chemical Corporation site, EPA attended several meetings with local officials and the community to discuss the status of work at the site. On August 4, 2005, EPA released the Proposed Plan and supporting documentation for the OU2 cleanup at the White Chemical Corporation site to the public for comment. EPA made these documents available to the public in the administrative record repositories maintained at the EPA Region ii office (290 Broadway, New York, New York) and the Newark Public Library (5 Washington Street, Newark, New Jersey). EPA published a notice of availability for these documents in the Newark Star Ledger newspaper and authorized a public comment period on the documents from August 4, 2005 to September 2, 2005. On August 9, 2005, EPA conducted a public meeting at the Newark City Hall Council Chambers, to inform local officials and interested citizens about the Superfund process, to review the planned remedial activities at the site, and to respond to any questions from area residents and other attendees. Comments on the proposed remedy were mainly received at the Public Meeting. The oral and written comments received from the public and local officials and EPA's responses can be found in the next section of this summary. The written comments for the White Chemical Corporation OU2 Proposed Plan have been included as an attachment to this Responsiveness Summary. For readability and clarity, EPA grouped, where possible, similar comments into one general comment;

therefore, a single response may answer several comments.

## C. SUMMARY OF ORAL COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND AGENCY RESPONSES

**1. Oral Comment:** Several members of the community expressed concerns regarding future redevelopment of the Site.

**EPA Response**: The Site is currently zoned commercial/industrial. All of the alternatives presented, including the preferred remedy, require a deed restriction to prevent future residential use of the site. The property owner, the City of Newark, has given EPA a written commitment that they will implement the deed restriction. EPA does not have the legal authority to restrict the development of the site beyond the implementation of the deed restriction.

**2. Oral Comment:** A member of the community said that an encapsulation alternative would not be acceptable because it would not address potential contamination in the groundwater.

**EPA Response**: The preferred remedy does not involve encapsulation of contaminated soil. In addition, the preferred remedy includes the excavation and off-site disposal of contaminated soil that may impact the groundwater.

**3. Oral Comment:** Members of the community said that EPA did not take appropriate steps to inform the community of the meeting and the Proposed Plan. Local citizens' groups, such as the Weequahic Park Association (WPA), were not notified.

**EPA Response**: A notice was placed in the Newark Star Ledger announcing the availability of the Proposed Plan, the dates of the public comment period and the specifics of the Public Meeting. In addition, EPA notified the City of Newark about the Public Meeting and the availability of documents. Everyone who attended the Public Meeting, including members of the WPA, will be placed on a mailing list and will be informed in writing of all future meetings.

**4. Oral Comment:** A member of the community asked about the involvement of the Port Authority in the selection of the preferred remedy.

**EPA Response**: The Port Authority was not involved in EPA's selection of the preferred remedy.

**5. Oral Comment**: Several members of the community indicated that EPA should provide funds to the community, perhaps as a TAG grant, to allow the community to hire experts to evaluate EPA's plans.

**EPA Response**: Communities interested in a TAG grant may contact the EPA site Community Relations Coordinator, Ms. Pat Seppi at (212) 637-3679 regarding application eligibility and process. A complete description of the TAG grant program as well as application materials are available at the following internet address: www.epa.gov/superfund/tools/tag/.

**6. Oral Comment**: A community member asked where the contaminated soil will be taken for disposal.

**EPA Response:** Soil samples will be taken to determine the appropriate disposal location(s). The soil will be disposed of at a facility licensed and permitted to accept the material. The exact disposal locations will be determined during the design or construction of the remedy.

**7. Oral Comment**: A community member asked about the involvement of the City of Newark in the site.

**EPA Response:** The City of Newark is the property owner and since the remedy will allow for commercial/light industrial development EPA requested that they place a deed restriction on the property to restrict its use to non-residential purposes. However, EPA is not contracted with the City of Newark and the preferred remedy for the site was developed by EPA in accordance with the Superfund process.

**8. Oral Comment:** A community member asked if Weequahic Lake would be sampled.

**EPA Response:** A list of sampling that may be done to address data gaps related to the groundwater under and around the Site is provided in the Feasibility Study Report and the Record of Decision. Sampling Weequahic Lake to determine the interaction between groundwater and surface water is included in this list, however, the preliminary groundwater investigation indicated that the groundwater from the Site does not flow toward the lake.

**9. Oral Comment:** A community member asked where the Feasibility Study Report can be found and if copies were available at the meeting.

**EPA Response:** The Feasibility Report, and other site-related documents included in the Administrative Record were placed in the Newark Public Library.

**10. Oral Comment:** A member of the community asked if EPA had an environmental justice coordinator and about his involvement in the Site.

**EPA Response:** The environmental justice coordinator for EPA Region 2 is Mr. Terry Wesley, Environmental Justice Coordinator, USEPA, 26th Floor, 290 Broadway, New York, New York. Specific questions about the Site should be addressed to Romona Pezzella, the project manger for the Site, or Pat Seppi, the Community Relations Coordinator.

**11. Oral Comment:** A member of the community asked why the EPA's Environmental Justice Coordinator was not involved in outreach to the community.

**EPA Response:** Outreach to the community surrounding a Superfund site is generally handled by the Community Relations Coordinator and the Project Manager for the site.

# Third
# Five-Year Review Report
# White Chemical Superfund Site
# Newark
# Essex County, New Jersey

August 2007

Prepared by:

United States Environmental Protection Agency
Region 2
New York, New York

BAB000010

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| Acronyms Used in this Document | |
|---|---|
| ARAR | Applicable or Relevant and Appropriate Requirement |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| EPA | United States Environmental Protection Agency |
| CIC | Community Involvement Coordinator |
| FFS | Focused Feasibility Study |
| FW/MPI | Foster Wheeler / Malcolm Pirnie Inc. |
| NPL | National Priorities List |
| NJDEP | New Jersey Department of Environmental Protection |
| NOV | Notice of Violation |
| PRP | Potentially Responsible Party |
| RI/FS | Remedial Investigation/Feasibility Study |
| ROD | Record of Decision |
| RCRA | Resource Conservation and Recovery Act |
| RPM | Remedial Project Manager |
| SPCC | New Jersey Spill Prevention, Compensation and Control Act |
| WCC | White Chemical Corporation |
| UAO | Unilateral Administrative Order |

## Executive Summary

The remedy for Operable Unit 1 (OU1) at the White Chemical Corporation Superfund Site in Newark, New Jersey included: appropriate security measures; stabilization of the Site; on-site treatment or neutralization of contaminated material; off-site treatment recycling or disposal of contaminated material; decontamination and off-site disposal or recycling of empty drums and containers; decontamination of on-site storage tanks and process piping; and, appropriate environmental monitoring to ensure the effectiveness of the remedy. The OU1 remedy was an interim remedy for the site. The trigger for this five-year review was the date of the last five-year review, September 26, 2002. The assessment for this five-year review found that the remedy was constructed in accordance with the requirements of the 1995 Record of Decision (ROD). The immediate threats have been addressed and appropriate security measures are in place. As a result, the OU1 remedy is protective of human health and the environment.

In addition, Phase I of the Operable Unit 2 (OU2) remedy, which included the demolition of on-site buildings and off-site disposal of construction debris has effectively addressed the risks associated with exposure to the buildings. The remedy for OU2 is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled.

## Five-Year Review Summary Form

| SITE IDENTIFICATION | | |
|---|---|---|
| **Site name *(from WasteLAN)*:** White Chemical Corporation Site | | |
| **EPA ID *(from WasteLAN)*:** NJD980755623 | | |
| **Region:** 2 | **State:** NJ | **City/County:** Newark/Essex |

| SITE STATUS | |
|---|---|
| **NPL status:** X Final _ Deleted _ Other (specify) | |
| **Remediation status** (choose all that apply): X Under Construction _ Operating _ Complete | |
| **Multiple OUs?*** X YES _ NO | **Construction completion date:** |
| **Are site related properties currently in use?** _ YES ALL _ YES SOME X NO NONE _ N/A GW | |

| REVIEW STATUS | |
|---|---|
| **Lead agency:** X EPA _ State _ Tribe _ Other Federal Agency | |
| **Author name:** Romona Pezzella | |
| **Author title:** Remedial Project Manager | **Author affiliation:** EPA |
| **Review period:** 09/27/02 to 07/01/07 | |
| **Date(s) of site inspection:** 06/19/07 | |
| **Type of review:** X Post-SARA Statutory _ Pre-SARA or post-SARA Policy _ NPL-Removal only<br>_ Non-NPL Remedial Action Site _ Regional Discretion | |
| **Review number:** _ 1 (first) _ 2 (second) X 3 (third) _ Other (specify) | |
| **Triggering action:**<br>X Previous Five-Year Review Report _ Other (specify)<br>_ Actual RA Onsite Construction or RA Start at OU #_____ _ Construction Completion | |
| **Triggering action date *(from WasteLAN)*:** 09 / 26 / 2002 | |
| Does the report include recommendation(s) and follow-up action(s)? _ yes X no<br>Does the remedy protect the environment? X yes _ no _ not yet determined | |

* ["OU" refers to operable unit.]

** [ Review period should correspond to the actual start and end dates of the Five-year review in WasteLan]

**Five-Year Review Summary Form, cont'd.**

**Issues, Recommendations and Follow-up Actions:**

This report does not identify or recommend any action at this Site needed to protect public health and/or the environment that is not addressed by the remedies selected in the Site decision documents.

**Protectiveness Statement(s):**

The remedy for OU1 is currently protective of human health and the environment. The remedy for OU2 will be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are under control.

**Other Comments:**

None

## I. Introduction

This third five-year review for the White Chemical Corporation Site (Site), located in the City of Newark, Essex County, New Jersey, was conducted by United States Environmental Protection Agency (EPA) Remedial Project Manager (RPM), Romona Pezzella. The five-year review was conducted pursuant to Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §9601 *et seq.* and 40 CFR 300.430(f)(4)(ii) and in accordance with the Comprehensive Five-Year Review Guidance, OSWER Directive 9355.7-03B-P (June 2001). The purpose of five-year reviews is to ensure that implemented remedies are protective of public health and the environment and that they function as designed. This document will become part of the Site file.

The Site is being addressed in three phases—site stabilization (Operable Unit One), soil remediation and building demolition (Operable Unit Two) and groundwater contamination (Operable Unit Three). Under Operable Unit One (OU1), surface contamination was stabilized. This work involved the remediation of tanks, drums, vats, laboratory-size containers and other vessels. Under Phase I of Operable Unit Two (OU2), EPA has completed building demolition and repaired and upgraded the site fence; the design of the soil remediation is in progress. The Operable Unit Three (OU3) groundwater remedial investigation field work is scheduled to begin during 2007. Since no OU3 remedial action has been selected or initiated, this five-year review will focus on OU1 and OU2.

In accordance with Section 1.5.3 of the five-year review guidance, a statutory five-year review is triggered by the signature date of the previous Five-Year Review Report. The trigger for this five-year review was the second Five-Year Review Report, which was signed on September 26, 2002.

This five-year review has found that the Site stabilization remedy implemented under the OU1 Record of Decision (ROD) is functioning as designed and has addressed the immediate threat to public health and the environment. The Site fence improvements implemented under Phase I of the OU2 remedy secure the Site and ensure protectiveness. The building demolition and soil remediation remedy called for in the OU2 ROD will address the sources of contamination at the Site.

OU2 investigations confirmed that contaminants from the Site are in the groundwater and have moved beyond Site boundaries. While the plume has not been fully defined, it has been determined that there are no drinking water wells within the anticipated affected area. Water supply throughout the City of Newark is provided by a public water system. Current City and State requirements prevent the installation of any new wells within the contaminated plume. Groundwater flow direction and the aerial extent of groundwater contamination will be more fully defined by the OU3 RI/FS fieldwork, which will begin in Fall 2007.

## II. Site Chronology

Table 1 (attached) summarizes all Site-related events.

## III. Background

*Physical Characteristics*

The White Chemical Site, consisting of approximately 4.4 acres, is located in Newark, Essex County, New Jersey at 660 Frelinghuysen Avenue. The Site is bounded by the Conrail and New Jersey Transit rail lines to the east, and manufacturing facilities to the north, south and west. It is accessible from Frelinghuysen Avenue, and is one-half mile from the Newark International Airport.

Major Site features included five major structures (Building Numbers 33, 34, 34A, 35, and 36), three smaller support buildings (Boiler Room, Pump House and Maintenance Shop), and a decontamination shed located on the western portion of the property. These buildings have been demolished under the OU2 remedy.

*Land and Resource Use*

Frelinghuysen Avenue is a major thoroughfare with significant residential, commercial, and industrial uses. The Site is located east of Sleepline Industries, which burned down in the 1990s. The Airport Industrial Center is located northwest of the Site. The eastern border is adjacent to Conrail and Amtrak rail lines, and the Newark facility of Anheuser-Busch, Inc. is located approximately 1,000 yards east of the rail lines. U.S. Highway Routes 1 and 9 and Newark International Airport lie approximately one-half mile further east. Weequahic Park, several large housing complexes and several high-rise senior citizen residences are also located nearby.

*History of Contamination*

In 1983, the White Chemical Corporation (WCC) leased the Site from AZS Corporation and moved its operations from Bayonne, New Jersey, to the Newark facility. WCC continued operations in Newark until 1990, manufacturing a variety of acid chlorides, brominated organics, mineral acids and fire retardant compounds.

The New Jersey Department of Environmental Protection (NJDEP) conducted several inspections of WCC's Newark facility between June and September 1989 pursuant to the Resource Conservation and Recovery Act (RCRA). During these inspections, NJDEP issued several Notices of Violation for a variety of infractions including improper drum management, leaking drums, open containers and inadequate aisle space. Reinspection of the facility on September 22, 1989 showed only partial compliance. As a result, an Administrative Order and penalty were issued on March 15, 1990. WCC never complied with the order and never paid the penalty.

In March 1990, NJDEP reinspected the facility and again found many RCRA violations. As a result, NJDEP issued additional violation notices under the New Jersey Spill Prevention, Compensation and Control (SPCC) Act and ordered WCC to immediately remediate all spills and other violations. White Chemical Corporation never complied with the violation notices. On May 8, 1990, NJDEP issued a Directive to WCC pursuant to the SPCC Act, to secure the perimeter of the facility, provide 24-hour security and stabilize the drums located on the premises. White Chemical Corporation never responded to the Directive.

A removal action was initiated at the Site by NJDEP on May 15, 1990. In August, 1990, after removing approximately 1,000 drums, NJDEP reached its project cost ceiling of $825,000 and was forced to suspend operations. The NJDEP subsequently requested that the EPA undertake a removal action at the Site.

*Initial Response*

On September 7, 1990, EPA performed a Preliminary Assessment of the WCC facility and found numerous air and water-reactive substances in 55-gallon drums. Numerous other RCRA violations were identified. Approximately 10,900 55-gallon drums of hazardous substances were precariously stacked or improperly stored throughout the Site. These drums and other containers were found in various stages of deterioration, fuming and leaking their contents onto the soil. Numerous stains were observed on the soil. Other containers that were found on the Site included approximately 150 gas cylinders, 126 storage tanks, and approximately 18,000 laboratory-type containers.

In September 1990, EPA issued a Unilateral Administrative Order (UAO) barring WCC from continuing on-site operations and ordering evacuation of all personnel. In October 1990, the U.S. District Court of the District of New Jersey issued an order enforcing the EPA's UAO. In November 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) issued a health consultation, which concluded that the Site posed an imminent and substantial health and safety threat to nearby residents and workers. A Public Health Advisory was issued in November 1990 by ATSDR.

*Basis for Taking Action*

In early 1991, EPA prepared a Focused Feasibility Study (FFS) to identify and evaluate remedial alternatives for an early remedial response. The FFS focused on aboveground containers that either posed an immediate threat or may have been a source of air, water or soil contamination. The Site was proposed for inclusion on the NPL on May 9, 1991, and was listed on the NPL on September 25, 1991.

## IV. Remedial Actions

*Remedy Selection*

Based upon the findings of the FFS, EPA issued a ROD for OU1 on September 26, 1991 to address surface contamination. The Remedial Action Objectives (RAOs) for OU1 were:

- Prevent ingestion/inhalation/direct contact with hazardous substances at concentrations posing a potentially imminent and substantial endangerment; and
- Prevent releases of hazardous substances that would result in or through a catastrophic event (e.g., explosion, fire, generation of contaminant vapor plume) or migration of hazardous substances that would result in contamination of ground water, surface water, soil, or releases into the atmosphere.

The OU1 ROD required appropriate security measures, stabilization of the Site, on-site treatment or neutralization of contaminated material, off-site treatment, recycling or disposal of contaminated material, decontamination and off-site disposal or recycling of empty drums and containers, decontamination of on-site storage tanks and process piping, and appropriate environmental monitoring to verify the effectiveness of the remedy.

The OU1 remedy was an interim remedy, and was the first component of a permanent remedy for the White Chemical Site. It was understood that additional investigations would be required to fully characterize the nature and extent of contamination in all environmental media at the Site, and to evaluate additional remedial measures. The OU1 ROD also indicated that the selection of such measures would be the subject of a future ROD.

The OU2 remedial investigation (RI) field work was conducted from October 1998 through July 1999. The OU2 RI was completed in April 2003 and focused on defining the nature and extent of contamination at the Site. Samples collected include surface and subsurface soil, sump sediment, ground water and building materials. Soil samples identified contamination in the surface and sub-surface soils. Building samples identified asbestos, lead paint and contaminated surfaces.

Based on the results of the OU2 RI/FS, EPA issued a Record of Decision on September 29, 2005 that addressed on-site buildings and surface and subsurface soils. The RAOs identified in the OU2 ROD were:

- Reduce or eliminate the direct contact threat associated with contaminated soil to levels protective of a commercial/industrial use.
- Reduce or eliminate exposure through inhalation of vapors that may migrate from contaminated soils.
- Minimize or eliminate contaminant migration to the groundwater.
- Maximize consistency with the future development of the Site.

The OU2 ROD called for the demolition and off-site disposal of the nine on-site buildings; removal and off-site disposal of above-ground storage tanks; excavation of an estimated 21,185 cubic yards of contaminated soil; off-site transportation and disposal of contaminated soil, with

treatment as necessary; backfilling and grading of all excavated areas with clean soil and seeding the areas; placement of a deed notice to restrict land use to non-residential (commercial/light industrial) uses; and appropriate environmental monitoring to ensure the effectiveness of the remedy. The OU2 ROD identified the following contaminants of concern in the soil: 1,2 dichloroethane, trichloroethene, tetrachloroethene, xylene(s), ethylbenzene, 1,1,2,2-tetrachloroethane and 1,1,2-trichloroethane.

The third operable unit, OU3, for which an RI/FS is currently being conducted, addresses contaminated groundwater.

*Remedy Implementation*

In 1992, EPA issued a UAO to a group of potentially responsible parties (PRPs). Only three PRPs complied with the UAO. The remedial action was implemented through the combined efforts of EPA and the three PRPs. The work was completed by March 3, 1993 and included the removal of 7,787 drums containing hazardous substances; removal of 14,806 laboratory containers; removal of the contents of 191 tanks and vessels; removal of 58 gas cylinders; and, removal of 4,497 empty drums. In addition, the following was decontaminated: 2,600 linear feet of metal piping; 590 linear feet of glass piping; and, 750 linear feet of polyvinyl chloride piping, all of which were associated with various process formulation tanks.

EPA initiated the demolition of the on-site buildings under the OU2 ROD in February 2006. Eight remaining on-site buildings were demolished and underground utility trenches were excavated. Demolition was completed in July 2006. No permanent structures remain at the Site. Asbestos containing materials and debris found inside the Site buildings, including approximately 1,721 tires, three 50-cubic yard roll-off containers of tire pieces and inner tubes, drums and other containers of waste were taken off-site for disposal or recycling. Building demolition materials were stockpiled on Site. Transportation of this material from the Site for disposal was completed on July 11, 2007.

The final phase of the OU2 remedy, which addresses the surface and subsurface soils and implementation of institutional controls, is currently in the design phase.

*System Operations/Operation and Maintenance (O&M)*

Operation and Maintenance activities associated with OU1 and OU2 include assuring site security measures are in place and that institutional controls are adequate and enforced after they are implemented.

## V. Progress Since the Last Review

For OU1, no follow-up actions that impact the level of protectiveness at the Site were noted in the previous five-year review report. Security at the Site was a comment in the last review. The concern was to prevent trespassers and on-site dumping. The demolition of on-site buildings under the OU2 remedy eliminates the interest of trespassers and the Site fence has been upgraded.

Since the previous five-year review, progress has been made with respect to OU2. The OU2 RI was completed in April 2003. Based on the results of the OU2 RI, EPA issued a ROD on September 29, 2005 addressing Site soils and on-site buildings. Building demolition activities began in February 2006 and were completed in July 2006. Off-site disposal of building demolition debris was completed on July 11, 2007. The design of the OU2 soil remedy is in progress.

Field work for the OU3 groundwater RI is scheduled to begin in Fall 2007.

## VI. Five-Year Review Process

*Administrative Components*

The five-year review team consisted of Romona Pezzella (Remedial Project Manager), Rich Krauser (Hydrogeologist), Michael Sivak (Risk Assessor), and Natalie Loney (Community Involvement Coordinator) of EPA and Joe Maher of NJDEP.

*Community Involvement*

EPA representatives notified the community of the initiation of the five-year review process by a public notice published in the Newark Star Ledger on July 20, 2007. The notice indicated that EPA would be conducting a five-year review of the surface debris and building removal to ensure that the implemented remedy remains protective of public health and is functioning as designed. It was also indicated that once the five-year review is complete, the results will be made available in local Site repositories. In addition, the notice included the RPM's contact information for questions related to the five-year review process for the White Chemical Site.

*Document Review*

The documents, data, and information used to complete the five-year review are summarized in Table 2 (attached).

*Data Review*

Monitoring associated with the OU1 remedy is required to confirm that the site fence remains intact. Based on this monitoring, the site fence was repaired and upgraded during Phase I of the OU2 remedy

The data collected during the OU2 RI indicates that the OU1 implemented remedy is protective of human health and the environment. OU2 investigations confirmed that remaining contaminants are primarily in the subsurface soil. This condition, combined with fencing and restricted access and the elimination of on-site buildings, results in the prevention of direct exposure of human and environmental receptors to Site contaminants. There are no wetlands, uplands or other sensitive environmental habitats on the Site or adjacent to the Site which could be degraded by Site contaminants.

The on-site buildings and underground facilities have been demolished. Contaminated debris found in the buildings was disposed off Site. All building materials, except those materials acceptable for backfill on Site, have been disposed off Site. Therefore, there are no risks associated with exposure to the buildings or building materials.

*Site Inspection*

A Site inspection for this five-year review was conducted on June 19, 2007 by Romona Pezzella. The Site was inspected for general condition, debris, and access controls. No permanent structures remain on Site. All buildings were demolished and above-ground storage tanks have been removed. Debris found in the buildings was disposed off Site. Subsurface trenches containing process piping were uncovered during building demolition activities. The piping was removed for disposal. Building demolition materials were stockpiled in the rear of the Site. These have now been disposed off Site. Sampling conducted after the buildings were demolished indicated that remaining contamination is primarily in the subsurface. Temporary facilities associated with the building demolition cleanup, including an office trailer, have been removed from the Site.

The Site fence was upgraded and the Site is secure. Contractor personnel maintained a presence on the Site until all building material was disposed. Security personnel were present at the Site after normal operation hours until disposal activities were complete.

A stockpile of building materials that may be used as backfill in certain areas of the Site is located in the southwest corner of the Site. This material, which tests found to be non-hazardous, will remain on Site until the soil remediation portion of the OU2 remedy commences.

*Interviews*

During the June 19, 2007 Site inspection, Romona Pezzella discussed Site conditions with Bobby Dease, the On-Scene Coordinator overseeing Phase I of the OU2 cleanup, Ray Willis, the Site Manger for WRS, the contractor performing the Site cleanup, and Tom Gibison, the Army Corps of Engineers representative overseeing the design of the OU2 soil cleanup. Mr. Dease indicated that the Site was secure. On-site security was maintained until all building debris was disposed off Site. Ms. Pezzella and Mr. Gibison reviewed the soil data collected as part of the design for the soil remediation. This review indicated that no additional contamination has been found on Site.

## VII. Technical Assessment Summary

*Question A: Is the remedy functioning as intended by the decision documents?*

The objective of the ROD for OU1, as an interim remedy, was to prevent direct exposure of area residents and environmental receptors to contaminated debris on the surface of the Site. Based upon the review of the documents summarized in Table 3 and the results of the Site investigation, it was concluded that the remedy is functioning as intended by the ROD. Nearby

residents and environmental receptors are not being exposed to Site contaminants. The objectives of the ROD for OU2 are to prevent exposure to contaminants associated with permanent structures on Site and to remove soil that presents a potential hazard or represents a potential source of groundwater contamination. Phase I of the OU2 remedy, which is complete, has addressed potential exposure to permanent structures by demolition of on Site buildings and off-site disposal of building debris. Phase II of the OU2 remedy will address the contaminated soil.

*Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?*

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the OU1 or OU2 remedy. There have been no changes in the Applicable or Relevant and Appropriate Requirements and no new standards affecting the protectiveness of the remedy. The exposure assumptions, toxicity data, cleanup levels, and remedial action objectives identified for OU1 and OU2 remain valid.

*Question C: Has any other information come to light that could call into question the protectiveness of the remedy?*

There is no information that calls into question the protectiveness of the remedy.

*Technical Assessment Summary*

According to the data reviewed, the Site inspection, and the interviews, the OU1 remedy is functioning as intended by the ROD. The OU1 remedy stabilized the Site and addressed the potential risks associated with waste materials at the Site. There have been no changes in the physical condition of the Site that would affect the protectiveness of the OU1 remedy. Phase I of the OU2 remedy addressed potential risks associated with exposure to buildings on Site. As part of the OU2 Phase I cleanup, the Site fence was repaired and access to the Site limited. There are no changes in the toxicity factors for the contaminants of concern used in the baseline risk assessment, and there have been no changes to the standardized risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

## VIII. Recommendations and Follow-Up Actions

There are no comments, issues, suggestions or recommendations concerning the OU1 or OU2 remedy. Access to the Site by trespassers and on-site dumping has been minimized. The Site fence has been upgraded to prevent access to the Site. The Site fence and removal of the Site structures facilitate the prevention of access to the Site by trespassers. The final phase of the OU2 remedy, which is currently in the design phase, will address Site soils and implementation of institutional controls.

## IX. Protectiveness Statement

The remedy for OU1 is currently protective of human health and the environment. The remedy for OU2 will be protective of human health and the environment upon completion. and in the interim. exposure pathways that could result in unacceptable risks are under control.

## X. Next Review

The next five-year review is scheduled for August 2012.

Approved:

George Pavlou, Director
Emergency and Remedial Response Division

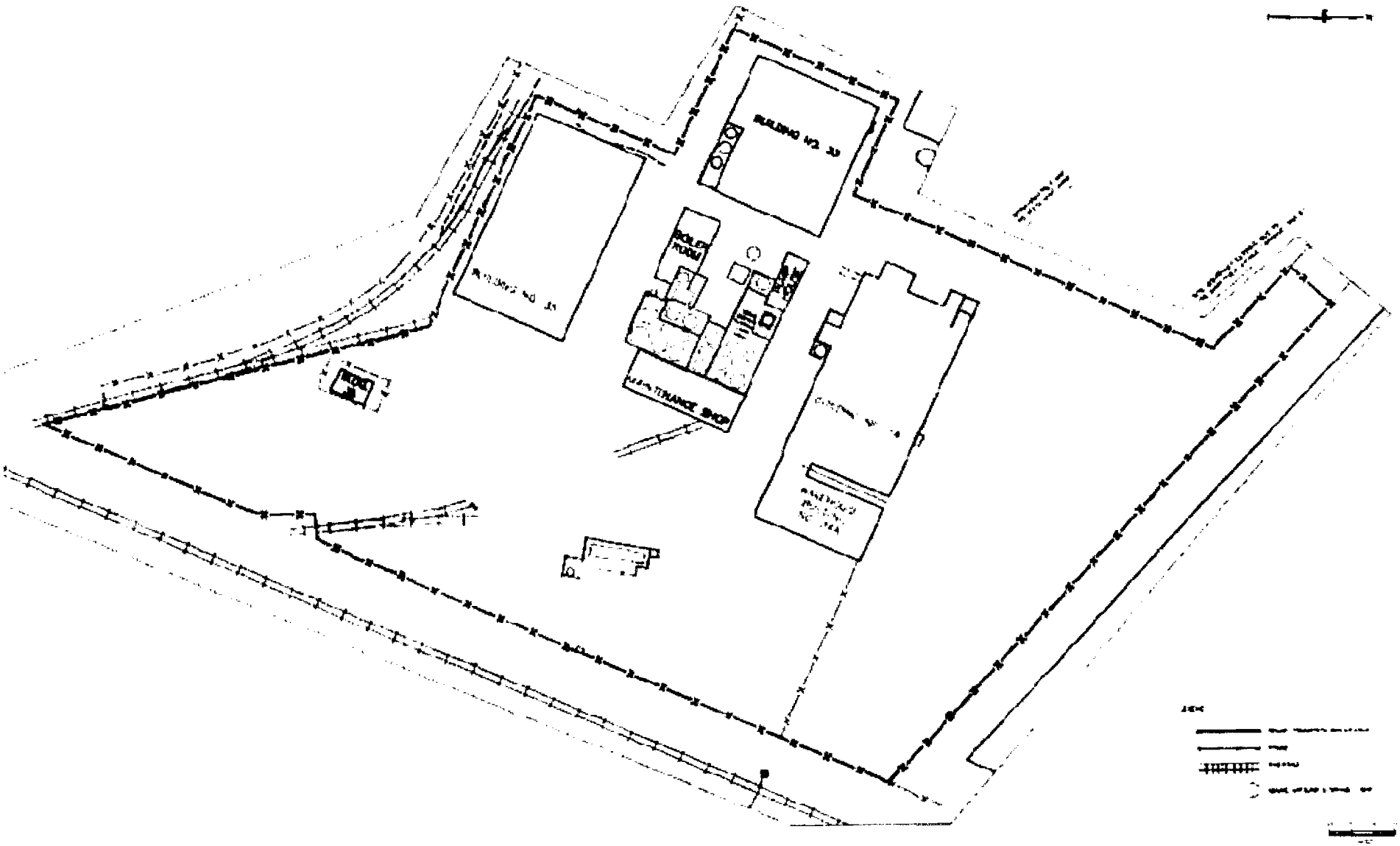
Date

| Table 1: Chronology of Site Events | |
|---|---|
| **Event** | **Date(s)** |
| White Chemical Corporation (WCC) manufactures chemical products at the Site. | 1983-1990 |
| New Jersey Department of Environmental Protection (NJDEP) issues several Notices of Violations. | June-Sept. 1989 |
| NJDEP issues an Administrative Order and penalty. | March 15, 1990 |
| NJDEP issues violation notices under the New Jersey Spill Prevention, Compensation and Control (SPCC) Act. | April, 1990 |
| NJDEP directs WCC to secure and stabilize the facility. | May 8, 1990 |
| NJDEP removal action. | May 15 - Aug. 1990 |
| NJDEP requests that the EPA conduct a removal action at the Site. | Aug. 1990 |
| EPA issues a Unilateral Administrative Order (UAO). | Sept. 1990 |
| Agency for Toxic Substances and Disease Registry (ATSDR) finds Site poses an imminent and substantial health and safety threat. | Nov. 1990 |
| EPA completes Focused Feasibility Study (FFS). | June 1991 |
| Site added to the National Priorities List. | Sept. 25, 1991 |
| Interim Remedial Action Record of Decision (ROD) is signed. | Sept. 26, 1991 |
| EPA initiates Interim Remedial Action. | Sept. 27, 1991 |
| EPA issues a UAO to ten companies and one individual. | March 31, 1992 |
| EPA and PRP group initiates response action at the Site. | Oct. 29, 1992 |
| EPA and PRP group completes response action. | March 1993 |
| First Five Year Review | Sept. 30, 1997 |
| Malcolm Pirnie starts Remedial Investigation at the Site. | Oct. 1998 |
| EPA Superfund Redevelopment Pilot Grant award to City. | Oct.1, 2000 |
| OU2 Remedial Investigation field work is completed. | July 1999 |
| OU2 Remedial Investigation is completed. | April 2003 |
| EPA issues the OU2 Record of Decision. | Sept. 29, 2005 |
| EPA begin Phase I of the OU2 remedy (building demolition) | Feb. 2006 |
| EPA completes building demolition. | July 2006 |

| Table 1: Chronology of Site Events | |
|---|---|
| EPA initiates Remedial Design for Phase II of the OU2 remedy (soil remediation). | June 2006 |

| Table 2: Documents, Data, and Information Reviewed in Completing the Five-Year Review |
|---|
| • Focused Feasibility Study Report, EPA, 1991. |
| • Record of Decision, EPA, September 1991. |
| • Final Report, Response Action, Conestoga-Rovers & Associates. March 31, 1993. |
| • ATSDR Public Health Advisory, November 21, 1990. |
| • ATSDR Health Assessment, Revisions & Updates, November 1990 through March 1994. |
| • Five Year Review, EPA, September 30, 1997. |
| • Draft Remedial Investigation Report for OU2, Foster Wheeler / Malcolm Pirnie, Inc. October 2000. |
| • Draft Risk Assessment Report for OU2, Foster Wheeler / Malcolm Pirnie, Inc., May 2001. |
| • EPA guidance for conducting five-year reviews and other regulations to determine if any new applicable or relevant and appropriate requirements relating to the protectiveness of the remedy have been developed since EPA issued the ROD. |
| • Five Year Review, EPA, September 2002. |
| • OU2 Remedial Investigation Report, EPA, April 2003. |
| • OU2 Final Feasibility Study, EPA, July 2005. |
| • OU2 Record of Decision, EPA, September 29, 2005. |
| • POL REPS 1 – 14 for the demolition of on-site buildings, EPA, April 13, 2006 – December 21, 2006. |

Attachment 1 – Site Map



http://www.epa.gov/fedrgstr/EPA-GENERAL/1999/February/Day-25/g4638.htm
Last updated on Friday, December 28th, 2007.

Federal Register Environmental Documents

You are here: EPA Home Federal Register FR Years FR Months FR Days FR Documents Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

# Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

[Federal Register: February 25, 1999 (Volume 64, Number 37)]
[Notices]
[Page 9349]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr25fe99-88]

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DEPARTMENT OF JUSTICE

Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

Notice is hereby given that on February 1, 1999, a proposed consent decree in United States of America v. AZS Corporation, et al., Civil Action No. 99-464 (DRD), was lodged with the United States District Court for the District of New Jersey. The United States' underlying complaint sought recovery of response costs under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601, et seq., from AZS Corporation and four of its corporate relatives (Toyo Soda (America), Inc., Tosoh Corporation, Tosoh America, Inc., and Tosoh USA, Inc.) for the cleanup of hazardous substances found at the White Chemical Corporation Superfund Site located at 660 Frelinghuysen Avenue, Newark, New Jersey.

The consent decree provides that AZS Corporation, which formerly owned the Site, and the other four settling defendants will reimburse the Environmental Protection Agency (EPA) for response costs at the Site totaling $5.9 million, plus applicable interest. In addition, the decree provides settling defendants with covenants not to use for EPA's past and future CERCLA response costs at the Site, as well as protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. Secs. 9613(f)(2) and 9622(h)(4).

The Department of Justice will receive comments relating to the proposed consent decree for a period of thirty (30) days from the date of this publication. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, Department of Justice, Washington, D.C. 20530 and should refer to United States v. AZS Corporation, et al., D.J. Ref. 90-11-2-642B.

The proposed consent decree may be examined at the office of the United States Attorney, 970 Broad St., Room 502, Newark, N.J. 07102 and

at the Region II office of the Environmental Protection Agency, 290 Broadway, New York, New York 10007. The proposed consent decree may also be examined at the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005 (202-624-0892). A copy of the proposed consent decree may be obtained in person or by mail from the Consent Decree Library, 1120 G Street, N.W., 3rd Floor, Washington, D.C. 20005. In requesting a copy, please enclose a check in the amount of $5.25 (25 cents per page reproduction cost) payable to the ``Consent Decree Library.''

Joel M. Gross,

Chief, Environmental Enforcement Section, Environment and Natural Resources Division.

[FR Doc. 99-4638 Filed 2-24-99; 8:45 am]

BILLING CODE 4410-15-M

**Notices For** **2008** **2007** **2006** **2005** **2004** **2003** **2002** **2001** **2000** **1999** **1998** **1997** **1996** **1995** **1994**

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

# FORM 10-K

(MARK ONE)

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended Aug. 31, 2007

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission file number 001-16167

MONSANTO

# MONSANTO COMPANY

*Exact name of registrant as specified in its charter*

| Delaware | 43-1878297 |
|---|---|
| *(State or other jurisdiction of incorporation or organization)* | *(I.R.S. Employer Identification No.)* |
| 800 North Lindbergh Blvd., St. Louis, Missouri | 63167 |
| *(Address of principal executive offices)* | *(Zip Code)* |

*Registrant's telephone number including area code:*
(314) 694-1000

Securities registered pursuant to Section 12(b) of the Act:

| *Title of each class* | *Name of each exchange on which registered* |
|---|---|
| Common Stock $0.01 par value | New York Stock Exchange |

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 of Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check One): Large Accelerated Filer ☑ Accelerated Filer ☐ Non-Accelerated Filer ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common stock was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter (Feb. 28, 2007): approximately $28.4 billion.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 546,319,136 shares of common stock, $0.01 par value, outstanding at Oct. 23, 2007.

*Documents Incorporated by Reference*

Portions of Monsanto Company's definitive proxy statement, which is expected to be filed with the Securities and Exchange Commission pursuant to Regulation 14A on or about Dec. 5, 2007, are incorporated herein by reference into Part III of this Annual Report on Form 10-K.

## INTRODUCTION

This Annual Report on Form 10-K is a document that U.S. public companies file with the Securities and Exchange Commission every year. Part II of the Form 10-K contains the business information and financial statements that many companies include in the financial sections of their annual reports. The other sections of the Form 10-K also include information about our business that we believe will be of interest to investors. We hope investors will find it useful to have all of this information available in a single document.

The SEC allows us to report information in the Form 10-K by "incorporating by reference" from another part of the Form 10-K or from the proxy statement. You will see that information is "incorporated by reference" in various parts of our Form 10-K. The proxy statement will be available on our Web site after it is filed with the SEC in December 2007.

Monsanto was incorporated in Delaware on Feb. 9, 2000, as a subsidiary of Pharmacia Corporation. It includes the operations, assets and liabilities that were previously the agricultural business of Pharmacia, which is now a subsidiary of Pfizer Inc. For more information on our history as a company, please see "Relationships Among Monsanto Company, Pharmacia Corporation, Pfizer Inc. and Solutia Inc.," in Part I — Item I — Business.

"Monsanto," the "company," "we," "our" and "us" are used interchangeably to refer to Monsanto Company or to Monsanto Company and its subsidiaries, as appropriate to the context. With respect to the time period prior to Sept. 1, 2000, these defined terms also refer to the agricultural business of Pharmacia.

Unless otherwise indicated, trademarks owned or licensed by Monsanto or its subsidiaries are shown in special type. Unless otherwise indicated, references to *"Roundup* herbicides" mean *Roundup* branded herbicides, excluding all lawn-and-garden herbicides, and references to *"Roundup* and other glyphosate-based herbicides" exclude all lawn-and-garden herbicides.

Information in this Form 10-K is current as of Oct. 26, 2007, unless otherwise specified.

## CAUTION REGARDING FORWARD-LOOKING STATEMENTS

In this report, and from time to time throughout the year, we share our expectations for our company's future performance. These forward-looking statements include statements about our business plans; the potential development, regulatory approval, and public acceptance of our products; our expected financial performance, including sales performance, and the anticipated effect of our strategic actions; the anticipated benefits of recent acquisitions; the outcome of contingencies, such as litigation; domestic or international economic, political and market conditions; and other factors that could affect our future results of operations or financial position, including, without limitation, statements under the captions "Legal Proceedings," "Overview — Executive Summary — Outlook," "Seeds and Genomics Segment," "Agricultural Productivity Segment," "Financial Condition, Liquidity, and Capital Resources," and "Outlook." Any statements we make that are not matters of current reportage or historical fact should be considered forward-looking. Such statements often include words such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "will," and similar expressions. By their nature, these types of statements are uncertain and are not guarantees of our future performance.

Our forward-looking statements represent our estimates and expectations at the time that we make those statements. However, circumstances change constantly, often unpredictably, and investors should not place undue reliance on these statements. Many events beyond our control will determine whether our expectations will be realized. We disclaim any current intention or obligation to revise or update any forward-looking statements, or the factors that may affect their realization, whether in light of new information, future events or otherwise, and investors should not rely on us to do so. In the interests of our investors, and in accordance with the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, this section of our report explains some of the important reasons that actual results may be materially different from those that we anticipate.

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# PART I

## ITEM 1. BUSINESS

Monsanto Company, along with its subsidiaries, is a leading global provider of agricultural products for farmers. Our seeds, biotechnology trait products, and herbicides provide farmers with solutions that improve productivity, reduce the costs of farming, and produce better foods for consumers and better feed for animals.

We manage our business in two segments: Seeds and Genomics and Agricultural Productivity. Through our Seeds and Genomics segment, we produce leading seed brands, including *DEKALB, Asgrow, D&PL, Deltapine* and *Seminis*, and we develop biotechnology traits that assist farmers in controlling insects and weeds. We also provide other seed companies with genetic material and biotechnology traits for their seed brands. Through our Agricultural Productivity segment, we manufacture *Roundup* brand herbicides and other herbicides and provide lawn-and-garden herbicide products for the residential market and animal agricultural products focused on improving dairy cow productivity.

The following information, which appears in other parts of this Form 10-K, is incorporated herein by reference:

- Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) — Seeds and Genomics Segment — the tabular information regarding net sales of our seeds and traits, and Agricultural Productivity Segment — the tabular information regarding net sales of *Roundup* and other glyphosate-based herbicides and other agricultural productivity products
- Item 8 — Financial Statements and Supplementary Data — Note 22 — Segment and Geographic Data

### PRINCIPAL PRODUCTS

Monsanto's principal products in our two segments include the following:

#### SEEDS AND GENOMICS SEGMENT

| Major Products | End-Use Products and Applications |
|---|---|
| *Roundup Ready* traits in corn, soybeans, cotton and canola[1] | Weed-control system for crops tolerant of *Roundup* and other glyphosate-based herbicides |
| *YieldGard* Corn Borer and *YieldGard* Rootworm traits in corn[1]*Bollgard* and *Bollgard II* traits in cotton;[1] | Traits that enable crops to protect themselves from certain insects, reducing the need for applications of insecticides |
| *Agroceres, Asgrow, DEKALB, D&PL, Deltapine* and *Vistive* branded seeds; Holden's Foundation Seeds; *Monsoy* foundation seed; American Seeds, Inc. branded seed | Corn hybrids and foundation seed; soybean varieties and foundation seed; cotton varieties, hybrids and foundation seed; sunflower hybrids; sorghum grain and forage hybrids; and oilseed rape and canola varieties |
| *Seminis, Royal Sluis, Asgrow,* and *Petoseed* branded seeds | Vegetable and fruit seeds, including tomato, pepper, eggplant, melon, cucumber, pumpkin, squash, beans, broccoli, onions and lettuce |

[1] Monsanto also offers farmers stacked-trait products, in which two or more traits are combined in a single seed product.

#### AGRICULTURAL PRODUCTIVITY SEGMENT

| Major Products | End-Use Products and Applications |
|---|---|
| *Roundup* and other glyphosate-based herbicides | Nonselective agricultural, industrial, ornamental and turf applications for weed control |
| *Harness, Degree, Machete* and other acetanilide-based herbicides and other selective herbicides, such as *Maverick, Certainty,* and *Outrider* | Control of pre-emergent annual grass and small seeded broadleaf weeds in corn and soybeans; control of specific weeds in rice, wheat, turf, cotton, and barley and on roadsides |
| Lawn-and-garden herbicides | Residential lawn-and-garden applications for weed control |
| *Posilac* bovine somatotropin | Increase efficiency of milk production in dairy cows |

The above products may be sold under different brand names outside the United States.

## COMPETITION

The global markets for our products are competitive. With continued development and commercialization of new technologies and products, including biotechnology traits, we expect competition to intensify.

In our Seeds and Genomics segment, we compete with numerous multinational companies globally and with hundreds of smaller companies regionally. With the exception of competitors in our vegetable and fruit seed business, most of our seed competitors are also licensees of our germplasm or biotechnology traits. In certain countries, we also compete with government-owned seed companies. Farmers who save seed from one year to the next, in violation of license or other commercial terms, also affect competitive conditions. Product performance (in particular, crop vigor and yield for our row crops and quality for our vegetable and fruit seeds), customer support and service, intellectual property protection, and price are important elements of our market success. In addition, distributor, retailer and farmer relationships are important in the United States and many other countries.

Our biotechnology traits compete as a system with other practices, including the application of agricultural chemicals, and traits developed by other companies. Other agricultural and seed marketers produce chemical and seed products that compete with our *Roundup Ready* and insect-control systems. Our consumer traits compete with other methods of managing and improving food quality. Competition for the discovery of new traits based on biotechnology or genomics is likely to come from major global agrichemical companies, smaller biotechnology research companies and institutions, state-funded programs, and academic institutions. Enabling technologies to enhance biotechnology trait development may also come from academic researchers and biotechnology research companies. The primary factors underlying the competitive success of traits are performance and commercial viability; timeliness of introduction; value compared with other practices and products; market coverage; service provided to distributors, retailers and farmers; governmental approvals; public acceptance; and environmental characteristics.

Competitive success in crop protection products depends on price, product performance, the scope of solutions offered to farmers, market coverage, and the service provided to distributors, retailers and farmers. Our agricultural herbicide products have numerous major global competitors. Competition from local or regional companies may also be significant. For additional information on competition for our agricultural herbicides, see Item 7 — MD&A — Outlook — Agricultural Productivity, which is incorporated by reference herein.

Our lawn-and-garden herbicides compete on product performance and the brand value associated with our trademark *Roundup*. This business has fewer than five significant national competitors and a larger number of regional competitors in the United States. We are the only supplier of recombinant bovine somatotropin in the United States. The largest market for our lawn-and-garden herbicides and our bovine somatotropin products is the United States.

## DISTRIBUTION OF PRODUCTS; CUSTOMERS

We have a worldwide distribution and sales and marketing organization for our seeds and traits and crop protection operations. We market our *DEKALB, Asgrow, D&PL* and *Deltapine* branded germplasm (both the conventional and biotech varieties) and our vegetable and fruit seeds to farmers through distributors, independent retailers and dealers, agricultural cooperatives, plant raisers and agents. We also market our vegetable and fruit seeds direct to farmers. Our American Seeds, Inc. (ASI) family of branded seeds is marketed to farmers primarily directly, as well as through dealers, agricultural cooperatives and agents. We also license a broad package of our germplasm and trait technologies to seed companies that do business in the United States and certain international markets, which then market these products to farmers. In Brazil and Paraguay, we have implemented a point-of-delivery, grain-based payment system through which we contract with grain handlers to collect applicable biotech trait fees when farmers deliver their grain.

We sell our crop protection products through distributors, independent retailers and dealers, agricultural cooperatives, and, in some cases outside the United States, directly to farmers. We also sell certain of the chemical intermediates of our crop protection products to other major agricultural chemical producers, who then market their own branded products to farmers.

We sell and ship our *Posilac* bovine somatotropin directly to U.S. dairy farmers. Outside the United States, we rely on a single exclusive distributor of this product. We market our lawn-and-garden herbicide products through The Scotts Miracle-Gro Company.

While no single customer (including affiliates) represented more than 10 percent of our consolidated worldwide net sales in 2007, our three largest U.S. agricultural distributors and their affiliates represented, in the aggregate, 14 percent of our worldwide net sales and 25 percent of our U.S. net sales. During 2007, one major U.S. distributor and its affiliates represented about 8 percent of the worldwide net sales for our Seeds and Genomics segment, and about 8 percent of the worldwide net sales for our Agricultural Productivity segment.

## EMPLOYEE RELATIONS

As of Aug. 31, 2007, we employed approximately 18,800 regular employees worldwide and more than 4,800 temporary employees in various world areas. However, the number of temporary employees varies greatly during the year because of the seasonal nature of our business. We believe that relations between Monsanto and its employees are satisfactory.

## ENVIRONMENTAL MATTERS

Our operations are subject to environmental laws and regulations in the jurisdictions in which we operate. Some of these laws restrict the amount and type of emissions that can be released from our operations into the environment. Other laws, such as the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 *et seq.* (Superfund), can impose liability for the entire cost of cleanup on any former or current site owners or operators or parties who sent waste to these sites, without regard to fault or to the lawfulness of the original disposal. These laws and regulations may be amended from time to time; they may become more stringent. We are committed to long-term environmental protection and compliance programs that reduce and monitor emissions of hazardous materials into the environment, and to the remediation of identified existing environmental concerns. In accord with a consent order with the state of Idaho, we have embarked on a multiyear project to design and install state-of-the-art air emission control equipment at our facility at Soda Springs, Idaho. Although the costs of our compliance with environmental laws and regulations cannot be predicted with certainty, such costs are not expected to have a material adverse effect on our earnings or competitive position, except as noted below. Because of our investment in the Soda Springs project, our capital expenditures for environmental control facilities should be higher than normal in the next few years. Current estimates indicate that total companywide capital expenditures for environmental compliance will be about $17 million in fiscal year 2008 and $25 million in fiscal year 2009.

In addition to potential liability for our own manufacturing locations and off-site disposal and formulation facilities, under the terms of our Sept. 1, 2000, Separation Agreement with Pharmacia (Separation Agreement), we are required to indemnify Pharmacia for any liability it may have for environmental remediation or other environmental responsibilities primarily related to Pharmacia's former agricultural and chemicals businesses. This includes, but is not limited to, environmental liabilities that Solutia Inc., the former chemicals business of Pharmacia, assumed from Pharmacia in connection with its spinoff on Sept. 1, 1997, to the extent that Solutia fails to pay, perform or discharge those liabilities. Both immediately prior to and since its filing for bankruptcy protection, Solutia has taken the position that the bankruptcy proceeding prevents it from continuing to perform its environmental obligations, except within the boundaries of its current operations. On an interim basis, we assumed the management and defense of certain of Solutia's environmental matters. In the process of managing such environmental liabilities, we determined that it was probable that we would incur some expenses related to such environmental liabilities and that the amount of such expenses could be reasonably estimated. Accordingly, in fiscal year 2005, we recorded a reserve including, but not limited to, environmental liabilities, based on the best estimates by our management with input from our legal and other outside advisors. For additional information relating to Solutia and the charge recorded with respect to Solutia, see "Relationships Among Monsanto Company, Pharmacia Corporation, Pfizer, Inc., and Solutia Inc." in this section and Note 21.

For information regarding certain environmental proceedings, see Item 3 — Legal Proceedings. See also information regarding remediation of waste disposal sites and reserves for remediation, appearing in Note 21 — Commitments and Contingencies, which is incorporated herein by reference.

## INTERNATIONAL OPERATIONS

See Item 1A under the heading *"Our operations outside the United States are subject to special risks and restrictions, which could negatively affect our results of operations and profitability"* and Note 22 — Segment and Geographic Data, which are incorporated herein by reference. Approximately 43 percent of Monsanto's sales, including 36 percent of our Seeds and Genomics segment's sales and 54 percent of our Agricultural Productivity segment's sales, originated from our legal entities outside the United States during fiscal year 2007.

## PATENTS, TRADEMARKS, LICENSES, FRANCHISES AND CONCESSIONS

In the United States and many foreign countries, Monsanto holds a broad portfolio of patents that provide intellectual property protection for its products and processes. Some of Monsanto's patents and licenses are currently the subject of litigation; see Item 3 — Legal Proceedings.

We routinely obtain patents and/or plant variety protection for our breeding technology, germplasm, commercial varietal seed products, and for the parents of our commercial hybrid seed products. We also routinely obtain registrations for our germplasm and commercial seed products in registration countries, such as Plant Variety Protection Act Certificates in the United States and equivalent plant breeders' rights in other countries. Our insect-protection traits (including *YieldGard* Corn Borer and *YieldGard* Corn Rootworm traits in corn seed and *Bollgard* trait in cotton seed) are protected by patents that extend at least until 2011. Having filed patent applications in 2002 and 2001, we anticipate that the *Bollgard II* insect-protection trait will be patent-protected in the United States, and in other areas in which patent protection is sought, through 2022. Our herbicide tolerant products (*Roundup Ready* traits in soybean, corn, canola and cotton seeds) are protected by U.S. patents that extend at least until 2014; and our second-generation trait for cotton, *Roundup Ready* Flex, is protected by U.S. patents through 2025.

Patents protecting glyphosate, the active ingredient in *Roundup* herbicides, expired in the United States in 2000 and have expired in all other countries. We have several patents on our glyphosate formulations and manufacturing processes in the United States and other countries, some of which extend beyond 2015. *Posilac* bovine somatotropin is protected by a U.S. patent that expires in 2008 but is no longer fully protected by patents in other countries in which this product is sold.

Other patents that we own protect various aspects of bovine somatotropin manufacture in the United States and expire at varying dates ending March 2012; corresponding patents in other countries have varying terms.

Monsanto also holds licenses from other parties relating to certain products and processes. We have obtained licenses to protect certain technologies used in the production of *Roundup Ready* seeds and certain technologies relating to pipeline products from claims that we are infringing the patents of others. These licenses last for the lifetimes of the applicable patents, after which no licenses will be required to use the respective patented technologies. We have also obtained perpetual licenses to certain technologies contained in certain pipeline products (i.e., *SmartStax*), which combine insect control traits with herbicide resistant traits. We hold numerous licenses in connection with our genomics program. For example, we hold a perpetual license to certain genomics technologies for use in plant and animal agriculture, perpetual licenses to patents expiring from 2018 to 2023 for classes of proprietary genes for the development of commercial traits in crops, perpetual licenses to functional characterizations of our proprietary genes, and perpetual licenses to certain genomics sequences and certain genomics technologies. We have also obtained perpetual licenses to chemicals used to make *Harness* herbicides and to manufacturing technology for *Posilac* bovine somatotropin.

We own trademark registrations, and we file trademark applications for the names and many of the designs we use on our branded products around the world. Important company trademarks include *Roundup* for herbicide products; *Roundup Ready, Bollgard, Bollgard II, YieldGard, YieldGard VT,* and *Roundup RReady2Yield* for traits; *DEKALB, Asgrow, Deltapine, D&PL,* and *Vistive* for agricultural seeds; *Seminis, Royal Sluis, Asgrow* and *Petoseed* for fruit and vegetable seeds; and *Posilac* for dairy productivity products.

We hold (directly or by assignment) numerous phosphate leases issued on behalf of or granted by the United States, the state of Idaho, and private parties. None of these leases is material individually, although the leases are significant in the aggregate because elemental phosphorus is a key raw material for the production of glyphosate-based herbicides. The phosphate leases have varying terms. The leases obtained from the United States are of indefinite duration, subject to the modification of lease terms at 20-year intervals.

## PRINCIPAL EQUITY AFFILIATES

Renessen LLC, our joint venture with Cargill, Incorporated, has developed and plans to commercialize a proprietary grain processing technology, marketed under the name Extrax™. This technology separates corn into three high-value fractions: a high-starch fraction, ideal for ethanol fermentation; food-grade corn oil, valuable as a non-trans fat oil solution or for biodiesel; and a nutrient-rich meal that can be used as a corn replacement in animal feed rations. The Extrax™ technology will be licensed by Renessen to North American ethanol manufacturers interested in optimizing the operation of ethanol plants and diversifying the income streams generated by the traditional dry grind ethanol manufacturing process. We own 50 percent of Renessen and have equal governance and funding rights and responsibilities with Cargill. Cargill has agreed to grant Renessen an exclusive right and license to Cargill's intellectual property related to this corn processing technology needed for Renessen to pursue its business plan and receives rights to use intellectual property developed by Renessen in other specified areas. Both Cargill and Monsanto provide specified services to Renessen for a fee. See information regarding Renessen in Note 24 — Equity Affiliate.

## RAW MATERIALS AND ENERGY RESOURCES

We are a significant purchaser of basic and intermediate raw materials. We typically purchase our major raw materials and the energy we need through long-term contracts. We do not depend on any single outside supplier for a significant amount of any raw materials, but a few major suppliers provide us with certain important raw materials. The markets for our raw materials are balanced and are expected to remain so. Although some additional capacity does exist, pricing is substantially higher today than under existing contracts. Energy is available as required, but pricing is subject to market fluctuations.

We produce directly or contract with third-party growers for corn seed, soybean seed, canola seed, vegetable seeds, fruit seeds, cotton seed, sunflower seed and sorghum seed in growing locations throughout the world. The availability and cost of seed depends primarily on seed yields, weather conditions, farmer contract terms, commodity prices, and global supply and demand. We manage commodity price fluctuations through the use of futures contracts and other hedging mechanisms. Where practicable, we attempt to minimize the weather risks by producing seed at multiple growing locations and under irrigated conditions.

Different catalysts are used in various intermediate steps in the production of glyphosate. These are produced by two major catalyst manufacturers who use our proprietary technology at various sites globally. These suppliers have additional capacity at other manufacturing locations. We manufacture and purchase disodium iminodiacetic acid, a key ingredient in the production of glyphosate. We manufacture most of our global supply of elemental phosphorus, a key raw material for the production of *Roundup* herbicides, and we purchase the remainder through a third-party supplier.

## RESEARCH AND DEVELOPMENT

Monsanto's expenses for research and development were $780 million in 2007, $710 million in 2006, and $583 million in 2005. In addition, we incurred charges of $193 million and $230 million for acquired in-process research and development (IPR&D) related to acquisitions during 2007 and 2005, respectively. See Note 4 — Business Combinations — for additional information regarding these acquisitions.

During 2007, we and BASF announced a long-term joint research and development and commercialization collaboration in plant biotechnology that will focus on the development of

high-yielding crops and crops more tolerant to adverse environmental conditions such as drought. Over the long-term life of the collaboration, we and BASF will dedicate a joint budget of potentially $1.5 billion to fund a dedicated pipeline of yield and stress-tolerance traits for corn, soybeans, cotton and canola.

## SEASONALITY AND WORKING CAPITAL; BACKLOG

For information on seasonality and working capital and backlog practices, see information in Item 7 — MD&A — Financial Condition, Liquidity, and Capital Resources, incorporated herein by reference.

## RELATIONSHIPS AMONG MONSANTO COMPANY, PHARMACIA CORPORATION, PFIZER INC., AND SOLUTIA INC.

Prior to Sept. 1, 1997, a corporation that was then known as Monsanto Company (Former Monsanto) operated an agricultural products business (the Ag Business), a pharmaceuticals and nutrition business (the Pharmaceuticals Business) and a chemical products business (the Chemicals Business). Former Monsanto is today known as Pharmacia. Pharmacia is now a wholly owned subsidiary of Pfizer Inc., which together with its subsidiaries operates the Pharmaceuticals Business. Today's Monsanto includes the operations, assets and liabilities that were previously the Ag Business. Today's Solutia comprises the operations, assets and liabilities that were previously the Chemicals Business. The following table sets forth a chronology of events that resulted in the formation of Monsanto, Pharmacia and Solutia as three separate and distinct corporations, and it provides a brief background on the relationships among these corporations.

| Date of Event | Description of Event |
|---|---|
| Sept. 1, 1997 | · Pharmacia (then known as Monsanto Company) entered into a Distribution Agreement (Distribution Agreement) with Solutia related to the transfer of the operations, assets and liabilities of the Chemicals Business from Pharmacia (then known as Monsanto Company) to Solutia.<br>· Pursuant to the Distribution Agreement, Solutia assumed and agreed to indemnify Pharmacia (then known as Monsanto Company) for certain liabilities related to the Chemicals Business. |
| Dec. 19, 1999 | Pharmacia (then known as Monsanto Company) entered into an agreement with Pharmacia & Upjohn, Inc. (PNU) relating to a merger (the Merger). |
| Feb. 9, 2000 | We were incorporated in Delaware as a wholly owned subsidiary of Pharmacia (then known as Monsanto Company) under the name "Monsanto Ag Company." |
| March 31, 2000 | · Effective date of the Merger.<br>In connection with the Merger, (1) PNU became a wholly owned subsidiary of Pharmacia (then known as Monsanto Company); (2) Pharmacia (then known as Monsanto Company) changed its name from "Monsanto Company" to "Pharmacia Corporation;" and (3) we changed our name from "Monsanto Ag Company" to "Monsanto Company." |
| Sept. 1, 2000 | We entered into a Separation Agreement (Separation Agreement) with Pharmacia related to the transfer of the operations, assets and liabilities of the Ag Business from Pharmacia to us.<br>· Pursuant to the Separation Agreement, we were required to indemnify Pharmacia for any liabilities primarily related to the Ag Business or the Chemicals Business, and for liabilities assumed by Solutia pursuant to the Distribution Agreement, to the extent that Solutia fails to pay, perform or discharge those liabilities. |
| Oct. 23, 2000 | · We completed an initial public offering in which we sold approximately 15 percent of the shares of our common stock to the public. Pharmacia continued to own approximately 85 percent of our common stock. |
| July 1, 2002 | Pharmacia, Solutia and we amended the Distribution Agreement to provide that Solutia will indemnify us for the same liabilities for which it had agreed to indemnify Pharmacia and to clarify the parties' rights and obligations.<br>· Pharmacia and we amended the Separation Agreement to clarify our respective rights and obligations relating to our indemnification obligations. |
| Aug. 13, 2002 | · Pharmacia distributed the shares of our common stock that it owned to its shareowners via a tax-free stock dividend (the Monsanto Spinoff).<br>As a result of the Monsanto Spinoff, Pharmacia no longer owns any equity interest in Monsanto. |
| April 16, 2003 | · Pursuant to a merger transaction, Pharmacia became a wholly owned subsidiary of Pfizer. |
| Dec. 17, 2003 | · Solutia and 14 of its U.S. subsidiaries filed a voluntary petition for reorganization under Chapter 11 of the U.S. Bankruptcy Code. |

See Item 3 — Legal Proceedings for information concerning litigation matters that Monsanto is managing pursuant to its obligation under the Separation Agreement to indemnify Pharmacia. See Note 21 for further information regarding litigation and environmental matters that we are managing pursuant to our obligation under the Separation Agreement to indemnify Pharmacia; Solutia's bankruptcy; the related charge we recorded associated with certain of Solutia's litigation and environmental obligations; and other arrangements between Solutia and us.

## AVAILABLE INFORMATION

Our Internet address is www.monsanto.com. We make available, free of charge through our Web site, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after they have been filed with or furnished to the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. Forms 3, 4 and 5 filed with respect to our equity securities under Section 16(a) of the Exchange Act are also available on our site by the end of the business day after filing. All of these materials are located under the "Investors" tab.

Our Web site also includes the following corporate governance materials, under the tab "Corporate Responsibility": our Code of Business Conduct, our Code of Ethics for Chief Executive and Senior Financial Officers, our Board of Directors' Charter and Corporate Governance Guidelines, and charters of our Board committees. These materials are also available on paper. Any shareowner may request them by contacting the Office of the General Counsel, Monsanto Company, 800 N. Lindbergh Blvd., St. Louis, Missouri, 63167. Information on our Web site does not constitute part of this report.

## ITEM 1A. RISK FACTORS

***Competition in seeds and traits and agricultural chemicals has significantly affected, and will continue to affect, our sales.***

Many companies engage in research in plant biotechnology, breeding and agricultural chemicals, and speed in getting a new product to market can be a significant competitive advantage. Our competitors' success could render our existing products less competitive, resulting in reduced sales compared to our expectations or past results. We expect to see increasing competition from agricultural biotechnology firms and from major agrichemical, seed and food companies. We also expect to face continued competition for our *Roundup* herbicides and selective herbicides product lines. The extent to which we can realize cash and gross profit from these products will depend on our ability to: control manufacturing and marketing costs without adversely affecting sales; respond effectively to competitor pricing and marketing; provide marketing programs meeting the needs of our customers and of the farmers who are our end users; maintain an efficient distribution system; and develop new products with features attractive to our end users.

***Efforts to protect our intellectual property rights and to defend claims against us can increase our costs and will not always succeed; any failures could adversely affect sales and profitability or restrict our ability to do business.***

Intellectual property rights are crucial to our business, particularly our Seeds and Genomics segment. We endeavor to obtain and protect our intellectual property rights in jurisdictions in which our products are produced or used and in jurisdictions into which our products are imported. However, we may be unable to obtain protection for our intellectual property in key jurisdictions. Even if protection is obtained, competitors, farmers, or others in the chain of commerce may raise legal challenges to our rights or illegally infringe on our rights, including through means that may be difficult to prevent or detect. For example, the practice by some farmers of saving seeds from non-hybrid crops (such as soybeans, canola and cotton) containing our biotechnology traits has prevented and may continue to prevent us from realizing the full value of our intellectual property, particularly outside the United States. In addition, because of the rapid pace of technological change, and the confidentiality of patent applications in some jurisdictions, competitors may be issued patents from applications that were unknown to us prior to issuance. These patents could reduce the value of our commercial or pipeline products or, to the extent they cover key technologies on which we have unknowingly relied, require that we seek to obtain licenses or cease using the technology, no matter how valuable to our business. We cannot assure we would be able to obtain such a license on acceptable terms. The extent to which we succeed or fail in our efforts to protect our intellectual property will affect our costs, sales and other results of operations.

***We are subject to extensive regulation affecting our seed biotechnology and agricultural products and our research and manufacturing processes, which affects our sales and profitability.***

Regulatory and legislative requirements affect the development, manufacture and distribution of our products, including the testing and planting of seeds containing our biotechnology traits and the import of crops grown from those seeds, and non-compliance can harm our sales and profitability. Obtaining testing, planting and import approvals can be lengthy and costly, with no guarantee of success. Planting approvals may also include significant regulatory requirements that can limit our sales. Lack of approval to import crops containing biotechnology traits into key markets can affect sales of our traits, even in jurisdictions where planting has been approved. Concern about unintended but unavoidable trace amounts (sometimes called "adventitious presence") of commercial biotechnology traits in conventional (non-biotechnology) seed, or in the grain or products produced from conventional or organic crops, among other things, could lead to increased regulation or legislation, which may include: liability transfer mechanisms that may include financial protection insurance; possible restrictions or moratoria on testing, planting or use of biotechnology traits; and requirements for labeling and traceability, which requirements may cause food processors and food companies to avoid biotechnology and select non-biotechnology crop sources and can affect farmer seed purchase decisions and the

sale of our products. Further, the detection of adventitious presence of traits not approved in the importing country may result in the withdrawal of seed lots from sale or in compliance actions, such as crop destruction or product recalls. Legislation encouraging or discouraging the planting of specific crops can also harm our sales. In addition, claims that increased use of glyphosate-based herbicides or biotechnology traits increases the potential for the development of glyphosate-resistant weeds or pests resistant to our traits could result in restrictions on the use of glyphosate-based herbicides or seeds containing our traits or otherwise reduce our sales.

***The degree of public acceptance or perceived public acceptance of our biotechnology products can affect our sales and results of operations by affecting planting approvals, regulatory requirements and customer purchase decisions.***

Although all of our products go through rigorous testing, some opponents of our technology actively raise public concern about the potential for adverse effects of our products on human or animal health, other plants and the environment. The potential for adventitious presence of commercial biotechnology traits in conventional seed, or in the grain or products produced from conventional or organic crops, is another factor that can affect general public acceptance of these traits. Public concern can affect the timing of, and whether we are able to obtain, government approvals. Even after approvals are granted, public concern may lead to increased regulation or legislation, which could affect our sales and profitability, and may adversely affect sales of our products to farmers, due to their concerns about available markets for the sale of crops or other products derived from biotechnology. In addition, opponents of agricultural biotechnology have attacked farmers' fields and facilities used by agricultural biotechnology companies, and may launch future attacks against farmers' fields and our field testing sites and research, production, or other facilities.

***The successful development and commercialization of our pipeline products will be necessary for our growth.***

We use advanced breeding technologies to produce hybrids and varieties with superior performance in the farmer's field. The process of breeding and trait integration is lengthy, and less than 1% of the pipeline is selected for commercialization. There are a number of reasons why a new product concept may be abandoned, including greater than anticipated development costs, technical difficulties, regulatory obstacles, competition, inability to prove the original concept, lack of demand, and the need to divert focus, from time to time, to other initiatives with perceived opportunities for better returns. The length of time and the risk associated with the breeding and biotech pipelines are similar and interlinked because both are required as a package for commercial success in markets where biotech traits are approved for growers. In countries where biotech traits are not approved for widespread use, our sales depend on our germplasm. Commercial success frequently depends on being the first company to the market, and many of our competitors are also making considerable investments in similar new biotechnology or improved germplasm products. Consequently, if we are not able to fund extensive research and development activities and deliver new products to the markets we serve on a timely basis, our growth and operations will be harmed.

***Adverse outcomes in legal proceedings could subject us to substantial damages and adversely affect our results of operations and profitability.***

We are involved in major lawsuits concerning intellectual property, biotechnology, torts, contracts, antitrust allegations, employee benefits, and other matters, as well as governmental inquiries and investigations, the outcomes of which may be significant to results of operations in the period recognized or limit our ability to engage in our business activities. While we have insurance related to our business operations, it may not apply to or fully cover any liabilities we incur as a result of these lawsuits. In addition, pursuant to the Separation Agreement, we are required to indemnify Pharmacia for Solutia's Assumed Liabilities, to the extent that Solutia fails to pay, perform or discharge those liabilities. We have recorded a reserve for certain estimated payments or costs related to third-party tort litigation and environmental matters that we are managing following Solutia's refusal to manage such matters, for which the amount recorded in our Statement of Consolidated Financial Position as of Aug. 31, 2007, was $182 million. We believe that the recorded amount represents the estimated discounted cost that we would incur in the future in connection with these litigation and environmental matters. However, our actual costs may be materially different from this estimate. The degree to which we may ultimately be responsible for the particular matters reflected in the reserve is uncertain. Further, additional litigation or environmental matters that are not reflected in the reserve may arise in the future, and we may also assume the management of, settle, or pay judgments or damages with respect to litigation or environmental matters in order to mitigate contingent potential liability and protect Pharmacia and us, if Solutia refuses to do so. Additional information about Solutia and other litigation matters and the related risks to our business may be found in Note 21 and in other sections of this report.

***Our operations outside the United States are subject to special risks and restrictions, which could negatively affect our results of operations and profitability.***

We engage in manufacturing, seed production, research and development, and sales in many parts of the world. Although we have operations in virtually every region, our sales outside the United States in fiscal year 2007 were principally to customers in Brazil, Argentina, Canada, Mexico and France. Accordingly, developments in those parts of the world generally have a more significant effect on our operations than developments in other places. Our operations outside the United States are subject to special risks and restrictions, including: fluctuations in currency values and foreign-currency exchange rates; exchange control regulations; changes in local

political or economic conditions; governmental pricing directives; import and trade restrictions; import or export licensing requirements and trade policy; restrictions on the ability to repatriate funds; and other potentially detrimental domestic and foreign governmental practices or policies affecting U.S. companies doing business abroad. Acts of terror or war may impair our ability to operate in particular countries or regions, and may impede the flow of goods and services between countries. Customers in weakened economies may be unable to purchase our products, or it could become more expensive for them to purchase imported products in their local currency, or sell their commodity at prevailing international prices, and we may be unable to collect receivables from such customers. Further, changes in exchange rates may affect our net income, the book value of our assets outside the United States, and our shareowners' equity.

***In the event of any diversion of management's attention to matters related to acquisitions or any delays or difficulties encountered in connection with integrating acquired operations, our business, and in particular our results of operations and financial condition, may be harmed.***

We have recently completed the acquisition of Delta and Pine Land, and we expect to make additional acquisitions. We must fit such acquisitions into our long-term growth strategies to generate sufficient value to justify their cost. Acquisitions also present other challenges, including geographical coordination, personnel integration and retention of key management personnel, systems integration and the reconciliation of corporate cultures. Those operations could divert management's attention from our business or cause a temporary interruption of or loss of momentum in our business and the loss of key personnel from the acquired companies.

***Fluctuations in commodity prices can increase our costs and decrease our sales.***

We purchase our seed inventories from production growers at market prices and retain the seed in inventory until it is sold. These purchases constitute a significant portion of the manufacturing costs for our seeds. We use hedging strategies to mitigate the risk of short-term changes in these prices but are unable to avoid the risk of medium- and long-term changes. Accordingly, increases in commodity prices may negatively affect our cost of goods sold or cause us to increase seed prices, which could adversely affect our sales. Farmers' incomes are also affected by commodity prices; as a result, commodity prices could have a negative effect on their ability to purchase our products.

***Compliance with quality controls and regulations affecting our manufacturing may be costly, and failure to comply may result in decreased sales, penalties and remediation obligations.***

Because we use hazardous and other regulated materials in our chemical manufacturing processes and engage in mining operations, we are subject to risks of accidental environmental contamination, and therefore to potential personal injury claims, remediation expenses and penalties. We have entered into agreements with various regulatory agencies for the management of many of our sites, and if we fail to comply with such agreements, we could be subject to penalties and facility shutdowns. Should a catastrophic event occur at any of our facilities, we could face significant reconstruction or remediation costs, penalties, third party liability and loss of production capacity, which could affect our sales. In addition, lapses in quality or other manufacturing controls could affect our sales and result in claims for defective products.

***Our ability to match our production to the level of product demanded by farmers or our licensed customers has a significant effect on our sales, costs, and growth potential.***

Farmers' decisions are affected by market, economic and weather conditions that are not known in advance. Failure to provide distributors with enough inventory of our products will reduce our current sales. However, product inventory levels at our distributors may reduce sales in future periods, as those distributor inventories are worked down. In addition, inadequate distributor liquidity could affect distributors' ability to pay for our products and, therefore, affect our sales or our ability to collect on our receivables. With demand for our glyphosate products in recent years, we are producing near capacity and have a low inventory.

***Our ability to issue short-term debt to fund our cash flow requirements and the cost of such debt may affect our financial condition.***

We regularly extend credit to our customers in certain areas of the world so that they can buy agricultural products at the beginning of their growing seasons. Because of these credit practices and the seasonality of our sales, we may need to issue short-term debt at certain times of the year to fund our cash flow requirements. The amount of short-term debt will be greater to the extent that we are unable to collect customer receivables when due, to repatriate funds from operations outside the United States, and to manage our costs and expenses. Any downgrade in our credit rating, or other limitation on our access to short-term financing or refinancing, would increase our interest cost and adversely affect our profitability.

***Weather, natural disasters and accidents may significantly affect our results of operations and financial condition.***

Weather conditions and natural disasters can affect the timing of planting and the acreage planted, as well as yields and commodity prices. In turn, the quality, cost and volumes of the seed that we are able to produce and sell will be affected, which will affect our sales and profitability. Natural disasters or industrial accidents could also affect our manufacturing facilities, or those of our major suppliers or major customers, which could affect our costs and our ability to meet supply. One of our major U.S. glyphosate manufacturing facilities is located in Luling, Louisiana, which is an area subject to hurricanes.

## ITEM 1B. UNRESOLVED STAFF COMMENTS

At Aug. 31, 2007, there were no unresolved comments from the staff of the SEC related to our periodic or current reports under the Exchange Act.

## ITEM 2. PROPERTIES

We and our subsidiaries own or lease manufacturing facilities, laboratories, seed production and other agricultural facilities, office space, warehouses and other land parcels in North America, South America, Europe, Asia, Australia, and Africa. Our general offices, which we own, are located in St. Louis County, Missouri. We lease additional research facilities from Pfizer at Chesterfield Village in St. Louis County. These office and research facilities are principal properties.

Additional principal properties used by the Seeds and Genomics segment include seed conditioning plants at Constantine, Michigan; Grinnell, Iowa; Kearney, Nebraska; Oxnard, California; Peyrehorade, France; Rojas, Argentina; Sinesti, Romania; Trèbes, France; and Uberlândia, Brazil; and research sites at Ankeny, Iowa; Maui, Hawaii; Middleton, Wisconsin; Mystic, Connecticut; and Woodland, California. We own all of these properties, except the property in Maui. The Seeds and Genomics segment also uses seed foundation and production facilities, breeding facilities, and genomics and other research laboratories at various locations worldwide.

The Agricultural Productivity segment has principal chemicals manufacturing facilities at Alvin, Texas; Antwerp, Belgium; Augusta, Georgia; Camaçari, Brazil; Luling, Louisiana; Muscatine, Iowa; São José dos Campos, Brazil; Soda Springs, Idaho; and Zárate, Argentina. We lease the land underlying the facilities that we own in Alvin, Texas, and in Antwerp, Belgium. We also lease the manufacturing facility and land underlying the facility at Augusta, Georgia, with an option to buy it, pursuant to an industrial revenue bond financing. We own the other properties.

We believe that our principal properties are suitable and adequate for their use. Use of these facilities may vary with seasonal, economic and other business conditions, but none of the principal properties is substantially idle. Our facilities generally have sufficient capacity for existing needs and expected near-term growth, and expansion projects are undertaken as necessary to meet future needs. In particular, we plan to invest up to $610 million to expand our corn production facilities in North America over the next three years to meet anticipated increased demand for our corn seed and are evaluating alternatives to increase our capacity to produce glyphosate through de-bottlenecking or the extension of existing facilities. In certain instances, we have leased to third parties portions of sites not required for current operations.

## ITEM 3. LEGAL PROCEEDINGS

We are involved in various legal proceedings that arise in the ordinary course of our business, as well as proceedings that we have considered to be material under SEC regulations. These include proceedings to which we are party in our own name, proceedings to which Pharmacia is a party but that we manage and for which we are responsible, and proceedings that we are managing related to Solutia's Assumed Liabilities (as defined in Note 21). We believe we have meritorious legal arguments and will continue to represent our interests vigorously in all of the proceedings that we are defending or prosecuting. Information regarding certain material proceedings and the possible effects on our business of proceedings we are defending is disclosed in Note 21 under the subheading "Litigation and Indemnification" and is incorporated by reference herein. Following is information regarding other material proceedings for which we are responsible.

**Patent and Commercial Proceedings**

On Dec. 4, 2000, we filed suit in the U.S. District Court for the Eastern District of Missouri for a declaratory judgment against Bayer CropScience AG, a subsidiary of Bayer AG, and its affiliates that four patents that involve claims to truncated Bt technology were invalid and not infringed by the MON810 corn product contained in *YieldGard* corn. Bayer CropScience counterclaimed to request royalties for prior sales of *YieldGard* corn and injunctive relief but later dismissed with prejudice its claims on three of the four patents in dispute and agreed not to sue us, our affiliates or our sublicensees under those patents for any of our current commercial products. On Nov. 22, 2005, a jury returned a verdict in our favor and determined that MON810 did not infringe the remaining patent at issue and that the patent was invalid. On Aug. 28, 2006, the Court entered an order also invalidating the patents on the basis of inequitable conduct. Bayer CropScience filed a notice of appeal of the results of the jury trial and the Court's decision on Oct. 24, 2006. Oral argument on Bayer's appeal of the jury verdict is set for Nov. 5, 2007.

The following proceedings involve Syngenta AG (Syngenta) and its affiliates:

- On May 10, 2004, we filed suit against Syngenta Seeds in the Circuit Court of St. Louis County, Missouri, for a declaratory judgment seeking a determination that, under its license from us, Syngenta Seeds is limited to commercializing its *Roundup Ready* soybeans under one product brand. On Feb. 8, 2006, after a bench trial, the Court ruled in our favor and permanently enjoined Syngenta from using any brand other than the NK® brand in the production, marketing, advertising, or sale of our *Roundup Ready* soybean technology. On June 12, 2007, the Missouri Court of Appeals reversed the judgment of the trial court and remanded for a new trial. The case currently has no trial setting.

  On May 12, 2004, we filed suit against Syngenta Seeds and Syngenta Biotechnology, Inc. in the U.S. District Court for the District of Delaware (the Shah case). On July 27, 2004, DEKALB filed suit against Syngenta Seeds and Syngenta Biotechnology in the U.S. District Court for the Northern District of Illinois (the Lundquist case). The suits allege infringement of our patents involving glyphosate-tolerant crops and fertile transgenic corn and seek injunctions against the sale of GA21 corn by Syngenta and its affiliates and damages for willful infringement of our patents. On May 19, 2005, the U.S. District Court for the Northern District of Illinois transferred the Lundquist case to the U.S. District Court for the District of Delaware. It was then consolidated for discovery and trial with the Shah case. The District Court granted summary judgment in favor of Syngenta on May 11, 2006, ruling that the Shah patent was invalid and Syngenta did not infringe the Lundquist patents. On June 8, 2006, we appealed the Court's decision to the U.S. Court of Appeals for the Federal Circuit. On Oct. 4, 2007, the Federal Circuit affirmed the decision of the District Court.

- On July 28, 2004, Syngenta filed suit against us in the U.S. District Court for the District of Delaware, alleging that we have monopolized or attempted to monopolize markets for glyphosate-tolerant corn seed, European corn borer-protected corn seed and foundation corn seed (the Antitrust Action). Syngenta seeks $57 million in supposed actual damages and requested treble damages, attorneys' fees and injunctive relief. In July 2005, we filed counterclaims against Syngenta, Syngenta Seeds, and affiliated companies for misappropriation of property and false advertising. On Nov. 8, 2006, the Court stayed the trial of this matter. It currently has no trial setting.

  On Sept. 21, 2004, Golden Harvest Seeds, Inc., a subsidiary of Syngenta, filed suit against us in the Circuit Court of St. Louis County, Missouri, seeking a declaration with respect to its right to sell-off certain corn products after the termination of its various corn trait licenses with us. We counterclaimed for unjust enrichment and breach of the agreements and seek recovery of damages and injunctive relief. This case has been set for trial commencing Jan. 21, 2008.

- On Aug. 7, 2006, acting on a long pending jury advisory verdict, the U.S. District Court for the Middle District of North Carolina ruled that scientists of Rhône Poulenc Agrochimie S.A. were entitled to be named as co-inventors of U.S. Patent No. 6,040,497 but were not entitled to be named as co-inventors of U.S. Patent No. 5,554,798 (the '798 Patent). The '798 Patent covers glyphosate-tolerant crops and fertile transgenic corn and was assigned to DEKALB. On Aug. 9, 2006, DEKALB filed suit against Syngenta Seeds and Syngenta Biotechnology in the U.S. District Court for the Eastern District of Missouri. The suit alleges infringement of the '798 Patent by the making and selling of GA21 corn. We are seeking an injunction against the sale of GA21 corn by Syngenta and its affiliates and damages for willful infringement of DEKALB's patent. This case is currently set for trial beginning July 7, 2008.

On July 26, 2005, American Seed Company (which is unrelated to Monsanto or its ASI subsidiary) filed a purported class action suit against us in the U.S. District Court for the District of Delaware, supposedly on behalf of direct purchasers of corn seed containing our transgenic traits. American Seed essentially alleges that we have monopolized or attempted to monopolize markets for glyphosate-tolerant corn seed, European corn borer-protected corn seed and foundation corn seed. Plaintiffs seek an unspecified amount of damages and injunctive relief. On Nov. 13, 2006, the trial court denied plaintiffs' motion for class certification. On Jan. 25, 2007, the U.S. Court of Appeal for the Third Circuit granted Plaintiffs' motion to review the trial court's decision denying class certification. The case has been stayed pending the decision of the Third Circuit. There currently is no trial setting for this matter.

While efforts continue, discussions have failed to resolve outstanding issues related to the development of a payment system for the use of our technology to produce soybean products in Argentina or Uruguay containing our patented *Roundup Ready* technologies. We have initiated patent infringement actions against importers of Argentine soy products that were found to have contained our unlicensed glyphosate-tolerant technology, which is patented in the respective European countries. In June 2005, we filed cases against Cefetra, in The Hague, the Netherlands, and Den Lokale, A.m.d.A., et al., in the Danish High Court, Eastern Division. In February and March 2006, we filed cases against Bunge Iberica SA, Ceralto SL and Sesostris SAE in Spain, and Cargill International SA and Cargill plc in England. Further cases were filed in May and June 2006 against Alfred C. Toepfer International GmbH and Glencore Grain BV and Glencore Grain Rotterdam BV, in the courts of The Hague. A first trial is scheduled for The Hague in October 2007. The trial in England took place in June 2007, and a decision was received in October 2007. The court found that our patent is valid and that the patented sequence is present in the soy meal

imported from Argentina but that there was no infringement on the basis of an interpretation of our patent claim language. We are appealing the decision. The hearing in the Sesostris case in Spain took place in July 2007. An adverse decision was delivered in September 2007 and has since been appealed. The first Dutch case is scheduled for trial beginning Oct. 26, 2007. No trial has yet been scheduled in the Danish High Court. The Argentine government has opposed our use of patent infringement actions as a means of securing payment for the use of our technology in Argentina and has been admitted as a co-defendant to the proceedings in the Netherlands and as an observer to the proceedings in Denmark. Also in response to our actions, the Argentine Secretary of Agriculture has requested that the national competition commission in Argentina (CNDC) proceed with a civil administrative action against us. The CNDC has initiated a market investigation, under which we were given the opportunity to provide information to the CNDC before it would consider whether or not to initiate a formal proceeding. We provided information to the CNDC in February 2007.

On May 22, 2007, Iowa State University Research Foundation (ISURF) filed but did not serve an action in the U.S. District Court for the Southern District of Iowa, alleging that our low linolenic acid soybean product, commercialized under the trade name *Vistive,* infringes two ISURF patents relating to the use of certain varieties to create low linolenic acid soybeans. ISURF sought damages, including treble damages for willful infringement, and an injunction. ISURF also seeks a declaration that it did not enter into an enforceable settlement agreement with us. On Aug. 31, 2007, ISURF, Iowa State University (ISU), and we entered into agreements under which we received a commercial license from ISURF for current and future low linolenic acid soybean products developed by ISU, while ISU received a research license for use of our next generation glyphosate tolerant soybean technology. As part of those agreements, ISURF dismissed with prejudice all of its claims in the lawsuit.

Starting the week of March 7, 2004, a series of purported class action cases were filed in 14 different state courts against Pioneer Hi-Bred International, Inc. and us. The suits allege that we conspired with Pioneer to violate various state competition and consumer protection laws by allegedly fixing and artificially inflating the prices and fees for our various biotechnology traits and seeds containing those traits and imposing certain use restrictions. All of these cases have been transferred to the U.S. District Court for the Eastern District of Missouri and consolidated, except for one case that was pending in state court in Tennessee, which has been dismissed. No trial dates have been set for these matters.

Two purported class action suits were filed against us on Sept. 26, 2006, supposedly on behalf of all farmers who purchased our Roundup brand herbicides in the United States for commercial agricultural purposes since Sept. 26, 2002. Plaintiffs essentially allege that we have monopolized the market for glyphosate for commercial agricultural purposes, and seek an unspecified amount of damages and injunctive relief. In late February 2007, three additional suits were filed, alleging similar claims. All of these suits were filed in the U.S. District Court for the District of Delaware. On July 18, 2007, the court ruled that any such suit had to be filed in federal or state court in Missouri and granted our motion to dismiss the two original cases. On Aug. 8, 2007, plaintiffs in the remaining three cases voluntarily dismissed their complaints, which have not been re-filed. On Aug. 10, 2007, the same set of counsel filed a parallel action in federal court in San Antonio, Texas, on behalf of a retailer of glyphosate. Plaintiffs seek to certify a national class of all entities that purchased glyphosate directly from us since August 2003.

On Aug. 3, 2007, we filed an arbitration claim against Sandoz GmbH, a subsidiary of the pharmaceutical company Novartis AG, in an International Chamber of Commerce proceeding. We seek to recover damages suffered while Sandoz made corrections and improvements at its facility in response to deficiencies cited by the U.S. Food and Drug Administration (FDA) in a Warning Letter to Sandoz following an inspection of its pharmaceutical facility in Kundl, Austria, which contracted to supply our dairy product, *Posilac* bovine somatotropin.

**Agent Orange Proceedings**

Various manufacturers of herbicides used by the U.S. armed services during the Vietnam War, including the former Monsanto Company, have been parties to lawsuits filed on behalf of veterans and others alleging injury from exposure to the herbicides. In re Agent Orange Product Liability Litigation, MDL 381 (MDL), a multidistrict litigation proceeding established in 1977 to coordinate Agent Orange-related litigation in the United States, was settled in 1984, concluding all class action litigation filed on behalf of U.S. and certain other groups of plaintiffs. After the U.S. Supreme Court allowed new claims to proceed notwithstanding the settlement, this litigation was sent back to Judge Weinstein of the U.S. District Court for the Eastern District of New York, who originally presided over the MDL. After a hearing during the week of Feb. 28, 2005, the District Court granted the motions for summary judgment filed by Monsanto and other defendants in all pending cases arising out of claims from U.S. veterans on the basis of the government contractor defense. Plaintiffs have appealed the District Court's judgment to the U.S. Court of Appeals for the Second Circuit, which heard oral argument on June 18, 2007.

A purported class action suit, styled VAVAO, et al. v. The Dow Chemical Company, et al., was filed in the U.S. District Court for the Eastern District of New York by the Vietnam Association of Victims of Agent Orange (VAVAO) alleging that the manufacturers of Agent Orange conspired with the U.S. government to commit war crimes and crimes against humanity in connection with the spraying of Agent Orange. This case was also assigned to Judge Weinstein. On March 10, 2005, the District Court granted the motions to dismiss and for summary judgment filed by Monsanto and other defendants in this case. Plaintiffs have appealed the District Court's judgment to the U.S. Court of Appeals for the Second Circuit, which heard oral argument on June 18, 2007.

In a purported class action suit styled Dobbie, et al. v. The Attorney General of Canada, pending in the Federal Court of Canada in Ottawa, Canada, individuals who either served at or live by a Canadian Forces Base in Gagetown, New Brunswick, brought an action against the Canadian government for injuries supposedly suffered as the result of exposure to a variety of chemicals used by it during the course of a 30-year program to control weeds and vegetation at the facility. Thereafter, purported class action lawsuits have been filed by plaintiffs against the Canadian government in at least four provinces, including Manitoba, New Brunswick, Newfoundland, and Ontario. On Jan. 12, 2007, in the New Brunswick action, the Canadian government filed a third party action against Dow Chemical and us, as manufacturers of Agent Orange, seeking contribution for any injuries plaintiffs may have suffered as the result of the spraying of Agent Orange chemicals in 1967 and 1968. On Aug. 1, 2007, the trial court in the case pending in Newfoundland certified a class of all individuals who were at CFB Gagetown between 1956 and the present and who claim they were exposed to dangerous levels of dioxin or HCB while on the base. On Sept. 18, 2007, the Court of Appeal granted the application of the Canadian government, Dow, and Monsanto for leave to appeal the trial court's class certification decision.

**Governmental Proceedings and Undertakings**

On Oct. 20, 2004, the EPA issued a Notice of Violation to us, alleging violations of federal and state hazardous waste management regulations at our phosphorus manufacturing plant in Soda Springs, Idaho. The EPA has asserted that the alleged violations may subject us to civil penalties. We are working with the EPA to reach a resolution of this matter.

On Sept. 17, 2007, the EPA issued a Notice of Violation to us, alleging violations of the Clean Water Act at the South Rasmussen Mine located near Soda Springs, Idaho. The EPA has asserted that the alleged violations may subject us to civil penalties. We are working with the EPA to reach a resolution of this matter.

In January 2005, we consented to an SEC Order and entered into a Deferred Prosecution Agreement (DPA) with the Department of Justice concerning their investigations of improper payments and related financial irregularities in connection with our Indonesian affiliates. We paid penalties of $1.5 million, agreed to certain enhancements of our compliance program, and are required to cease and desist from any further violations of the Foreign Corrupt Practices Act (FCPA) and to retain for a period of three years an independent consultant to review and evaluate our policies and procedures to ensure compliance with the FCPA. If we comply with the terms of the DPA for three years, we fully expect the charges deferred under the DPA to be permanently dismissed. The independent consultant began his review in March 2005. We continue to work with the independent consultant and also continue to implement improvements to our FCPA compliance program.

Prior to our acquisition of Delta and Pine Land Company, through our due diligence, we discovered and Delta and Pine Land reported to the SEC and the DOJ immaterial potential FCPA compliance issues, including payments that were not properly recorded in a subsidiary's books and records. Delta and Pine Land has entered into an agreement with the SEC to pay penalties of $300,000 and to retain for a period of one year an independent consultant to review and evaluate its policies and procedures to ensure compliance with the FCPA. Delta and Pine Land has retained the same independent consultant retained by Monsanto. As the acquiring company, we have assumed responsibility for that agreement.

On April 18, 2005, we received a subpoena from the Illinois Attorney General for the production of documents relating to the prices and terms upon which we license technology for genetically modified seeds, and upon which we sell or license genetically modified seeds to farmers. We are cooperating with the production of the requested materials.

On Sept. 4, 2007, we received a civil investigative demand from the Iowa Attorney General seeking information regarding the production and marketing of glyphosate and the development, production, marketing, or licensing of soybean, corn, or cotton germplasm containing transgenic traits. We are cooperating with the production of the requested materials. Iowa is coordinating with several other states that are also interested in receiving the requested materials.

On Dec. 2, 2005, the Federal Revenue Service of the Ministry of Finance of Brazil issued a tax assessment against our wholly owned subsidiary, Monsanto do Brasil Ltda., challenging the tax treatment of $575 million of notes issued in 1998 on the basis that the transactions involving the notes represented contributions to the capital of Monsanto do Brasil rather than funding through issuance of notes. The assessment denies tax deductions for approximately $1.13 billion (subject to currency exchange rates) of interest expense and currency exchange losses that were claimed by Monsanto do Brasil under the notes. The assessment seeks payment of approximately $52 million (subject to currency exchange rates) of tax, excluding penalties and interest, related to the notes, and would preclude Monsanto do Brasil from using a net operating loss carryforward of approximately $986 million (subject to currency exchange rates). The issuance of the notes was properly registered with the Central Bank of Brazil and we believe that there is no basis in law for this tax assessment. On Dec. 29, 2005, Monsanto do Brasil filed an appeal of this assessment with the Federal Revenue Service. Under the terms of a tax sharing agreement concluded with Pharmacia at the time of our separation from Pharmacia, Pharmacia would be responsible for a portion of any liability incurred by virtue of the tax assessment. As noted, certain dollar amounts have been calculated based on an exchange rate of 1.79 Brazilian reais per U.S. dollar, and will fluctuate with exchange rates in the future.

Mahyco Monsanto Biotech Ltd. (MMB), a joint venture of our subsidiary Monsanto Holdings Private Limited and MAHYCO Seeds Limited, is currently defending complaints before the Monopoly and Restrictive Trade Practice Commission in India (MRTP), relating to the fees it charges on *Bollgard* technology. Additionally, approximately seven individual states in India have

issued letters/orders prospectively setting a maximum amount at which seed companies may sell cotton seed packets containing Bt cotton, including *Bollgard* cotton. On May 11, 2006, the MRTP concluded that MMB was in violation of law by engaging in restrictive trade practices by charging unreasonable trait fees, granted a temporary injunction and directed MMB not to charge Rupees 900 as a trait fee and to set a reasonable trait fee. Appeal was taken to India's Supreme Court. Pending determination of any appeal, MMB has complied with the directions of the order. MMB has also filed writs with the India Supreme Court challenging the state government orders.

**Proceedings Related to Solutia's Assumed Liabilities**

On June 5, 2003, in an action styled Solutia Inc. and Pharmacia Corporation v. McWane, Inc. et al., Solutia and Pharmacia filed suit in the U.S. District Court for the Northern District of Alabama against 19 parties to force them to pay a share of past and future investigation and cleanup costs in Anniston, Alabama, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The defendants are owners and operators of manufacturing facilities that Solutia/Pharmacia believed were responsible for a major share of the PCB contamination found throughout Anniston. EPA has entered into agreements with certain of the defendants to this suit, purporting to grant contribution protection under CERCLA for both lead and PCB related cleanup costs in Anniston. On Jan. 27, 2006, those defendants filed a motion for summary judgment in our contribution suit on the basis of the EPA agreement, to which we responded. We have reached de minimis settlements with two of the defendants who did not sign the agreement with the EPA.

See Note 21 for additional information regarding legal proceedings related to Solutia's Assumed Liabilities.

## ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not applicable.

**Executive Officers**

See Part III — Item 10 of this Report on Form 10-K for information about our Executive Officers.

# PART II

## ITEM 5. MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES

Monsanto's common stock is traded principally on the New York Stock Exchange, under the symbol MON. The number of shareowners of record as of Oct. 23, 2007, was 47,396.

On June 27, 2006, the board of directors approved a two-for-one split of the company's common shares. The additional shares resulting from the stock split were paid on July 28, 2006, to shareowners of record on July 7, 2006. All share and per share information herein reflects this stock split.

The original dividend rate adopted by the board of directors following the initial public offering (IPO) in October 2000 was $0.06. The board of directors increased the company's quarterly dividend rate in April 2003 to $0.065, in May 2004 to $0.0725, in December 2004 to $0.085, in December 2005 to $0.10, in December 2006 to $0.125, and in August 2007 to $0.175.

The following table sets forth dividend declarations, as well as the high and low sales prices for Monsanto's common stock, for the fiscal year 2007 and 2006 quarters indicated.

| **Dividends per Share** | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Fiscal Year |
|---|---|---|---|---|---|
| **2007** | **$ —** | **$ 0.25[1]** | **$ —** | **$ 0.30[1]** | **$ 0.55** |
| 2006 | $ — | $ 0.20[2] | $ — | $ 0.20[2] | $ 0.40 |

| **Common Stock Price** | | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Fiscal Year |
|---|---|---|---|---|---|---|
| **2007** | **High** | **$49.44** | **$57.08** | **$63.90** | **$70.88** | **$70.88** |
| | **Low** | **42.75** | **47.12** | **50.01** | **58.50** | **42.75** |
| 2006 | High | $37.48 | $43.98 | $44.88 | $47.58 | $47.58 |
| | Low | 27.80 | 36.80 | 39.63 | 37.91 | 27.80 |

[1] During the period from Dec. 1, 2006, through Feb. 28, 2007, Monsanto declared two dividends, $0.125 per share on Dec. 12, 2006, and $0.125 per share on Jan. 17, 2007. During the period from June 1, 2007, through Aug. 31, 2007, Monsanto declared two dividends, $0.125 per share on June 15, 2007, and $0.175 per share on Aug. 7, 2007.

[2] During the period from Dec. 1, 2005, through Feb. 28, 2006, Monsanto declared two dividends, $0.10 per share on Dec. 12, 2005, and $0.10 per share on Jan. 17, 2006. During the period from June 1, 2006, through Aug. 31, 2006, Monsanto declared two dividends, $0.10 per share on June 27, 2006, and $0.10 per share on Aug. 7, 2006.

### Issuer Purchases of Equity Securities

The following table summarizes purchases of equity securities during the fourth quarter of fiscal year 2007 by Monsanto and affiliated purchasers, pursuant to SEC rules.

| Period | (a) Total Number of Shares Purchased | (b) Average Price Paid per Share[1] | (c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs | (d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs |
|---|---|---|---|---|
| **June 2007:** | | | | |
| June 1, 2007, through June 30, 2007 | **953**[2] | **$66.23** | — | **$585,541,572** |
| **July 2007:** | | | | |
| July 1, 2007, through July 31, 2007 | **1,402,690** | **$67.69** | **1,402,690** | **$490,588,851** |
| **August 2007:** | | | | |
| Aug. 1, 2007, through Aug. 31, 2007 | — | — | — | **$490,588,851** |
| **Total** | **1,403,643** | **$67.69** | **1,402,690** | **$490,588,851** |

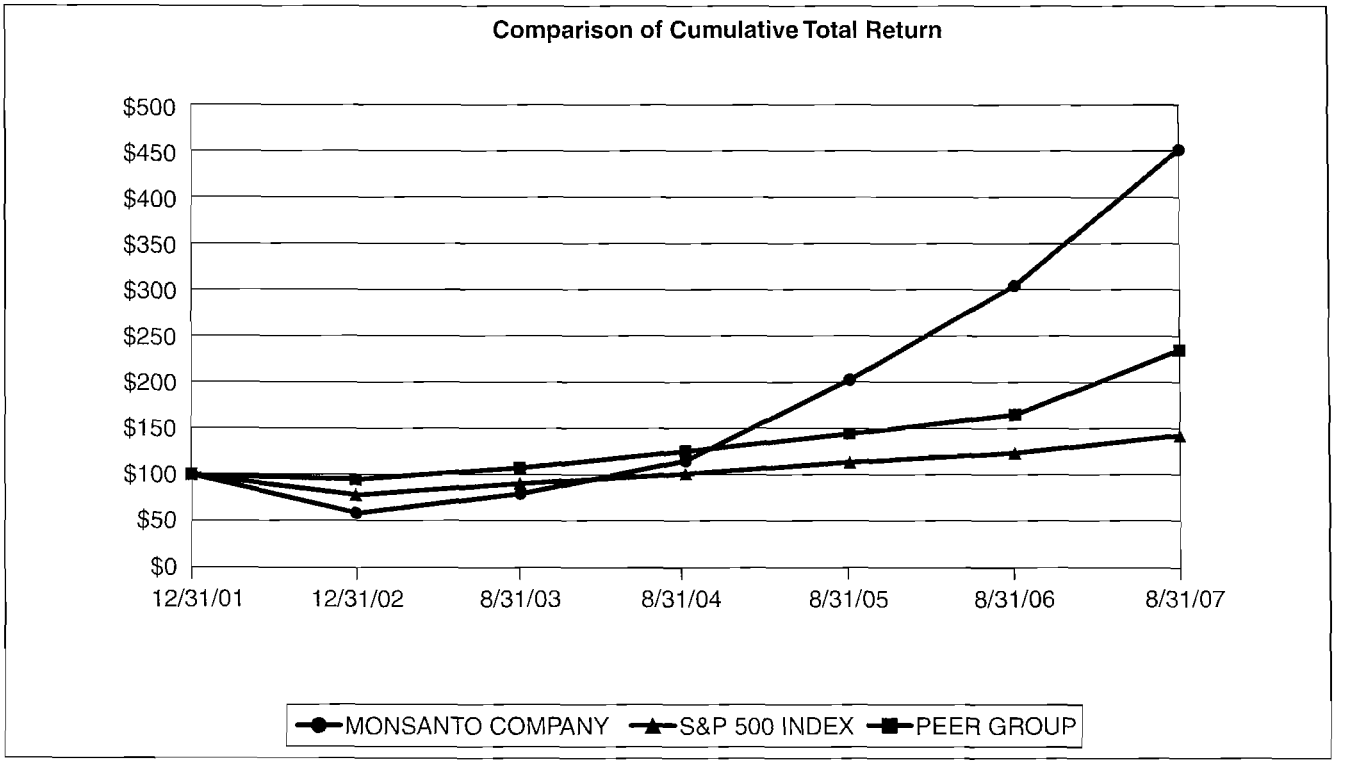
[1] The average price paid per share is calculated on a settlement basis and excludes commission.
[2] Represents shares withheld to cover the withholding taxes upon the vesting of restricted stock.

On Oct. 25, 2005, the board of directors authorized the purchase of up to $800 million of the company's common stock over a four-year period. The plan expires on Oct. 25, 2009. There were no other publicly announced plans outstanding as of Aug. 31, 2007.

**Stock Price Performance Graph**

The graph below compares the performance of Monsanto's common stock with the performance of the Standard & Poor's 500 Stock Index (a broad-based market index) and a peer group index over a 68-month period extending through the end of the 2007 fiscal year. In July 2003, we changed from a calendar year end to a fiscal year ending August 31. Monsanto therefore had an eight-month transition period from Jan. 1, 2003, through Aug. 31, 2003. The measurement periods shown in the performance graph below correspond to our calendar year ends prior to our change in fiscal year, our transition period that ended on Aug. 31, 2003, and our subsequent Aug. 31 fiscal year ends. The graph assumes that $100 was invested on Jan. 1, 2002, in our common stock, in the Standard & Poor's 500 Stock Index and the peer group index, and that all dividends were reinvested.

Because we are involved both in the agricultural products business and in the seeds and genomics business, no published peer group accurately mirrors our portfolio of businesses. Accordingly, we created a peer group index that includes Bayer AG ADR, Dow Chemical Company, DuPont (E.I.) de Nemours and Company, BASF AG and Syngenta AG. The Standard & Poor's 500 Stock Index and the peer group index are included for comparative purposes only. They do not necessarily reflect management's opinion that such indices are an appropriate measure of the relative performance of the stock involved, and they are not intended to forecast or be indicative of possible future performance of our common stock.




| | 12/31/01 | 12/31/02 | 08/31/03 | 08/31/04 | 08/31/05 | 08/31/06 | 08/31/07 |
|---|---|---|---|---|---|---|---|
| MONSANTO COMPANY | 100 | 58.25 | 79.32 | 114.87 | 202.77 | 304.31 | 451.22 |
| S&P 500 INDEX | 100 | 77.90 | 90.32 | 100.67 | 113.31 | 123.38 | 142.05 |
| PEER GROUP | 100 | 94.66 | 107.17 | 125.34 | 144.32 | 164.79 | 234.25 |

In accordance with the rules of the SEC, the information contained in the Stock Price Performance Graph on this page shall not be deemed to be "soliciting material," or to be "filed" with the SEC or subject to the SEC's Regulation 14A, or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that Monsanto specifically requests that the information be treated as soliciting material or specifically incorporates it by reference into a document filed under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

## ITEM 6. SELECTED FINANCIAL DATA

### SELECTED FINANCIAL DATA

| (Dollars in millions, except per share amounts) | 2007 | 2006 | 2005 | Year Ended Aug. 31, 2004 | 2003 | Eight Months Ended Aug. 31, 2003 | 2002 | Year Ended Dec. 31, 2002 |
|---|---|---|---|---|---|---|---|---|
| **Operating Results:** | | | | | | | | |
| Net sales[1] | **$ 8,563** | $ 7,294 | $ 6,275 | $ 5,423 | $ 4,924 | $ 3,378 | $ 3,129 | $ 4,674 |
| Income from operations | **1,418** | 1,171 | 778 | 603 | 676 | 483 | 151 | 344 |
| Income from continuing operations | **922** | 695 | 193 | 266 | 98 | — | 48 | 146 |
| Income (loss) on discontinued operations[2] | **71** | — | 62 | 1 | (18) | (11) | (11) | (17) |
| Cumulative effect of a change in accounting principle, net of tax benefit[3,4,5] | **—** | (6) | — | — | (12) | (12) | (1,822) | (1,822) |
| Net income (loss) | **993** | 689 | 255 | 267 | 68 | (23) | (1,785) | (1,693) |
| **Basic Earnings (Loss) per Share[6]:** | | | | | | | | |
| Income from continuing operations | **$ 1.70** | $ 1.29 | $ 0.36 | $ 0.50 | $ 0.19 | $ — | $ 0.09 | $ 0.28 |
| Income (loss) on discontinued operations[2] | **0.13** | — | 0.12 | — | (0.04) | (0.02) | (0.02) | (0.03) |
| Cumulative effect of accounting change[3,4,5] | — | (0.01) | — | — | (0.02) | (0.02) | (3.50) | (3.50) |
| Net income (loss) | **1.83** | 1.28 | 0.48 | 0.50 | 0.13 | (0.04) | (3.43) | (3.25) |
| **Diluted Earnings (Loss) per Share[6]:** | | | | | | | | |
| Income from continuing operations | **$ 1.66** | $ 1.26 | $ 0.35 | $ 0.50 | $ 0.19 | $ — | $ 0.09 | $ 0.28 |
| Income (loss) on discontinued operations[2] | **0.13** | — | 0.12 | — | (0.04) | (0.02) | (0.02) | (0.03) |
| Cumulative effect of accounting change[3,4,5] | — | (0.01) | — | — | (0.02) | (0.02) | (3.46) | (3.47) |
| Net income (loss) | **1.79** | 1.25 | 0.47 | 0.50 | 0.13 | (0.04) | (3.39) | (3.22) |
| **Financial Position at end of Period:** | | | | | | | | |
| Total assets | **$12,983** | $ 11,728 | $ 10,579 | $ 9,164 | $ 9,536 | $ 9,536 | $ 9,175 | $ 8,949 |
| Working capital[7] | **2,009** | 3,182 | 2,485 | 3,037 | 2,920 | 2,920 | 2,804 | 2,537 |
| Current ratio[7] | **1.65:1** | 2.40:1 | 2.15:1 | 2.60:1 | 2.45:1 | 2.45:1 | 2.62:1 | 2.36:1 |
| Long-term debt | **1,150** | 1,639 | 1,458 | 1,075 | 1,258 | 1,258 | 1,148 | 851 |
| Debt-to-capital ratio[8] | **16%** | 20% | 22% | 21% | 22% | 22% | 26% | 19% |
| **Other Data[6]:** | | | | | | | | |
| Dividends per share | **$ 0.55** | $ 0.40 | $ 0.34 | $ 0.34 | $ 0.25 | $ 0.13 | $ 0.12 | $ 0.24 |
| Stock price per share: | | | | | | | | |
| High | **$ 70.88** | $ 47.58 | $ 34.62 | $ 19.25 | $ 13.18 | $ 13.18 | $ 16.65 | $ 16.65 |
| Low | **$ 42.75** | $ 27.80 | $ 17.08 | $ 11.54 | $ 6.78 | $ 6.78 | $ 6.51 | $ 6.51 |
| End of period | **$ 69.74** | $ 47.44 | $ 31.92 | $ 18.30 | $ 12.86 | $ 12.86 | $ 9.19 | $ 9.57 |
| Basic shares outstanding | **544.1** | 540.0 | 533.6 | 528.8 | 523.2 | 523.3 | 520.6 | 521.3 |
| Diluted shares outstanding | **555.0** | 551.6 | 545.3 | 538.4 | 523.7 | 524.3 | 526.4 | 525.2 |

See Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations — for information regarding the factors that have affected or may affect the comparability of our business results. In July 2003, Monsanto's board of directors approved a change in the company's fiscal year end from December 31 to August 31. Accordingly, data presented in this report from Jan. 1, 2003, through Aug. 31, 2003, is otherwise known as the transition period. For all periods except the 12 months ended Aug. 31, 2003, and the eight months ended Aug. 31, 2002, the operating results data, earnings (loss) per share data, and financial position data set forth above are derived from Monsanto Company's audited consolidated financial statements. For the 12-month period ended Aug. 31, 2003, and the eight-month period ended Aug. 31, 2002, this data is derived from unaudited consolidated financial statements.

[1] In 2005, Monsanto acquired Channel Bio Corp., and the North American canola seed businesses of Advanta Seeds. In 2005, Monsanto completed three acquisitions: Seminis Inc., Stoneville, and NC+ Hybrids Inc. In 2006 and 2007, ASI acquired several regional seed companies. In 2007, Monsanto acquired Delta and Pine Land Company (DPL) and divested the Stoneville® and NexGen™ cotton seed brands and related business assets. See Note 4 — Business Combinations for further details of these acquisitions and Note 26 — Discontinued Operations for further details of these divestitures.

[2] In 2007, we sold the Stoneville and NexGen businesses as part of the U.S. Department of Justice (DOJ) approval for the acquisition of DPL. In 2005, Monsanto sold substantially all of the environmental technologies businesses. In 2004, Monsanto discontinued the plant-made pharmaceuticals program and finalized the sale of assets associated with the company's European wheat and barley business. Accordingly, these businesses have been presented as discontinued operations in the Statements of Consolidated Operations for all periods presented above. In 2006, Monsanto recorded an additional write-down of $3 million aftertax related to the remaining assets associated with the environmental technologies businesses. See Note 26 — Discontinued Operations for further details of these dispositions.

[3] In 2002, Monsanto adopted Statement of Financial Accounting Standards (SFAS) No. 142, *Goodwill and Other Intangible Assets*. In connection with the adoption of this new accounting standard, Monsanto recognized a transitional goodwill impairment charge of $1.8 billion aftertax effective Jan. 1, 2002.

[4] In 2003, Monsanto adopted SFAS No. 143, *Accounting for Asset Retirement Obligations*. In connection with the adoption of this new accounting standard, Monsanto recorded a cumulative effect of accounting change of $12 million aftertax effective Jan. 1, 2003.

[5] In 2006, Monsanto adopted Financial Accounting Standards Board (FASB) Interpretation No. 47, *Accounting for Conditional Asset Retirement Obligations — an interpretation of FASB Statement No. 143*. In connection with the adoption of this new accounting guidance, Monsanto recorded a cumulative effect of accounting change of $6 million aftertax.

[6] For all periods presented, the share and per share amounts (including stock price) reflect the effect of the two-for-one stock split (in the form of a 100 percent stock dividend) that was completed on July 28, 2006.

[7] Working capital is total current assets less total current liabilities; current ratio represents total current assets divided by total current liabilities.

[8] Debt-to-capital ratio is the sum of short-term and long-term debt, divided by the sum of short-term and long-term debt and shareowners' equity. Fluctuations in our debt-to-capital ratio from December 31 to August 31 were affected by the seasonality of our business.

**ITEM 7.** MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

## OVERVIEW

### Background

Monsanto Company, along with its subsidiaries, is a leading global provider of agricultural products for farmers. Our seeds, biotechnology trait products, and herbicides provide farmers with solutions that improve productivity, reduce the costs of farming, and produce better foods for consumers and better feed for animals.

We manage our business in two segments: Seeds and Genomics, and Agricultural Productivity. Through our Seeds and Genomics segment, we produce leading seed brands, including *DEKALB, Asgrow, D&PL, Deltapine* and *Seminis*, and we develop biotechnology traits that assist farmers in controlling insects and weeds. We also provide other seed companies with genetic material and biotechnology traits for their seed brands. Through our Agricultural Productivity segment, we manufacture *Roundup* brand herbicides and other herbicides and provide lawn-and-garden herbicide products for the residential market and animal agricultural products focused on improving dairy cow productivity. Approximately 43 percent of our total company sales, 36 percent of our Seeds and Genomics segment sales, and 54 percent of our Agricultural Productivity segment sales originated from our legal entities outside the United States during fiscal year 2007.

In the fourth quarter of 2007, we sold our U.S. Stoneville® and NexGen® cotton seed brands and related business assets (divested cotton businesses) as part of the U.S. Department of Justice (DOJ) approval for the acquisition of Delta and Pine Land Company (DPL). In 2005, we sold substantially all of our environmental technologies businesses. As a result, financial data for these businesses have been presented as discontinued operations. The financial statements have been recast and prepared in compliance with the provisions of Statement of Financial Accounting Standards (SFAS) No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* (SFAS 144). Accordingly, for 2007, 2006 and 2005, the Statements of Consolidated Operations have been conformed to this presentation. The divested cotton businesses were previously reported as part of the Seeds and Genomics segment. The environmental technologies businesses were previously reported as part of the Agricultural Productivity segment. See Note 26 — Discontinued Operations — for further details.

This MD&A should be read in conjunction with Monsanto's consolidated financial statements and the accompanying notes. The notes to the consolidated financial statements referred to throughout this MD&A are included in Part II — Item 8 — Financial Statements and Supplementary Data — of this Report on Form 10-K. Unless otherwise indicated, "earnings (loss) per share" and "per share" mean diluted earnings (loss) per share. Unless otherwise noted, all amounts and analyses are based on continuing operations.

### Non-GAAP Financial Measures

MD&A includes financial information prepared in accordance with U.S. generally accepted accounting principles (GAAP), as well as two other financial measures, EBIT and free cash flow, that are considered "non-GAAP financial measures." Generally, a non-GAAP financial measure is a numerical measure of a company's financial performance, financial position or cash flows that excludes (or includes) amounts that are included in (or excluded from) the most directly comparable measure calculated and presented in accordance with GAAP. The presentation of EBIT and free cash flow information is intended to supplement investors' understanding of our operating performance and liquidity. Our EBIT and free cash flow measures may not be comparable to other companies' EBIT and free cash flow measures. Furthermore, these measures are not intended to replace net income (loss), cash flows, financial position, or comprehensive income (loss), as determined in accordance with U.S. GAAP.

EBIT is defined as earnings (loss) before interest and taxes. Earnings (loss) is intended to mean net income (loss) as presented in the Statements of Consolidated Operations under GAAP. EBIT is the primary operating performance measure for our two business segments. We believe that EBIT is useful to investors and management to demonstrate the operational profitability of our segments by excluding interest and taxes, which are generally accounted for across the entire company on a consolidated basis. EBIT is also one of the measures used by Monsanto management to determine resource allocations within the company. See Note 22 — Segment and Geographic Data — for a reconciliation of EBIT to net income (loss) for fiscal years 2007, 2006 and 2005.

We also provide information regarding free cash flow, an important liquidity measure for Monsanto. We define free cash flow as the total of net cash provided or required by operating activities and provided or required by investing activities. We believe that free cash flow is useful to investors and management as a measure of the ability of our business to generate cash. This cash can be used to meet business needs and obligations, to reinvest in the company for future growth, or to return to our shareowners through dividend payments or share repurchases. Free cash flow is also used by management as one of the performance measures in determining incentive compensation. See the "Financial Condition, Liquidity, and Capital Resources — Cash Flow" section of MD&A for a reconciliation of free cash flow to net cash provided by operating activities and net cash required by investing activities on the Statements of Consolidated Cash Flows.

**Executive Summary**

**Discontinued Operations** — As discussed in Note 26 — Discontinued Operations, in conjunction with the DOJ consent decree, we sold our divested cotton businesses for $317 million during fourth quarter 2007. We recorded income of discontinued operations of $71 million aftertax, or $0.13 per share, primarily related to the gain on the sale of the divested cotton businesses which were part of the Seeds and Genomics segment.

**Consolidated Operating Results**, — Net sales in 2007 increased $1.3 billion from 2006. This improvement was a result of a $1.0 billion increase in sales of global corn seed and traits and increased sales of global *Roundup* and other glyphosate-based herbicides sales, which were partially offset by a decline in U.S. soybean seed and trait sales and cotton trait sales in Australia and the United States. Net income in 2007 was $1.79 per share, compared with $1.25 per share in 2006.

The following factors affected the two-year comparison:

2007:

- In 2007, we expensed non-taxdeductible acquired in-process research and development (IPR&D) of $193 million related to acquisitions.
- We recorded income on discontinued operations of $71 million aftertax, or $0.13 per share, in 2007, primarily related to the gain on the sale of the divested cotton businesses.
- A tax benefit of $79 million was recorded in 2007 for several discrete tax adjustments. This benefit is primarily the result of audit settlements, including the conclusion of an Internal Revenue Service (IRS) audit, an ex-U.S. audit, and the resolution of various state income tax matters. We also recorded an additional tax benefit of $33 million in 2007 and $15 million in 2006 for the reversal of a portion of our valuation allowance in Argentina.

2006:

- We adopted SFAS No. 123 (revised 2004), *Share-Based Payments* (SFAS 123R) on Sept. 1, 2005. As a result, the 2006 results included incremental after-tax stock-based compensation expense of $32 million, or $0.06 per share. See Note 16 — Stock-Based Compensation Plans — for additional discussion.
- We recorded a tax charge of $21 million, or $0.04 per share, in the fourth quarter of 2006, in conjunction with our repatriation of $437 million of foreign earnings under the American Jobs Creation Act of 2004.
- We recorded a charge of $3 million aftertax, or $0.01 per share, in 2006 associated with a write-down to fair value of assets of discontinued businesses held for sale.
- We recorded a charge of $6 million aftertax, or $0.01 per share, in 2006 for the cumulative effect of a change in accounting principle as a result of adopting FASB Interpretation (FIN) No. 47, *Accounting for Conditional Asset Retirement Obligations* (FIN 47).

**Financial Condition, Liquidity, and Capital Resources** — In 2007, net cash provided by operating activities was $1,854 million, compared with $1,674 million in 2006. Net cash required by investing activities was $1,911 million in 2007, compared with $625 million in 2006. As a result, our free cash flow, as defined in the "Overview — Non-GAAP Financial Measures" section of MD&A, was a use of cash of $57 million in 2007, compared with a source of cash of $1,049 million in 2006. We used cash for acquisitions of businesses of $1,679 million in 2007, compared with $258 million in 2006. For a more detailed discussion of the factors affecting the free cash flow comparison, see the "Cash Flow" section of the "Financial Condition, Liquidity, and Capital Resources" section in this MD&A.

**Outlook** — We aim to continue to improve our products in order to maintain market leadership and to support near-term performance. We are focused on applying innovation and technology to make our farmer customers more productive and profitable by protecting yields and improving the ways they can produce food, fiber and feed. We use the tools of modern biology to make seeds easier to grow, to allow farmers to do more with fewer resources, and to produce healthier foods for consumers. Our current research-and-development (R&D) strategy and commercial priorities are focused on bringing our farmer customers second-generation traits, on delivering multiple solutions in one seed ("stacking"), and on developing new pipeline products. Our capabilities in biotechnology and breeding research are generating a rich product pipeline that is expected to drive long-term growth. The viability of our product pipeline depends in part on the speed of regulatory approvals globally, and on continued patent and legal rights to offer our products.

We aim to improve and to grow our vegetable and fruit seed business. We have applied our molecular breeding and marker capabilities to our library of vegetable and fruit germplasm. Our purchase of DPL will expand our cotton breeding operation. In the future, we will continue to focus on accelerating the potential growth of these new businesses and executing our business plans.

*Roundup* herbicides remain the market leader. We have increased our average selling prices and experienced increased demand in recent years. We are implementing strategies to meet the future demand for *Roundup*. We are focused on managing the costs associated with our agricultural chemistry business as that sector matures globally. Our selective acetochlor herbicide products face increasing competitive pressures and a declining market, in part because of the rapid penetration of *Roundup Ready* corn in the United States.

We are required to indemnify Pharmacia for Solutia's Assumed Liabilities (defined in Note 21), to the extent that Solutia fails to pay, perform or discharge those liabilities. Prior to and following its filing for bankruptcy protection, Solutia has

disclaimed responsibility for some of Solutia's Assumed Liabilities. In 2005, we recorded a pre-tax charge of $284 million for estimated litigation and environmental costs we expect to incur in connection with Solutia's bankruptcy. As of Aug. 31, 2007, the remaining Solutia-related reserve was $182 million. We believe that the reserve represents the discounted cost that we expect to incur in connection with these litigation and environmental matters. However, our actual costs may differ materially from this estimate. In addition, the reserve may not reflect all potential liabilities that we may incur in connection with Solutia's bankruptcy and does not reflect any insurance reimbursements or other recoveries that we might receive. We also continue to incur legal and other expenses associated with the bankruptcy proceedings. The degree to which we may ultimately be responsible for the particular matters reflected in the reserve or other of Solutia's Assumed Liabilities or Solutia-related expenses is uncertain until the outcome of all matters in the Chapter 11 proceeding are resolved. Additional information about Solutia and other litigation matters and the related risks to our business may be found in Note 21. See the "Outlook" section of MD&A for a more detailed discussion of some of the opportunities and risks we have identified for our business. For additional information related to the outlook for Monsanto, see "Caution Regarding Forward-Looking Statements" above and Part I — Item 1A — Risk Factors of this Form 10-K.

## RESULTS OF OPERATIONS

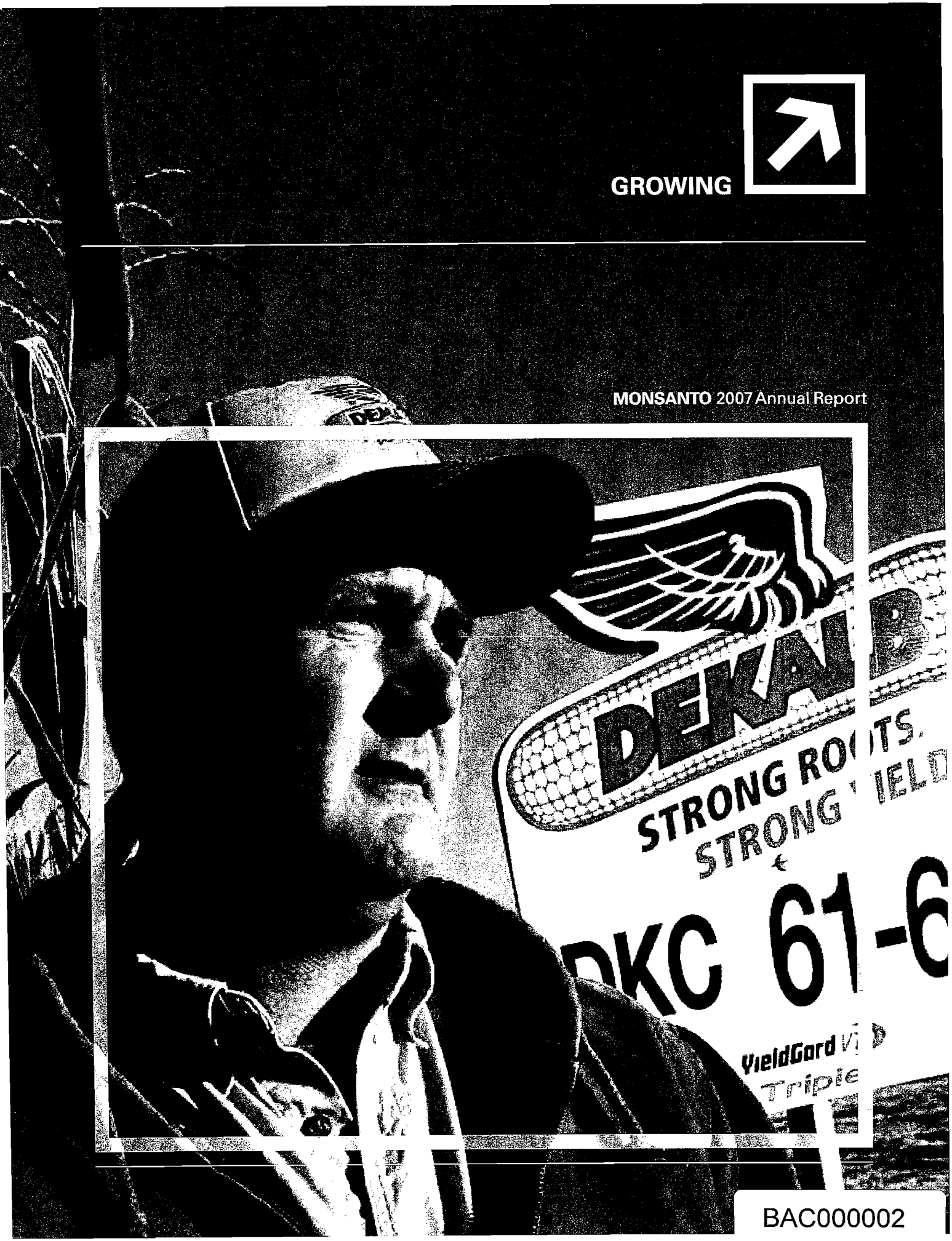
| | Year Ended Aug. 31, | | | % Change | |
|---|---|---|---|---|---|
| (Dollars in millions, except per share amounts) | **2007** | 2006 | 2005 | **2007 vs. 2006** | 2006 vs. 2005 |
| **Net Sales** | **$8,563** | $7,294 | $6,275 | **17%** | 16% |
| **Gross Profit** | **4,286** | 3,519 | 2,995 | **22%** | 17% |
| **Operating Expenses:** | | | | | |
| Selling, general and administrative expenses | **1,895** | 1,638 | 1,404 | **16%** | 17% |
| Research and development expenses | **780** | 710 | 583 | **10%** | 22% |
| Acquired in-process research and development (see Note 4) | **193** | — | 230 | **NM** | NM |
| **Total Operating Expenses** | **2,868** | 2,348 | 2,217 | **22%** | 6% |
| **Income from Operations** | **1,418** | 1,171 | 778 | **21%** | 51% |
| Interest expense | **139** | 134 | 115 | **4%** | 17% |
| Interest income | **(122)** | (55) | (40) | **122%** | 38% |
| Solutia-related expenses (see Note 21) | **40** | 29 | 309 | **38%** | (91)% |
| Other expense — net | **25** | 14 | 79 | **79%** | (82)% |
| Income from Continuing Operations Before Income Taxes and Minority Interest | **1,336** | 1,049 | 315 | **27%** | 233% |
| Income tax provision | **402** | 337 | 104 | **19%** | 224% |
| Minority interest expense | **12** | 17 | 18 | **(29)%** | (6)% |
| **Income from Continuing Operations** | **922** | 695 | 193 | **33%** | 260% |
| **Discontinued Operations (see Note 26):** | | | | | |
| Income (loss) from operations of discontinued businesses | **43** | 1 | (25) | **NM** | NM |
| Income tax provision (benefit) | **(28)** | 1 | (87) | **NM** | NM |
| Income on Discontinued Operations | **71** | — | 62 | **NM** | NM |
| **Income Before Cumulative Effect of Accounting Change** | **993** | 695 | 255 | **43%** | 173% |
| Cumulative Effect of a Change in Accounting Principle, Net of Tax Benefit (see Note 2) | **—** | (6) | — | **NM** | NM |
| **Net Income** | **$ 993** | $ 689 | $ 255 | **44%** | 170% |
| **Diluted Earnings per Share:** | | | | | |
| Income from continuing operations | **$ 1.66** | $ 1.26 | $ 0.35 | **32%** | 260% |
| Income on discontinued operations | **0.13** | — | 0.12 | **NM** | NM |
| Cumulative effect of accounting change | **—** | (0.01) | — | **NM** | NM |
| Net Income | **$ 1.79** | $ 1.25 | $ 0.47 | **43%** | 166% |

NM = Not Meaningful

| | | | |
|---|---|---|---|
| **Effective Tax Rate (continuing operations)** | **30%** | 32% | 33% |
| **Comparison as a Percent of Net Sales:** | | | |
| Gross profit | **50%** | 48% | 48% |
| Selling, general and administrative expenses | **22%** | 22% | 22% |
| Research and development expenses (excluding acquired IPR&D) | **9%** | 10% | 9% |
| Total operating expenses | **33%** | 32% | 35% |
| Income from continuing operations before income taxes and minority interest expense | **16%** | 14% | 5% |
| Net income | **12%** | 9% | 4% |

GROWING

**MONSANTO** 2007 Annual Report

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**MONSANTO** 2007 Annual Report


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| Growing Innovation | 15 |
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| Financial Section | 23 |
| Shareowner Information | Inside back cover |


**About the cover**
In 2007, Michael Heineman planted Monsanto's *DEKALB* corn seed and triple-trait products because they deliver a higher-yield potential to his farm and add value to his bottom line.

## GROWING OPPORTUNITIES

More and more farmers throughout the world are using Monsanto's seed and trait products to increase yields on their farms. The strong adoption of our seed products and growing acceptance of our biotechnology traits position Monsanto for expanded growth across its crop portfolio. Turn to page 7 to learn more about the growing opportunities in Monsanto's seeds and traits business.

## GROWING INNOVATION

A growing population, finite resources and evolving consumer demands require Monsanto to relentlessly discover and deliver new products for farmers. Our work in research and development (R&D) has us poised to deliver a new wave of breakthrough technologies to farmers well into the next decade. Turn to page 15 to learn more about how Monsanto's growing innovation is translating into R&D results from discovery to the field.

# GROWING VALUE

DEAR SHAREOWNERS,

By every measure, our 2007 fiscal year was an extraordinary year. We achieved record results, completed several strategic acquisitions, delivered the largest dividend increase in our history, and initiated several new collaborations. These achievements establish a strong foundation for continued earnings growth.

This was also a year where our focus on satisfying our customers was evident. We delivered products that yielded real value for farmers and we returned real value to our shareowners.

Among our focus crops – corn, cotton, oilseeds and vegetables – we have strong balance and potential for new growth. Our portfolio balance, combined with the global nature of our business, insulates us from the natural cyclicality of agriculture. And, as importantly, we believe our investment in new technologies anticipates where agriculture is heading.

To support our world's growing food, feed, fiber, and fuel needs, we remain focused on increasing the yield potential of seeds while also delivering valuable technologies that can protect or enhance each season's harvest. This approach puts us on a path to meet the key demands facing agriculture. We believe it also provides us with a competitive advantage, where we can expand the growth opportunities through continued industry leadership.

Backed by the growing demand for our seed and trait products, our business is poised for significant growth between now and the end of 2012. We believe we can effectively double our gross profit with the businesses we have today. This growth is expected to result in an ongoing earnings per share (EPS) growth rate in the mid-to-high teens over the next five years.

As underscored in our report to you last year, our near-term growth will continue to be driven by six key factors. These factors now include: our U.S. and international corn business; our soybean business; our cotton business; our Seminis business; and our research and development (R&D) pipeline.

We've structured this year's report in a way that will allow you to gain a better understanding of these opportunities while also tying these growth drivers back to the growing value we're providing to our farmer customers, and to you, our shareowners. We hope this approach provides you with a valuable guide to our business and its potential.

### Growing Value for Our Farmer Customers

Around the world, from the United States to Europe to India, millions of farmers rewarded our company for the intrinsic value that our products are bringing to their farms and their lives. Their support of our business is both a testament to the potential of our portfolio today, and to the investment we're making for their future.

## Financial Highlights

In the 2007 fiscal year, Monsanto realized record sales for a fourth consecutive year.

This year, Monsanto also completed several strategic acquisitions and rewarded our shareowners with the largest dividend increase in the company's history.

| Years ended Aug. 31 (in millions, except per share amounts) | 2005 | 2006 | 2007 | % Change 2006-2007 |
|---|---|---|---|---|
| **Operating Results** | | | | |
| Net Sales | $ 6,275 | $ 7,294 | $ 8,563 | 17% |
| EBIT[1] | $ 347 | $ 1,095 | $ 1,376 | 26% |
| Net Income | $ 255 | $ 689 | $ 993 | 44% |
| Diluted Earnings Per Share[1] | $ 0.47 | $ 1.25 | $ 1.79 | 43% |
| **Other Selected Data** | | | | |
| Free Cash Flow[3] | $ 70 | $ 1,049 | $ (57) | NM |
| Capital Expenditures | $ 281 | $ 370 | $ 509 | 38% |
| Depreciation and Amortization | $ 488 | $ 519 | $ 527 | 2% |
| Diluted Shares Outstanding[2] | 545.3 | 551.6 | 555.0 | NM |

See page 22 for footnotes 1-3 on pages 2 and 3
NM = Not meaningful

Agriculture is a complex business, but we remain focused on the simplicity of serving farmers and delivering increases in yield. Our focus is paying off.

Our results this year were largely driven by our seeds and traits business, specifically our global corn business. Strong adoption of our corn seed and trait products propelled us to record sales results for a fourth consecutive year. Backed by this strong adoption, we delivered ongoing EPS of $2.00 for fiscal year 2007. This is an increase of 54 percent compared with fiscal year 2006 results, and marks our third consecutive year of 25-percent-plus ongoing EPS growth. This has simply been a remarkable period for expansion of our seeds and traits franchise. The yield and quality of the products delivered by our people resulted in greater demand for our products.

Equally impressive, we saw sales of our corn seed and traits business rise to $2.8 billion, a more than $1 billion increase over the previous year. Farmers increasingly chose Monsanto-bred corn genetics, as we saw strong share gains around the world in our corn seed business. We realized share growth in all key corn-growing regions except Brazil in 2007 (see chart at right).

Today, Monsanto researchers are actively applying the power of our breeding program across all of our crop platforms. Simply put, farmers select performance and yield, and that's what we're focused on delivering.

The growth in our global corn seed business serves as the backdrop for the emergence of our traits business internationally. We saw strong adoption of our trait technologies in key markets including the United States, Brazil, India, and even the European Union. Global use of Monsanto traits increased 13 percent to more than 246 million acres in 2007. By 2010, we believe the penetration of our traits outside the United States could be nearly three times what it was in 2007.

**Seeding Corn Growth Globally[1]**

| Region | FY06 | FY07 | Change ('06-'07) |
|---|---|---|---|
| U.S. | 19% | 23% | +4 |
| EU27 | 12% | 13% | +1 |
| Brazil | 34% | 30% | -4 |
| Argentina | 35% | 40% | +5 |
| India | 35% | 39% | +4 |

(1) Share is for sales of hybrid corn seed only

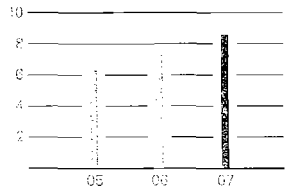
This year, we were granted key regulatory approvals which will pave the way for our first-generation corn products in Brazil and Argentina, as well as our first High-Impact Technology (HIT) project, *Roundup RReady2Yield* soybeans, in the United States. The news out of Latin America is encouraging and underscores the long-awaited opportunity in these markets. These approvals pave the way for new growth opportunities for our business leading up to the turn of the decade and beyond.

In addition to these approvals, this year we continued to lay a strong foundation for meaningful collaborations. These collaborations offer us a way to both accelerate and broaden our pipeline. It's a new path and while it's still early days, we believe these new opportunities are important for future growth and, more importantly, we believe they further reinforce that Monsanto is a preferred partner of choice for innovation in agriculture.

For example, our collaborations with BASF and Dow AgroSciences LLC are focused on both discovering and delivering new innovative products to the farm through our pipeline and marketing efforts. We're excited about the potential of these collaborations as well as our multiple collaborations with large and small technology companies

**Net Sales**

In billions of dollars for years ended Aug. 31

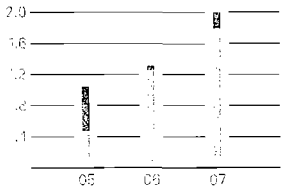



Backed by higher sales of our seed and trait products, Monsanto realized record net sales in 2007.

**Earnings Per Share**

Per Share ■ Ongoing

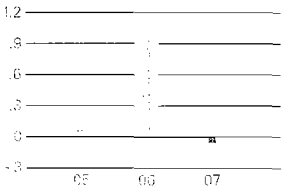
In dollars for years ended Aug. 31




In 2007, Monsanto realized a greater than 25 percent increase in ongoing EPS for a third consecutive year.

**Free Cash Flow**

In billions of dollars for years ended Aug. 31




Higher spending on strategic acquisitions and higher net income resulted in a use of free cash in 2007.

## Growing Value for Our Shareowners

While we continue to work hard to earn the farmer's business each and every season, we remain focused on delivering on the commitments we make to our shareowners. We're focused on continuing to earn your trust and investment in our company.

This year, a substantial portion of our free cash was used to finance strategic acquisitions including Delta and Pine Land, one of the world's leading cotton seed companies, as well as several acquisitions that will bolster our American Seeds Inc. family of U.S. regional seed brands.

In 2007, we also completed several international acquisitions. Our acquisition of Agroeste in Brazil should support our ability to breed a better seed product for a key corn-growing region, while our investment in the International Seeds Group is expected to bolster our fruits-and-vegetables portfolio.

In addition to these acquisitions, we committed up to $610 million through 2009 in capital expenditures in our U.S. corn manufacturing facilities. This investment will help us meet the anticipated demand for our higher-yielding corn seed products. And we'll continue to make major investments in our R&D program including investing approximately 10 percent of our annual sales into R&D in fiscal year 2008. These investments are an important part of preserving and extending our innovative leadership in agriculture. They are also an indication of our commitment and confidence to future growth.

At the same time, we continue to actively return value to shareowners via dividends and share repurchases.

In 2007, we returned approximately $258 million in cash to shareowners through dividends. We also raised the dividend twice this year including by 25 percent in December and by 40 percent in August. Our August dividend approval represents the largest increase in the history of our company. Additionally, we continue to repurchase shares. To date, we've repurchased $311 million in shares through the first 22 months of our current four-year, $800 million repurchase program.

By the end of 2012, we believe the free cash flow generation of our business, exclusive of acquisitions, will be in the range of $2 billion to $2.2 billion. We plan to continue to use this free cash to repurchase shares, and, as we have historically, we'll continue to review the return of free cash to shareowners through dividends. This growth in free cash would also give us greater flexibility for strategic acquisitions and technology investments for future growth.

## Focused on the Future

By all accounts, this was one of the most exciting years of my tenure, but I realize that we have a lot left to achieve. Performance in agriculture is judged one year at a time. Our current business, combined with our promising pipeline, is poised to deliver valuable new innovations that can help support our world's growing food, feed, fiber and fuel needs. This is more than just an aspiration; it is a commitment that Monsanto employees around the world work hard to deliver every day. We are focused on growing value for farmers and growing value for our shareowners.

On behalf of every one of us at Monsanto, thank you for your investment in our company, and for your commitment to agriculture and its future.

Hugh Grant
Chairman, President and
Chief Executive Officer

Oct. 26, 2007

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# News

## PPG's first quarter sales increase 41 percent, setting all-time record

SigmaKalon acquisition, global presence bolster growth despite difficult U.S. economy

PITTSBURGH, April 17, 2008 – PPG Industries (NYSE:PPG) today reported record sales for the first quarter of $3.7 billion, surpassing the prior year's first quarter results by 41 percent. First quarter net income was $100 million, or 61 cents per share, comprising net income from continuing operations of $87 million, or 53 cents per share, and income from discontinued operations, net of tax, of $13 million, or 8 cents per share.

Reported net income from continuing operations includes non-recurring acquisition-related costs of $89 million aftertax, or 54 cents per share, stemming from the company's Jan. 2, 2008, acquisition of the SigmaKalon Group. Adjusted net income from continuing operations was $176 million, or $1.07 per share, as detailed below. The company's tax rate on income from continuing operations for the quarter was 30 percent.

PPG's sales for the first quarter 2007 were $2.6 billion. First quarter net income was $194 million, or $1.17 per share, comprising net income from continuing operations of $176 million, or $1.06 per share, and income from discontinued operations, net of tax, of $18 million, or 11 cents per share. Net income from continuing operations included an aftertax charge of $5 million, or 3 cents per share, to reflect the net increase in the value of the company's obligation under its proposed asbestos settlement agreement, which is subject to pending court proceedings. Adjusted net income from continuing operations was $181 million, or $1.09 per share. The company's tax rate on income from continuing operations was 23 percent.

"We are very pleased to have delivered solid organic growth despite a slowdown in the overall U.S. economy," said Charles E. Bunch, PPG chairman and chief executive officer. "We achieved this growth due, in part, to our prior investments in coatings, optical products and emerging regions, which have strengthened our overall portfolio. In addition, the recent acquisition of SigmaKalon contributed to our record first quarter results. This business, which we are successfully integrating, has exceeded our expectations."

Bunch noted that a key measure of the company's growth is its total business segment earnings, which increased 17 percent.

"Looking ahead, while we will likely continue to experience a difficult North American economy, we remain confident in our ability to grow both sales and earnings. This is due to our leading products and technologies, and because we have significantly broadened our geographic presence. In fact, the United States and Canada now account for only about 45 percent of our total sales," Bunch said. "We are focused on improving our already strong cash generation, and we intend to use this cash to continue to grow earnings, initially through paying down debt."

Performance Coatings segment sales in the first quarter increased $259 million, or 30 percent, as a result of the SigmaKalon and Barloworld acquisitions, the positive impact of stronger foreign currencies, increased selling prices and improved volumes. Segment earnings were comparable to last year, as favorable manufacturing costs and currency were offset by growth-related expenses. Stronger price gains were offset by inflation in raw materials, transportation and other costs.

Industrial Coatings segment sales for the quarter increased $189 million, or 22 percent, as a result of the SigmaKalon acquisition, stronger foreign currencies and improved volumes in all businesses. The segment experienced volume declines in North America that were more than offset by improved volumes in all other regions. Segment earnings were flat. The positive impact of higher sales volumes, stronger foreign currencies, acquisitions and lower manufacturing costs were offset by inflation and higher costs to support growth.

Architectural Coatings EMEA (Europe, Middle East and Africa) is a newly formed segment comprising about 70 percent of acquired SigmaKalon sales. Segment sales for the quarter were $536 million. Historically, first quarter sales have represented about 20 percent of the annual sales of this business, and the level in 2008 reflects low- to mid-single-digit growth year over year, excluding the favorable impact of currency. Segment earnings were $9 million, which included most of the $20 million of amortization expense related to acquired intangible assets.

Optical and Specialty Materials segment sales for the quarter increased $44 million, or 18 percent, as a result of improved volumes, particularly in the optical products business. Stronger foreign currencies and increased selling prices also added to growth. Segment earnings were up $11 million due to higher sales volumes and despite higher advertising expenses related in part to the launch of Transitions Optical's next-generation lens product.

Commodity Chemicals segment sales for the quarter increased $52 million, or 14 percent, due primarily to increased selling prices. Segment earnings improved by $24 million, as higher selling prices and lower manufacturing costs more than offset the impact of inflation.

Glass segment sales increased $8 million, or 3 percent, based on the positive impact of stronger foreign currencies and increased selling prices. These were slightly moderated by lower sales volumes. Segment earnings improved by $13 million due to lower manufacturing costs. The absence of a prior year write-off of an investment in a fiber glass joint venture offset the negative impact of inflation.

**About PPG**
Pittsburgh-based PPG is a global supplier of paints, coatings, chemicals, optical products, specialty materials, glass and fiber glass. The company has more than 150 manufacturing facilities and equity affiliates and operates in more than 60 countries. PPG's sales in 2007 were $11.2 billion. SigmaKalon, a worldwide coatings producer based in Uithoorn, Netherlands, that PPG acquired Jan. 2, 2008, had 2007 sales of $2.9 billion. PPG shares are traded on the New York Stock Exchange (symbol: PPG). For more information, visit www.ppg.com.

**Additional Information**
Financial commentary from William H. Hernandez, senior vice president, finance, and chief financial officer, regarding first quarter 2008 results may be heard by telephone at 412-434-2816 until 5 p.m. ET on Friday, April 25. The commentary will also be available on PPG's Web site (www.ppg.com) at Investor Center, 1st Qtr Financial Commentary. The commentary may

include forward-looking statements or other material information. Additional information, including historical performance, is also available at Investor Center on PPG's Web site.

**Forward-Looking Statements**
Statements in this news release relating to matters that are not historical facts are forward-looking statements reflecting the company's current view with respect to future events or objectives and financial or operational performance or results. These matters involve risks and uncertainties as discussed in PPG Industries' periodic reports on Form 10-K and Form 10-Q, and its current reports on Form 8-K, filed with the Securities and Exchange Commission. Accordingly, many factors could cause actual results to differ materially from the company's forward-looking statements.

Among these factors are increasing price and product competition by foreign and domestic competitors, fluctuations in cost and availability of raw materials and energy, the ability to maintain favorable supplier relationships and arrangements, difficulties in integrating acquired businesses and achieving expected synergies there from, economic and political conditions in international markets, foreign exchange rates and fluctuations in such rates, the impact of environmental regulations, unexpected business disruptions and the unpredictability of possible future litigation, including litigation that could result if the asbestos settlement discussed in PPG's filings with the SEC does not become effective. However, it is not possible to predict or identify all such factors. Consequently, while the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements.

Consequences of material differences in results as compared with those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties and similar risks, any of which could have a material adverse effect on PPG's consolidated financial condition, operations or liquidity.

**Discontinued Operations**
In the third quarter 2007, PPG signed agreements to sell its automotive OEM glass and automotive replacement glass and services businesses, now collectively called the automotive glass and services (AG&S) businesses, as well as its fine chemicals business. The sale of the fine chemicals business closed in the fourth quarter 2007. The contract the company had entered into to sell its AG&S businesses has been terminated. The company intends to sell the AG&S businesses in 2008. As a result of these actions, historical financial results for the fine chemicals and AG&S businesses are reported as discontinued operations.

**Regulation G Reconciliation**
PPG Industries believes investors' understanding of the company's operating performance is enhanced by the disclosure of net income and earnings per share adjusted for nonrecurring charges and earnings, which PPG's management considers useful in providing insight into the company's ongoing operating performance because it excludes the impact of items that cannot reasonably be expected to recur on a quarterly basis. Net income and earnings per share adjusted for these nonrecurring items are not recognized financial measures determined in accordance with United States generally accepted accounting principles ("GAAP") and should not be considered a substitute for net income or earnings per share or other financial measures as computed in accordance with GAAP. In addition, net income and earnings per share adjusted for the nonrecurring items may not be comparable to similarly titled measures as

reported by other companies. The following is a reconciliation of reported and adjusted net income and earnings per share for the first quarter 2008 and 2007:

**Regulation G Reconciliation – Results From Operations**
($ in millions, except per-share amounts)

| | Continuing | | Discontinued | | Total | |
|---|---|---|---|---|---|---|
| **First Quarter – 2008** | $ | EPS | $ | EPS | $ | EPS |
| Net Income as Reported | $ 87 | $0.53 | $13 | $0.08 | $100 | $0.61 |
| Acquisition-Related Costs | 89 | 0.54 | - | - | 89 | 0.54 |
| Adjusted Net Income | $176 | $1.07 | $13 | $0.08 | $189 | $1.15 |

| | Continuing | | Discontinued | | Total | |
|---|---|---|---|---|---|---|
| **First Quarter – 2007** | $ | EPS | $ | EPS | $ | EPS |
| Net Income as Reported | $176 | $1.06 | $18 | $0.11 | $194 | $1.17 |
| Asbestos Settlement – Net | 5 | 0.03 | - | - | 5 | 0.03 |
| Adjusted Net Income | $181 | $1.09 | $18 | $0.11 | $199 | $1.20 |

–080417Earnings–

# Bayer CropScience milestones

**1-20** 21-35 › »

**2007**
Tembotrione - Bayer CropScience receives first regulatory approval for its new active ingredient tembotrione in Austria (Laudis®)

**2007**
Acquisition of Stoneville Pedigreed Seed Co. (Cotton seed)

**2007**
Flubendamide - New insecticidal active ingredient Flubendiamide granted regulatory approval in major Asian markets

**2006**
Two acquisitions advance Bayer CropScience's US cotton platform: Assets of California Planting Cotton Seed (CPCSD), Bakerfield, California. Assets of Reliance Genetics, Harlington Texas

**2006**
Bayer CropScience acquires rights to FMC Corporation´s insecticides discovery pipeline.

**2006**
O-Tec® - New formulation technology from Bayer CropScience for enhanced plant protection.

**2005**
Fluopicolide - first registrations for the new downy mildew fungicide fluopicolide in the UK and China

**2005**
Acquisition of Associated Farmers Delinting, Littlefield, Texas

**2005**
Odesi® - Launch of an innovative formulation technology for herbicides and insecticides based on oil dispersion launched.

**2004**
Inauguration of the new plant biotechnology innovation center in Gent, Belgium.

**2004**
Prothioconazole – an innovative fungicide successfully launched under the brand name Proline®.

**2004**
Acquisition of Crompton Corporation's 50% holding in the Gustafson seed treatment company in order to achieve full ownership.

**2003**
Clothianidin – a new insecticidal seed treatment compound launched under the brand name Poncho®.

**2002**
Bayer CropScience formed through Bayer's acquisition of Aventis CropScience.

**2001**
Mikado® (sulcotrione) herbicide and Flint® (trifloxystrobin) fungicide line acquired by Bayer Crop Protection.

**2000**
Aventis CropScience formed through merger of AgrEvo and Rhône-Poulenc Agro.

**1999**
Proagro, based in Gurgaon (India), acquired by AgrEvo.

**1996**
Plant Genetic Systems (PGS) research center in Gent (Belgium) acquired by AgrEvo.

**1995**
LibertyLink® system (glufosinate selective) registered for oilseed rape (canola) in Canada.

**1994**
Hoechst (60%) and Schering (40%) form AgrEvo, integrating the crop protection and pest control business of Roussel Uclaf into the new venture.

**1-20** 21-35 › »

[ last update: Friday, May 16, 2008 ]

**LINKS**

If you would like to know more about the history of the Bayer AG, click on the following link » more

BAC000004

# Bayer CropScience milestones

« ‹ 1-20 **21-35**

**1991**
Imidacloprid insecticide launched by Bayer under the brand names Confidor® and Gaucho®.

**1989**
First field trials with genetically modified tobacco conducted in France.

**1988**
Safener technology developed in Frankfurt.

**1988**
Fungicide tebuconazole launched by Bayer under the brand name Folicur®.

**1986**
Agricultural Division of Union Carbide, Research Triangle Park, NC (USA) acquired by Rhône-Poulenc.

**1986**
Hoechst acquires Nunza vegetable seeds, Haelen (Netherlands), today a subsidiary of Bayer CropScience.

**1979**
Start of construction of the Agricultural Center in Monheim (Germany), today Bayer CropScience's headquarters.

**1968**
Hoechst acquires 40% in Roussel Uclaf/Procida, raising its participation to a majority stake in 1978 and to 100% in 1997.

**1951**
First systemic insecticide Systox™ (demeton) launched by Bayer.

**1924**
Bayer Crop Protection research department established.

**1895**
SCUR (Société Chimique des Usines du Rhône) founded in Lyon (France).

**1893**
World's first synthetic insecticide, antinonnin, launched by Bayer.

**1893**
Farbwerke Meister, Lucius & Brüning, Höchst (Germany) founded.

**1863**
"Friedr. Bayer et comp." founded by Friedrich Bayer and Johann Friedrich Weskott, Wuppertal (Germany).

**1851**
"Green Pharmacy" founded by Ernst Schering, Berlin (Germany).

« ‹ 1-20 **21-35**

[ last update: Friday, May 16, 2008 ]

**LINKS**

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# Key figures

**Bayer CropScience is one of the leading partners for the production of quality food, feed and fiber to meet the global challenges of tomorrow.**

Headquartered in Monheim, Germany, Bayer CropScience is a global provider of crop solutions, products and services, and is one of the leading companies in the key segments of the worldwide agrochemical markets.

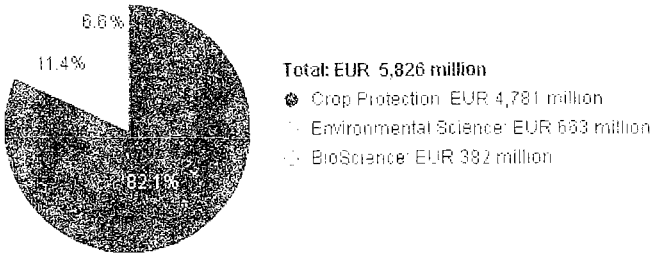
The three business groups – Crop Protection, BioScience and Environmental Science – meet the needs of different markets and are highly complementary.

Bayer CropScience is a customer oriented company, committed to a partnership approach, through products and services that provide clear benefits to our customers. We are an innovation leader and are determined to build our growth on innovation.

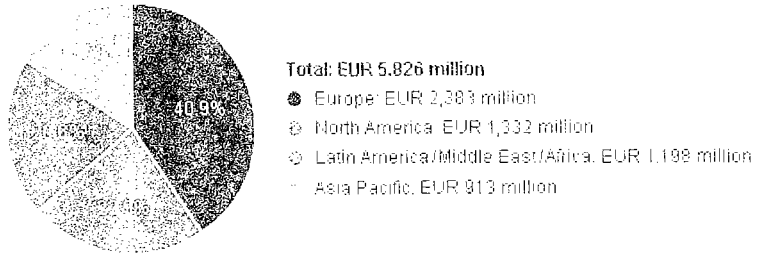
**Key figures 2007**

| | |
|---|---|
| Sales | EUR 5,826 million |
| EBITDA | EUR 1,204 million |
| EBITDA before special items | EUR 1,324 million |
| EBITDA-margin before special items | 22.7 % |
| EBIT | EUR 656 million |
| EBIT before special items | EUR 786 million |
| Gross cash flow | EUR 961 million |
| Net cash flow | EUR 1,40 million |
| Employees at year end | 17,800 |
| R&D investment | EUR 637 million |

**Sales 2007 by business**




**Sales 2007 by region***




* split based on definition of Bayer Group reporting

**Top10 products 2007**

| Active Ingredient | Major Brands | Application | Sales in EUR million |
|---|---|---|---|
| Imidacloprid | Confidor®, Admire®, Gaucho®, Merit® | Insecticide, Seed Treatment, Environmental Science | 556 |
| Trifloxystrobin | Flint®, Stratego®, Sphere® | Fungicide | 243 |
| Glufosinate | Basta®, Liberty® | Herbicide | 241 |
| Clothianidin | Poncho® | Seed Treatment | 237 |
| Tebuconazole | Folicur®, Raxil® | Fungicide, Seed Treatment | 235 |
| Mesosulfuron-methyl | Atlantis® | Herbicide | 207 |
| Fenoxaprop-P-ethyl | Puma® | Herbicide | 187 |

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| | | | |
|---|---|---|---|
| Deltamethrin | Decis®, K-Othrine® | Insecticide, Environmental Science | 178 |
| Prothioconazol | Proline® | Fungicide | 175 |
| Ethofumesate/PMP/ DMP | Betanal® | Herbicide | 127 |

[ last update: Friday, May 16, 2008 ]

# Leadership for success

**Executive Committee**

The role of the Bayer CropScience Executive Committee is to successfully steer our global business activities through effective sharing of responsibilities. The Executive Committee is made up of the heads of the five global functions: Research, Development, Industrial Operations, Business Planning & Administration and Portfolio Management as well as the heads of the business operations units (four regional crop protection units and two units responsible for Environmental Science and BioScience).

**Members of the Executive Committee**

**Prof. Dr. Dr. h.c. Friedrich Berschauer**
Chairman of the Board of Management responsible for: Business Operations Units Communications and Human Resources
» Curriculum Vitae

**William Buckner**
Head of Crop Protection North Amercia
» Curriculum Vitae

**Dr. Pascal Housset**
Head of the Business Operations Unit Environmental Science
» Curriculum Vitae

**Dr. Alexander Klausener**
Head of Research
» Curriculum Vitae

**Bernd Naaf**
Head of Crop Protection Region Asia Pacific
» Curriculum Vitae

**Dr. Franz-Josef Placke**
Head of Development
» Curriculum Vitae

**Jacques du Puy**
Head of Crop Protection Europe & TAMECIS
» Curriculum Vitae

TAMECIS = Turkey, Africa, Middle East and Commonwealth of Independent States

BAC000006

**Marc Reichardt**
Head of Crop Protection Latin America
» Curriculum Vitae

**Dr. Rüdiger Scheitza**
Member of the Board of Management and Head of Global Portfolio Management, Labor Director
» Curriculum Vitae

**Dr. Joachim Schneider**
Head of the Business Operations Unit BioScience
» Curriculum Vitae

**Dr. Dirk Suwelack**
Member of the Board of Management and Head of Business, Planning & Administration
» Curriculum Vitae

**Dr. Wolfgang Welter**
Member of the Board of Management and Head of Industrial Operations & QHSE
» Curriculum Vitae

QHSE = Quality, Health, Safety and Environment

**Members of the Board of Management**
Our company's Board of Management is heading the worldwide Bayer CropScience group. It manages the company with worldwide responsibility for economic success and development of the crop science business. The Board develops the framework for the activities of the organizational units with the aim to consistently increase corporate value and meet the Bayer CropScience targets.

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[ last update: Friday, May 30, 2008 ]

LINKS

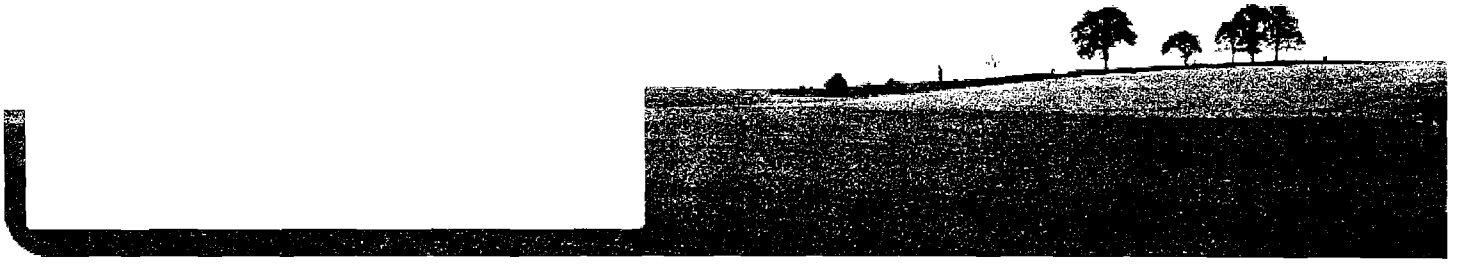
**Executive Committee**
Supervisory Board

# Bayer CropScience US



## Breadcrumb Path





## Need help finding a product?

Find the products that solve your pest problems. Enter your ZIP code to begin.

Submit

Continue without entering a ZIP code

## About BCSUS

Research Triangle Park, NC, is the business headquarters of the company's NAFTA Region. Kansas City, MO, is the company's core technology center. The global headquarters of Bayer CropScience is located in Monheim, Germany.


Contact us at:
**Bayer CropScience**
2 T.W. Alexander Drive
Research Triangle Park, NC 27709

1-866-992-2937


BAC000007

# Search

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The crop center has news articles, trial data and more about crops related to products.

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# Bayer Rewards & Programs

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# William Buckner - Head of Crop Protection North America

William Buckner has been appointed to the Executive Committee of Bayer CropScience as Head of the Business Operations unit Crop Protection North America, effective April 1, 2006.

William Buckner was born in Mexico, Missouri in 1956. After obtaining his Bachelor of Science degree in Agricultural Economics from the University of Missouri-Columbia in 1979, he joined USS Agricultural Chemicals, a subsidiary of United States Steel Corporation, as a Retail Sales Representative, in Centralia, Missouri. In 1980, he joined Commerce BankShares for 4 years. From 1984 to 1993, he held various positions with Pitman-Moore, Inc., Chicago, Illinois, before becoming National Sales Manager. In 1993 he joined Bayer as a Marketing Executive in the Companion Animal Heath business in Kansas City, Kansas. He moved to Monheim, Germany, in 1996, where he worked for the Animal Health Business Group as a Business Development Manager before starting his new position as Vice President / General Manager of Bayer's Canadian Agricultural business in Toronto, Ontario in 1998. Buckner was appointed President/CEO of Bayer CropScience, Inc, in Calgary, Alberta, in 2002. He relocated to Research Triangle Park, North Carolina as Senior Vice President of Commercial Operations for Bayer CropScience, LLC in 2004 and assumed his current position as Country Head for the U.S. crop protection business in early 2005. He is a member of the CropLife America Board of Directors and Executive Committee.

William Buckner is married and has four children.

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[ last update: Friday, May 30, 2008 ]

**CURRICULUM**

Prof. Dr. Dr. h.c. Friedrich Berschauer

William Buckner

Dr. Pascal Housset

Dr. Alexander Klausener

Bernd Naaf

Dr. Franz-Josef Placke

Jacques du Puy

Marc Reichardt

Dr. Rüdiger Scheitza

Dr. Joachim Schneider

Dr. Dirk Suwelack

Dr. Wolfgang Welter

BAC000008

CLEMSON UNIVERSITY
Pesticide Information Program

# Links to Individual Pesticide Company Web Sites



*All pesticide labels accessed or posted on this web page are for reference purposes only. These labels may not be copied or otherwised used for any legal distribution or use of a pesticide. Pesticide dealers, distributors, consultants and users are legally bound to adhere to pesticide labels that are attached or affixed to pesticide containers by the pesticide producer. Any relabeling of pesticide containers must be performed by the pesticide producer or registrant, or by their designated representatives. Use of trade names in this publication/document is solely for identification. No endorsement of the products named is implied by the Clemson University Cooperative Extension Service nor is any discrimination intended to the exclusion of similar products not named.*

## Selected individual company web sites

Individual company sites have product information and often have labels and MSDSs on them. In some instances they have "What's New" pages and news releases that provide information on new products and formulations, new registrations, discontinued products or label deletions, product transfers/sales to other companies, etc.

Some sites have direct assistance with discontinued products, if not an e-mail address and phone number for contacting the company with product questions. This is useful when trying to properly dispose of unwanted pesticides.

Back to top

**Quick-Finder: Pesticide manufacturers listed in alphabetical order:**

A - B - C - D - E - F - G - H - I - J - K - L - M - N - O - P - Q - R - S - T - U - V - W - X - Y - Z

1. **Abbott Laboratories** - sold their Agricultural Products Division to Sumitomo Chemical
2. **Adapco** - mosquito control products. Labels and MSDS.
3. **AgrEvo United States (Nor-Am Chemical Corp.)** due to the merger of Rhone-Poulenc and Hoechst, AgrEvo became Aventis CropScience, which has since been sold to Bayer and is now **Bayer CropScience**
4. **AGSCO** >> Product Information Guide
5. **Albemarle Corp.** >> Agricultural Chemistry
6. **American Cyanamid** agricultural products business of American Home Products Corporation was taken over by **BASF Agricultural Products and Nutrition**
7. **AMVAC Chemical Corporation**
8. **Astra-Zeneca** >> Pharmaceuticals (See Zeneca Ag Products or Zeneca Professional Products)
9. **Aventis** has sold its Aventis CropScience products division to Bayer Corp. and is now called **Bayer CropScience**. Aventis still maintains its pharmaceutical products division.

BAC000009

10. **BASF Professional Turf and Ornamentals Facts**>> Click on Labels/MSDS
11. **BASF Agricultural Products and Nutrition** - (formerly Sandoz Agro, Inc.) no labels available on this web site.
12. **BASF Professional Vegetation Management** - includes Forestry Products Labels/MSDS section
13. **B&G Chemicals & Equipment Co. Inc.**
14. **Bayer CropScience** >> click on Labels/MSDS at the top of the page
15. **Bayer Advanced** - Down-loadable product labels for Garden, Lawn, Home products.
16. **Bell Laboratories** (Rodenticides) >> Products >> Rodenticides or Click on MSDS or Specimen Labels in the upper right hand of the screen
17. **BioSafe Systems** - click on the product, then go to labels or MSDS.
18. **Bonide** (Home pest control products) >> Labels or MSDS

**Return to Quick Finder**

19. **CB Professional Products** insect control products
20. **Cerexagri** - formerly Elf Atochem, and a subsidiary of ATOFINA Chemicals.
21. **Certis USA** (formerly **Thermo Trilogy Corporation**) - Producers of B.t. insecticides, neem insecticides, beneficial viruses, beneficial nematodes and pheromones.
22. **Cheminova** >> Insecticides or Herbicides or Fungicides
23. **Clarke Environmental Mosquito Control, Inc.** >> Products
24. **W.A. Cleary Chemical Corp.** - Specialty chemical products. Hort, turf, PCO. Click on the area (hort, turf, pco) then click on the type of pesticide. Each product has a link to its label and msds.
25. **Cardinal Professional Products** - Cytec ECO2FUME® is a stored product fumigant containing phosphine (2%) and carbon dioxide (98%) >> Label or MSDS (pdf files)
26. **Crompton** (Uniroyal Chemical's former Agricultural Products division) Crompton and Great Lakes Chemical Company have merged >> Find a Product
27. **Degesch America** (Fumigants--Phostoxin) >> Products
28. **Dow AgroSciences** >> U.S. Label and MSDS System
29. **Drexel Chemical Company** >> Products
30. **DuPont Crop Protection** >> Label/MSDS Search
31. **EMD Crop BioScience**-- In 2002 the legume inoculant division of LIPHATECH Inc., a Merck KGaA subsidiary, returned to its historic name, NITRAGIN Inc. In 2006, following Nitragin's acquisition of Agribiotics, the two combined as one entity known as EMD Crop BioScience. >> MSDS/Labels

32. **Elf Atochem** >> the Agrichemicals Division of Elf Atochem has become **Cerexagri, Inc.**

33. **Emerald BioAgriculture Corporation** (formerly Mycotech) >> Products

34. **FMC Corp. Agricultural Products** >> Labels and MSDSs

35. **FMC Specialty Products** - Products for Pest Management Professionals, Lawn Care Operators, Golf Course Superintendents, Nursery Growers, Tree Care Operators, and Homeowners.

**Return to Quick Finder**

36. **Great Lakes Chemical Company** (see **Crompton**)

37. **Green Light Company** - Home and Garden products

38. **Griffin L.L.C.** >> (see **DuPont Crop Protection**)

39. **Gustafson Seed Treatment Guidelines** >> Gustafson guidelines link to Bayer Seed Treatment Products

40. **Helena Chemical Company** >> Labels and MSDS link takes you to links to Helena Chemicals Labels and MSDSs found in the Greenbook, and Helena Chemicals Labels and MSDSs found in CDMS.

41. **S.C. Johnson & Son, Inc.** >> Products >> Our Home of Brands

42. **Lesco** >> Products

43. **LiphaTech Inc. in North America** -- In 2002 the legume inoculant division of LIPHATECH Inc., a Merck KGaA subsidiary, returned to its historic name, NITRAGIN Inc. In 2006, following Nitragin's acquisition of Agribiotics, the two combined as one entity known as EMD Crop BioScience. >> MSDS/Labels

44. **Makhteshim-Agan** >> go to Makhteshim or to Agan >> Products >> Enter Product Catalog >> Agro Chemicals

45. **AH Marks & Co. Ltd.** >> Crop Protection

46. **McLaughlin, Gormley and King** contact addresses and phone numbers to obtain information about the company or products

47. **Micro Flo Company** >> MSDS and Labels

48. **Monsanto Product Information and Safety Summaries**

49. **http://www.monsanto.com/monsanto/us_ag/layout/crop_pro/all_labels_msds.asp** >> Choose the specific product Label or MSDS

50. **Monsanto Industrial, Turf & Ornamental Products Division** >> Environmental Fact Sheets and Labels or MSDSs

51. **Monteray Chemical Company** for Crop Protection products >> Products

52. **Monterey Lawn & Garden Products** >> Product Labels and MSDS

**Return to Quick Finder**

53. **Nisus** >> Products

54. **Nitragin**-- In 2002 the legume inoculant division of LIPHATECH Inc., a Merck KGaA subsidiary, returned to its historic name, NITRAGIN Inc. In 2006, following Nitragin's acquisition of Agribiotics, the two combined as one entity known as EMD Crop BioScience. >> MSDS/Labels

55. **Novartis** (now **Syngenta**) >> Syngenta Crop Protection >> Products or Labels and MSDSs
56. **Nufarm**">Nufarm Turf & Specialty - Formulators of herbicides for specialty markets: for Turf and for Industrial Vegetation Management

57. **Osmose, Inc.** (Wood Preservatives)

58. **PBI/Gordon Corporation** >> Agricultural /Turf and Ornamental/Consumer Products/Industrial Vegetation Management

59. **PESTWEB** (now owned by **Univar USA Inc.** ) >> Products or MSDS and Labels (for registered users only)

60. **Phizer Animal Health**

61. **Greenview Preen**

62. **Prentiss Incorporated** >> Material Safety Data Sheets or Specimen Labels

63. **Pro-Serve, Inc.** >> Products or Product Information

64. **Riverdale Chemical Co.** - (is now Nufarm Turf & Specialty)

65. **Rhodia, North America** >> Markets and Applications >> choose Agrochemicals from the Market list >> specify Product or Brand

66. **Rhom & Haas** >> Products >> Agricultural Chemicals >> U.S. >> Ag Chem Products/Turf and Ornamental Products/MSDS

67. **Rhone-Poulenc Ag. Company** merged with Hoechst to form Aventis CropScience, which has been sold to Bayer and is now **Bayer CropScience**

68. **SePRO** (Products for the aquatics and horticultural industries)

69. **Sipcam Agro USA, Inc.** >> Products

70. **Spectracide**

71. **Syngenta US** - (Formed from merger of Novartis Agribusiness and Zeneca Agrichemicals) >> Syngenta Crop Protection or Syngenta Professional Products with Quick Links to Products or Labels & MSDS

72. **Syngenta Crop Protection** >> Products or Labels

73. **Syngenta Professional Products** >> Products or Labels and MSDSs for Turf and Ornamental, Vegetation Management, and Professional Pest Management.

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74. **Thermo Trilogy Corporation** (see **Certis USA)**

75. **TopPro Specialties** - (Now **BASF Professional Turf and Ornamentals** ) >> Click on Labels/MSDS

76. **US Borax** >> Products and Services

77. **Uniroyal Chemical Corp.** (see **Crompton**)

78. **Valent Chemical Company** >> Agricultural Products

79. **Victor**

80. **Van Waters & Rogers** (see PESTWEB)

81. **Waterbury Companies, Inc.** parent company to **CB Professional Products** insect control products

82. **Altosid (Zoecon)** - "Altosid - Total Mosquito Control Solutions" Methoprene a.i. products >> Product Information

83. **Whitmire Micro-Gen Research Labs** >> Structural or Turf & Ornamentals or Food Safety - Labels and MSDSs for Whitmire's Turf & Ornamental, Structural Pest Control, Animal Health, and Food Safety products. Also product descriptions and product registration information, specialty application equipment and accessories, pest identifications and more.

84. **Zeneca Ag Products** (now **Syngenta Crop Protection**) >> Products or Labels and MSDSs

85. **Zeneca Professional Products** is now **Syngenta Professional Products** >> Label and MSDS information for Turf and Ornamental, Vegetation Management, and Professional Pest Management.

86. **Zoecon** (a division of Wellmark International) >> Labels

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## BUSINESS SUMMARY

**CENTRAL SERVICES CORP OF METROPOLITAN NEW JERSEY**
**646-696 Frelinghuysen Ave**
**Newark, NJ 07114**

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Our information indicates this business is no longer active at this location. If you have reason to believe this business is currently operating, please call our Customer Service Center at the phone number listed below to request an investigation.

**Telephone:** 973 824-1928

**Management control:** 1969

**SIC:** 7213

**Line of business:** Hospital linen & laundry supply

**D-U-N-S Number:** 06-107-8945

**D&B Rating:** **NQ**

## SPECIAL EVENTS

06/30/1993
On Jan 27 1984, Edward Lipshi, Exec Vice Pres, stated Central Services Corp of Metropolitan New Jersey discontinued operations.

On Jun 21 1991, outside sources confirmed that subject is no longer operating as captioned.

On June 16 1993, directory assistance reported no listing for a business with the above name. At the above address is several unrelated businesses.

The above business, Central Services Corp of Metropolitan New Jersey, sold assets Dec 29 1983 to Angelica Healthcare Services. They currently operate a branch location at 12 Clifton St, Newark, NJ with the headquaters located at 10176 Corporate Square Dr (Suite 150) St Louis, MO. Duns# 04-310-6988. A check with the New Jersey Secretary of State reported that the corporation was dissolved on 6/28/85 after commencing business.

## SUMMARY ANALYSIS

**D&B Rating:NQ**

The NQ rating stands for Not Quoted. This is generally assigned when a business has been confirmed as no longer active at the location, or when D&B is unable to confirm active operations. It may also appear on some branch reports, when the branch is located in the same city as the headquarters. For more information, see the D&B Rating Key.

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**SIC & NAICS**

**SIC:**
Based on information in our file, D&B has assigned this company an extended 8-digit SIC. D&B's use of 8-digit SICs enables us to be more specific to a company's operations than if we use the standard 4-digit code.

The 4-digit SIC numbers link to the description on the Occupational Safety & Health Administration (OSHA) Web site. Links open in a new browser window.

72130000 Linen supply

**NAICS:**
812331 Linen Supply

**PAYMENTS**

D&B has not received a sufficient sample of payment experiences to establish a PAYDEX score.

D&B receives nearly 400 million payment experiences each year. We enter these new and updated experiences into D&B Reports as this information is received. At this time, none of those experiences relate to this company.

**BANKING & FINANCE**

D&B has researched this company and found no information available at this time.

**PUBLIC FILINGS**

A check of D&B's public records database indicates that no filings were found for CENTRAL SERVICES CORP OF METROPOLITAN NEW JERSEY at 646-696 Frelinghuysen Ave, Newark NJ.

D&B's extensive database of public record information is updated daily to ensure timely reporting of changes and additions. It includes business-related suits, liens, judgments, bankruptcies, UCC financing statements and business registrations from every state and the District of Columbia, as well as select filing types from Puerto Rico and the U.S. Virgin Islands.

D&B collects public records through a combination of court reporters, third parties and direct electronic links with federal and local authorities. Its database of U.S. business-related filings is now the largest of its kind.

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UNION CARBIDE Union Carbide Corporation

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## History

| Year | Event |
|---|---|
| 1917 | Union Carbide & Carbon Corporation is incorporated on November 1, 1917 and acquires the stock of: Linde Air Products Co.; National Carbon Co., Inc.; Prest-O-Lite Co., Inc.; and Union Carbide Company (formed in 1898). |
| 1919 | George Curme files the first patent for commercial preparation of ethylene. |
| 1920 | Union Carbide establishes Carbide and Carbon Chemicals Corporation; also, the first commercial ethylene plant is completed at Clendenin, W. Va. — the start of the petrochemical industry. |
| 1923 | Eleven acres of land in South Charleston, W. Va. are leased to set up a commercial scale plant, which will — in a few years — begin production of several ethylene-based chemicals. |
| 1939 | Bakelite Corporation merges into Union Carbide and Carbon Corporation. Bakelite, founded by Dr. Leo Baekeland, was a pioneer in plastics. |
| 1941 | Chemical production begins at Texas City, Tex. |
| 1947 | Union Carbide purchases plant in Institute, W. Va., which it had previously built and operated for the government for the production of butadiene and styrene at the start of World War II. |
| 1954 | Chemical production at Seadrift, Tex. begins. |
| 1957 | Union Carbide and Carbon Corporation changes name to Union Carbide Corporation. |
| 1959 | Union Carbide Consumer Products Co. is formed as a division. |
| 1960's | The Mining and Metals Division is formed by combining the Metals and Ore Divisions and part of the Nuclear Division.<br><br>First chemical products are shipped from Taft, La. plant in 1966.<br><br>Jennat Corporation, producer of latex, is purchased by Union Carbide.<br><br>Electronics Division is established.<br><br>Hydrocarbons Division is formed.<br><br>Ferroalloys Division is formed and takes over production and marketing of chromium, manganese and silicon alloys. |
| 1977 | UNIPOL Process technology for making polyethylene is announced. |
| 1978 | Union Carbide completes major divestiture, selling nearly all of its European petrochemical operations to BP Chemicals Ltd. |
| 1981 | Union Carbide sells portion of its metals business. |
| 1983 | A major advance expanding the scope of the UNIPOL Process technology to include polypropylene is announced. |

| | |
|---|---|
| 1984 | In December, a gas leak at a plant in Bhopal, India, caused by an act of sabotage, results in tragic loss of life. (http://www.unioncarbide.com/bhopal) |
| 1985 | GAF Corporation announces bid to takeover Union Carbide Corporation. |
| 1986 | GAF halts takeover bid in response to Union Carbide's defense, which includes plans to make major divestitures.<br><br>Union Carbide divests a number of businesses: films packaging, major portions of metals business, battery products, specialty polymers and composites, home and automotive products and agricultural products business.<br><br>Union Carbide purchases Amerchol Corporation from CPC International. |
| 1988 | Allied-Signal and Union Carbide complete the formation of UOP joint venture. UOP provides process technology, catalysts and adsorbents to the petroleum refining, petrochemical, gas-processing and energy industries. |
| 1989 | Carbon products and industrial gases businesses become subsidiaries on Jan. 1st. Carbon products business is renamed UCAR Carbon Company and industrial gas business is named Union Carbide Industrial Gases Inc. On July 1st Union Carbide Corporation becomes a holding company, owning these two subsidiaries plus Union Carbide Chemicals and Plastics Company, Inc. |
| 1990 | Urethane polyether polyols and propylene glycol business is sold to Arco Chemcial Co.<br><br>UCC purchases Triton surfactant and alkylphenol business from Rohm & Haas. |
| 1991 | Mitsubishi Corporation buys 50% stake in UCAR Carbon; UCAR Carbon later becomes a publicly traded independent company. |
| 1992 | Union Carbide Industrial Gases is spun-off as an independent company. Its name changes to Praxair, Inc. |
| 1993 | OrganoSilicon Products business is sold to DLJ Merchant Banking Partners L.P. and affiliates of Donaldson, Lufkin & Jenrette, Inc. |
| 1994 | Alberta & Orient Glycol Company Ltd. opens a 660,000 lbs. per year ethylene glycol plant at Red Deer, Alberta, Canada. Alberta & Orient Glycol is a joint venture between Union Carbide (50%), Far Eastern Textile Ltd. (25%) and Mitsui & Company Ltd. (25%).<br><br>Sale of Union Carbide's 50.9% interest in Union Carbide India Limited to McLeod Russel is completed. |
| 1995 | UCC acquires ethylene oxide and derivatives businesses, including facilities in the United Kingdom, from ICI.<br><br>Union Carbide becomes a partner in Polimeri Europa S.r.l., a 50-50 ethylene/polyethylene joint venture between Union Carbide and EniChem S.p.A.. It will produce polyethylene for the European market.<br><br>Union Carbide forms Asian Acetyls Company, Ltd. a joint venture in Korea with BP Chemicals and Samsung Fine Chemicals Company to manufacture vinyl acetate monomer.<br><br>Union Carbide and two partners (Petrochemical Industries Company and Boubyan Petrochemical, both of Kuwait) form |

| | |
|---|---|
| | Equate Petrochemical Company. The new firm will build and operate a petrochemicals complex in Kuwait; products include ethylene, polyethylene and ethylene glycol. |
| 1996 | Purchase of the polypropylene assets and business of Shell Oil Company is completed. |
| | Plans for Union Carbide and Nova Corporation to build a 2.8-billion pound ethylene plant in Alberta, Canada are announced. Union Carbide will build a Unipol Process polyethylene plant to consume its half of the output. |
| 1997 | Union Carbide and Exxon Chemical Company launch a joint venture, Univation Technologies, for the licensing of polyethylene technology and for research, development and commercialization of metallocene and other advanced catalysts for the production of polyethylene. The venture is also the licensing agent for Union Carbide's UNIPOL Process technology for polypropylene. |
| 1998 | UCC and Petronas (the national oil company of Malaysia) form a joint venture to build a new petrochemical complex in Malaysia. The planned complex will include an olefins cracker and have facilities for production of ethylene oxide and its derivatives and oxo alcohols and oxo derivatives, primarily serving solvents and intermediates end-uses. |
| 1999 | On August 4th, Union Carbide and The Dow Chemical Company announce that their boards of directors have approved an $11.6 billion transaction which would result in Union Carbide becoming a wholly owned subsidiary of The Dow Chemical Company. |
| 2001 | On February 6th, Union Carbide Corporation became a wholly owned subsidiary of The Dow Chemical Company. |

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# Union Carbide

Hoover's Profile:

## Union Carbide Corporation

**Type:** Subsidiary
**On the web:** http://www.unioncarbide.com
**Employees:** 3,800
**Employee growth:** 0.0%

Union Carbide Corporation (UCC) makes the legos of the chemicals world. The company, a subsidiary of Dow Chemical, turns out building-block chemicals such as ethylene and propylene, which are converted into the most widely used plastics resins: polyethylene and polypropylene. It is also a leading producer of ethylene oxide and ethylene glycol used to make polyester fibers and antifreeze, respectively. Although the name Union Carbide may conjure up nightmarish images of the Bhopal disaster in India (1984) or the company's more recent landslide of asbestos litigation, the Houston-based company originally made its name as a major global chemical producer and continues today as a major basic chem maker.

Key numbers for fiscal year ending December, 2007:
**Sales:** $7,493.0M
**One year growth:** (0.5%)
**Net income:** $1,052.0M
**Income growth:** 0.6%

Officers:
VP, CFO, and Treasurer: Edward W. Rich
President and CEO: Plastic & Fiber Manufacturing
SVP Operations: Apparel

Competitors:
BASF SE
Chevron Phillips Chemical
ExxonMobil Chemical

Contact Information

Union Carbide Corporation
400 W. Sam Houston Pkwy. South
Houston, TX 77042
TX Tel. 713-978-2016
Fax 713-978-2394


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Company History: Union Carbide Corporation

BAC000015

**Incorporated:** 1917 as Union Carbide & Carbon Corporation
**NAIC:** 3251 Basic Chemical Manufacturing

Union Carbide Corporation is the world's largest producer of ethylene glycol, commonly used as antifreeze, and is a leading manufacturer of the world's most widely used plastic, polyethylene. In spite of a disaster at its Bhopal, India, pesticide plant in 1984 that resulted in numerous deaths and serious health problems for people living in the region, as well as a devastating takeover attempt that followed, the corporation remained one of top 20 exporters in the United States in the early 1990s. Union Carbide pioneered the petrochemicals industry and introduced the first two modern plastics. The company became known as "chemist to the chemical industry and metallurgist to the metals industry" because of its production of many of the building blocks of those two industries.

The Union Carbide & Carbon Corporation (UCC) was formed in 1917 from the combination of four companies: Union Carbide Co. (incorporated 1898), Linde Air Products Co. (incorporated 1907), National Carbon Co., Inc. (incorporated 1899), and Prest-O-Lite Co., Inc. (incorporated 1913). The new entity was organized as a holding company, with its four members acting relatively autonomously and cooperating where their businesses converged.

The merger combined what had often been competing interests to form an industrial chemicals powerhouse. The oldest member of the quartet, Union Carbide, had been formed to manufacture calcium carbide, which was used in the production of metal alloys. A by-product of alloying calcium carbide with aluminum was acetylene, a gas that company executives hoped would prove useful for street and household lighting. When Thomas Edison's electric incandescent light bulbs proved more practical for most lighting, however, it looked as if Union Carbide's acetylene lighting business was obsolete. Luckily, a French researcher discovered that acetylene could be burned in oxygen to produce a hot, metal-cutting flame. A whole new market for the gas emerged, and UCC was ready to take advantage of it.

The company continued to manufacture calcium carbide at plants in Sault Ste. Marie, Michigan, and Niagara Falls, New York, and by 1900 the Union Carbide's capital stock stood at $6 million. Union Carbide combined America's first commercial high-carbon ferrochrome process, which had been developed by company founder Major James T. Moorhead in the late 1890s, with a metal alloying business acquired in 1906. The subsidiary created a line of metals composed of iron and one or more other metals, known in the industry as ferroalloys. Ferroalloys made the production of alloy steels more efficient because they could be incorporated more easily with steel to create new metals with specific properties. Union Carbide's low-carbon ferrochrome, for example, was a precursor of modern stainless steel.

Union Carbide had been involved with the Linde Air Products Co. through joint acetylene experiments for about six years before the formation of the UCC holding company. As one of America's first oxygen-producing concerns and, after 1917, part of one of the country's largest chemical companies, Linde soon became the world's largest producer of industrial gases such as acetylene, hydrogen, and nitrogen. These gases formed the foundation of the petrochemical industry. The Prest-O-Lite Company had been one of Union Carbide's primary competitors for most of the two companies' histories, but three years of cooperative acetylene experiments among UCC, Prest-O-Lite, and Linde made the merger smoother. Before the turn of the 20th century, National Carbon Co. had produced the first commercial dry cell battery and offered it under the Eveready trademark. The well-known brand would be a UCC staple for the next seven decades.

With combined research efforts and a national push for new technologies to help win World War I, further developments came in rapid succession at Union Carbide. New products included batteries for portable radios and corrosion and heat-resistant ferroalloys that strengthened the steel used to build skyscrapers, bridges, and automobiles. The government's need for ethylene during the "Great War" also generated interest in hydrocarbon byproducts. These substances were made from calcium carbide and would later become the raw materials for the production of plastics, synthetic rubber, fibers, solvents, explosives, and industrial chemicals. In 1919, the first production of synthetic ethylene began. Ethylene would develop into the industry's most important industrial hydrocarbon, eventually used in polyethylene (plastics), polystyrene (Styrofoam), and antifreeze, among other products. Union Carbide's Prestone brand ethylene glycol soon became the top-selling antifreeze, a position it held throughout the 20th century.

The new corporate structure enabled UCC to leverage the combined assets of its four primary subsidiaries and embark on an acquisitions spree that was not halted even by the Great Depression. In 1919 alone, the company acquired an acetylene manufacturer, created Canadian subsidiaries of National Carbon Co. and Prest-O-Lite, and purchased a new headquarters at 42nd Street and Madison Avenue in New York City. This new home served the company until the late 1970s. During the 1920s, Union Carbide expanded its overseas interests with the acquisition of a Norwegian hydroelectric plant in 1925 and a calcium carbide/ferroalloy plant in that same country in 1929. The holding company added to its battery business with the purchase of Manhattan Electrical Supply Co. in 1926. UCC annexed two domestic industrial gas interests in 1928 and strengthened its industrial electric furnace business with the acquisition of the Acheson Graphite Corporation in 1928.

One of the most vital acquisitions UCC made during the 1920s was that of U.S. Vanadium Co.'s Colorado mine, mill, and reduction plant in 1926. Carbide's subsequent vanadium research was a truly corporate venture that coordinated several of the company's subsidiaries and eventually involved the company in the government's atomic energy program. Uranium-bearing materials were located and provided by U.S. Vanadium. UCC scientists demonstrated that gaseous diffusion could be used to separate quantities of uranium-235 and contracted with the federal government in 1943 to operate the Oak Ridge Gaseous Diffusion Plant. After intensive research, UCC's Linde Company perfected a refining process for treating uranium concentrates. A plant was built and operated by the Electro Metallurgical Company (acquired in 1922) to provide extensive metallurgical research and manufacture uranium. Finally, Union Carbide and Carbon Research Laboratories contributed to the development of the atomic weapon itself.

In 1939, UCC acquired the Bakelite Corporation, which developed the first modern plastic, phenol formaldehyde. In 1941, Carbide made permanent-press fabrics possible with its development of glyoxal.

Union Carbide earned a reputation for developing raw materials for the chemical and metals industries during World War II. Since natural rubber was in very short supply during the war, the company resumed its experiments with butene, a hydrocarbon that was developed into a synthetic rubber. Modern neoprene is a familiar example of butene's application.

Postwar prosperity camouflaged nagging problems at UCC: the company was chalking up a bad track record of discovering new substances and processes but not capitalizing on them. For example, UCC pioneered urethanes, but did not commit enough financial resources to the new field in time to profit. The company also made permanent-press fabrics possible with its development of glyoxal, but could not come up with a consumer product that maximized its profit potential. It often ended up riding the coattails of movements it had spawned. Union Carbide's program of internal promotion engendered company loyalty, but it also stifled creativity. The company started a slide into relative mediocrity that, with few exceptions, would consume the next three decades.

A succession of well-meaning chief executives kept UCC in "turnaround mode." Under the direction of CFO Morse G. Dial, Carbide absorbed its major operating subsidiaries and formally relinquished its holding company status in 1949. Dial hoped to reverse the excessive autonomy at UCC by creating a "President's Office" composed of the corporation's division heads. The company name was changed to Union Carbide Corporation in 1957 to reflect its reorganization from a holding company to a diversified corporation. By that time, Union Carbide and Carbon Corporation had established some 400 plants in the United States and Canada, in addition to overseas affiliates. The company went from having 18 autonomous divisions to just four primary domestic groups: Union Carbide Chemicals Co., Linde Co., Union Carbide Plastics Co., and Union Carbide Consumer Products Co. Even though these corporate segments were technically divisions, the retention of the word "company" in each section's name represented the perpetuation of the decentralized management structure of a holding company, and its detrimental effect on Union Carbide continued.

Polyethylene, a plastic used in squeeze bottles (high-density polyethylene), as well as in films and sheeting (low-density polyethylene), became Union Carbide's largest dollar-volume product after World War II. An olefins division was set up in the 1950s to supply low-cost raw materials for the chemicals and plastics industry in the 1950s. For several years, the company sold these plastics to other manufacturers. However, Carbide finally did capitalize on this discovery in 1964, when Glad branded plastic wraps, bags, and straws were introduced. Within just four years, Glad became the leading brand in its market.

*Company Perspectives:*

*Union Carbide Corporation is a chemical and polymers company with over 3,800 employees. The company possesses some of the industry's most advanced process and catalyst technologies, and operates some of the most cost-efficient, large-scale production facilities in the world. Union Carbide primarily produces chemicals and polymers that undergo one or more further conversions by customers before reaching consumers. Some of these materials are high-volume commodities, while others are specialty products meeting the needs of smaller market niches. The end-uses served include paints and coatings, packaging, wire and cable, household products, personal care, pharmaceuticals, automotive, textiles, agriculture and oil and gas.*

*Key Dates:*

- *1917: The company is incorporated as Union Carbide & Carbon Corporation and acquires Linde Air Products Company, National Carbon Company, Inc., Prest-O-Lite Company, Inc., and Union Carbide Company.*
- *1920: Carbide and Carbon Chemicals Corporation is established.*
- *1926: U.S. Vanadium Company is acquired.*
- *1939: The company merges with Bakelite Corporation.*
- *1957: The company's name is changed to Union Carbide Corporation.*
- *1959: Union Carbide Consumer Products Company is formed.*
- *1984: A gas leak at a plant in Bhopal, India, results in tragic loss of life.*
- *1986: Amerchol Corporation is acquired.*
- *1989: Union Carbide Corporation becomes a holding company owning the subsidiaries UCAR Carbon Company, Union Carbide Industrial Gases Inc., and Union Carbide Chemicals and Plastics Company, Inc.*
- *1992: Union Carbide Industrial Gases is spun-off as an independent company named Praxair, Inc.*
- *1994: Union Carbide launches a joint venture, Polimeri Europa, with EniChem.*
- *1997: Union Carbide launches a joint venture, Univation Technologies, with Exxon Chemical Company.*
- *1998: Union Carbide launches a joint venture in Malaysia with Petronas.*
- *1999: Union Carbide launches a joint venture with Tosco Corporation.*
- *2001: Union Carbide is acquired by the Dow Chemical Company.*

By the 1960s, Union Carbide occupied the top spot in many of its primary fields, including industrial gases, carbon electrodes for industrial electric furnaces, batteries, atomic energy, polyethylene plastic, and ferroalloys. In 1965, the conglomerate's sales topped $2 billion for the first time. From 1956 to 1966, Union Carbide parlayed a few plants in a dozen countries into 60 major subsidiary and associated companies with plants in 30 countries serving over 100 markets. International operations of the conglomerate contributed 29 percent of its annual sales, and by mid-decade the company name was changed to Union Carbide International Co. to reflect its increased global presence.

In spite of consistently rising sales, which doubled from 1960 to 1970 to $3 million, Union Carbide's profits plummeted and stayed low from 1966 to 1971. Carbide could claim leading market shares, but top shares of low-margin commodities still equaled low profits. Industry-wide overcapacity in ferroalloys ran as high as 70 percent in the early 1960s, and prices for these products fell 25 percent. The company was compelled to cut its ferroalloys work force by 40 percent and close a major plant at Niagara Falls. To make matters worse, the market for low-density polyethylene stagnated for the first time in over 20 years.

Union Carbide was still the second-largest chemical producer in the United States, but it invariably lagged behind most of its competitors in terms of growth and profitability during this period. Misguided investments in petroleum, pharmaceuticals, semi-conductors, mattresses, and undersea equipment, combined with a $1 billion petrochemicals complex at Taft, Louisiana, which ran in the red for the last three years of the 1960s, further tarnished Union Carbide's standing. Not surprisingly, the conglomerate's stock dropped from $75 in 1965 to $45 in 1968 as the company "earned a reputation for aimless fumbling," according to *Business Week*.

Unfortunately for Union Carbide, environmental complaints about the company's Marietta, Ohio, ferroalloy plant came to a head in 1971, when consumer champion Ralph Nader brought a decade of local residents' complaints into the national spotlight. For four years, the conglomerate had largely ignored public and government efforts to make it clean up several plants that were polluting the air over West Virginia. Union Carbide's resistance to outside influence gave it the public image of a reactionary bully concerned only with profits and scornful of the environment, a stigma that the company would bear for years to come. In 1971, UCC capitulated to federal orders that it immediately use more expensive low-sulphur coal to reduce noxious sulfur dioxide emissions by 40 percent. The company was given a fall 1974 deadline to install $8 million in advanced emissions scrubbers.

The bad news continued, as the recession of 1970 and 1971 hammered commodities companies like UCC, with the chemicals and plastics markets entering another cycle of overcapacity. From 1968 to 1973, UCC's sales grew by only 4 percent annually, well below the industry average. CFO and president F. Perry Wilson, who had been promoted to those offices in 1971, made his bid to turn Union Carbide around. His restructuring plan included three primary changes. First, he tried to pare back peripheral activities and focus on plastics and chemicals. Among the businesses sold were a bedding company, most of UCC's oil and gas interests, a pollution-monitoring devices business, a plastic container line, a fibers business, a jewelry line, and an insect repellant business. Second, he worked to shift the corporate focus from market share to profitability. Finally, Wilson tried to plan capital and capacity investments so that UCC could avoid the inefficiencies and plummeting prices that had accompanied industry-wide overcapacity in the past.

A New Business Development department was formed in 1970 to coordinate the three areas outside of chemicals and plastics that Wilson did not sell: Biomedical Systems, Marine Foods, and Agricultural Systems. Another key organizational change was the disbanding of the Consumer & Related Products Division, which had contributed 22 percent of UCC's annual revenues. The Eveready business was split off into a Battery Products Division, while Glad and Prestone were coordinated in a division with the production of their raw materials. Despite the fragmentation of the Consumer Products Division, Wilson said that he hoped that consumer products would contribute 50 percent of UCC's revenues in the future. He recognized that these relatively stable, high-margin product lines sustained Union Carbide through economic downturns.

For a few years, it looked as if the new strategy was working. From 1973 to 1981, earnings per share rose 100 percent. UCC increased productivity dramatically during the late 1960s and early 1970s to keep its corporate head above water. From 1967 to 1973, physical output of chemicals and plastics rose 60 percent, while per-pound production costs were cut by one-third. William S. Sneath continued these trends when he became chairman and CEO in 1977. Still, the company found itself increasingly strapped for cash. Steadily rising expenses in Europe resulted in a $32 million loss in 1978, which forced Carbide to divest virtually all of its European petrochemicals and plastics operations. That same year, UCC was forced by its creditors to retire $292 million in long-term debt, which forced it to borrow another $300 million in 1979. That year, Carbide's Standard & Poor's credit rating fell from AA to A+, and its stock fell as low as 42 percent below its $61 book value.

Chairman Sneath embarked on another round of cost-cutting in 1980, pruning the executive staff by 1,000 and divesting a total of 39 businesses. Sneath retained five primary businesses: graphite electrodes, batteries, agricultural products, polyethylene, and industrial gases. By 1980, Carbide had 116,000 employees at over 500 plants, mines, and laboratories in 130 countries, bringing in over $9 billion in annual sales. Sneath embarked on a plan to invest profits into high-margin consumer goods and specialty chemicals.

The disaster at Union Carbide's pesticide plant in Bhopal, India, in December 1984 struck the corporation just as it was beginning to make lasting strides toward profitability. UCC had established battery plants in India as early as the mid-1920s and had seven plants with 5,000 employees there by 1967. India's chronic food shortages precipitated a government-sponsored "Green Revolution" in the 1960s, with the country's socialist government eager to join Union Carbide in establishing pesticide and fertilizer plants. In 1975, the Indian government granted Union Carbide a license to manufacture pesticides, and a plant was built on the sparsely populated outskirts of the regional capital of Bhopal. The plant drew more than 900,000 people to Bhopal by 1984. This plant was built, owned, and operated by Union Carbide India, Limited (UCIL), in which Union Carbide Corporation held just over half the stock.

In December 1984, at least five tons of methyl isocyanate gas (MIC) seeped out of the plant over a 30 minute period. Union Carbide maintained that the accident, which killed 3,800 people and permanently injured another 10,000, was sabotage. *Newsweek* magazine called the incident "the worst industrial accident in history." According to a statement posted on the Union Carbide Web site, "An initial investigation by Union Carbide experts reported that a large volume of water had apparently been introduced into the MIC tank, causing a chemical reaction forcing the chemical release valve to open and allowed the gas to leak. A committee of experts working on behalf of the Indian government conducted its own investigation and reached the same conclusion. An independent investigation by the engineering consulting firm Arthur D. Little determined that the water could only have been introduced into the tank deliberately, since safety systems were in place and operational that would have prevented water from entering the tank by accident."

Five senior Indian executives of Union Carbide were arrested. The Indian government charged Warren Anderson, chairman of Union Carbide's board, with "corporate and criminal liability" and accused the Union Carbide management of "cruel and wanton negligence." Many class action suits were filed against Union Carbide on behalf of the victims. In April 1988, a court in India ordered Carbide to pay $192 million in "interim" damages. Union Carbide and the Indian government reached a much-criticized settlement for $470 million in 1989. In 1994, Carbide sold its share of the Bhopal plant to MacLeod Russell (India) Limited. Proceeds of the sale were used to fund a hospital in Bhopal for victims of the tragedy.

In addition to the human toll, the incident set off a chain reaction at Carbide. By 1985, the company's market value dropped by two-thirds to less than $3 billion, and GAF Corporation's Samuel Heyman accumulated enough stock to mount a hostile takeover bid of $5.3 billion. After working for two decades to expand its consumer products lines, Carbide was forced to sell off its Consumer Products Division, a profitable group that included Glad trash bags, Eveready batteries, Prestone, and STP automotive products, for $840 million. The corporation borrowed $2.8 billion, raised a total of $3.6 billion in asset sales, and repurchased $4.4 billion in stock to repulse Heyman's attack.

Carbide scaled back to the three main business lines (chemicals and plastics, industrial gases, and carbon products) that were once its strength and benefited from sharply reduced interest rates and falling costs of petrochemical feedstocks. Nevertheless, the company had lost the safety net provided by its consumer products. Union Carbide's debt stood at 63 percent of capital, and its equity was cut to a quarter of its former value. Income rose 78 percent in 1987 to $232 million, but high debt service made it hard for the company to develop and introduce new products. In 1988, UCC reduced its debt by more than $400 million and increase equity by almost $600 million.

By 1988, Union Carbide's corporate identity had begun to take clearer shape. Sales hit $8.3 billion (one-third below the 1981 peak), profits were up to more than $300 million, and the company had a new CEO, Robert D. Kennedy. His goals for the company included growth, an ambitious prospect in the face of depleted finances. His solution was to trim operating expenses and generate profits. Between 1984 and 1988, payroll was reduced from 98,000 employees to 43,000, while Carbide set up joint ventures with British Petroleum Co. and Allied-Signal Corporation and made a few modest acquisitions.

In 1989, Carbide advanced slightly on its long journey toward financial recovery. Net income was $573 million. Profits in the chemicals and plastics divisions put Carbide in the number two spot on the list of the top ten publicly traded companies in America. The company succeeded in reducing its debt-to-capital ratio to below 50 percent and invested $181 million in research and development. That year, the company introduced its proprietary LIHDE Oxygen Combustion System, which used pure oxygen to burn organic wastes.

Carbide's fate was far from settled. A $3.3 billion debt stymied both diversification and overseas expansion. Carbide's sales were dependent on cyclical commodities such as polyethylene, and as the chemical industry stumbled, earnings declined. Net income decreased 46 percent from 1990. The brightest prospects were in the industrial gas unit: Carbide remained number one in North America in that industry, with $2.4 billion in sales.

The company launched a "work simplification program" in the early 1990s. The program had a cost reduction goal of $400 million a year by the end of 1994. Carbide progressed toward this goal by repurchasing 20 million shares, spinning off two small businesses, and selling 50 percent of its carbon business in 1990.

As a fitting mark to Union Carbide's 75th anniversary in 1992, the company had the year's best-performing stock on the Dow Jones list of 30 industrials. Carbide was half way to achieving its $400 million cost reduction goal and had endured a loss of $187 million. The dramatically smaller corporation had shifted its focus from diversification to becoming a low-cost leader in basic chemicals. This strategy included uncharacteristic environmentalism: Carbide anticipated "inevitable government mandates on waste reduction and recycling" when it started reprocessing plastic bottles in 1992. After Bhopal, UCC's efforts helped raise industry performance standards and levels worldwide, and the company was praised for its "responsible care" efforts.

During the 1990s, Union Carbide expanded its business worldwide by engaging in joint ventures with both American and foreign companies. In 1994, Carbide announced a joint venture with EniChem, a European chemicals company, to develop, manufacture, and sell polyethylene under the name Polimeri Europa. Each company would own 50 percent of the new firm. The arrangement would make Carbide and EniChem the largest producers of polyethylene in western Europe. EniChem's existing polyethylene plants in Germany, France, and Italy were made part of the new company, while a new 400,000-tons-a-year plant in Brindisi, Italy, was planned.

The year 1996 saw further expansion internationally when Carbide announced a joint venture with China's Shanghai Petrochemical Co., Ltd. to manufacture and sell latex polymer emulsions under the name Shanghai Petrochemical Union Carbide Emulsion Systems Co., Ltd. The new company would construct a plant in Jinshanwei, China, near Shanghai. A second expansion into the Chinese market came later in 1996 with Carbide's subsidiary Amerchol Corp. announcing that it would be constructing a plant in Guangdong Province, China.

Carbide teamed with Exxon Chemical Company in 1997 to create the joint venture company Univation Technologies. Combining both Carbide's and Exxon's patented polyethylene manufacturing processes, Univation would manufacture polyethylene using these processes and license the technologies. Univation would also license the super condensed mode technology, which doubles polyethylene production.

Carbide expanded its presence in Asia with the 1999 announcement of a joint venture with Petronas, the national oil company of Malaysia. The two firms would build a petrochemical complex in Malaysia focusing on ethylene oxide and its derivatives and oxo alcohols and oxo derivatives. In 2001, the Kerteh Integrated Petrochemicals Complex opened, with Union Carbide owning 24 percent of the project.

Another joint venture was announced in 1999. Carbide and Tosco Corp. joined in a 50-50 venture to combine their polypropylene business. The deal was expected to take Carbide, ranked eighth in North America among makers of polypropylene, into the top five producers. Under the agreement, Tosco would build a 775 million-pound-per-year plant in Linden, New Jersey, while Carbide would contribute its two plants in Seadrift, Texas, and Norco, Louisiana.

On August 4, 1999, it was announced that Union Carbide would become a subsidiary of The Dow Chemical Company. The next two years saw negotiations between the two firms on the terms of the deal. Negotiations were also held with the European Commission and the Federal Trade Commission to get government approval of such a large merger. As part of the agreement, Dow was obliged to divest some of its holdings, including its gas-phase polyethylene metallocene technology, while Carbide had to divest its 50 percent ownership in Polimeri Europa, its joint venture with EniChem. Finally, all discussion was over and Dow acquired Carbide for $11.6 billion on February 6, 2001. The deal created the world's second-largest chemical company, just behind DuPont. According to Michael Parker, chairman and CEO of Dow, quoted by Robert Brown in *Chemical Market Reporter:* "While the negotiations took longer than first imagined, we are pleased with the outcome and consider it a win-win for everyone involved." Union Carbide chairman and CEO William H. Joyce called the deal, according to Joseph Chang in *Chemical Market Reporter,* "the right move at a good time. In a consolidating chemical industry where fewer, more powerful companies will exist, the combination of Dow and Union Carbide now sets the standard for the industry."

Since the acquisition, Carbide has seen generally positive financial growth. In 1999, the company posted net sales of $5.87 billion and a profit of $291 million. In 2000, net sales were $6.52 billion with a profit of $162 million. The next two years saw losses on lower net sales. 2001 sales were $5.4 billion with a loss of $699 million, while 2002 sales were $4.78 billion with a loss of $510 million. In 2003, however, Carbide moved into the black again with net sales of $5.16 billion and a profit of $313 million. This trend continued in 2004 with net sales of $5.86 billion and a profit of $687 million. For the first quarter of 2005, Carbide reported net sales of $1.68 billion and a profit of $280 million. As Union Carbide faced the 21st century with rising sales and profits, its chemical products continued to be essential to the manufacturing of countless other products throughout the world.

Principal Subsidiaries

Amerchol Corporation; Amko Service Company; Bayox, Inc.; Beaucar Minerals, Inc.; BEK III Inc.; Be-Kan, Inc.; Bentley Sales Co. Inc.; Blue Creek Coal Company, Inc.; Catalyst Technology, Inc.; Cellulosic Products, Inc.; Chemicals Marine Fleet, Inc.; Dexter Realty Corporation; Gas Technics Gases and Equipment Centers of Eastern Pennsylvania, Inc.; Gas Technics Gases and Equipment Centers of New Jersey, Inc.; Gas Technics Gases and Equipment Centers of Ohio, Inc.; Global Industrial Corporation; Hampton Roads Welders Supply Company, Inc.; Harvey Company; Innovative Membrane Systems, Inc.; International Cryogenic Equipment Corporation; Iweco, Inc.; Karba Minerals, Inc.; KSC Liquidation, Inc.; XTI Chemicals, Inc.; Linde Homecare Medical Systems, Inc.; Linox Welding Supply Co.; London Chemical Company, Inc.; Media Buyers Inc.; Merritt-Holland Company; Mon-Arc Welding Supply, Inc.; Nova Tran Corporation; Paulsboro Packaging Inc.; Phoenix Research Corporation; Polysak, Inc.; Prentiss Glycol Company; Presto Hartford, Inc.; Presto Welding Supplies, Inc.; Seadrift Pipeline Corporation; Soilsery, Inc.; South Charleston Sewage Treatment Company; UCAR Capital Corporation; UCAR Energy Services Corporation; UCAR Interam, Inc.; UCAR Louisiana Pipeline Company; UCAR Pipeline Incorporated; UCORE Ltd.; Umetco Minerals Exploration; Umetco Minerals Sales Corporation; Unigas, Inc.; Union Carbide Africa and Middle East, Inc.; Union Carbide Canada Ltd.; Union Carbide Caribe, Inc.; Union Carbide Communications Company, Inc.; Union Carbide Engineering and Hydrocarbons Service Company, Inc.; Union Carbide Engineering and Technology Services; Union Carbide Ethylene Oxide/Glycol Company; Union Carbide Europe, Inc.; Union Carbide Films-Packaging, Inc.; Union Carbide Grafito, Inc.; Union Carbide Imaging Systems, Inc.; Union Carbide Industrial Services Company; Union Carbide Inter-America, Inc.; Union Carbide International Capital Corporation; Union Carbide International Sales Corporation; Union Carbide Polyolefins Development Company, Inc.; UNISON Transformer Services, Inc.; UOP LLC; Vametco Minerals Corporation; V.B. Anderson Co.; Welders Service Center of Nebraska, Inc.; Wolfe Welding Supply Company, Inc.

Principal Competitors

BASF AG; Huntsman International LLC; Total Petrochemicals, Inc.

Further Reading

Berman, Phyllis, "Dow's Pocket Has a Hole," *Forbes Global,* March 31, 2003, p. 34.

Brown, Robert, "Dow, Carbide Ink $7.4 Billion Mega-Merger," *Chemical Market Reporter,* February 12, 2001, p. 1.

"Carbide, Enichem Form PE Powerhouse," *Chemical Marketing Reporter,* August 8, 1994, p. 3.

"Carbide Lays Out Its Strategy through 1983," *Chemical Week,* September 19, 1979, p. 49.

Chang, Joseph, "Dow Chemical, Union Carbide to Merge in $11.6 Billion Deal," *Chemical Market Reporter,* August 9, 1999, p. 1.

"A Corporate Polluter Learns the Hard Way," *Business Week,* February 6, 1971, pp. 52-56.

"The Cure for a Chemical Giant," *Business Week,* July 14, 1973, pp. 88-92.

Denton, Timothy, "Exxon, Union Carbide Launch Univation Metallocene Venture," *Chemical Market Reporter,* April 21, 1997, p. 1.

"Dow Completes Merger with Union Carbide," *Adhesives & Sealants Industry,* April 2001, p. 11.

"Dow Performance Chemicals: Stronger, Better, Global; Integration of Union Carbide Products and Services Repositions Key Dow Business," *Adhesives & Sealants Industry, March 2002, p. 26.*

"Dow Shuts Seadrift Olefins Plant," *Chemical Market Reporter,* July 14, 2003, p. 3.

Esposito, Frank, "Carbide Forms Joint Venture; New Partner to Build PP Plant," *Plastics News,* February 15, 1999, p. 3.

Everest, Larry, *Behold the Poison Cloud: Union Carbide's Bhopal Massacre,* Chicago: Banner Press, 1986.

"Giant with a (Giant) Headache," *Forbes,* December 1, 1968, pp. 24-26.

Hoffman, Charles B., "Union Carbide Formula Calls for Higher Net," *Barron's*, April 16, 1973, pp. 31, 39.

"How Union Carbide Has Cleaned up Its Image," *Business Week*, August 2, 1978, p. 46.

Jackson, Tony, "Bhopal's Awkward Truth: The 1984 Union Carbide Disaster Holds Lessons for Governments That Try to Control Companies' Activities, Says Tony Jackson," *Financial Times*, September 5, 2002, p. 17.

Lappen, Alyssa A., "Breaking Up Is Hard to Do," *Forbes*, December 10, 1990, p. 102.

"Last Original Union Carbide Plant to Close," *Industrial Maintenance & Plant Operation*, November 2001, p. 6.

Levy, Robert, "The Man from Uncarb," *Dun's Review & Modern Industry*, July 1966, pp. 46-48.

Menzies, Hugh D., "Union Carbide Raises Its Voice," *Fortune*, September 25, 1978, pp. 86-88.

"A New Union Carbide Is Slowly Starting to Gel," *Business Week*, April 18, 1986, p. 68.

Norman, James R., "Carbide Saves Itself--But Was It Worth It?," *Business Week*, January 20, 1986, p. 26.

Sissell, Kara, "20 Years after Bhopal: Charting Progress of Plant Safety," *Chemical Week*, December 15, 2004, p. 19.

"Turnaround Year for Union Carbide?," *Financial World*, January 5, 1972, pp. 5, 23.

"Union Carbide," *Rubber World*, July 1996, p. 8.

"Union Carbide," *Rubber World*, December 1996, p. 8.

"Union Carbide Reported Record Net Income of $915 Million in 1995 on Sales of $5.888 Billion," *Rubber World*, March 1996, p. 12.

"Union Carbide: Revolution without the 'R'," *Forbes*, November 1, 1963, pp. 22-26.

— *April S. Dougal*

Wikipedia: Union Carbide

**Union Carbide Corporation** (*Union Carbide*) is one of the oldest chemical and polymers companies in the United States, currently employing more than 3,800 people.[1] It became infamous in popular culture for a major industrial accident that took place in its Bhopal, Madhya Pradesh, India plant in 1984. After heated litigation, Union Carbide was found to be at fault for the disaster, but the major chemical company denied responsibility for political and economic reasons. Union Carbide became a wholly owned subsidiary of The Dow Chemical Company (TDCC) on February 6, 2001,[2] and sells most of the products it manufactures to TDCC. It is a former component of the Dow Jones Industrial Average.[3]

In 1920, its researchers developed an economical way to make ethylene from natural gas, giving birth to the modern petrochemicals industry. Today, Union Carbide possesses some of the industry's most advanced process and catalyst technologies, and operates some of the most cost-efficient, large-scale production facilities in the world. Before divesting them, the chemical giant also owned consumer products Eveready and Energizer batteries, Glad bags and wraps, Simoniz car wax and Prestone antifreeze.

*Union Carbide primarily produces chemicals and polymers that undergo one or more further conversions by customers before reaching consumers. Some of these materials are high-volume commodities, while others are specialty products meeting the needs of smaller market niches. The end-uses served include paints and coatings, packaging, wire and cable, household products, personal care, pharmaceuticals, automotive, textiles, agriculture and oil and gas.*

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## Bhopal disaster

*Main article: Bhopal disaster*

The Bhopal disaster of 1984 was an industrial disaster that was caused by the accidental release of 40 tonnes of methyl isocyanate (MIC) from a Union Carbide India, Limited (UCIL, now known as Eveready Industries India, Limited) pesticide plant majority (50.9%) owned by Union Carbide located in the heart of the city of Bhopal, in the Indian state of Madhya Pradesh.

The BBC gives the death toll as nearly 3,000 people dead initially and at least 15,000 from related illnesses since, while Greenpeace cites 20,000 total deaths as a conservative estimate. It is now accepted that at least 8,000 people died initially.

According to the Bhopal Medical Appeal, around 500,000 people were exposed to the leaking tables. Approximately 20,000, to this date, are believed to have died as a result; on average, roughly one person dies every day from the effects. Over 120,000 continue to suffer from the effects of the disaster, such as breathing difficulties, cancer, serious birth-defects, blindness, gynaecological complications and other related problems.

## References


1. ^ Union Carbide Corporation, About Us. Accessed July 9, 2008.
2. ^ Union Carbide Corporation, History, Accessed July 9, 2008.
3. ^ History of DJIA, globalfinancialdata.com


## See also

- Union Carbide Corporate Center

## External links

- UnionCarbide.com - Union Carbide Corporation homepage

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**Statistics:**
**Public Company**
**Incorporated:** 1917 as Union Carbide & Carbon Corp.
**Employees:** 15,000
**Sales:** $5 billion
**Stock Exchanges:** New York Amsterdam Basel Brussels Frankfurt Geneva Lausanne London Paris Zurich
**SICs:** 2869 Industrial Organic Chemicals Nec; 2821 Plastics Materials & Resins; 2813 Industrial Gases; 6719 Holding Companies Nec

**Company History:**

Union Carbide Corporation is the world's largest producer of ethylene glycol, commonly used as antifreeze, and is a leading manufacturer of the world's most widely used plastic, polyethylene. In spite of a massive fatal disaster at its Bhopal, India, pesticide plant in 1984 and a devastating takeover attempt that followed, the corporation remained one of top twenty exporters in the United States in the early 1990s. Union Carbide pioneered the petrochemicals industry and introduced the first two modern plastics. The company became known as "chemist to the chemical industry and metallurgist to the metals industry" because of its production of many of the building blocks of those two industries.

The Union Carbide & Carbon Corp. (UCC) was formed in 1917 from the combination of four companies: Union Carbide Co. (incorporated 1898), Linde Air Products Co. (incorporated 1907), National Carbon Co., Inc. (incorporated 1899), and Prest-O-Lite Co., Inc. (incorporated 1913). The new entity was organized as a holding company, with its four members acting relatively autonomously and cooperating where their businesses converged.

The merger combined what had often been competing interests to form an industrial chemicals powerhouse. The oldest member of the quartet, Union Carbide, had been formed to manufacture calcium carbide, which was used in the production of metal alloys. A by-product of alloying calcium carbide with aluminum was acetylene, a gas that company executives hoped would prove useful for street and household lighting. But when Thomas Edison's electric incandescent light bulbs proved more practical for most lighting, it looked as if Union Carbide's acetylene lighting business was obsolete. Luckily, a French researcher discovered that acetylene could be burned in oxygen to produce a hot, metal-cutting flame. A whole new market for the gas emerged, and UCC was ready to take advantage of it.

The company continued to manufacture calcium carbide at plants in Sault Ste. Marie, Michigan, and Niagara Falls, New York,

and by 1900 the Union Carbide's capital stock stood at $6 million. Union Carbide combined America's first commercial high-carbon ferrochrome process, which had been developed by company founder Major James T. Moorhead in the late 1890s, with a metal alloying business acquired in 1906. The subsidiary created a line of metals composed of iron and one or more other metals, known in the industry as ferroalloys. Ferroalloys made the production of alloy steels more efficient, because they could be incorporated more easily with steel to create new metals with specific properties. Union Carbide's low-carbon ferrochrome, for example, was a precursor of modern stainless steel.

Union Carbide had been involved with the Linde Air Products Co. through joint acetylene experiments for about six years before the formation of the UCC holding company. As one of America's first oxygen-producing concerns and (after 1917) part of one of the country's largest chemical companies, Linde soon became the world's largest producer of industrial gases like acetylene, hydrogen and nitrogen. These gases formed the foundation of the petrochemical industry. The Prest-O-Lite Company had been one of Union Carbide's primary competitors for most of the two companies' histories, but three years of cooperative acetylene experiments among UCC, Prest-O-Lite, and Linde made the merger more smooth. Before the turn of the century, National Carbon Co. had produced the first commercial dry cell battery and offered it under the Eveready trademark. The well-known brand would be a UCC staple for the next seven decades.

With combined research efforts and a national push for new technologies to help win World War I, new developments came in rapid succession at Union Carbide. New products included batteries for portable radios and corrosion and heat-resistant ferroalloys that strengthened the steel used to build skyscrapers, bridges, and automobiles. The government's need for ethylene during "the great war" also generated interest in hydrocarbon byproducts. These substances were made from calcium carbide and would later become the raw materials for the production of plastics, synthetic rubber, fibers, solvents, explosives, and industrial chemicals. In 1919 the first production of synthetic ethylene began. Ethylene would develop into the industry's most important industrial hydrocarbon, eventually used in polyethylene (plastics), polystyrene (styrofoam), and antifreeze, among other products. Union Carbide's Prestone brand ethylene glycol soon became the top-selling antifreeze, a position it held throughout the twentieth century.

The new corporate structure enabled UCC to leverage the combined assets of its four primary subsidiaries and embark on an acquisitions spree that wasn't even halted by the Great Depression. In 1919 alone, the company acquired an acetylene manufacturer, created Canadian subsidiaries of National Carbon Co. and Prest-O-Lite, and purchased a new headquarters at 42nd Street and Madison Avenue in New York City. This new home served the company until the late 1970s. During the 1920s, Union Carbide expanded its overseas interests with the acquisition of a Norwegian hydroelectric plant in 1925 and a calcium carbide/ferroalloy plant in that same country in 1929. The holding company added to its battery business with the purchase of Manhattan Electrical Supply Co. in 1926. UCC annexed two domestic industrial gases interests in 1928 and strengthened its industrial electric furnace business with the acquisition of the Acheson Graphite Corporation in 1928.

One of UCC's most vital acquisitions of the 1920s was the purchase of U.S. Vanadium Co.'s Colorado mine, mill, and reduction plant in 1926. Carbide's subsequent vanadium research was a truly corporate venture that coordinated several of the company's subsidiaries and eventually involved the company in the government's atomic energy program. Uranium-bearing materials were located and provided by U.S. Vanadium. UCC scientists demonstrated that gaseous diffusion could be used to separate quantities of uranium-235 and contracted with the federal government in 1943 to operate the Oak Ridge Gaseous Diffusion Plant. After intensive research, UCC's Linde Company perfected a refining process for treating uranium concentrates. A plant was built and operated by the Electro Metallurgical Company (acquired in 1922) to provide extensive metallurgical research, and manufacture uranium. Finally, Union Carbide and Carbon Research Laboratories contributed to the development of the atomic weapon itself.

In 1939 UCC acquired the Bakelite Corporation, which developed the first modern plastic, phenol formaldehyde. And in 1941, Carbide made permanent-press fabrics possible with its development of glyoxal.

Union Carbide earned a reputation for developing raw materials for the chemical and metals industries during World War II. Since natural rubber was in very short supply during the war, the company resumed its experiments with butene, a hydrocarbon that was developed into a synthetic rubber. Modern neoprene is a familiar example of butene's application.

Postwar prosperity camouflaged nagging problems at UCC: the company was chalking up a bad track record of discovering new substances and processes, but not capitalizing on them. For example, UCC pioneered urethanes, but didn't commit enough financial resources to the new field in time to profit. The company also made permanent-press fabrics possible with its development of glyoxal, but couldn't come up with a consumer product that maximized its profit potential. It often ended up riding the coattails of movements it had spawned. Union Carbide' s program of internal promotion engendered company loyalty, but also stifled creativity. The company started a slide into relative mediocrity that, with few exceptions, would consume the next three decades.

A succession of well-meaning chief executives kept UCC in "turnaround mode." Under the direction of CFO Morse G. Dial, Carbide absorbed its major operating subsidiaries and formally relinquished its holding company status in 1949. Dial hoped to reverse the excessive autonomy at UCC by creating a "President's Office" composed of the corporation's division heads. The company name was changed to Union Carbide Corporation in 1957 to reflect its reorganization from a holding company to a diversified corporation. By that time, Union Carbide and Carbon Corporation had established some 400 plants in the United States and Canada, in addition to overseas affiliates. The company went from having 18 autonomous divisions to just four primary domestic groups: Union Carbide Chemicals Co., Linde Co., Union Carbide Plastics Co., and Union Carbide Consumer Products Co. Even though these corporate segments were technically divisions, the retention of the word "company" in each section's name represented the perpetuation of the decentralized management structure of a holding company, and its detrimental effect on Union Carbide continued.

Polyethylene, a plastic used in squeeze bottles (high-density polyethylene), as well as in films and sheeting (low-density polyethylene), became Union Carbide's largest dollar-volume product after World War II. An olefins division was set up in the 1950s to supply low-cost raw materials for the chemicals and plastics industry in the 1950s. For several years the company sold these plastics to other manufacturers. But Carbide finally capitalized on this discovery in 1964, when Glad branded plastic wraps, bags, and straws were introduced. Within just four years, Glad became the leading brand in its market.

By the 1960s, Union Carbide occupied the top spot in many of its primary fields, including industrial gases, carbon electrodes for industrial electric furnaces, batteries, atomic energy, polyethylene plastic, and ferroalloys. In 1965 the conglomerate's sales topped $2 billion for the first time. And from 1956 to 1966, Union Carbide parlayed a few plants in a dozen countries into 60 major subsidiary and associated companies with plants in 30 countries serving over 100 markets. International operations of the conglomerate contributed 29 percent of its annual sales, and mid-decade the company name was changed to Union Carbide International Co. to reflect its increased global presence.

But in spite of consistently rising sales (which doubled from 1960 to 1970 to $3 million) Union Carbide's profits plummeted and stayed low from 1966 to 1971. Carbide could claim leading market shares, but top shares of low-margin commodities still equaled low profits. Industry-wide overcapacity in ferroalloys ran as high as 70 percent in the early 1960s, and prices for these products fell 25 percent. The company was compelled to cut its ferroalloys work force by 40 percent and close a major plant at Niagara Falls. To make matters worse, the market for low-density polyethylene stagnated for the first time in over 20 years.

Union Carbide was still the United States' second-largest chemical producer, but it invariably lagged behind most of its competitors in terms of growth and profitability during this period. Misguided investments in petroleum, pharmaceuticals, semi-conductors, mattresses, and undersea equipment, combined with a $1 billion petrochemicals complex at Taft, Louisiana, which ran in the red for the last three years of the 1960s, further tarnished Union Carbide's standing. Not surprisingly, the conglomerate's stock dropped from $75 in 1965 to $45 in 1968 as the company "earned a reputation for aimless fumbling," according to *Business Week*.

Unfortunately for Union Carbide, environmental complaints about the company's Marietta, Ohio, ferroalloy plant came to a head in 1971, when consumer champion Ralph Nader brought a decade of local residents' complaints into the national spotlight. For four years, the conglomerate had largely ignored public and government efforts to make it clean up several plants that were polluting the air over West Virginia. Union Carbide's resistance to outside influence gave it the public image of a reactionary bully concerned only with profits and scornful of the environment, a stigma that would haunt the company for years to come. In 1971, UCC capitulated to federal orders that it immediately use more expensive low-sulphur coal to reduce noxious sulfur dioxide emissions by 40 percent. The company was given a fall 1974 deadline to install $8 million in advanced emissions scrubbers.

The bad news continued, as the recession of 1970-71 hammered commodities companies like UCC, with the chemicals and plastics markets entering another cycle of overcapacity. From 1968 to 1973, UCC's sales grew by only 4 percent annually, well below the industry average. CFO and president F. Perry Wilson, who had been promoted to those offices in 1971, made his bid to turn Union Carbide around. His restructuring plan included three primary changes. First, he tried to pare back peripheral activities and focus on plastics and chemicals. Among the businesses sold were a bedding company, most of UCC's oil and gas interests, a pollution-monitoring devices business, a plastic container line, a fibers business, a jewelry line, and an insect repellant business. Second, he worked to shift the corporate focus from market share to profitability. Finally, Wilson tried to plan capital and capacity investments so that UCC could avoid the inefficiencies and plummeting prices that had accompanied industry-wide overcapacity in the past.

A New Business Development Department was formed in 1970 to coordinate the three areas outside of chemicals and plastics that Wilson didn't sell: Biomedical Systems, Marine Foods, and Agricultural Systems. Another key organizational change was the disbanding of the Consumer & Related Products Division, which had contributed 22 percent of UCC's annual revenues. The Eveready business was split off into a Battery Products Division, while Glad and Prestone were coordinated in a division with the production of their raw materials. Despite the fragmentation of the Consumer Products Division, Wilson said that he hoped that consumer products would contribute 50 percent of UCC's revenues in the future. He recognized that these relatively stable, high-margin product lines sustained Union Carbide through economic downturns.

For a few years, it looked as if the new strategy was working. From 1973 to 1981, earnings per share rose 100 percent. UCC increased productivity dramatically during the late 1960s and early 1970s to keep its corporate head above water. From 1967 to 1973, physical output of chemicals and plastics rose 60 percent, while per-pound production costs were cut by one-third. William S. Sneath continued these trends when he became chairman and CEO in 1977. Still, the company found itself increasingly strapped for cash. Steadily rising expenses in Europe resulted in a $32 million loss in 1978, which forced Carbide to divest virtually all of its European petrochemicals and plastics operations. That same year, UCC was forced by its creditors to retire $292 million in long-term debt, which forced it to borrow another $300 million in 1979. That year, Carbide's Standard & Poor's credit rating fell from AA to A+, and its stock fell as low as 42 percent below its $61 book value.

Chairman Sneath embarked on another round of cost-cutting in 1980, pruning the executive staff by 1,000 and divesting a total of 39 businesses. Sneath retained six primary businesses: graphite electrodes, batteries, agricultural products, polyethylene, and industrial gases. By 1980, Carbide had 116,000 employees at over 500 plants, mines, and laboratories in 130 countries, bringing in over $9 billion in annual sales. Sneath embarked on a plan to invest profits into high-margin consumer goods and specialty chemicals.

The massive disaster at Union Carbide's pesticide plant in Bhopal, India, in December 1984 struck the corporation just as it was beginning to make lasting strides toward profitability. UCC had established battery plants in India as early as the mid-1920s, and had seven plants with 5,000 employees there by 1967. India's chronic food shortages precipitated a government-sponsored

"Green Revolution" in the 1960s, with the country's socialist government eager to join Union Carbide in establishing pesticide and fertilizer plants. In 1975 the Indian government granted Union Carbide a license to manufacture pesticides, and a plant was built on the sparsely populated outskirts of the regional capital of Bhopal. The plant drew more than 900,000 people to Bhopal by 1984. Union Carbide officials estimated that at least five tons of methyl isocyanate (MIC) seeped out of the plant in just 30 minutes one day in December 1984. The accident killed over 2,300 people and permanently injured another 10,000. *Newsweek* magazine called the incident "the worst industrial accident in history."

Five senior Indian executives of Union Carbide were arrested. The Indian government charged Warren Anderson, chairman of Union Carbide's board, with "corporate and criminal liability" and accused the Union Carbide management of "cruel and wanton negligence." Many class action suits were filed against Union Carbide on behalf of the victims. In April 1988, a court in India ordered Carbide to pay $192 million in "interim" damages. Union Carbide and the Indian government reached a much-criticized settlement for $470 million in 1989.

In addition to the human toll, the tragedy set off a chain reaction at Carbide: by 1985, the company's market value dropped by two-thirds to less than $3 billion, and GAF Corp.'s Samuel Heyman accumulated enough stock to mount a hostile takeover bid of $5.3 billion. After working for two decades to expand its consumer products lines, Carbide was forced to sell off its Consumer Products Division, a profitable group that included Glad trash bags, Eveready batteries, Prestone, and STP automotive products, for $840 million. The corporation borrowed $2.8 billion, raised a total of $3.6 billion in asset sales, and repurchased $4.4 billion in stock to repulse Heyman's attack.

Carbide scaled back to the three main business lines--chemicals and plastics, industrial gases, and carbon products--that were once its strength, and benefitted from sharply reduced interest rates and falling costs of petrochemical feedstocks. But the company had lost the safety net provided by its consumer products. Union Carbide's debt stood at 63 percent of capital and its equity was cut to a quarter of its former value. Income rose 78 percent in 1987 to $232 million, but high debt service made it hard for the company to develop and introduce new products. In 1988 UCC reduced its debt by more than $400 million and increase equity by almost $600 million.

By 1988, Union Carbide's corporate identity had begun to take clearer shape. Sales hit $8.3 billion (one-third below the 1981 peak), profits were up to more than $300 million, and the company had a new CEO, Robert D. Kennedy. His goals for the company included growth--an ambitious prospect in the face of depleted finances. His solution was to trim operating expenses and generate profits. Between 1984 and 1988, payroll was reduced from 98,000 employees to 43,000, while Carbide set up joint ventures with British Petroleum Co. and Allied-Signal Corp. and made a few modest acquisitions.

In 1989 Carbide advanced slightly on its long journey toward financial recovery. Net income was $573 million. Profits in the chemicals and plastics divisions put Carbide in the number two spot on the list of the top ten publicly traded companies in America. The company succeeded in reducing its debt-to-capital ratio to below 50 percent, and invested $181 million in research and development. That year, the company introduced its proprietary LIHDE Oxygen Combustion System, which used pure oxygen to burn organic wastes.

Carbide's fate was far from settled. A $3.3 billion debt stymied both diversification and overseas expansion. Carbide's sales were dependent on cyclical commodities such as polyethylene, and as the chemical industry stumbled, earnings declined. Net income decreased 46 percent from 1990. The brightest prospects were in the industrial gas unit--Carbide remained number one in North America in that industry, with $2.4 billion in sales.

The company launched a "work simplification program" in the early 1990s. The program had a cost reduction goal of $400 million a year by the end of 1994. Carbide progressed toward this goal by repurchasing 20 million shares, spinning off two small businesses, and selling 50 percent of its carbon business in 1990.

As a fitting mark to Union Carbide's 75th anniversary in 1992, the company had the year's best-performing stock on the Dow Jones list of 30 industrials. Carbide was half way to achieving its $400 million cost reduction goal, and had endured a loss of $187 million. The dramatically smaller corporation had shifted its focus from diversification to becoming a low-cost leader in basic chemicals. This strategy included uncharacteristic environmentalism: Carbide anticipated "inevitable government mandates on waste reduction and recycling" when it started reprocessing plastic bottles in 1992. After Bhopal, UCC's efforts helped raise industry performance standards and levels worldwide, and the company was praised for its "Responsible Care" efforts.

Sales showed a slight gain in the 1993 first quarter, closing at $1.19 billion. The sale of Union Carbide's OrganoSilicon business for $220 million completed Kennedy's program to divest $500 million in assets. Although some Wall Street analysts predicted that Union Carbide Corporation would be subsumed by another firm, others characterized it as a "surprisingly potent company."

**Principal Subsidiaries:** Amerchol Corporation; Amko Service Company; Bayox, Inc.: Beaucar Minerals, Inc.; BEK III Inc.; Be-Kan, Inc.; Bentley Sales Co. Inc.; Blue Creek Coal Company, Inc.; Catalyst Technology, Inc.; Cellulosic Products, Inc.; Chemicals Marine Fleet, Inc.; Dexter Realty Corporation; Gas Technics Gases and Equipment Centers of Eastern Pennsylvania, Inc.; Gas Technics Gases and Equipment Centers of New Jersey, Inc.; Gas Technics Gases and Equipment Centers of Ohio, Inc.; Global Industrial Corporation; Hampton Roads Welders Supply Company, Inc.; Harvey Company; Innovative Membrane Systems, Inc.; International Cryogenic Equipment Corporation; Iweco, Inc.; Karba Minerals, Inc.; KSC Liquidation, Inc.; XTI Chemicals, Inc.; Linde Homecare Medical Systems, Inc.; Linox Welding Supply Co.; London Chemical Company, Inc.; Media Buyers Inc.; Merritt-Holland Company; Mon-Arc Welding Supply, Inc.; Nova Tran Corporation; Paulsboro Packaging Inc.; Phoenix Research Corporation; Polysak, Inc.; Prentiss Glycol Company; Presto Hartford, Inc.; Presto Welding Supplies, Inc.; Seadrift Pipeline Corporation; Soilsery, Inc.; South Charleston Sewage Treatment Company; UCAR Capital Corporation; UCAR Energy Services

Corporation; UCAR Interam, Inc.; UCAR Louisiana Pipeline Company; UCAR Pipeline Incorporated; UCORE Ltd.; Umetco Minerals Exploration; Umetco Minerals Sales Corporation; Unigas, Inc.; Union Carbide Africa and Middle East, Inc.; Union Carbide Canada Ltd. (74.5%); Union Carbide Caribe, Inc.; Union Carbide Communications Company, Inc.; Union Carbide Engineering and Hydrocarbons Service Company, Inc.: Union Carbide Engineering and Technology Services; Union Carbide Ethylene Oxide/Glycol Company; Union Carbide Europe, Inc.; Union Carbide Films-Packaging, Inc.; Union Carbide Grafito, Inc.; Union Carbide Imaging Systems, Inc.; Union Carbide Industrial Services Company; Union Carbide Inter-America, Inc.; Union Carbide International Capital Corporation; Union Carbide International Sales Corporation; Union Carbide Polyolefins Development Company, Inc.; UNISON Transformer Services, Inc.; Vametco Minerals Corporation; V.B. Anderson Co. (85.33%); Welders Service Center of Nebraska, Inc.; Wolfe Welding Supply Company, Inc.

The company also lists subsidiaries in the following countries: Australia, Austria, Belgium, Bermuda, Brazil, Canada, Colombia, Costa Rica, Ecuador, Egypt, France, Ghana, Greece, Guatemala, Hong Kong, India, Indonesia, Iran, Italy, Japan, Kenya, Malaysia, Malawi, Mexico, Netherlands, Netherlands Antilles, New Zealand, Nigeria, Pakistan, Panama, Philippines, Puerto Rico, Singapore, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, U.S. Virgin Islands, Venezuela, West Germany, and Zimbabwe.

**Further Reading:**

"Carbide Lays Out Its Strategy through 1983," *Chemical Week*, v. 125, September 19, 1979, 49.
"A Corporate Polluter Learns the Hard Way," *Business Week*, February 6, 1971, 52-56.
"The Cure for a Chemical Giant," *Business Week*, July 14, 1973, 88-92.
Everest, Larry, *Behold the Poison Cloud: Union Carbide's Bhopal Massacre*, Chicago: Banner Press, 1986.
"Giant with a (Giant) Headache," *Forbes*, December 1, 1968, 24-26.
Hoffman, Charles B. "Union Carbide Formula Calls for Higher Net," *Barron's*, v. 53, April 16, 1973, 31, 39.
"How Union Carbide Has Cleaned up Its Image," *Business Week*, August 2, 1978, 46.
Lappen, Alyssa A., "Breaking Up Is Hard to Do," *Forbes*, December 10, 1990, p. 102.
Levy, Robert. "The Man from Uncarb," *Dun's Review & Modern Industry*, v. 87, July 1966, 46-48.
Menzies, Hugh D. "Union Carbide Raises Its Voice," *Fortune*, v. 98, September 25, 1978, 86-88.
Norman, James R., "Carbide Saves Itself--But Was It Worth It?" *Business Week*, January 20, 1986, p. 26.
"Turnaround Year for Union Carbide?" *Financial World*, January 5, 1972, 5, 23.
"A New Union Carbide Is Slowly Starting to Gel," *Business Week*, April 18, 1986, p. 68.
"Union Carbide: Revolution without the 'R'," *Forbes*, November 1, 1963, 22-26.

**Source:** *International Directory of Company Histories*, Vol. 9. St. James Press, 1994.

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**Status Report For: CENTRAL SERVICES CORPORATION OF METROPOLITAN NEW JERSEY**

| | | | |
|---|---|---|---|
| **Business Name:** | **CENTRAL SERVICES CORPORATION OF METROPOLITAN NEW JERSEY** | **Report Date:** | **09/25/2008** |
| **Business ID Number:** | **0900009279** | **Transaction Number: Sequence:** | **1373455: 1** |

**Business Type:** NON PROFIT CORPORATION

**Status:** DISSOLVED AFTER COMMENCING BUSINESS

| | | | |
|---|---|---|---|
| **Filing Date:** | **11/12/1969** | **Home Jurisdiction:** | **NJ** |
| **Status Change Date:** | **06/28/1985** | **Stock Amount:** | **0** |
| **DOR Suspension Start Date:** | | **DOR Suspension End Date:** | |
| **Tax Suspension Start Date:** | | **Tax Suspension End Date:** | |

**Annual Report Month:** 11

**Last Annual Report Filed:**

**For Last Annual Report Paid Year:**

**Incorporator:** X

**Agent:** BENJAMIN W WRIGHT

**Agent Address:** C/O THE HOSPITAL CENTER AT OR 188 S ESSEX AV
ORANGE, NJ 07051 - 0000

**Office Address Status:** Deliverable

**Main Business Address:**

**Principal Business Address:**

**Associated Names**

| **Name:** | **Type Description:** |
|---|---|

**Officers/Directors/Members: Not Available**

BAC000016

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# D&O Chemicals, Inc.

**Click Here To EMAIL INQUIRY**
**Phone:** +1-(201)-909-0600 **Fax:** +1-(201)-909-8601
**Address:** The Atrium 80 East Route 4, Paramus, New Jersey 07652, USA **Map/Directions/Local Suppliers >>**

**Profile:** D&O Chemicals, Inc. provides intermediates and fine chemicals for pharmaceutical and specialty chemical industries. Our laboratories follow FDA, GLP, GMP guidelines and are ISO 9001 & 9002 certified. Our product line includes trityl chloride, trichloro acetamide, sharpless catalyst, 4-propyl pyridine, 2-propoxy benzoic acid, L-prolinamide and phenyltropinone.

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**Hummel Croton Inc.**
**10 Harmich Road**
**South Plainfield, NJ 07080**

**Tel:908-754-1800 / Fax 908-754-1815**

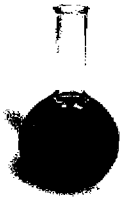
Revised 03/28/2007

## WELCOME TO HUMMEL CROTON INC.

Hummel Croton Inc. is a privately owned corporation that manufactures and distributes specialty inorganic and organic chemicals. Hummel Croton counts among its customers those in the fields of aerospace, automotive (air-bags), electronics, flame-retardants, metal processing, ordnance, pharmaceuticals, pollution controls, pyrotechnics, and textiles.

Hummel Croton Inc was formed in 1989 with the merger of Hummel Chemical Company and Croton Chemical Company

Hummel Chemical Company was founded In 1913 under a partnership of Mr. August Hummel and Mr. Robinson. Twenty years later Mr. Hummel acquired full control of the Company. The offices were on Cedar and West Streets in Lower Manhattan. The plant was located in Brooklyn. Mr. Hummel catered his business to the display fireworks industry. With the outbreak of World War II many of Mr. Hummel's display fireworks customers became ordnance manufacturers.
After World War II Mr. James Vreeland joined Hummel as sales manager and he continued to service customers in the firework and the ordnance industries. In 1961 Mr. Vreeland became principal owner and President of Hummel Chemical Company. In 1962 he moved the company to an industrial section of Newark, NJ. The company moved again in 1968 to a more spacious facility in South Plainfield, NJ where it is still situated today.



In 1978 Mr. James Vreeland and B.F. Schoen acquired Croton Chemical Company from Allied Chemical Company. Croton Chemical Company operated separately until 1989 when B.F. Schoen merged the two companies forming Hummel Croton Inc. Also in 1989 B.F Schoen became President and CEO.

Under the direction of B.F. Schoen Hummel Croton has expanded its chemical manufacturing capabilities. They manufacture inorganic peroxides, melamine derivatives, salts of oxalic acid and specialty chemicals needed by the ordnance and specialty chemical industries. Hummel Croton Inc is still owned and operated by the Schoen Family.

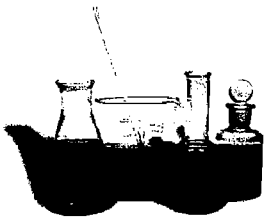
## SERVICE TO GOVERMENT AND INDUSTRY SINCE 1913

BAC000018

**Hummel Croton Inc.**
**10 Harmich Road**
**South Plainfield, NJ 07080**

**Tel:908-754-1800 / Fax 908-754-1815**

# CONTACTS





**Shipping Address**

Hummel Croton Inc.
10 Harmich Road
South Plainfield, NJ 07080

**Mailing Address**

Hummel Croton Inc.
10 Harmich Road
South Plainfield, NJ 07080-4899
U.S.A.

**Office Hours**
8:00 AM - 4:30 PM EST

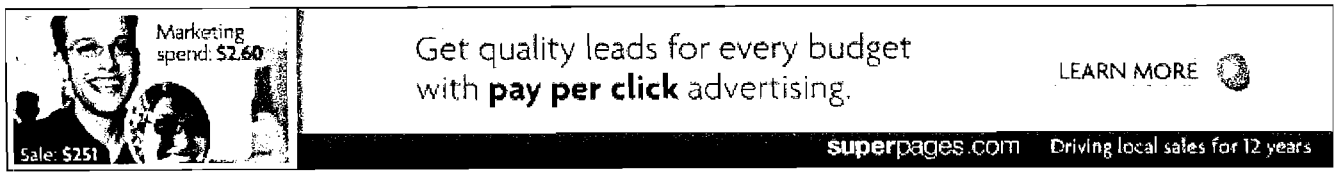
**Plant Hours**
6:00 AM - 2:30 PM EST

**Telephone Number**
908-754-1800

**Fax Number**
980-754-1815

**E-mail Addresses**

| | | |
|---|---|---|
| **Sales Department** | | sales@hummelcroton.com |
| **Accounting Department** | | accounting@hummelcroton.com |
| **Bernard F. Schoen Jr.** | President | bernieschoenjr@hummelcroton.com |
| **Zebulon Schoen** | General Manager | zschoen@hummelcroton.com |
| **Gail D. Mulligan** | Sales Manager | gmulligan@hummelcroton.com |
| **Mark Dugan** | Technical Support Manager | mdugan@hummelcroton.com |






# Maybrook Inc

570 Broadway, Lawrence, MA 01841-2405

**Contact Phone:** (978) 682-1853
**URL (web address):**
**Business Category:** Mfg Cosmetic Ingredients in Lawrence, MA
**Industry (SIC):** Perfumes, Cosmetics, and Other Toilet Preparations

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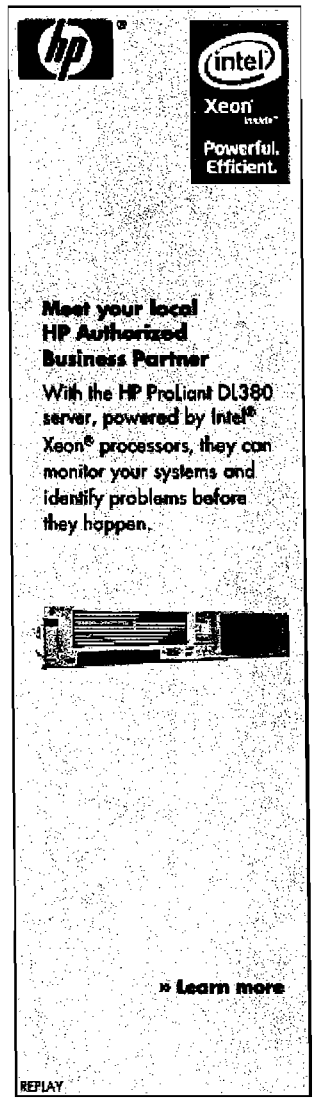
This company profile is for the private company Maybrook Inc, located in Lawrence, MA. Maybrook Inc's line of business is mfg cosmetic ingredients.

**Company Name:** **Maybrook Inc** Is This Your Company?
**Address:** 570 Broadway, Lawrence, MA 01841-2405 (Map)
**Alt Business Name:**
**Location Type:** Single Location
**Est. Annual Sales:** $1,000,000
**Est. # of Employees:** 11
**Est. Empl. at Loc.:** 11
**Year Started:** 1978
**State of Incorp:** DE
**SIC #Code:** 2844
**Contact's Name:** Donald Francis
**Contact's Title:** Chairman Of The Board & President
**NAICS:** Toilet Preparation Manufacturing

BAC000019

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# Hexagon Enterprises

40 Briarwood Dr
Tuckerton, NJ 08087-4004 United States (Map)
Phone: 609-812-1033

## LINE OF BUSINESS

WHOL CHEMICALS/PRODUCTS MFG PLASTIC MATERIALS/RESINS MANAGEMENT CONSULTING SERVICES

## KEY INFORMATION

| | |
|---|---|
| **D-U-N-S Number** | 064282429<br>Buy a D&B credit report. |
| **Company Type** | Headquarters |

## KEY NUMBERS

| | |
|---|---|
| **Fiscal Year-End** | June |
| **Annual Sales (mil.)** | $1.1 |
| **1-Year Sales Growth** | 103.7% |
| **Total Employees** | 7 |
| **1-Year Employee Growth** | 75.0% |
| **Employees At This Location** | 4 |

## KEY PERSON

| | | |
|---|---|---|
| **Vice-President; VP Administration; General Manager** | Milton A Berube | Network \| E-mail |

## PEOPLE PROFILES PROVIDED BY HEXAGON ENTERPRISES EMPLOYEES

There are currently no people listed with this company. Be the first:

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## INDUSTRY INFORMATION

### First Research Industry Profiles

Chemicals Distributors **(primary)**
Consulting Services
Professional Services

### Hoover's Industries

Chemicals
- Chemical Distribution **(primary)**

Business Services
- Consulting

### Primary SIC Code

5169: Chemicals & allied products, nec

### Primary NAICS Code

424690: Other Chemical and Allied Products Merchant Wholesalers

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BAC000020

# Inolex Chemical Company

2101 S. Swanson St.
Philadelphia, PA 19148 United States (Map)

Phone: 215-271-0800
Toll Free: 800-521-9891
Fax: 215-271-2621

http://www.inolex.com/

Covered by Peter Partheymuller

## OVERVIEW

Even the chemical industry needs a few building blocks with which to make its products. That's where Inolex Chemical comes in. The company's ingredients include acids, esters, and intermediates that keep the personal care (sunscreens, conditioners, and cosmetics), lubricant (metalworking and high temperature applications), and polyurethane (foam, coatings, adhesives, sealants, and elastomers) industries well in stock. The family-owned Inolex (*In*novation Techn*o*logy *Ex*cellence) is based in Philadelphia, has manufacturing locations in North Carolina and Virginia, and markets its products worldwide.

## KEY INFORMATION

| | |
|---|---|
| **D-U-N-S Number** | 059766675<br>Buy a D&B credit report. |
| **Company Type** | Private<br>Headquarters<br>Subsidiary |
| **Ultimate Parent** | Inolex Group, Inc |
| **Ultimate Parent D-U-N-S** | 153974555 |
| **Year Of Founding or Change In Control** | 1981 |
| **State of Incorporation** | PA |

## KEY NUMBERS

| | |
|---|---|
| **Fiscal Year-End** | December |
| **2007 Sales (mil.)** | $22.2 (est.) |
| **2007 Employees** | 100 |

## KEY PEOPLE

**8 People**
Listed for Inolex

**9 People**
Listed for Inolex, its subsidiaries and all of their subsidiaries.

**15 People**
Listed for the entirety of this company's parent company, Inolex Group, Inc.

| | | |
|---|---|---|
| **President** | Michael (Mike) Chiarlone | Network \| E-mail |
| **CFO** | Don Byrne | Network \| E-mail |
| **VP Sales and Marketing** | Richard Smith | Network \| E-mail |
| **Technical Director, Personal Care Products** | Rocco Burgo | Network \| E-mail |
| **Human Resources Manager** | Katherine (Katie) Demko | Network \| E-mail |

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## INDUSTRY INFORMATION

### First Research Industry Profiles

Chemical Manufacturing - Industrial **(primary)**
Chemicals
Manufacturing Sector

### Hoover's Industries

Chemicals
- Specialty Chemical Manufacturing
- Basic and Intermediate Chemical & Petrochemical Manufacturing

### Primary SIC Code

2869: Industrial organic chemicals, nec

### Primary NAICS Code

325199: All Other Basic Organic Chemical Manufacturing

## TOP COMPETITORS

BAC000021

Akzo Nobel
BASF SE
Solvay

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**Rhone-Poulenc Ag Company**

2 Alexander Drive
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Research Triangle Park North Carolina 27709-2014 U.S.A.
Phone: 919-549-2310 Fax: 919-549-3964

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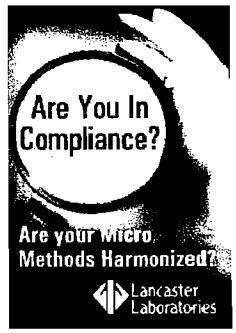

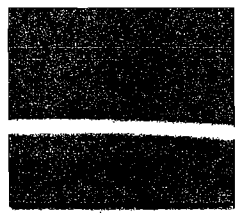

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FLUORIDE ACTION NETWORK PESTICIDE PROJECT

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Return to Fipronil Index Page
See also:
- Index to documents and reports concerning the Class Action Suit of Louisiana Crawfish Farmers
- News Items related to the settlement for Louisiana Crawfish Farmers harmed by Icon
- Campaign against Bayer Dangers

**Background to Class Action from Louisiana 3rd Circuit Appeal Court:**

*Excerpt:* ... In July 1998, the [US EPA] authorized Aventis to market the insecticide, and it was extensively introduced into the Louisiana market in 1999. The chemical was sold in liquid form to send to distributors/applicators who, pursuant to contracts with Aventis, applied ICON to rice seed prior to planting. The purpose of the chemical treatment was to combat the rice water weevil.

In Louisiana, rice and crawfish are often conjunctively farmed, either in the same pond or in close proximity to one another. The rotaation patterns for the two crops vary, but water that has been used in a rice field ("tailwater") is sometimes employed to irrigate crawfish ponds. After planting, tailwater might also be dischared into surrounding ditches and canals, and a downstream crawfish farmer may retrieve this tailwater and introduce it into his pond. Crawfish are not always grown in rice fields. The state-wide crawfish harvest declined by millions of pounds from 1999 to 2000. Plaintiffs allege that the use of ICON-treated rice seed in certain ponds had a devastating efffect on co-cultured crawfish harvests in 1999 and 2000. Some farmers have experienced total loss of their crawfish crop; others have experienced a commercially damaging decline.

Plaintiffs allege that once reports began to mount regarding ICON's ill effects on the crawfish industry, Aventis conducted field tests and concluded that any increase in crawfish mortality resulted either from a misapplication of ICON, was unrelated to ICON, or was attributable to the severe 1998 drought. Plaintiffs also allege that the Department of Agriculture only tested for the presence of Fipronil, the acive ingredient in ICON. Fipronil was found in extremely low levels and, therefore, could not be conclusively linked to crawfish mortality. Plaintiffs argue, however, that these low levels resut from the ingredient's tendency to rapidly break down into derivatives which bind to soil particles and do not dissolve in water.
Ref: August 2002. State of Louisiana Court of Appeal, Third Circuit - 01-1453
Affirmed in Part, Reversed in Part, and Remanded for Trial on the Merits.

## Fipronil:
## A little background on the geneology and events of the insecticide Icon

| Date | Company | Details | Reference |
|---|---|---|---|
| 1985-1993 | Rhone-Poulenc | Fipronil is an insecticide discovered and developed by Rhone-Poulenc between 1985-87 and placed on the market in 1993. | Pesticides News No.48, June 2000 |
| | | US EPA issued Rhone-Poulenc two Experimental Use Permits:<br>* 264-EUP-104. Extension. Allows the use of 3.0 pounds of the insecticide 5-amino-1- (2,6-dichloro-4-(trifluoromethyl)phenyl)-4-((1,R,S)-(trifluoromethyl)sulfinyl)-1-H-pyrazole-carbonitrile on 60 acres of rice to evaluate the control of the rice water weevil. The program is authorized only in the States of Arkansas, California, Louisiana, Mississippi, and Texas. The experimental use permit is effective from | |

BAC000023

| | | | |
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| April 11, 1997 | Rhone-Poulenc Ag Company | March 7, 1997 to March 7, 1998.<br>* 264-EUP-105. Extension. Allows the use of rice seed treated with 1.95 pounds of the insecticide 5-amino-1-(2,6-dichloro-4-(trifluoromethyl)phenyl)-4- ((1,R,S)-(trifluoromethyl)sulfinyl)-1-H-pyrazole-carbonitrile on 50 acres of rice to evaluate the control of the rice water weevil. The program is authorized only in the States of Arkansas, Louisiana, Mississippi, and Texas. The experimental use permit is effective from March 7, 1997 to March 7, 1998.<br><br>Both permits were issued with the limitation that all treated crops are destroyed or used for research purposes only. | Federal Register [OPP-50828; FRL-5598-3] |
| July 7, 1997 | Rhone-Poulenc Ag Company | US EPA issued Rhone-Poulenc the following Experimental Use Permit:<br><br>264-EUP-107; allows the use of 69 pounds of the insecticide 5-amino-1- (2,6-dichloro-4-(trifluoromethyl)phenyl)-4-((1,R,S)-(trifluoromethyl)sulfinyl)-1-H-pyrazole-carbonitrile on 230 acres of cotton to evaluate the control of the boll weevil, fleahoppers, plant bugs, and thrips. The program is authorized only in the States of Arizona, Louisiana, Mississippi, and Texas. The experimental use permit is effective from June 13, 1997 to June 13, 1998. This permit is issued with the limitation that all treated crops are destroyed or used for research purposes only. | Federal Register [OPP-50832; FRL-5729-6]. |
| July 17, 1998 | Rhone-Poulenc AG, Inc. | US EPA approves Final Rule for Pesticide Tolerances of ICON/Fipronil for rice and straw petitioned by Rhone-Poulenc AG, Inc. EPA approved ICON 6.2 FS Insecticide, its metabolites MB46136 and MB45950 and its photodegradate MB46513, to treat rice seed to control the pests rice water weevil and chinch bugs.<br><br>Carcinogenic classification: Fipronil, the parent compound, was classified as a Group C Carcinogen (Possible Human Carcinogen). This classification is based on increased incidence of thyroid follicular-cell tumors in rats. No carcinogenicity studies are available with metabolite MB46513 which "appears to have greater toxicity than the parent, fipronil." | Federal Register [OPP-300612; FRL-5768-3] RIN 2070-AB78 |
| December 1998 | Announcement of merger to create Aventis CropScience | Announcement of the merger of life science giants Hoechst AG and Rhone Poulenc SA will result in a combination of their agricultural subsidiaries. AgrEvo and Rhone Poulenc-Agro will combine their assets to form a new entity, to be called Aventis CropScience. The merger will create one of the largest global agricultural companies with sales of approximately $4.5 billion, and about 15,000 employees. Alain Godard will be CEO of the new company, which will be headquartered in Lyon, France ... | Applied Genetics News |

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| 1999 | Aventis CropScience | Aventis Crop Science was formed in 1999 as the combination of AgrEvo (the former Hoechst/Schering joint venture) and the Rhone-Poulenc agriculture division. | European Commission |
| December 3, 1999 | RHONE-POULENC AG COMPANY, INC. | On or about March 19, 1999, rice and crawfish farmers purchased rice seed from G & H Seed in Eunice, St. Landry Parish, Louisiana. The seed was sprayed with a chemical identified as Fipronil/Icon by G & H Seed Copany at its business in Eunice, St. Landry Parish, Louisiana. The Fipronil/Icon sprayed rice seed was then transported to a crop duster, and applied onto rice/crawfish fields owned by plaintiffs. The resulting effect of applying the Fipronil/Icon sprayed rice onto the rice/crawfish fields, caused a complete crawfish mortality, resulting in damages to plaintiffs' 1999 Spring crawfish crop, as well as their 1999 - 2000 crop. | Original Petition for Damages Craig West, Troy West and W.B. Farms, Inc. VERSUS G & H Seed Co. and **RHONE-POULENC AG COMPANY, INC.**<br><br>Civil Docket No. 99-C-4984-A 17th Judicial District Court, St. Landry Parish, Louisiana |
| January 2000 | US FTC approves new company: Aventis CropScience | The US Federal Trade Commission has approved the merger of Hoechst (AgrEvo) and Rhone-Poulenc to create a new chemical and pharmaceutical company called Aventis. The merger was announced in December 1998 subject to shareholder and regulatory approval. | Successful Farming |
| January 25, 2000 | Rhone-Poulenc Ag Company, Inc | CLASS ACTION PETITION.<br><br>The lawsuit originally sought by a few crawfish farmers evolves into a Class Action Suit.<br><br>"Craig West, Troy West and W.B. Farms, Inc., Et Al, Individually and as Representatives of All Persons Similarly Situated<br><br>VERSUS<br><br>G & H Seed Co., Et Al, Individually and as a Representative of All Entities Similarly Situated, and Rhone-Poulenc Ag Company, Inc."<br><br>"... By amending, supplementing and restating the entire Petition for Damages, including the caption, so as to indicate the claim is being brought as a class action by Plaintiffs ... " | First Amended, Supplemental and Restated Petition for Damages<br><br>Civil Docket No. 99-C-4984-A<br><br>17th Judicial District Court, St. Landry Parish, Louisiana |
| August 3, 2001 | Aventis | **LOUISIANA CRAWFISH FISHERMEN WIN CLASS ACTION CERTIFICATION IN LAWSUIT AGAINST PESTICIDE MANUFACTURER**<br><br>WorldCatch News Network reported 1 August that St. Landry Parish District Court Judge | SUBLEGALS, VOL. 4, NO. 5 |

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| | | James Genovese has granted certification for a class action lawsuit by hundreds of Louisiana crawfish farmers against Aventis, the manufacturer of the pesticide ICON. | |
| May 1, 2001 | Aventis | Aventis announced it will seek buyers for its crop-science business instead of seeking a stock sale, as earlier reported. Aventis CropScience, recently renamed Agreva, markets the products StarLink, LibertyLink, Balance and Regent [Fipronil]. Reuters reports Aventis sent sale proposals to Monsanto, DuPont, Dow, Bayer and BASF. The company states it wants to concentrate on pharmaceuticals now. Aventis was formed from the merger of Rhone Poulenc Agro and AgrEvo. | Farm Industry News |
| August 28, 2002 | Aventis | ... Plaintiffs allege that once reports began to mount regarding ICON's ill effects on the crawfish industry, Aventis conducted field tests and concluded that any increase in crawfish mortality resulted either from a misapplication of ICON, was unrelated to ICON, or was attributable to the severe 1998 drought. Plaintiffs also allege that the Department of Agriculture only tested for the presence of Fipronil, the acive ingredient in ICON. Fipronil was found in extremely low levels and, therefore, could not be conclusively linked to crawfish mortality. Plaintiffs argue, however, that these low levels resut from the ingredient's tendency to rapidly break down into derivatives which bind to soil particles and do not dissolve in water. | State of Louisiana Court of Appeal, Third Circuit - 01-1453<br><br>Affirmed in Part, Reversed in Part, and Remanded for Trial on the Merits. |
| September 13, 2002 | | Suit Charges Pesticide Damaged Crawfish Farms<br><br>... The crawfish farmers allege that the pesticide ICON (Fipronil) devastated Louisiana's 2000 and 2001 crawfish crop after its introduction on the rice seed in 1999. In 2000, Louisiana's crawfish production dropped from 41 million pounds to 16 million pounds ... Scientists say ICON and its degradates will remain in the sediment and may continue to cause damage crawfish production for years to come. | ENS |
| April 17, 2002 | European Commission clears Bayer's acquisition of Aventis Crop Science | The European Commission has decided to clear Bayer's acquisition of Aventis Crop Science (ACS), subject to substantial divestitures. As initially notified, the operation would have led to the creation or strengthening of dominant positions on about 130 markets for crop protection, professional pest control and animal health products. But Bayer has offered a comprehensive set of commitments, including the sale, in one single package, of best-selling insecticide Fipronil and a number of fungicides, which together constitute ACS' entire European seed treatment business. The commitments fully resolve the Commission's competition concerns. | European Commission |
| | | **Introducing Bayer Environmental Science** | |

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| July 1, 2002 | Bayer CropScience | As of June 4, 2002, the acquisition of Aventis CropScience by Bayer AG became official, having received the blessings of government regulators. The result is Bayer CropScience...<br><br>Aventis was the result of AgrEvo merging with Rhone Poulenc. | Grounds Maintenance |
| June 3, 2002 | Bayer CropScience | **Bayer gets FTC green light - Breaking News Roundup - Federal Trade Commission approves Aventis Crop Science acquisition**<br><br>The US Federal Trade Commission (FTC) has approved Bayer AG's acquisition of Aventis Crop Science subject to the divestment and outlicensing of certain products. The European Commission approved the deal last month. To consummate the deal, FTC says Bayer must divest the insecticide fipronil for agricultural uses. The company can still market the product for non-agricultural uses through a co-exclusive license, except in Europe. The FTC ruling on fipronil is similar to the European Union (EU) ruling. | Chemical Market Reporter |
| November 4, 2002 | BASF AGREES to buy from Bayer the insecticide Fipronil | **BASF buys Bayer insecticides and seed treatment for [euro]1.2Bn - - Bayer AG sells Fipronil and several fungicides**<br><br>BASF HAS AGREED to buy from Bayer the insecticide Fipronil and several fungicides for seed treatment. Those were originally owned by Aventis before Bayer took over that company's crop protection business last year... The total package of products, which had sales of [euro]500 million ($490 million) in 2001, is valued at [euro]1.3 billion. But after BASF granted back-licenses to Bayer for certain nonagricultural uses, the cash purchase price amounts to [euro]1.2 billion.<br><br>As a result of the deal, BASF will be number three in the world insecticides market in which it had a weak position before its takeover of American Cyanamid two years ago. It will also become a strong operator in the world seed treatment sector. | Chemical Market Reporter |
| March 31, 2003 | BASF | **BASF may seek rebate for fipronil acquisition**<br><br>BASF AG has completed the acquisition of the insecticide fipronil and a number of seed-treatment fungicides from Bayer CropScience. However, BASF may want to renegotiate the purchase price, as Bayer AG is renegotiating the price of its acquisition of Aventis CropScience.<br><br>Bayer agreed to sell the products to BASF last autumn after the European Commission made their divestment a condition for the approval of Bayer's take-over of Aventis | Chemical Market Reporter |

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| | | CropScience. | |
| April 11, 2003 | BASF | **BASF finalizes acquisition of fipronil**<br><br>BASF AG has finalized the global acquisition of fipronil from Bayer CropScience AG, paving the way for the insecticide with the trade name Regent to join the BASF corn product portfolio... The acquisition of the package from Bayer, including fipronil, also will allow BASF in the mid-term to enter the seed treatment business, Lee noted ... | Delta Farm Press |
| February 6, 2004 | Bayer - BASF | **Icon rice seed treatment to be pulled from market**<br>... After 2004, no more Icon will be manufactured for rice. Any remaining supplies can be utilized through 2006 ...<br>Last year, about 30 percent of Arkansas' rice acres (close to 500,000 acres) had Icon on it ... Bayer subsequently sold the fipronil active ingredient to BASF Corp. | Delta Farm Press |
| February 29, 2004 | France bans fipronil<br><br>Bayer CropScience USA | **Trial Monday in rice pesticide-crawfish farmers case**<br>The defendant, originally Aventis CropScience, was bought by Bayer AG in 2002 and is now called Bayer CropScience. Bayer AG sold the pesticide involved, called fipronil, to BASF AG to meet U.S. and European regulators conditions for the Aventis purchase. However, it kept the right to sell fipronil in certain markets.<br>Bayer CropScience USA announced in February that it won't make Icon after this year because of falling sales. Remaining supplies can be used through 2006. Icon is also the only pesticide approved for use against another rice pest called the lespedeza worm or grape colaspis.<br>Last week, France's agriculture minister banned sales of fipronil because of allegations that it kills honeybees. However, the country's ecology minister acknowledged that the allegations have not been "entirely" proved. | Janet McConnaughey,<br><br>The Associated Press |
| March 3, 2004 | US EPA's Office of Research and Development's National Exposure Research Laboratory (ORD/NERL) | Fipronil is included in a<br><br>Longitudinal Study of Young Children's Exposures in their Homes to Selected Pesticides, Phthalates, Brominated Flame Retardants, and Perfluorinated Chemicals (A Children's Environmental Exposure Research Study--CHEERS) | Federal Register. [ORD-2003-0011; FRL-7630-5].<br><br>Part A: Supporting Statement, identifies Fipronil and other chemicals to be tested |
| March 29, 2004 | Amount Class Action suit of Louisiana Crawfish farmers settled | Excerpt: IT IS FURTHER ORDERED that the Settling Insurer and the Compromising Parties pay into the Escrow Account the sum of Forty-Five Million and No/100 ($45,000,000.00) Dollars (the "Settlement | Order of Preliminary Approval of Proposed Settlement<br><br>27th Judicial |

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| | for | Fund") within sixty (60) days of the execution of the Settlement Agreement. | District Court, Parish of St. Landry, Louisiana. |
| March 29, 2004 | Bayer CropScience | 1.2 The term "Bayer CropScience" shall mean and refer to Bayer CropScience LP, formerly known as Aventis CropScience USA LP, formerly known as Rhone-Poulenc Ag Company, Inc.<br><br>1.11 The term "Compromising Parties" or "Compromising Party" shall mean and refer to<br><br>(a) G & H Seed Company, Inc.,<br>(b) Bayer CropScience,<br>(c) Crowley Grain Drier, Inc.,<br>(d) Mamou Rice Drier and Warehouse, Incorporated, and<br>(e) Nolan J. Guillot, Inc. | Settlement Agreement |
| Undated (either late March 2004 or April 2004) | Aventis | **Bayer faces $US 7 million negative impact from settlement with lobster fishermen** ... The rest of the $45 million payment is covered by insurance and an agreement with BayerCropScience and Aventis, under which the French company has to cover any liabilities, Bayer said ... | ADVN - Advanced Financial Network |
| July 1, 2004 | Bayer CropScience | Bayer requested, and the US EPA approved, an Order canceling three registrations:<br>264-576 Icon 80WG fipronil<br>264-577 Icon 6.2FS fipronil<br>264-580 Icon 6.2SC fipronil<br>This cancellation order is effective July 1, 2004.<br><br>Existing stocks already in the hands of dealers or users can be distributed, sold, or used legally until they are exhausted, provided that such further sale and use comply with the EPA-approved label and labeling of the affected product. | Federal Register [OPP-2004-0208; FRL-7368-2] Fipronil; Cancellation Order for Certain Product Registrations. |
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# Growth at AgrEvo. (company's biotech joint venture with Schering AG focuses on herbicide market)(Hoechst)

Article from: Chemical Week Article date: June 26, 1996 Author: Cookson, Clive More results for: agrevo | Copyright information

Biotechnology company AgrEvo, Hoechst AG's 60-40 joint venture with Schering AG, has opened new herbicide markets with its Liberty Link coordinated product line. Liberty Link crops are genetically engineered to include their own insecticide. Canola, the first Liberty Link product, was introduced in Canada in 1995. AgrEvo is waiting for registration of corn and soybeans. AgrEvo's current worldwide agrochemical market share is nearly 9%.

Biotechnology is set to transform the agrochemicals industry as genetic engineering brings radical changes in the types of product offered to protect crops against weeds, pests, and disease.

Demand for chemical insecticides and fungicides is likely to ...

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Rhone-Poulenc Inc

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PR Newswire

# RHONE-POULENC TO EXPAND PRODUCTION AT NASHVILLE PLANT

Article from: PR Newswire Article date: January 25, 1996 More results for: Rhone-Poulenc Inc | Copyright information

CRANBURY, N.J., Jan. 25 /PRNewswire/ -- Rhone-Poulenc Inc., the U.S. subsidiary of Rhone-Poulenc S.A. (NYSE: RP), has announced that it is investing approximately $2 million to expand sodium hypophosphite production at its Nashville, Tenn., facility.

This is the initial phase of a projected overall investment of $4 million to expand production at the plant. No new jobs are expected to be created as a result of the production expansion.

Sodium hypophosphite is used primarily for electroless nickel plating. It is also used as a reducing agent and an antioxidant in resin manufacturing, and as a raw material for production of hypophosphorous acid.

The initial $2 million ...

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## Related newspaper, magazine, and journal articles:

PR Newswire

**RHONE-POULENC INVESTS $2 MILLION IN PHOSPHORIC ACID UPGRADES**
**PR Newswire**; July 15, 1996 ; 533 words...PRNewswire/ -- **Rhone-Poulenc** S.A. (NYSE...water purity. **Rhone-Poulenc** is the North...phosphates, **sodium hypophosphite**, polyphosphoric...manager of **Rhone-Poulenc** Phosphorus...1995 to expand **sodium** aluminum phosphate...production of **sodium** ...

News Wire

**Bill to Suspend Temporarily Duty on Chemical Introduced by Sen. DeMint**
**US Fed News Service, Including US State News**; May 23, 2006 ; 181 words...suspend temporarily the duty on **sodium hypophosphite**." The bill, introduced on May 16...suspend temporarily the duty on **sodium hypophosphite**. Be it enacted by the Senate and...in Congress assembled,SECTION 1. **SODIUM HYPOPHOSPHITE**.(a) In General- Subchapter II of...

CMR

**SODIUM HYPOPHOSPHITE.VP9(1)**
**Chemical Market Reporter**; June 8, 1998 ; 137 words... **SODIUM HYPOPHOSPHITE** -- Rhodia has elected to temporarily reduce pricing for **sodium hypophosphite**, monohydrate by $15 per *hundred weight...schedule and off schedule prices of* **sodium hypophosphite**, *monohydrate*. The current schedule...

CMR

**Sodium Hypophosphite Short In Wake of Disk Drive Demand**
**Chemical Market Reporter**; April 7, 1997 ; JOHNSON, DEXTER; 700+ words...manufacturers, supply for **sodium hypophosphite** has become short. As...which distributes **sodium hypophosphite** produced in France by...January 1. The scarcity of **sodium hypophosphite** can be attributed to...product manager for **sodium hypophosphite** at Elf Atochem. ...

CMR

**Sodium hypophosphite short in wake of disk drive demand.**
**Chemical Market Reporter**; April 7, 1997 ; Johnson, Dexter; 700+ words...manager for **sodium hypophosphite** at Elf Atochem...intermediates at **Rhone-Poulenc**, agrees the...growth of **sodium hypophosphite** has jumped...development, **Rhone-Poulenc** has not raised...demand for **sodium hypophosphite** in the US...

chemical

**Rhodia Adds SALP**
**Chemical Week**; September 23, 1998 ; 62 words...of a *$6.7-million sodium aluminum phosphate* (SALP) and **sodium hypophosphite** expansion at Nashville. The expansion increases the plant...says. SALP is a leavening agent used in baked goods. **Sodium hypophosphite** is used as a reducing agent and antioxidant in resins...

COMTEX

**INVESTMENT INVITED FOR SODIUM HYPOPHOSPHITE**
**AsiaInfo Services**; August 28, 1997 ; 126 words...08-28-1997 Investment Invited for **Sodium Hypophosphite** CHINA, August 27, AsiaInfo...Center of Jintai City Content: **sodium hypophosphite** is an important chemical product...

CCR

**Tianjin Zhaori Enterprise Group.**
**China Chemical Reporter**; August 16, 2000 ; 45 words... * The 12 000 t/a high-purity **sodium hypophosphite** production line has recently been completed and will soon start production in Tianjin. Thanks to the new production line developed by Tianjin Zhaori Enterprise Group, Tianjin will become a large **sodium hypophosphite** supply base in China.

Magazine

**Chemical quality and electroless nickel.(PLATING CLINIC)**
**Products Finishing**; January 1, 2007 ; Kushner, Arthur S.; 276 words...We recently changed our supplier of sodium sulfide and **sodium hypophosphite** used in our electroless nickel plating baths.

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Since making...problems prior to switching suppliers for sodium sulfide and **sodium hypophosphite**. Hence, the first thing I would do is go back to your...

CMR

**Varsal Expands in L.A.(Brief Article)**

**Chemical Market Reporter**; February 7, 2000 ; 40 words... CITING INCREASED customer demand on the West Coast, Varsal Instruments Inc. has opened a warehouse in Los Angeles to store methanesulfonic acid and **sodium hypophosphite**. Storage began in January, and the company will store other materials there as needed.

CMR

**Varsal Raises Capacity.(Brief Article)**

**Chemical Market Reporter**; December 6, 1999 ; 49 words...sulfonic acid to 4,000 metric tons. The increase was made to satisfy the demands of the pharmaceutical, agricultural, coatings and electroplating industries. The company similarly increased its production of high-purity **sodium hypophosphite**.

CMR

**Phosphorus Derivatives Industry Braces for Possible Restructuring**

**Chemical Market Reporter**; July 27, 1998 ; BROWN, ROBERT; 695 words...phosphorus oxychloride [(POCL.sub.3]) and **sodium hypophosphite**, demand has slowed in the wake of...phosphorus chemicals at FMC Corporation. **Sodium hypophosphite** is a relatively small volume chemical...industry. We've seen some hiccups in **sodium hypophosphite** exports because of the ...

CMR

**Phosphorus Derivatives Industry Braces for Possible Restructuring.**

**Chemical Market Reporter**; July 27, 1998 ; Brown, Robert; 695 words...phosphorus oxychloride [(POCL.sub.3]) and **sodium hypophosphite**, demand has slowed in the wake of...phosphorus chemicals at FMC Corporation. **Sodium hypophosphite** is a relatively small volume chemical...industry. We've seen some hiccups in **sodium hypophosphite** exports because of the ...

**EXTENDING THE LIFE OF NICKEL PLATING BATHS.(Brief Article)**

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**Rhone-Poulenc and Hoechst Agree to Accelerated Full Merger with New Timetable**

PARIS and FRANKFURT, Germany, May 17 /PRNewswire/ -- Rhone-Poulenc S.A. (NYSE: **RP**) and Hoechst AG (NYSE: **HOE**) announced today that they have agreed upon the planned accelerated full merger of both companies into Aventis by November 1999. On Tuesday, May 11, the Board of Directors of Rhone-Poulenc and the Supervisory Board of Hoechst approved the planned transaction. Kuwait Petroleum Corporation ("KPC"), the largest shareholder of Hoechst AG, also approved the planned merger in principle.

As announced on December 1, 1998, Aventis will be a merger of equals, and a French incorporated company, headquartered in Strasbourg. A strong and balanced corporate governance and senior management structure will be implemented. Jurgen Dormann will act as Chairman of the Board of Management and Jean-Rene Fourtou as Vice Chairman.

Hoechst and Rhone-Poulenc plan to submit this project to extraordinary shareholder meetings in mid-July 1999.

Prior to the merger, Hoechst intends to:

-- demerge selected chemical assets into Celanese AG
-- distribute a special dividend to its shareholders
-- repurchase a portion of its shares.

An exchange offer will then be launched by Rhone-Poulenc for all Hoechst's outstanding shares in October 1999, pending regulatory clearances and completion of all legal and fiscal procedures.

Aventis will be a publicly traded company, listed in Paris, Frankfurt and New York.

"We will achieve our goal much earlier than initially planned: the full merger into Aventis as a publicly quoted leading life sciences company," said Jean-Rene Fourtou and Jurgen Dormann, the Chairmen and CEOs of Rhone-Poulenc S.A. and Hoechst AG. "This is a major step forward for Aventis and all its shareholders."

Terms of the planned Transaction

The transaction will be realized through an exchange offer by Rhone-Poulenc -- which will be renamed Aventis -- for all the outstanding shares of Hoechst. This offer will be launched in October 1999.

Prior to this exchange offer, Hoechst will take the following steps:

-- The demerger of a substantial part of its industrial businesses announced at the end of 1998 will be expanded to include additional activities. The demerged company will comprise Celanese, Ticona, Nutrinova and Trespaphan as well as Hoechst's interests in Targor and Dyneon and other industrial and service companies. The shares of Celanese AG, a publicly quoted company, will be distributed to Hoechst's shareholders in a ratio of 1 for 10.
-- The shareholders of Hoechst will receive a special dividend amounting to Euros 1.5 billion. Eligible shareholders will also receive the full corporation tax credit. The payment of the special dividend to Hoechst's shareholders is conditional upon the successful implementation of the Aventis transaction.
-- Between mid-May and early October, Hoechst will seek to repurchase around 29 million of its own shares, equivalent to approximately 5% of the subscribed capital.

The exchange ratio for the tender offer has been set, taking into account

all of these transactions, at 3 Rhone-Poulenc shares for 4 Hoechst shares. Assuming Hoechst's repurchase of 29 million shares prior to the exchange offer and a 100% acceptance rate, the pro-forma ownership of Aventis would be 47% and 53% for Rhone-Poulenc and Hoechst shareholders respectively.

To be successful, the exchange offer will require an acceptance rate of 90%.

Expected Timetable

The key milestones to achieve the full merger of Rhone-Poulenc and Hoechst before the end of this year are the following:

| | |
|---|---|
| -- Mid-July | Rhone-Poulenc: Extraordinary Shareholders' Meeting to approve the planned Aventis transaction. |
| | Hoechst: Extraordinary Shareholders' Meeting to approve both the demerger of Celanese AG and the planned Aventis transaction. |
| -- October | Hoechst: Annual General Shareholders' Meeting to approve the special dividend. |
| | Launch of Rhone-Poulenc's exchange offer. |
| -- November | Rhone-Poulenc : Extraordinary shareholders' meeting to approve the issuance of Rhone-Poulenc shares. |
| | Closing. |

Aventis: Focus on Life Sciences

Following the completion of the exchange offer, Rhone-Poulenc will be renamed Aventis.

In line with the strategy announced on December 1, 1998, Aventis will fully focus on Life Sciences and implement the divestiture of all remaining chemical businesses.

Aventis will include the following main businesses of Rhone-Poulenc and Hoechst:

| | |
|---|---|
| -- Pharmaceuticals | Rhone-Poulenc Rorer, Hoechst Marion Roussel, Pasteur Merieux Connaught, 50% of PM-MSD (Pasteur Merieux -- Merck Sharp & Dohme, joint-venture with Merck & Co.), Centeon, and Hoechst's interest in Dade Behring. |
| -- Agriculture | Rhone-Poulenc Agro, Hoechst Schering AgrEvo, Rhone-Poulenc Animal Nutrition, 50% of Merial (joint-venture with Merck & Co.) |
| -- Chemicals and other | The animal health company Hoechst Roussel Vet, assets to be divested interests in Messer (66.7%) and Wacker-Chemie (50%) as well as a 45% share in Clariant and a 68% share in Rhodia, both publicly listed specialty chemical companies. |

Organization and Corporate Governance

Aventis will have a two-tier board structure, comprising a Supervisory Board and a Board of Management.

Together with Jurgen Dormann, Chairman, and Jean-Rene Fourtou, Vice-Chairman, the Board of Management will include Igor Landau and Horst Waesche.

It is anticipated that Marc Vienot will be named Chairman of the Supervisory Board and Martin Fruhauf Vice-Chairman. The other members will be equally designated by Rhone-Poulenc and Hoechst.

The designated Executive Committee of Aventis will be identical to the one announced on December 1, 1998. It will comprise the four members of the Board of Management and the following senior executives: Alain Godard (Chief Executive Officer of Aventis Agriculture), Richard J. Markham (Chief Executive Officer of Aventis Pharma), Patrick Langlois (Chief Financial Officer), Rene Penisson (Human Resources) and Klaus Schmieder (Chief Administrative Officer).

Aventis' corporate headquarters will be in Strasbourg, France. The headquarters of Aventis Pharma will be in Frankfurt, Germany and that of Aventis Agriculture in Lyon, France.

Since January 1999, the preparation of the integration of Aventis has been undertaken in a very positive spirit of cooperation. More than 600 individuals have been designated for senior management positions in the new company. Management will ensure that the momentum is sustained so that on closing Aventis will be positioned to immediately execute its life sciences vision.

The Aventis project is subject to the approval of the shareholders of Rhone-Poulenc and Hoechst, and clearance by the legal, fiscal and other relevant authorities.

Rhone-Poulenc S.A. is a leading life sciences company, growing through innovations in human, plant and animal health and through its specialty chemicals subsidiary, Rhodia. With sales in 1998 of FF86.8 billion (US$14.7 billion; 13.232 billion euros), the company employs 65,000 people in 160 countries worldwide.

NOTE: This press release was issued earlier today in France by Rhone-Poulenc S.A. (NYSE: **RP**).

SOURCE Rhone-Poulenc S.A.

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# *Vice President Named By Union Carbide Corp.*

Fabian Bachrach
**William M. Haile**

The election of William M. Haile as a vice president of the Union Carbide Corporation was announced yesterday by Morse G. Dial, chairman. Mr. Haile, who formerly was president of the Linde Company division of Union Carbide, will supervise the activities of Linde, National Carbon Company and Union Carbide Metals Company.

William B. Nicholson has been named president of Linde, succeeding Mr. Haile. Mr. Haile joined Union Carbide in 1925 in the New Orleans office of Linde. Mr. Nicholson joined the concern in 1935 as an engineer in the development laboratory of Linde at Newark, N. J.

The New York Times
Published: June 3, 1959
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**Classified Ad 111 -- No Title**
*New York Times (1857-Current file):* Oct 31, 1965; ProQuest Historical Newspapers The New York Times (1851 - 2004)
pg. W37



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# NEW CENTER BEGUN BY UNION CARBIDE

## $20-Million Research Site to Span Road Near Tarrytown

By FRANKLIN WHITEHOUSE

The Union Carbide Corporation has broken ground for a $20-million scientific research project near Tarrytown, N. Y., that will contain offices in a concrete "bridge" built on air rights over the Old Saw Mill River Road.

About 1,000 employes—from divisions in Newark, Indianapolis, Tonawanda, N. Y., and the headquarters here—will join the 500 workers already on the Westchester County site when the new project is ready late next year.

About 500 employes in five departments are expected to leave the New York office in the Union Carbide Building at 270 Park Avenue, where details of the project were announced at a news conference yesterday. The company employs about 5,000 people in various offices in the city.

The expansion project will consist of two connected buildings with a total of about 600,000 square feet of floor space on a 300-acre site that the company has owned for several years. The site lies astride the Old Saw Mill River Road between the Saw Mill River Parkway and Route 9A.

One building will be a 1,300-foot-long structure called a "spine," which will be built over the macadam road on concrete piers 170 feet apart. The other will contain laboratories for Union Carbide's Linde Division, which studies environmental and industrial gases, molecular sieves and metal-working processes and equipment.

The spine will have two floors of offices and a glass-enclosed pedestrian walkway 16 feet above the road. It will also contain the company's computer operations, laboratories for pure research and supporting facilities for what will become a six-building complex.

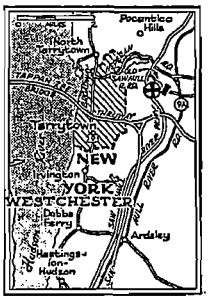
The road that cuts through the Union Carbide tract is also the dividing line between the towns of Mount Pleasant and Greenburgh. The company spent nearly a year in negotiations with both towns to obtain the rights to build over the road. Agreement was reached to let the company use the air rights for 99 years in return for a lump sum payment, the size of which is being worked out.

Zoning regulations also had to be changed to allow the supporting piers to be placed closer to the road.

It was decided to build over the road instead of rerouting the thoroughfare, according to Vincent G. Kling, the architect, because of the cost and the fact that the long concrete-and-glass building would unite the two parts of the site.

Motorists traveling between Tarrytown on the west and White Plains on the east will still be able to use the road.

Parking spaces for 1,300 cars will be provided near the Linde Division building at the southern end of the spine. A "tank farm" for storage of tubes and cylinders containing various gases in back of the Linde building will "not be exposed to visitors' eyes," Mr. Kling said.




The New York Times March 8, 1968
Cross marks project site

The New York Times
Published: March 8, 1968
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# New Jersey State Business Gateway Service
## Corporate and Business Information Reporting

## Business Entity Status Report

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**Filing Date:** 01/16/1963
**Home Jurisdiction:** DE
**Status Change Date:**
**Stock Amount:** 0
**DOR Suspension Start Date:** 01/31/1994
**DOR Suspension End Date:**
**Tax Suspension Start Date:**
**Tax Suspension End Date:**
**Annual Report Month:** 1
**Last Annual Report Filed:** 06/30/1989
**For Last Annual Report Paid Year:** 1989

**Incorporator:**
**Agent:** NO REGISTERED AGENT
**Agent Address:**

**Office Address Status:** Undeliverable
**Main Business Address:**

**Principal Business Address:**

**Associated Names**

**Name:** **Type Description:**

**Officers/Directors/Members:** Not Available

Exit Return to Main List

BAC000030

**If you would like to receive photocopies of documents filed by this business entity, mail your request to PO Box 450, Trenton, NJ 08625. Indicate the Business Entity Number(s) involved and the type of document you wish to have copies

of. Your choices are listed below:

**CHARTER DOCUMENTS**

Original Certificate Only (For example, Certificate of Incorporation);

Changes and Amendments to the Original Certificate Only; **OR**

All Charter Documents (Original Certificate and Changes/Amendments)

And/or

**ANNUAL REPORTS**

Copy of Latest Annual Report; **OR**

Copy of Annual Report for a Specific Year(s) (List the Year Desired)

**The photocopy fee for all entities except limited liability companies is $1 per page. For limited liability companies, the fee is $10 for the first page and $2 per page thereafter.**

The total fee amount for your order will vary depending on the number of pages associated with each filed document you request. You may supply us with a check with a NOT TO EXCEED instruction to cover the costs. Make the check payable to the Treasurer, State of New Jersey. Alternately, you may pay by credit card (provide card#/expiration date and cardholder information) or depository account. Please include a self-addressed envelope with your order. If you have any questions or would like information on alternative service options such as over-the-counter expedited service, call 609-292-9292 (option 3 on the main menu and then option 8), weekdays, 8:30 a.m. to 4:30 p.m.

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