FINAL
SITE INSPECTION PRIORITIZATION REPORT
DESOTO, INCORPORATED SITE
PENNSAUKEN, CAMDEN COUNTY, NEW JERSEY

CERCLIS ID No. NJD005440342

VOLUME I OF II

EPA Contract No.: 68-W7-0026
Work Order No.: 20064-052-100-4045
Document Control No.: RFW052-2A-AGRW

MARCH 2001

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Prepared by:

Roy F. Weston, Inc.
Edison, New Jersey 08837

200062

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SUBMITTED BY:

Joanne D'Onofrio — Date 3/29/01
Joanne D'Onofrio
Project Manager

for — Date 3/29/01
W. Scott Butterfield
Site Manager

for — Date 3/29/01
Dean Geers
Program Manager

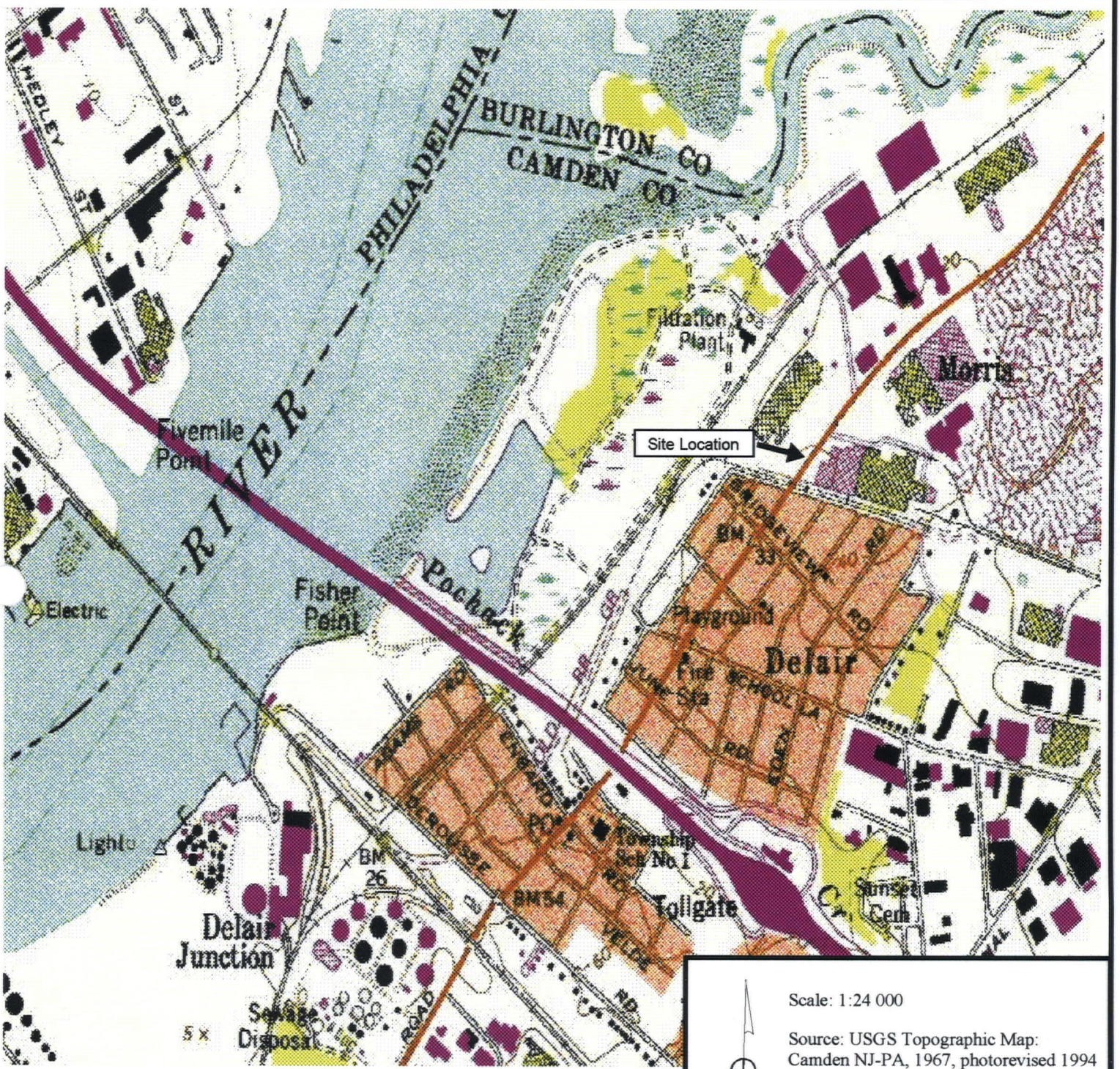
SITE SUMMARY

The Desoto, Incorporated (Desoto) site (CERCLIS ID No.: NJD005440342) located at 8600 River Road, is an active 19.3 acre site, which occupies Block 248Z, Lot 5 in Pennsauken Township, Camden County, New Jersey. The area surrounding Desoto is partially industrial with a residential area bordering the southern edge of the property along John Tipton Boulevard. The site is bordered on the north by Aluminum Shapes, Inc., on the northeast by Pennsauken Sanitary Landfill, and on the west by River Road. The City of Camden's Morris Wellfield is located approximately 1,500 feet to the west, across River Road (Ref. Nos. 1; 2, pp. 5 and 15 through 19 and 58; 3). Figures 1 and 2 present a Site Location Map and Site Map, respectively.

Desoto purchased the property from Maria K. and George B. Robeson, on March 28, 1963. The land was undeveloped prior to and shortly after the sale Desoto constructed a paint manufacturing facility for its exclusive use. The plant was designed to produce solvent-borne and water-borne coatings for the consumer market and solvent-borne coatings for industrial applications. In 1971, a dry solids detergent manufacturing operation was added to the Pennsauken plant. On August 30, 1984, Desoto sold the property to Aluminum Shapes, Inc. who owns an adjacent building on River Road, north of the site. The Delair Group, Inc., a subsidiary company of Aluminum Shapes, Inc., currently occupies the building and manufactures pools, spas, fences and miscellaneous aluminum products. The Delair Group, Inc. includes Delgard Aluminum Ornamental Fence, Esther Williams Swimming pools, Johnny Weissmuller Swimming Pools and Patriot Pool Products (Ref. Nos. 2, pp. 5, 37 through 40, 42, 48, 50, 58, 59, 61 and 248; 3, p. 1; Photograph Log Attachment 1).

On January 3, 1964, Desoto began manufacturing solvent-borne and water-borne paints at the newly constructed plant. The manufacturing of solvent-borne (oil based) paints included a blending of emulsions with organic solvents such as toluene, methyl ehtyl ketone, xylene and mineral spirits. This mixture was then blended by ball or sand mills with a titanium dioxide slurry to produce a finished product. The principal components of the water-borne (latex) paints were latex emulsion, titanium dioxide, silicas, additives and water. In the water-borne paint manufacturing process, water was used as the vehicle and high-sheer mixers, known as Hockmeyers were used instead of ball or sand mills. Both types of paints were temporarily stored in two 6,000 gallon thin-down tanks prior to packaging into cans, drums or bulk transport vehicles (Ref. No. 2, pp. 5, 48, 49, 51 and 52).

In 1971, a dry solids detergent operation was added to the Pennsauken plant. This operation involved a continuous blending of sodium carbonate, liquid sodium silicate, perfumes and other minor additives at a temperature slightly above ambient to produce the high density solid detergent. After being cooled, the finished product was conveyed to a bulk storage tank and a semi-automatic assembly line where the detergent was packaged for sale (Ref. No. 2, pp. 5 and 50).



Scale: 1:24 000

Source: USGS Topographic Map: Camden NJ-PA, 1967, photorevised 1994

Desoto, Inc. site, Pennsauken, NJ
Contract No.: 68-W7-0026
Work Order No.: 20064-052-100-4045

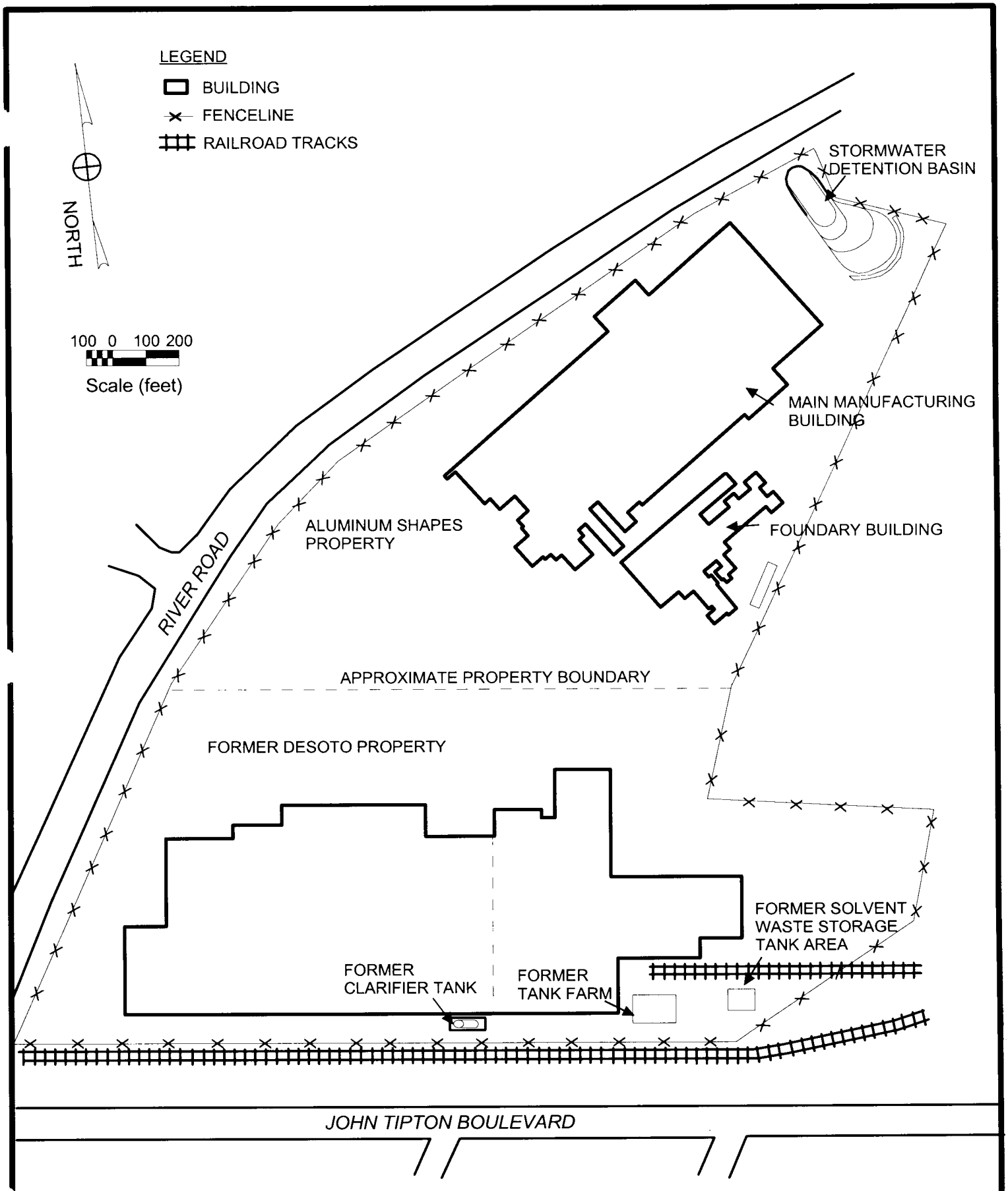
NORTH

WESTON MANAGERS DESIGNERS/CONSULTANTS

Roy F. Weston, Inc.
Edison, NJ

EPA WAM	WESTON PM
C. MOYIK	J. D'ONOFRIO

FIGURE 1
SITE LOCATION MAP



WESTON MANAGERS DESIGNERS/CONSULTANTS

Roy F. Weston, Inc.
Edison, NJ

DESOTO, INC. SITE	
EPA WAM C. MOYIK	WESTON PM J. D'ONOFRIO
FIGURE 2 SITE MAP	

SITE SUMMARY (Continued)

Wastes included solvents used to clean the ball mills, sand mills, thin-down tanks, and associated equipment between batches. This mixture was ordinarily reclaimed solvent and was known as "wash solvent". The dirty wash solvent was pumped to one of two outside, diked, bulk storage tanks where it was temporarily stored until being reclaimed by another company (Ref. No. 2, pp. 5, 6, 51, 54, 55 and 63).

Solvent-borne paints returned due to age or condition would be reused with other batches of similar paint, thus retaining the value of the raw materials. If the "off-spec" paints could not be reused, they were sent off-site and disposed of as hazardous waste. Other hazardous wastes included laboratory chemicals and samples (Ref. No. 2, p. 51).

On March 16, 1971, Desoto filed for a permit with the New Jersey Department of Environmental Protection (NJDEP), Division of Environmental Quality to operate air pollution control apparatus or equipment. The permit (Permit ID No. P-4860) was approved by the NJDEP on September 12, 1972 and expired five years later on September 12, 1977 (Ref. No. 2, p. 44).

On May 4, 1972, the Pennsauken Sewerage Authority (PSA) notified Desoto that they were in violation of local regulations for the discharge of latex paint waste to the sewerage system. In response to this violation, Desoto installed a physical/chemical (clarifier/separator) wastewater treatment system to remove pollutants from the plant effluent. This action brought the site into full compliance with the requirements of the PSA (Ref. No. 2, pp. 9, 46 and 52).

On December 5, 1973, Desoto was notified by the United State Environmental Protection Agency (EPA) for not aquiring a National Pollution Discharge Elimination System (NPDES) permit for the discharging of wastewater to a federally controlled surface water. Desoto responded, stating that they were not a point source under applicable laws and regulations, and discharged wastewater into a sewer. According to background information, no further action was pursued by the EPA (Ref. No. 2, p. 45).

In 1977, residents in the vicinity of the site complained that solvent-type emissions were eminating from the Desoto plant. The New Jersey Department of Law and Public Safety, Environmental Protection Section alleged that organic emissions and odors in excess of those allowed by regulations were being emitted from the solvent-borne coatings manufacturing operations at the facility. Desoto claimed, that the source of the odors was located at an adjacent manufacturing facility, which conducted large spray painting operations using solvent-borne coatings. Subsequently, Desoto was required to develop a compliance plan, which included developing physical and operational changes at the facility. On March 9, 1977, the NJDEP filed a complaint in Superior Court to legally bind Desoto in a Consent Judgement to the agreed upon corrective measures. The Consent Judgement was signed by Desoto and most of the corrective measures

SITE SUMMARY (Continued)

were taken in accordance with the provisions. Shortly thereafter, however, a management decision was made to discontinue the manufacturing of industrial solvent-borne coatings at the plant. Consequently, the matter was resolved to the satisfaction of the NJDEP (Ref. No. 2, pp. 6, 9, 46 and 53).

On August 25, 1977, Desoto filed for a permit with the PSA to discharge wastewater in the municipal sewerage collection system. It is unknown if a permit was issued for this discharge (Ref. No. 2, pp. 7 and 44).

On November 5, 1980, Desoto filed a "Notification of Hazardous Waste Activity" as a hazardous waste generator and a "Part A Application" as a hazardous waste storgage site with the EPA. This permit was necessary because hazardous waste was generated and subsequently stored on-site for longer than 90 days prior to off-site disposal. The permit specified the storage of 555,000 gallons in containers (SO1), storage of 12 million gallons in tanks (SO2) and 10 million gallons of treatment per day (TO1). The EPA approved the Part A permit (Permit ID No.: NJD005440342) on an unknown date (Ref. No. 2, pp. 7, 43, 44, 53, 208 through 219).

On March 23, 1981, a minor spill of approximately 1,000 gallons of insoluble titanium dioxide water slurry occurred at the Desoto plant. Approximately 90% of the 1,000 gallons was contained and cleaned-up. An estimated 50 to 100 gallons escaped through the storm sewer located on the plant property. This storm sewer is tied into other local storm sewers, which eventually discharge into marshlands adjacent to the Delaware River, approximately 0.5 miles from the site. Titanium dioxide was used in both the solvent-borne and water-borne paint manufacturing processes and is classified as a non-hazardous substance and a non-hazardous waste (Ref. No. 2, pp. 9, 15, 101, 105, 234 and 235).

A September 18, 1981, Resource Conservation Recovery Act (RCRA) inspection conducted by personnel from the NJDEP, Bureau of Hazardous Waste observed twenty-one 55-gallon drums of solvent-based paints in good condition on the drum storage pad. Seven of the drums were solidified and the remaining drums were awaiting solidification. Several minor violations were noted during the inspection including no markings on the containers, no written inspection schedule, and no personnel training plan. Housekeeping of drum storage area and overall conditions at the facility were noted to be excellent (Ref. No. 2, pp. 6, 65 through 78).

The Township of Pennsauken, in conjuction with the operation of the adjacent landfill, installed a groundwater monitoring well on the northeastern section of the Desoto property. On September 9, 1982, Desoto granted an easement (10 foot by 10 foot) which permitted the township to construct, operate, and maintain the monitoring well. The well was designed to provide data on potential subsurface migration of contaminants from the adjacent landfill (Ref. No. 2, pp. 8, 54, 229 through 232).

SITE SUMMARY (Continued)

On October 29, 1982, the NJDEP, Division of Waste Management (DWM), Bureau of Compliance and Enforcement, notified Desoto regarding the failure to submit an annual report for calendar year 1981. In response to the notice, an annual report was filed (Ref. Nos. 2, p. 47; 4).

On February 4, 1982, Desoto announced the closing of the Pennsauken Plant. The labor union representing the employees challanged Desoto's right to close the facility. A judicial order prohibiting the closing (but not ordering the resumption of manufacturing operations) of the facility was issued. For two years the matter worked its way through the Courts as well as through the National Labor Relations Board, until both reached a decision in 1984 allowing the actual "closing" of the facility due to economic reasons (Ref. No. 2, pp. 6, 42, 43, 48 and 53).

On August 22, 1983, Desoto was notified by the NJDEP/DWM, Bureau of Hazardous Waste Engineering for the failure to submit a Hazardous Waste Generator Annual Report for calendar year 1982. In response to the notice, an annual report was filed. The Bureau of Compliance and Enforcement also notified Desoto on August 31, 1983 for failure to establish financial assurance for closure and post-closure and to demonstrate financial responsibility for claims. In response to the notice, the instruments were filed to demonstrate compliance with the financial responsibility provisions under the State's hazardous waste regulations (Ref. Nos. 2, p. 47; 4).

On March 21, 1984, Desoto submitted to the NJDEP/DWM instruments of complete closure of all hazardous waste treatment and storage activities. Documentation of closure included a certification by a registered professional engineer that the site had been closed in accordance with the Closure Plan, and a Certification of Closure by the representative of the owner/operator of the site (Ref. Nos. 2, p. 7; 5). Subsequently, on June 21, 1984, the Vice President of Desoto, Inc. signed a Negative Declaration Affidavit stating that to the best of his knowledge, there has been no discharge of hazardous substances or wastes on the site, and no hazardous substances or wastes remain at the site (Ref. No. 2, p. 224). The NJDEP/DWM, Bureau of Industrial Site Evaluation disapproved the Negative Declaration dated June 21, 1984, due to the inadequate disclosure regarding the remaining wastes currently stored at the facility (Ref. No. 2, p. 225).

All operations ceased at Desoto in 1982, prior to the transfer of property ownership. Desoto was required to close through the NJDEP/DWM/Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) under the Environmental Cleanup Responsibility Act (ECRA) Program. A Preliminary ECRA Inspection was conducted on July 17, 1984, by NJDEP, Bureau of Industrial Site Evaluation personnel. Ten deficiencies were noted including 1,300 gallons of various solvents remaining in eight 4,000-gallon and three 8,000-gallon underground tanks; the unknown status and sampling of the latex paint wastewater clarifier/separator; titanium dioxide powder was found spilled on the ground adjacent to the titanium dioxide loading area; material alleged to be soda ash was observed on the railroad siding; and the remaining inventory of paint (approximately 4,000 pints) from the facility (Ref. No. 2, pp. 6, 10, 42, 48, 92 through 97).

SITE SUMMARY (Continued)

Protanic Professional Tank Investigation Corporation of Milwaukee, Wisconsin was contracted by Desoto to test each of the tank systems for possible leakage. All 14 tank systems were tested between July 17 and 23, 1984 and were found to be tight (Ref. No. 2, pp. 6, 108 through 150).

IT Corporation of Pittsburgh, Pennsylvania was contracted by Desoto to investigate possible soil contamination from the clarifier/separator unit. The tank under investigation was a four-chambered concrete vessel formerly used as a primary clarifier/separator for latex paint process water, located south of the main building. The tank was approximately 39 feet long and 11 feet wide. When active, it received effluent from the plant via a 4-inch diameter pipe. After separation of solids and liquids, tank waters were discharged to the PSA, and the sludge was sent to the Pennsauken Sanitary Landfill for disposal. Neither the wastewater from the manufacture of latex paint, or the sludge generated by the treatment of it was classified as a hazardous waste or substance, according to State or Federal regulations. On August 23, 1984, IT Corporation initiated sampling with four soil borings around the perimeter of the tank. Two samples were collected from each of the four borings. Ethylbenzene was detected in soil sample B-2A at a concentration of 16 micrograms per kilogram (ug/kg) and bis (2-ethylhexyl) phthalate was detected in sample B-2B at a concentration of 850 ug/kg. IT Corporation determined that the results of the subsurface soils adjacent to the wastewater clarifier did not pose an environmental or public health risk. According to the NJDEP/DWM, the occurrence of these specific compounds at the levels indicated did not warrant any additional sampling or cleanup. The tank was subsequently emptied, filled with sand and gravel, concreted over and covered with soil (Ref. Nos. 2, pp. 7, 9 through 11, 16, 44, 46, 52, 101, 105, 151 through 206, 237, 248, and 250; Figure 2).

On September 10, 1984, the NJDEP/DWM notified Desoto that the site identified as EPA ID No. NJD005440342 has completed closure of hazardous waste storage and treatment activities and is no longer considered a hazardous waste treatment, storage, disposal (TSD) facility (Ref. No. 2, pp. 7, 221 and 222). Subsequently, on September 28, 1984, the Vice President of Desoto, Inc. signed a Negative Declaration Affidavit stating that to the best of his knowledge, there has been no discharge of hazardous substances or wastes on the site, and no hazardous substances or wastes remain at the site (Ref. No. 2, p. 226)

On October 12, 1984, Desoto submitted to the NJDEP an ECRA Sampling Plan to address deficiencies noted during the Preliminary ECRA Inspection on July 17, 1984. Desoto removed all of the organic solvents (approximately 800 gallons) from the tanks. This material was sent for disposal to S&W Waste, Inc. in Kearny, New Jersey (Manifest No. NJ0226811) on August 8, 1984. All tanks, lines, pumps and equipment involved in the production of solvent-borne paints were emptied and cleaned. The wash solvent was retained and sent to Swope Oil and Chemical Co. of Pennsauken, New Jersey (Ref. Nos. 2, pp. 6, 53 through 56, 99 through 103, 105 and 106; 5).

SITE SUMMARY (Continued)

On November 2, 1984, the NJDEP, Bureau of Industrial Site Evaluation conducted a Final ECRA Inspection at the Desoto facility. With the exception of the remaining alleged soda ash residual, all areas outlined as deficient during the Preliminary Inspection (July 17, 1984) were adequately addressed (Ref. No. 7). Subsequently, on November 16, 1984, the NJDEP/DWM notified Desoto of their decision to approve the Negative Declaration dated September 28, 1984 by the Vice President, Desoto, Inc. This approval was based upon information provided in Desoto's Initial Notice Submission, as well as, the Final ECRA Inspection (November 2, 1984) of the site (Ref. No. 2, pp. 7 and 227).

On May 4, 1987, the NJDEP/DWM conducted a Limited RCRA Facility Assessment at the Desoto site. The assessment noted that the property was sold to Aluminum Shapes, Inc. and that the overall housekeeping practices were excellent. The facility appeared to be well kept and there was no evidence of dumping on the property (Ref. No. 2, pp. 58 and 59).

On February 19, 1991, the NJDEP, Division of Hazardous Waste Management (DHWM), Bureau of Planning and Assessment (BPA) conducted a Pre-Sampling Assessment at the Desoto site. One unit which was not addressed through ECRA or RCRA was the diked waste storage area located approximately 100 feet east of the former tank farm and in between the railroad siding and the main Penn Central railroad tracks. Although the waste storage tanks had reportedly not been used since solvent-borne paint production ended in 1977, high levels of volatile organic compounds (VOCs) were detected with an HNu photoionization detector and an Organic Vapor Analyzer (OVA) around the perimeter of the dike during the inspection (Ref. No. 2, pp. 6, 248 through 250).

On March 14, 1991, the NJDEP/DHWM/BPA performed a Site Inspection. Five soil samples were collected adjacent to the two former solvent waste storage tanks. This tank area was previously delisted as a TSD by the Bureau of Hazardous Waste Engineering on September 10, 1984. Elevated concentrations of volatile and semi-volatile organic compounds were detected (Ref. No. 2, pp. 7, 10, 11, 13, 252 through 311).

On September 20, 1991, a Preliminary Assessment was prepared by the NJDEP, Division of Reponsible Party Site Remediation (DRPSR), Bureau of Site Assessment (BSA). No further action under CERCLA was recommended (Ref. No. 8).

On September 23, 1991, a Site Inspection Report was prepared by the NJDEP/BSA. Due to the confirmed soil contamination revealed in this investigation, the BSA recommended the site be transfered to the DRPSR/Southern Field Office for implementation of a cleanup of the affected area. No further action under CERCLA is warranted (Ref. No. 2, p. 11).

SITE SUMMARY (Continued)

On June 1, 1999, Region II Superfund Technical Assessment and Response Team (START) performed an off-site reconnaissance at the Desoto facility. The Delair Group, Inc. currently occupies the building and manufactures pools, spas, fences and miscellaneous products. The Delair Group, Inc. includes Delgard Aluminum Ornamental Fence, Esther Williams Swimming Pools, Johnny Weissmuller Swimming Pools and Patriot Pool Products. The reconnaissance included a perimeter survey of the site, in order to confirm previous site information and to document existing conditions. START collected photographic evidence of the site and potential waste sources. A photograph log is presented as Attachment 1 of this report (Ref. Nos. 3; Photograph Log Attachment 1).

On May 24, 2000, Region II START and the EPA Task Monitor conducted an on-site reconnaissance to ascertain current site conditions, identify sample locations, and to screen the site for health and safety considerations. START observed that the two former solvent waste storage tanks and the concrete diked area which contained the tanks had been removed. The tanks were located approximately 100 feet east of the former tank farm and in between the railroad embankment and the Penn Central railroad tracks. Current operations and maintenance, and overall conditions at the former Desoto facility were noted by START to be excellent (Ref. No. 3).

On June 22 and 23, 2000, Region II START collected ten surface and subsurface soil samples, one groundwater sample, one duplicate sample, one matrix spike/matrix spike duplicate (MS/MSD) sample, one rinsate blank and two trip blanks from the Desoto site. START also collected four groundwater samples from existing monitoring wells located on the Aluminum Shapes property. These samples were collected as part of the Site Inspection Prioritization (SIP). All samples were analyzed for Target Compound List (TCL) and Target Analyte List (TAL), excluding cyanide, parameters through a Contract Laboratory Program (CLP). Samples were analyzed by Compuchem Environmental Corporation for TCL VOC, base/neutral and acid extractable organics (BNA), pesticides, polychlorinated biphenyls (PCBs) and TAL metals. The trip blanks were also sent to Compuchem for TCL VOC analysis. Soil samples were collected from various source areas (i.e., the former clarifier tank area, the former underground tank farm area, and the former solvent waste storage tank area) to determine waste source characterization and site attribution. Groundwater samples were collected to determine if a release of hazardous substances from the site has impacted the groundwater. No surface water or sediment samples were collected as part of this SIP investigation (Ref. Nos. 3; 22; 32; 33). Analytical results and a Sample Location Map are presented in Part III of this report.

SITE SUMMARY (Continued)

Desoto is located within the Inner Coastal Plain Physiographic Province of New Jersey, over an outcrop area of the Potomac-Raritan-Magothy (PRM) Formation. The aquifer system located within the PRM Formation is the aquifer of concern for the site. It is the most heavily utilized in the area, accounting for over 90 percent of the Burlington, Gloucester and Camden areas water supply. The City of Camden owns and operates three wellfields, Morris, Delair, and Puchack, within a 1-mile radius of the site (Ref. Nos. 2, pp.7 and 8; 12; 14). Approximately 106,278 people utilize groundwater (public and private water supplies) for drinking water purposes within a 4-mile radius of the Desoto site (Ref. Nos. 18; 19; 20). A designated wellhead protection area (WHPA) is within 4 miles of the site (Ref. No. 21). Groundwater is also used for industrial, commercial, and institutional purposes(Ref. Nos. 2, p. 8; 19, p. 9; 23). The Delaware River is the nearest downslope surface water located approximately 0.5 miles west of the site. There is an intake (Baxter Water Treatment Plant) on the Delaware River approximately 7 miles upstream of the site. An estimated 706,944 people are served by this intake. Although the Delaware River is tidal to an extent, classified as Zone 3 by the Delaware River Basin Commission, available information indicates that salt water from the ocean does not normally reach the Camden area (Ref. Nos. 19; 23; 24). The Delaware River is a fishery and provides habitat for Federal and State-listed endangered species. There are approximately 10 miles of wetland frontage along the 15-mile surface water migration pathway, and approximately 595 acres of wetlands within a 4-mile radius of the site (Ref. Nos. 23; 24; 28; 29). There are no residences, schools, day-care facilities or terrestrial sensitive environments within 200 feet of observed contamination. There are approximately 100 workers on site. Approximately 315,569 people live within 4 miles of the Desoto site (Ref. Nos. 3; 18; 20; 29).

SITE ASSESSMENT REPORT: SITE INSPECTION PRIORITIZATION REPORT

PART I: SITE INFORMATION

1. Site Name/Alias Desoto, Incorporated

   Street 8600 River Road

   City Pennsauken State New Jersey Zip 08110

2. County Camden County Code 007 Cong.Dist. 01

3. CERCLIS ID NO. NJD005440342

4. Block No. 248Z Lot No. 5

5. Latitude 39° 59' 6.0" N Longitude 75° 2' 44.0" W

   USGS Quad(s) Camden, NJ-PA

6. Approximate size of site 19.3 acres

7. Previous owner (1963 to 1984) Desoto, Inc. Telephone No. (312) 391-9000

   Street 1700 South Mt. Prospect Road

   City Des Plaines State Illinois Zip 60018

7. Current owner (1984 to present) Aluminum Shapes, Inc. Telephone No. (609) 662-5500

   Street 9000 River Road

   City Pennsauken Township State New Jersey Zip 08110

8. Operator Delair Group, Inc. subsidiary of Aluminum Shapes, Inc.

   Telephone No. (609) 663-2900

   Street 8600 River Road

   City Pennsauken Township State New Jersey Zip 08110

9. Type of Ownership

X Private __ Federal __ State

__ County __ Municipal __ Unknown __ Other _____

10. Owner/Operator Notification on File

X RCRA 3001 Date 11/5/80 CERCLA 103c Date _____

___ None ___ Unknown

11. Permit Information

1.) EPA
Permit: Hazardous Waste Permit Application, Part A
Permit Application Date: November 5, 1980
Permit Approval: Part A only
Permit Expiration Date: Not Applicable
Permit Identification Number: NJD005440342
Comment: Site delisted as a TSD facility on September 10, 1984, given a generator only status.

2.) PSA
Permit: To locate factory and to discharge wastewater
Permit Application Date: September 8, 1972
Permit Approval: Yes
Permit Expiration Date: None
Permit Identification Number: None

3.) PSA
Permit: To discharge waste in the municipal sewage collection system
Permit Application Date: August 25, 1977
Permit Approval: Unknown
Permit Expiration Date: Unknown
Permit Identification Number: Unknown

4.) NJDEP
Permit: To operate air pollution control apparatus or equipment
Permit Application Date: March 16, 1971
Permit Approval: Yes, September 12, 1972
Permit Expiration Date: September 12, 1977
Permit Identification Number: P-4860

5.) NJDEP

Permit: Application for a permit to contruct, install or alter control apparatus or equipment. Desoto was seeking permission to install conservation vents and bottom filling pipes to bulk solvent storage tanks, as well as, permission to paint the tanks white in accordance with applicable air pollution regulations.
Permit Application Date: July 20, 1976
Permit Approval: No
Permit Disapproval Date: August 10, 1976
Reason for Disapproval: Organic emissions from tanks were in excess of those allowed in accordance with the codes.
Resolution of Matter: All industrial solvent-borne coatings manufacturing operations at the site were permanently discontinued, thereby eliminating the need for the storage tanks.

6.) NJDEP

Permit: NJPDES/Significant Industrial User for discharge of wastewater to a POTW
Permit Application Date: July 27, 1981
Permit Approval: No
Resolution of Matter: Operations at the site ceased, there was no reason to pursue permitting.

12. Site Status

X Active ___ Inactive ___ Unknown

13. Years of Operation: 1963 to 1984 as Desoto, Inc. and from 1984 to present as Delair Group, Inc., a subsidiary of Aluminum Shapes, Inc.

14. 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	Contaminated Soil	Contaminated Soil

Ref. Nos. 1; 2, pp. 5 through 7, 10, 11, 13, 15 through 18, 37 through 40, 42 through 47, 51, 53, 58, 59, 61, 63, 208 through 219, 221, 222, 227, 248 through 250; 3; 9; 10; Photograph Log Attachment 1

(b) Other Areas of Concern

On March 23, 1981 a minor spill involving approximately 1,000 gallons of insoluble titanium dioxide water slurry occurred at the site. Approximately 90% of the 1,000 gallons was contained and cleaned-up. An estimated 50 to 100 gallons escaped through the storm sewer located on the plant property. This storm sewer is tied into other local storm sewers, which eventually discharge into marshlands adjacent to the Delaware River, approximately 0.5 miles from the site. Titanium dioxide was used in both the solvent-borne and water-borne paint manufacturing processes and is classified as a non-hazardous substance and a non-hazardous waste (Ref. No. 2, pp. 9, 15, 101, 105, 234 and 235).

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

- Permit to operate air pollution control equipment, submitted to NJDEP, March 16, 1971.
- Violation of local regulations for discharging latex paint waste to the sewer system, issued by PSA, May 4, 1972.
- Permit to locate factory and to dicharge wastewater, submitted to PSA, September 8, 1972.
- Permit (No. P-4860) to operate air pollution control equipment approved by NJDEP, September 12, 1972.
- Permit to construct, install or alter air control apparatus or equipment, submitted to the NJDEP, July 20, 1976.
- Complaint from residents about solvent-type emissions being emitted from the Desoto plant, 1977.
- Complaint filed by the NJDEP in Superior Court to legally bind Desoto in a Consent Judgement to the agreed upon corrective measures, March 9, 1977.
- Permit to discharge waste in the municipal sewerage collection system, submitted to the PSA, August 25, 1977.
- Notification of Hazardous Waste Activity - Part A Application, submitted to the EPA, November 5, 1980.
- Minor spill of approximately 1,000 gallons of insoluble titanium dioxide water slurry, March 23, 1981.
- A New Jersey Pollution Discharge Elimination System (NJPDES) / Significant Industrial User Permit, for discharge of wastewater to a POTW, submitted to the NJDEP, July 27, 1981.
- RCRA inspection performed by the NJDEP/DWM, September 18, 1981.
- Failure to submit an annual report for calendar year 1981, issued by the NJDEP, October 29, 1982.
- Failure to submit a Hazardous Waste Generator Annual Report for calendar year 1982, issued by the NJDEP, August 22, 1983.
- Failure to establish financial assurance for closure and post-closure and to demonstrate financial responsibility for claims, issued by the NJDEP, August 31, 1983.

15. Regulatory History (Continued)

- Documentation of complete closure of all hazardous waste treatment and storage activities, submitted to the NJDEP, March 21, 1984.
- Negative Declaration Affidavit, submitted to the NJDEP, June 21, 1984.
- ECRA Inspection performed by the NJDEP/Bureau of Industrial Site Evaluation, July 17, 1984.
- Tank tests performed by Protanic Corporation of Milwaukee, Wisconsin, July 17 and 23, 1984.
- Negative Declaration dated June 21, 1984, denied by the NJDEP, July 26, 1984.
- Soil sampling around the four-chambered tank formerly used as a clarifier/separator for latex paint process wastewater conducted by IT Corporation, Pittsburgh, Pennsylvania, August 23, 1984.
- Notification to Desoto that they were no longer considered a hazardous waste TSD facility, issued by the NJDEP, September 10, 1984.
- A Negative Declaration Affidavit was submitted to the NJDEP, September 28, 1984.
- ECRA Sampling Plan submitted to the NJDEP, October 12, 1984.
- Final ECRA Inspection performed by the NJDEP, Bureau of Industrial Site Evaluation, November 2, 1984.
- Negative Declaration dated September 28, 1984, approved by the NJDEP, November 16, 1984.
- RCRA Facility Assessment performed by the NJDEP, Division of Waste Management, May 4, 1987.
- Pre-Sampling Assessment performed by the NJDEP/DHWM/BPA, February 19, 1991.
- Site Inspection and sampling conducted by the NJDEP/DHWM/BPA, March 14, 1991.
- Preliminary Assessment Report prepared by NJDEP, September 20, 1991.
- Site Inspection Report prepared by NJDEP/DHWM/BPA, September 23, 1991.
- Off-site reconnaissance performed by Region II START, June 1, 1999.
- On-site reconnaissance performed by Region II START, May 24, 2000.
- SIP sampling event performed by Region II START, June 22 and 23, 2000.

Ref. Nos. 2, pp. 1 through 12, 37 through 40, 42 through 48, 50, 52, 53, 54, 58, 59, 61, 65 through 78, 92 through 97, 99 through 103, 105, 106, 108 through 150, 151 through 201, 208 through 219, 221, 222, 224 through 227, 229 through 232, 234, 235, 237, 248 through 250, 252 through 311; 3; 4; 5; 6; 7; 8; 22; 32; 33

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

A review of available background information indicates that neither the site nor any waste sources on site are subject to Petroleum Exclusion.

Ref. No. 2

b) Has normal farming application of pesticides registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) occurred at the site? Have pesticides been produced or stored at the site? Have there been any leaks or spill of pesticides on site?

There is no indication in the available background information that pesticides have been produced or stored on the property (approximately 19.3 acres) occupied by Desoto or that there have been any leaks or spills of pesticides on this property. There is also no indication that pesticides regulated under FIFRA have been or are applied to this property. Soil samples did however, indicate the presence of pesticides in site soils; it is possible that pesticides may have been applied to the site as part of property maintenance practices.

Ref. Nos. 2; 3; 32

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

On November 5, 1980, Desoto submitted a Part A Hazardous Waste Permit application to the EPA for the storage of 555,000 gallons in containers (S01), storage of 12 million gallons in tanks (S02), and the treatment of 10 million gallons in tanks (T01) per day. Desoto was issued a permit in accordance with RCRA for its regulated waste activities, EPA Identification No.: NJD005440342. On March 21, 1984, Desoto submitted documentation to the NJDEP regarding complete closure of all hazardous waste treatment and storage activities. Desoto was subsequently delisted from a TSD facility to a generator status only on September 10, 1984. On November 16, 1984, the NJDEP issued a Negative Declaration to Desoto. Desoto sold the property to Aluminum Shapes, Inc. on August 30, 1984. The facility no longer operates as a TSD and is therefore, not subject to RCRA Subtitle C.

Ref. Nos. 2, pp. 7, 43, 44, 61, 208 through 219, 221, 222 and 227; 5; 7

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?

Neither the site nor any waste sources on site are maintained under authority of the NRC.

Ref. No. 2

16. Do any conditions exist on site which would warrant immediate or emergency action?

    Based on available background information and observations made during the June 1, 1999 off-site reconnaissance, the May 24, 2000 on-site reconnaissance, and the June 22 and 23, 2000 on-site sampling event, conducted by Region II START, no conditions were noted to exist on site which would warrant immediate or emergency action.

    Ref. Nos. 2; 3

17. Information available from:

Contact Cathy Moyik Agency U.S. EPA Telephone No.: (212) 637- 4339
Preparer Joanne D'Onofrio Agency Roy F. Weston, Inc. Date: March 2001

PART II: WASTE SOURCE INFORMATION

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

Waste Unit 1 - Contaminated Soil

Source Type

_____	Landfill	X	Contaminated Soil
_____	Surface Impoundment	_____	Pile
_____	Drums	_____	Land Treatment
_____	Tanks/Containers	_____	Other (Unidentified)

Description:

The waste unit is contaminated soil associated with three areas of concern at the site including the former solvent waste storage tank area, the former underground tank farm area, and the former clarifier tank area.

The first area of contaminated soil is associated with the **former solvent waste storage tank area**, which was located approximately 100 feet east of the former tank farm and in between the railroad embankment and the main Penn Central railroad tracks. This concrete diked area previously contained two aboveground (elevated) storage tanks (approximately 7,000 gallons each), which were used by Desoto for storage of wastes from the manufacturing of solvent-borne paints. Wastes included solvents used to clean the ball mills, sand mills, thin-down tanks and associated equipment between batches. This mixture was usually reclaimed solvent and was referred to as "wash solvent". The dirty wash solvent was pumped to one of these two outside, diked, bulk storage tanks, where it was temporarily stored before being reclaimed by Swope Oil and Chemical Company (Co.) of Pennsauken, New Jersey. Swope Oil and Chemical Co. recovered solvents from Desoto from December, 1964 to February, 1977, when all industrial solvent-borne paint production ceased at the facility.

The second area of contaminated soil is associated with the **former underground tank farm area**. In Desoto's manufacturing of solvent-borne coatings, organic solvents such as toluene, methyl ethyl ketone, xylene and mineral spirits were used. These solvents were stored in either 14 outside underground tanks or in drums when only limited quantities were required. The tanks were located in a tank farm south of the main building and ranged in capacity from 4,000 to 8,000 gallons. The solvents were transported from the underground storage tanks to the production area through piping. During a July 17, 1984, NJDEP/DWM/Bureau of Industrial Site Evaluation inspection, several deficiencies were noted including approximately 1,300 gallons of various solvents remaining in eight 4,000-gallon and three 8,000-gallon underground tanks. On October 12, 1984, Desoto submitted an ECRA Sampling Plan to the NJDEP, which addressed the deficiencies noted in the inspection.

Desoto removed all of the organic solvents (approximately 800 gallons) from the tanks. This material was sent for disposal to S&W Waste, Inc. in Kearny, New Jersey (Manifest No. NJ0226811) on August 8, 1984. Protanic Professional Tank Investigation Corporation of Milwaukee, Wisconsin was contracted by Desoto to test each of the tank systems for possible leakage. All 14 tank systems were tested between July 17 and 23, 1984 and were found to be tight. The underground storage tanks were removed and sent to other Desoto manufacturing locations for use. Based on available background information it is not known whether any post-excavation sampling was performed.

The third area of contaminated soil is associated with the **former clarifier tank**. In 1984, IT Corporation of Pittsburgh, Pennsylvania was contracted by Desoto to investigate possible soil contamination from the clarifier/separator tank. The tank under investigation was a four-chambered concrete vessel formerly used as a primary clarifier/separator for latex paint process water, located south of the main building. The tank was approximately 39 feet long and 11 feet wide. When active, it received effluent from the plant via a 4-inch diameter pipe. After separation of solids and liquids, tank waters were discharged to the PSA, and the sludge was sent to the Pennsauken Sanitary Landfill for disposal. Neither the wastewater from the manufacture of latex paint, or the sludge generated by its treatment was classified as a hazardous waste or substance, according to State or Federal regulations.

Ref. Nos. 2, pp. 5 through 7, 9 through 11, 13, 16, 46, 48, 51, 53 through 56, 63, 82 through 84, 92, 100, 105, 108 through 149, 151 through 201, 237, 248 and 250; 3; 6; 10; Figure 3; Photograph Log Attachment 1

Hazardous Waste Quantity

Based on available information the contaminated soil associated with each of the three areas of concern (i.e., former solvent waste tanks, former tank farm, and former clarifier tank) could not be determined. Therefore, for purposes of this site assessment, the hazardous waste quantity associated with the areas of contaminated soil is assumed to be greater than 0 square feet.

Ref. Nos. 2, p. 250; 3; 10; Figure 3; Photograph Log Attachment 1

Hazardous Substances/Physical State

Former Solvent Waste Storage Tank Area

On March 14, 1991, the NJDEP/DHWM/BPA performed a site inspection at the Desoto facility. Five soil samples (Sample Nos. S1, S2, S3, S4 and S5) were collected outside and adjacent to the diked storage area. The soil samples were collected at depths ranging from the surface to 3 feet below ground surface (bgs). The samples were sent to TCT - St. Louis Laboratory in St. Louis, Missouri for full TCL analyses. Elevated levels of volatile and semivolatile organic compounds were detected in all five of the soil samples including: 2-butanone, 4-methyl-2-pentanone, toluene, ethylbenzene, xylene, tetrachloroethene, isophorone, naphthalene, 2-methylnaphthalene, di-n-butylphthalate, and bis (2-ethylhexyl) phthalate.

Analytical results from Region II START sampling event, conducted on June 22 and 23, 2000 also indicated the presence of volatiles and semivolatiles in surface soil samples (SS-4A and SS-4B) collected from the former solvent waste storage tank area. Compounds that were detected in these two samples at concentrations three times above background surface soil sample SS-1A included acetone at 85 ug/kg; methyl acetate and methylene chloride at estimated concentrations of 300 ug/kg and 330 ug/kg, respectively; toluene at 11,000 ug/kg; 2-hexanone at an estimated concentration of 1,000 ug/kg; ethylbenzene at 15,000 ug/kg; total xylene at 93,000 ug/kg; isopropylbenzene at 10,000 ug/kg; isophorone at 3,900 ug/kg; naphthalene at 36,000 ug/kg; 2-methylnaphthalene at 5,200 ug/kg; 1,1'-biphenyl at an estimated concentration of 73 ug/kg; di-n-butylphthalate at an estimated concentration of 2,200 ug/kg; and bis(2-ethylhexyl)phthalate at 2,700 ug/kg. Several metals were also detected in soil samples SS-4A and SS-4B at concentrations three times above background surface soil sample SS-1A, including aluminum at 12,700 milligrams per kilogram (mg/kg); chromium at an estimated concentration of 32.3 mg/kg; and potassium at 1,640 mg/kg.

Former Underground Tank Farm

Analytical results of soil samples (SS-3A, SS-3B, and SS-3C) collected from the tank farm, by Region II START on June 22 and 23, 2000, identified volatiles and semivolatiles at concentrations three times above background soil sample SS-1A. VOCs included 4-methyl-2-pentanone at 110 ug/kg; and estimated concentrations of acetone at 2,400 ug/kg; toluene at 2,000 ug/kg; ethylbenzene at 540 ug/kg; total xylenes at 4,300 ug/kg; and isopropylbenzene at 420 ug/kg. Semivolatile organic compounds (SVOCs) included naphthalene at 2,900 ug/kg and estimated concentrations of 2-methylphenol at 59 ug/kg; 4-methylphenol at 56 ug/kg; 2-methylnaphthalene at 290 ug/kg; 1,1'-biphenyl at 44 ug/kg; acenaphthene at 39 ug/kg; phenanthrene at 89 ug/kg; and bis(2-ethylhexyl)phthalate at 43 ug/kg.

Former Clarifier Tank

On August 23, 1984, IT Corporation initiated sampling with four soil borings around the perimeter of the tank. Two samples were collected from each of the four borings. Ethylbenzene was detected in soil sample B-2A at a concentration of 16 ug/kg and bis (2-ethylhexyl) phthalate was detected in sample B-2B at a concentration of 850 ug/kg.

Analytical results from Region II START sampling event, conducted on June 22 and 23, 2000, indicated the presence of di-n-octylphthalate at an estimated concentration of 310 ug/kg in soil sample SS-2C. This compound was detected three times above background sub-surface soil sample SS-1C collected at a depth of 30 to 32 feet bgs.

The physical state of the contaminated soil in each of the areas of concern is a solid.

Ref. Nos. 2, pp. 5 through 7, 9 through 11, 13, 46, 51, 53, 151 through 201, 248 through 250, 252 through 311; 10; 22; 32, pp. 144 through 193; 33, pp. 20 through 29; Figure 3

PART III. SAMPLING RESULTS

EXISTING ANALYTICAL DATA

On August 23, 1984, IT Corporation of Pittsburgh, Pennsylvania sampled the soils surrounding the four chambered concrete tank formerly used as a clarifier/separator for latex paint process waste water. Two samples were collected from each of four soil borings from the perimeter of the tank. One sample was collected from each boring and identified as follows:

Sample Nos.	Depth (feet bgs)	Sample Nos.	Depth (feet bgs)
B-1A	7 to 9	B-1B	11 to 13
B-2A	7 to 9	B-2B	11 to 13
B-3A	6 to 8	B-3B	10 to 12
B-4A	8 to 10	B-4B	12 to 14

The soil samples were analyzed for priority pollutants except pesticides and PCBs by IT Corporation's Laboratories, located in Export, Pennsylvania and Cerritos, California. IT Corporation's Cerritos Laboratory is certified as an EPA CLP laboratory (Ref. No. 2, pp. 7, 9 through 11, 155, 156, 161 through 164, 175, 184,193 through 201, 203 through 206, 239 through 246).

The results of laboratory testing of the collected soil samples indicated no volatile organic priority pollutants were detected in any of the soil samples, with the exception of ethylbenzene. This compound was detected in Sample (B-2A) at a concentration of 16 ug/kg. No acid-extractable priority pollutants were detected in the eight soil samples. Bis (2-ethylhexyl) phthalate was the only base-neutral extractable priority pollutant found above the detection limits in Sample B-2B at a concentration of 850 ug/kg. Based on the results of the heavy metal analysis, IT Corporation determined that the concentrations of heavy metals found in the soils around the clarifier/separator tank were within the ranges found in natural soil. Cadmium was detected at concentrations ranging from 0.05 millograms per kilogram (mg/kg) to 5.2 mg/kg. A normal concentration range of cadmium in soils was not available in the literature reviewed by IT Corporation. Cyanide was not detected above the method detection limit of 0.5 mg/kg in any of the soil samples. The results of the acid-extractable priority pollutant analysis indicates phenolic compounds ranging from 0.12 mg/kg to 3.6 mg/kg. Duplicate analysis was performed on samples, as part of the laboratory quality control (QC) program. The original lab report was not available in the background information, therefore, the analytical results presented above are as reported by IT Corporation (Ref. No. 2, pp. 165, 166, 168 through 170, 175 through 182).

On March 14, 1991, the NJDEP/DHWM/BPA performed a site inspection at the Desoto facility. Five soil samples (Sample Nos. S1, S2, S3, S4 and S5) were collected outside and adjacent to the concrete diked area located approximately 100 feet east of the former tank farm. The diked area contains two aboveground storage tanks (approximately 7,000 gallons each), which were previously used for storage of "wash solvent" generated from Desoto's solvent-borne paint manufacturing

operations. The samples were collected at a depth ranging from the surface to 3 feet bgs. The five soil samples, including a soil sample designated MS/MSD and a field blank were sent to TCT - St. Louis Laboratory in St. Louis, Missouri for TCL volatiles, semi-volatiles, pesticides/PCBs and inorganic analyses. Quality assurance (QA) validation was performed on the data. Analytical data indicated the presence of volatiles and semivolatile organics.

These constituents were detected in the soil samples collected at the Desoto site in the following concentrations:

Sample Type BSA No. Location Depth Units	Soil 03141292 S1 1.5 to 3 ft. ug/kg	Soil 03141293 S2 0 to 6 in. ug/kg	Soil 03141294 S3 0 to 6 in. ug/kg	Soil 03141295 S4 1.5 ft. ug/kg	Soil 03141296 S5 1.5 ft. ug/kg	Water 03141298 Field Blank ug/l
Methylene chloride	20	1J	ND	ND	ND	2J
2-Butanone	130	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	400E	ND	ND	ND	ND	ND
Toluene	250E	ND	ND	5,200E	66	ND
Ethylbenzene	870E	ND	ND	ND	620	ND
Xylene	4,600E	6J	13J	76,000E	10,600E	ND
Tetrachloroethene	ND	230	150	ND	ND	ND
Isophorone	8,900E	ND	130	ND	ND	ND
Naphthalene	1,300	ND	ND	7,000E	3,500	ND
2-Methylnaphthalene	200J	ND	ND	2,000	560	ND
Di-n-butylphthalate	120J	330J	380J	720	190J	ND
Bis (2-ethylhexyl) phthalate	ND	ND	310J	ND	ND	ND

Organic Qualifiers:
ND - Non-detected compound
E - Estimated value
J - Estimated value

Ref. Nos. 2, pp.7, 10, 11, 13, 248, 250, 252 through 311; 10

SITE INSPECTION PRIORITIZATION SAMPLING RESULTS

On June 22 and 23, 2000, Region II START conducted on-site soil and groundwater sampling at the Desoto facility as part of a SIP. A total of ten surface and subsurface soil samples, one groundwater sample, one duplicate sample, one MS/MSD sample, one rinsate blank and two trip blanks were collected from the Desoto site. START also collected four groundwater samples from existing monitoring wells (monitoring well Nos. 7, 8, 14, and 15) located on the Aluminum Shapes property. All samples were analyzed for TCL and TAL, excluding cyanide, parameters through a CLP. Samples were analyzed by Compuchem Environmental Corporation for TCL VOC, BNA, pesticides, PCBs and TAL metals. The trip blanks were also sent to Compuchem for TCL VOC analysis. Analytical results indicated the presence of VOCs and SVOCs at levels greater than three times background. These constituents were detected in the soils at the Desoto site (Ref. Nos. 3, pp. 15 through 19; 22; 32; 33). Selected soil sampling results are presented in Table 1. A Sample Location Map is presented as Figure 3.

Soil Sampling Results

Analytical results from Region II START sampling event indicated the presence of volatiles and semivolatiles in surface soil samples (SS-4A and SS-4B) collected from the **former solvent waste storage tank** area. Constituents that were detected at concentrations three times above background surface soil sample SS-1A included acetone at 85 ug/kg; methyl acetate and methylene chloride at estimated concentrations of 300 ug/kg and 330 ug/kg, respectively; toluene at 11,000 ug/kg; 2-hexanone at an estimated concentration of 1,000 ug/kg; ethylbenzene at 15,000 ug/kg; total xylene at 93,000 ug/kg; isopropylbenzene at 10,000 ug/kg; isophorone at 3,900 ug/kg; naphthalene at 36,000 ug/kg; 2-methylnaphthalene at 5,200 ug/kg; 1,1'-biphenyl at an estimated concentration of 73 ug/kg; di-n-butylphthalate at an estimated concentration of 2,200 ug/kg; and bis(2-ethylhexyl)phthalate at 2,700 ug/kg. Sub-surface soil sample SS-4C also indicated the presence of bis(2-Ethylhexyl)phthalate at a concentration (1,200 ug/kg) three times above sub-surface background soil sample SS-1C. Several metals were also detected in soil samples SS-4A and SS-4B at concentrations three times above background surface soil sample SS-1A, including aluminum at 12,700 milligrams per kilogram (mg/kg); chromium at an estimated concentration of 32.3 mg/kg; and potassium at 1,640 mg/kg (Ref. Nos. 32, pp. 11 through 19 and 144 through 193; 33, pp. 10, 11, and 20 through 29).

Analytical results of soil samples (SS-3A, SS-3B, and SS-3C) collected from the **former tank farm** identified volatiles and semivolatiles at concentrations three times above background soil sample SS-1A. VOCs included 4-methyl-2-pentanone at 110 ug/kg; and estimated concentrations of acetone at 2,400 ug/kg; toluene at 2,000 ug/kg; ethylbenzene at 540 ug/kg; total xylenes at 4,300 ug/kg; and isopropylbenzene at 420 ug/kg. Semivolatile organic compounds (SVOCs) included naphthalene at 2,900 ug/kg and estimated concentrations of 2-methylphenol at 59 ug/kg; 4-methylphenol at 56 ug/kg; 2-methylnaphthalene at 290 ug/kg; 1,1'-biphenyl at 44 ug/kg; acenaphthene at 39 ug/kg; phenanthrene at 89 ug/kg; and bis(2-ethylhexyl)phthalate at 43 ug/kg (Ref. No. 32, pp. 11 through 19 and 144 through 193).

DESOTO INCORPORATED
TABLE 1 - SELECTED SOIL ORGANIC SAMPLING RESULTS COMPARED TO REGULATORY CRITERIA
SOIL SAMPLING EVENT CONDUCTED BY REGION II START ON JUNE 22 & 23, 2000

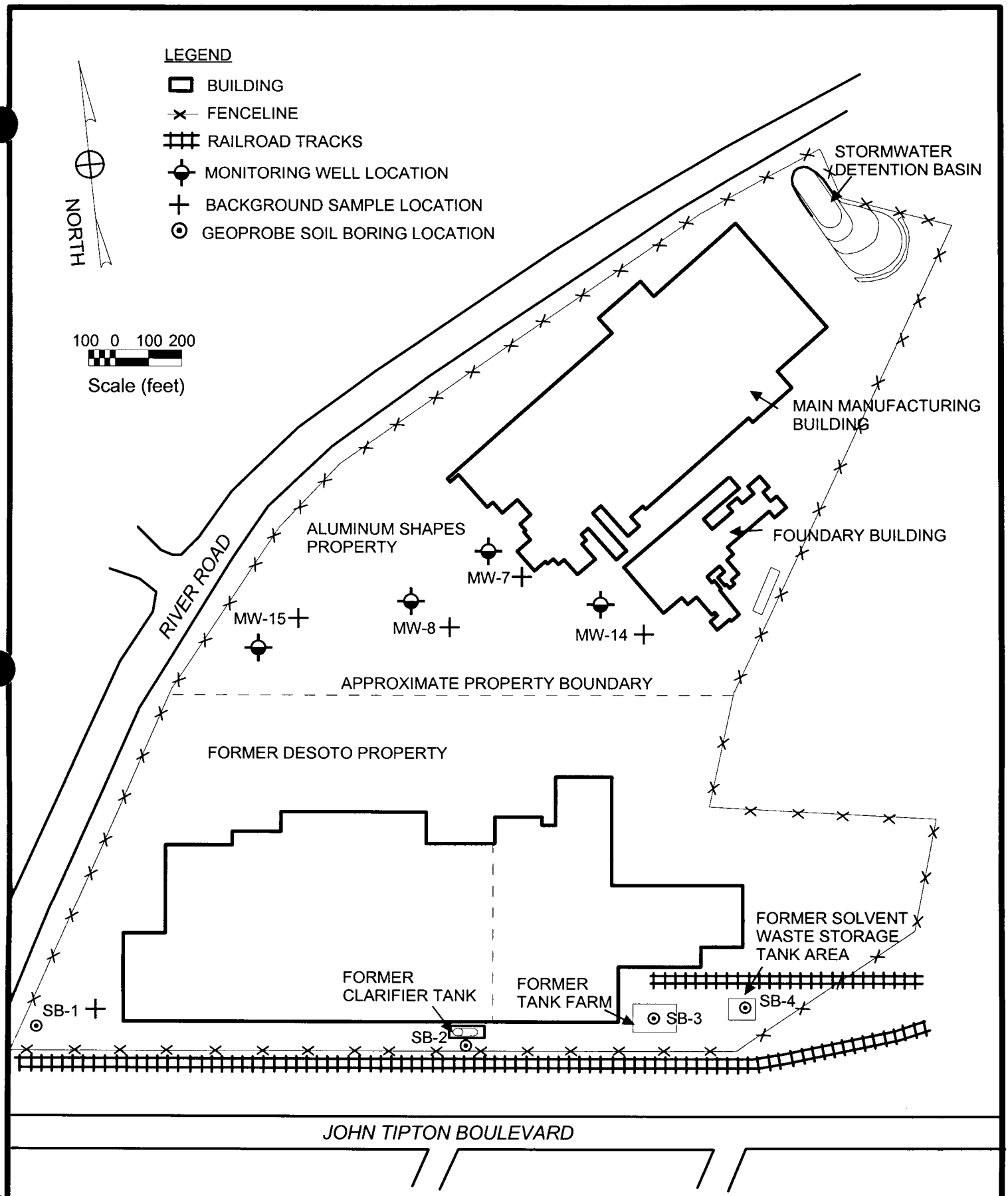
Sample Type Sample ID Lab ID Depth Units	Soil SS-3A Q1372-4 5 to 6 ft. (ug/kg)	Soil SS-3B Q1372-5 5 to 6 ft. (ug/kg)	Soil SS-4A Q1372-8 1 to 4 ft. (ug/kg)	Soil SS-4B Q1372-9 1 to 4 ft. (ug/kg)	Bkg Soil SS-1A Q1372-1 1 to 4 ft. (ug/kg)	NJDEP RDCSCC (ug/kg)	NJDEP NRDCSCC (ug/kg)	NJDEP IGWSCC (ug/kg)	EPA Generic SSL's (Ingestion) (ug/kg)
Acetone	42 UJ	**2,400 J***	**85**	U	UJ	1,000,000	1,000,000	100,000	7,800,000
Methyl acetate	U	U	U	**300 J**	U	-	-	-	-
Methylene chloride	U	U	U	**330 J**	U	49,000	210,000	1,000	85,000
4-Methyl-2-pentanone	**2 J**	**110**	U	UJ	U	1,000,000	1,000,000	50,000	-
Toluene	**46**	**2,000 J***	**1,100**	**11,000**	U	1,000,000	1,000,000	500,000	16,000,000
2-Hexanone	U	U	U	**1,100 J**	U	-	-	-	-
Ethylbenzene	**43**	**540 J***	**7,300 J***	**15,000**	U	1,000,000	1,000,000	100,000	7,800,000
Total xylenes	**280**	**4,300 J***	**78,000 J***	**93,000**	U	410,000	1,000,000	67,000	16,000,000
Isopropylbenzene	**12**	**420 J***	**590**	**10,000**	U	-	-	-	-
2-Methylphenol	U	**59 J**	U	U	U	2,800,000	10,000,000	-	3,900,000
4-Methylphenol	U	**56 J**	U	U	U	2,800,000	10,000,000	-	-
Isophorone	U	U	**1,800**	**3,900**	U	1,100,000	10,000,000	50,000	670,000
Naphthalene	U	**2,900**	**10,000 ***	**36,000 ***	U	230,000	4,200,000	100,000	3,100,000
2-Methylnaphthalene	U	**290 J**	**990**	**5,200**	U	-	-	-	-
1,1'-Biphenyl	U	**44 J**	**73 J**	U	U	-	-	-	-
Acenaphthene	U	**39 J**	U	U	U	3,400,000	10,000,000	100,000	4,700,000
Phenanthrene	U	**89 J**	U	U	U	-	-	-	-
Di-n-butylphthalate	U	U	**340 J**	**2,200 J**	U	5,700,000	10,000,000	100,000	7,800,000
Bis(2-Ethylhexyl)phthalate	U	U	**2,700**	U	U	49,000	210,000	100,000	46,000

Legend:

NJDEP - New Jersey Department of Environmental Protection
EPA - Environmental Protection Agency
RDCSCC - Residential Direct Contact Soil Cleanup Criteria
NRDCSCC - Non-Residential Direct Contact Soil Cleanup Criteria
IGWSCC - Impact to Groundwater Soil Cleanup Criteria
SSL - Soil Screening Level
Bold - Three times above background surface soil sample SS-1A
Shaded area - Above the NJDEP IGWSCC

Organic Qualifiers:

U - Non-detected compound
J - Estimated Value
* - The reported result was taken from the dilution analysis



WESTON MANAGERS DESIGNERS/CONSULTANTS

Roy F. Weston, Inc.
Edison, NJ

DESOTO, INC. SITE

EPA WAM C. MOYIK | WESTON PM J. D'ONOFRIO

FIGURE 3
SAMPLE LOCATION MAP

SITE INSPECTION PRIORITIZATION SAMPLING RESULTS (Continued)

Soil sample SS-2C collected from the **former clarifier tank** area indicated the presence of di-n-octylphthalate at an estimated concentration of 310 ug/kg. This compound was detected three times above background sub-surface soil sample SS-1C collected at a depth of 30 to 32 feet bgs (Ref. No. 32, pp. 15 and 171).

Groundwater Sampling Results

Analytical results did not indicate the presence of any VOCs or SVOCs in the grab groundwater sample (GW-1) or in the monitoring well samples (MW-7, MW-8, MW- 4, and MW-15). Acetone and methylene chloride, common laboratory contaminants were, however detected in the rinse blank (RB-1) and trip blanks (TB-1 and TB-2). Bis(2-Ethylhexyl)phthalate was also detected in RB-1 (Ref. No. 32, pp. 3 through 8, and 105 through 136).

Low level pesticides were detected in groundwater sample GW-1 and in monitoring well samples MW-7, MW-14, and MW-15. The trace amounts of pesticides detected are not considered to be attributable to site operations; it is possible that pesticides may have been applied to the site as part of property maintenance practices (Ref. No. 32, pp. 9, 10, and 137 through 143).

Several inorganics were detected in the grab groundwater sample GW-1 at concentrations significantly above the Maximum Contaminant Levels (MCLs) including arsenic at 228 micrograms per liter (ug/L), beryllium at 29.8 ug/L, cadmium at 18.7 ug/L, chromium at an estimated 1,030 ug/L, mercury at an estimated 6.7 ug/L, nickel at 316 ug/L, and thallium at 112 ug/L. The groundwater sample collected from monitoring well MW-8 also reported concentrations above the MCLs for chromium at an estimated 110 ug/L and thallium at 5.6 ug/L (Ref. No. 33, pp. 12, 13, and 36 through 42).

Based on a review of available background information, data generated from the Region II START sampling event, and target information applicable to evaluating the site under the Hazard Ranking System (HRS), it was determined that further sampling was not necessary to characterize the site (Ref. Nos. 3, pp. 15 through 19; 22; 32; 33).

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 and relationship to background.**

A release of contaminants to groundwater has not been observed nor is suspected. Analytical results of groundwater samples collected during the Region II START, June 2000 sampling event does not indicate that a release of hazardous substances attributable to previous paint manufacturing operations at the Desoto site has occurred. No VOCs or SVOCs were detected in the groundwater sample collected from the Desoto property, grab sample GW-1, or from the samples collected from existing monitoring wells (Nos. MW-7, MW-8, MW-14, and MW-15) located on the Aluminum Shapes property. Low level pesticides detected in groundwater sample GW-1 and in monitoring well samples MW-7, MW-14, and MW-15 are most likely due to property maintenance practices.

The results of the inorganic analyses indicated the presence of several metals (i.e. arsenic, beryllium, cadmium, chromium, mercury, nickel, and thallium) detected in grab sample GW-1, and in monitoring well sample MW-8 at concentrations above the MCLs. However, the metals are not representative of the contaminants detected in the source samples.

Note: Grab water sample, GW-1 collected from background soil boring location SB-1 is located in the western portion of the Desoto property in an area deemed to be free from impact of site activities. This sample location is between the areas of contaminated soil identified on-site to the east, and the City of Camden Morris Well No. 8. Morris Well No. 8 is the nearest public water supply well located approximately 1,320 feet to the northwest of the site.

Ref. Nos. 3, pp. 15 through 19; 22; 32; 33

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.

Desoto is located within the Inner Coastal Plain Physiographic Province of New Jersey, over an outcrop area of the Potomac-Raritan-Magothy (PRM) Formation. The deposits of this formation are early to late Cretaceous age and overlie crystalline bedrock which is approximately 200 feet deep. Localized beds of hematite-cemented sands also exist within the formation and have been encountered in test borings at the adjacent Pennsauken Landfill.

The PRM Formation forms a wedge-shaped body 150 to 200 feet thick on site. The aquifer system located within the PRM Formation is the aquifer of concern for this site. It is the most heavily utilized in the area, accounting for over 90 % of the Burlington, Gloucester and Camden areas water supply. It consists of aquifers composed of sand and gravel and confining units of silt and clay. The hydraulic conductivity of this material is 10^{-4} centimeters per second (cm/sec). Three major aquifers have been defined within the aquifer system; the upper, middle and lower aquifers. The hydrogeology of this system is extremely complex with several clay layers exhibiting discontinuities throughout the upper and middle aquifers. It is fairly well-documented that there is some degree of hydraulic interconnection vertically throughout the PRM aquifer system in the Camden area. The depth to the water table ranges from 35 to 56 feet bgs.

Regional geology indicates that the natural groundwater flow was originally westerly, toward the Delaware River, but increased pumpage in the PRM aquifer system has reversed the groundwater flow toward the pumping centers and the Delaware is now a recharge boundary. Depending on which of Camden's wellfields are pumping will determine the local groundwater movement however, the general direction is southwesterly.

Site specific geology indicates that the groundwater flow in the area of monitoring wells Nos. MW-7, MW-8, MW-14 and MW-15 is towards the north. This determination was made using Groundwater Elevation Contour Maps based on April 28, 2000 and May 25, 2000 synoptic water level measurements taken at the Aluminum Shapes facility.

Ref. Nos. 2, pp. 7 and 8; 12; 14; 15; 16; 17, p. 4; 34

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?

The lowest known point of waste disposal/storage is just below the ground surface, as evidenced by contaminants present in soil samples collected at depths of 1 to 4 feet, during the June 2000 Region II START sampling event. The highest seasonal level of the saturated zone of the aquifer of concern is approximately 35 to 56 feet (based on groundwater depth and elevation measurements of existing monitoring wells on Aluminum Shapes property). Therefore, the depth from the lowest point of waste disposal storage to the highest seasonal level of the aquifer of concern is 31 feet.

Ref. Nos. 3, pp. 15 through 19; 22; 32; 33; 34

4. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?

The permeability value of the least permeable layer is the sand and gravel, which is estimated to be 10^{-4} cm/sec.

Ref. Nos. 2, p. 7; 17, p. 4

5. What is the net precipitation at the site (inches)?

The net precipitation at the site is between 15 and 30 inches.

Ref. No. 17, pp. 2 and 3

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

The nearest well currently used for drinking water purposes is a public supply well (Morris Well No. 8) owned by the City of Camden. This well is located approximately 1,320 feet northwest of the Desoto site. The total depth of Morris Well No. 8 is 141 feet and is screened in the PRM aquifer.

Ref. Nos. 2, pp. 8, 26; 18; 19 p. 14

7. **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 actually contaminated by hazardous substance(s) attributed to an observed release from the site.**

There is no observed or suspected release of contaminants to groundwater, and no public supply wells are expected to be actually contaminated by hazardous substances attributable to the site. Analytical results of groundwater samples collected during the Region II START, June 2000 sampling event do not indicate that contaminants detected in on-site soils have migrated to the PRM aquifer, the aquifer of concern. No VOCs or SVOCs were detected in the groundwater sample collected from the Desoto property, grab sample GW-1, or from the monitoring well samples (Nos. MW-7, MW-8, MW-14, and MW-15) collected on the Aluminum Shapes property. Grab water sample, GW-1 collected from background soil boring location SB-1 is located in the western portion of the Desoto property in an area deemed to be free from impact of site activities. This sample location is between the areas of contaminated soil identified on-site to the east, and the City of Camden Morris Well No. 8 located approximately 1,320 feet to the northwest of the site.

The City of Camden Morris Well No. 8 is the nearest public water supply well used for drinking water and serves an estimated population of 3,176 people. Analytical results of groundwater samples collected from Morris Well No. 8 during the Region II START, June 13 & 14, 2000 sampling of the Camden Municipal Wells, do not indicate the presence of any VOC or SVOC contaminants detected in on-site soil samples.

Ref. Nos. 2, p. 8; 15; 16; 18; 19; 32; 33; 35

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

	Potomac-Raritan-Magothy (PRM) Aquifer	
Distance	Private well population	Public supply population
0 - ¼ mile	0	None Identified
>¼ - ½ mile	0	12,704
>½ - 1 mile	0	24,774
>1 - 2 miles	9	29,224
>2 - 3 miles	320	24,354
>3 - 4 miles	485	14,408
	Total 814	Total 105,464

Therefore, the total population served by either private or public groundwater supply sources within a 4-mile radius of the site is approximately 106,278 (814 + 105,464).

Ref. Nos. 18; 19; 20

State whether groundwater is blended with surface water, groundwater, or both before distribution.

The City of Camden owns and operates three wellfields, Morris, Delair and Puchack, within a 1-mile radius of the site. Other municipal water suppliers within a 4-mile radius include the Merchantville-Pennsauken Water Commission, the New Jersey-American Water Company, and the Maple Shade Township Municipal Water System. Each of these companies have systems in which groundwater is blended with groundwater (within their own system) prior to distribution.

Ref. Nos. 2, p. 8; 19

Is a designated wellhead protection area within 4 miles of the site?

A designated wellhead protection area (WHPA) is within 4 miles of the site.

Ref. No. 21

Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected, does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?

The NJDEP has delineated WHPAs in Camden County however, the maps are still in draft form and have not yet been approved. It is not known at this time whether the waste source (contaminated soil) from the site overlies a designated or proposed WHPA. For the purpose of this assessment, the waste source on site is evaluated as if it overlies a designated or proposed WHPA.

Ref. No. 21

9. **Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).**

Groundwater within 4 miles of the site is used for industrial, commercial, and institutional purposes.

Ref. Nos. 2, p. 8; 19, p. 9; 23

SURFACE WATER ROUTE

10. 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 and relationship to background.

There is no potential for off-site transport of contaminants from the site into a surface water body via the overland/flood migration component of the pathway. The nearest surface water body is the Delaware River approximately 2,640 feet (0.5 miles) west of the Desoto site. However, surface drainage or runoff from the Desoto property is restricted from entering this waterway by such intervening features as River Road and the Penn Central Railroad, which are also located west of the site. In addition, surface runoff from the site enters storm sewers located on the Desoto property. These storm sewers are tied into other local storm sewers and eventually discharge (untreated) into marshland adjacent to the Delaware River approximately 0.5 miles from the site.

Ref. Nos. 2, pp. 9, 15, 44 through 46, 52, 101, 105, 234, 235; 24; 25

11. Identify the nearest down slope surface water. If possible, include a description of possible surface drainage patterns from the site.

The nearest downslope surface water is the Delaware River located west of the site. The Delaware River flows south to southwest, approximately 15 miles to the end of the in-water segment of the target distance limit, approximately 1 mile northeast of the mouth of Mantua Creek. Surface drainage or runoff from the site enters storm sewers located on the Desoto property. These storm sewers are tied into other local storm sewers and eventually discharge (untreated) into marshland adjacent to the Delaware River approximately 0.5 miles from the site.

Ref. Nos. 2, pp. 9, 234 and 235; 24; 25

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

The distance to the Delaware River is approximately 2,640 feet (0.5 miles) to the west of the site. Runoff from the site enters on-site storm sewers. These storm sewers along with discharges from other local storm sewers enter into marshlands adjacent to the Delaware River.

Ref. Nos. 2, p. 9; 24

13. Identify all surface water body types within 15 downstream miles.

Name	Water Body Type	Flow (cfs)	Saline/Fresh/Brackish
Delaware River	Large River	>10,000 to 100,000	Brackish

Ref. Nos. 2, p. 9; 17, p. 6; 23; 24

14. Determine the 2 yr, 24 hr rainfall (inches) for the site.

The 2-year, 24 hour rainfall in the area of the site is approximately 3.5 inches.

Ref. No. 26

15. Determine size of the drainage area (acres) for sources at the site.

The size of the drainage area for sources at the site is estimated to be 19.3 acres, the size of the Desoto property. Based on the topographic map no areas upgradient of site sources could contribute runoff to the sources. Although the Pennsauken Sanitary Landfill is located northeast and upgradient of the site, Penn Central railroad tracks separate the landfill from the site property, therefore, preventing the flow or runoff onto and/or across sources at the site.

Ref. Nos. 2, pp. 16 and 18; 3; 18

16. Describe the predominant soil group in the drainage area.

The predominant soil group in the drainage area includes soils from the Downer-Woodstown-Dragston Association. These soils consist of gently sloping grayish-brown sandy soils deposited by streams or rivers. Elevations range from 5 to 100 feet above sea level.

Ref. No. 2, p. 9

17. Determine the type of floodplain that the site is located within.

The site is located in an area outside the 500-year floodplain.

Ref. No. 27

18. Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.

Intake	Distance(mi)	Population Served	Flow (cfs)
Baxter Plant	7 miles upstream	706,944 people	>10,000 to 100,000

A portion of the City of Philadelphia is located within 4 miles from the site. The city obtains its drinking water supply from three surface water intakes, with one intake located on the Delaware River upstream of the site and within the surface water migration limit. The Delaware River intake (Baxter Water Treatment Plant) is situated approximately 7 miles upstream of the site. An estimated 706,944 people are served by this intake. Although the Delaware River is tidal to an extent, classified as Zone 3 by the Delaware River Basin Commission, available information indicates that salt water from the ocean does not normally reach the Camden area.

Ref. Nos. 2, p. 9; 17, p. 6; 19, pp. 20 through 22 and 25; 23

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

Fishery Name	Water Body Type	Flow (cfs)	Saline/Fresh/Brackish
Delaware River	Large River	>10,000 to 100,000	Brackish

Ref. Nos. 2, p. 9; 17, p. 6; 23; 24; 28

20. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.

Environment	Water Body Type	Flow (cfs)	Wetland Frontage (mi)
Delaware River	Large River	>10,000 to 100,000	10
* Fish House Cove	Large River	>10,000 to 100,000	N/A
**State and Federal-listed Endangered Species (1)	Large River	>10,000 to 100,000	N/A
**State-listed Endangered Species (5)	Large River	>10,000 to 100,000	N/A

* Fish House Cove is a Natural Heritage Priority Site located on the Delaware River north of Petty Island. The site is an expansive freshwater tidal marsh habitat for rare plants including three (3) State-listed Endangered vascular plants. These species include: (*Bidens bidentoides*)-Bur-Marigold; (*Micranthemum micranthemoides*)-Nuttall's Mudwort; and (*Myriophyllum tenellum*)-Slender Water-Milfoil.

**The New Jersey Natural Heritage Database recorded these species on or in the immediate vicinity of associated waterways for the project site. The exact locations of these documented occurrences are unknown, but for HRS purposes are assumed to be on the Delaware River.

Ref. Nos. 2, p. 9; 17, p. 6; 24; 29; 30

21. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release of from the site.

There is no observed or suspected release of contaminants to surface water via overland migration, or flood migration from the site. Refer to Question 10.

Intake: None
Fishery: None
Sensitive Environment: None

Ref. Nos. 2, pp. 9, 15, 44 through 46, 52, 101, 105, 234, 235; 24

22. Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply.

The Delaware River is classified Zone 3 by the Delaware River Basin Commission. The quality of Zone 3 waters shall be maintained in a safe and satisfactory condition for the following uses: public and industrial water supplies after reasonable treatment; agricultural water supplies; secondary contact recreation; and navigation.

Ref. Nos. 2, p. 9; 23

SOIL EXPOSURE PATHWAY

23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of observed contamination.

There are no schools, or day-care centers on, or within 200 feet of observed contamination. There are residences along John Tipton Boulevard, located 75 feet south of the property boundary of the site. However, these residences are not located within 200 feet of an area of observed contamination. The site is surrounded by a well maintained fence. There have been no reported incidents of direct contact and there is no potential since all manufacturing at the Desoto facility ceased on February 4, 1982 and all hazardous wastes were hauled off site prior to the sale of the property in 1984.

Ref. Nos. 2, pp. 10, 42, 43, 53 through 56; 3

24. Determine the number of people that regularly work on or within 200 feet of observed contamination.

There are approximately 100 people that regularly work on, or within 200 feet of observed contamination.

Ref. No. 3

25. Identify terrestrial sensitive environments on or within 200 feet of observed contamination.

There are no terrestrial sensitive environments on, or within 200 feet of observed contamination.

Ref. No. 29

26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an area of observed or suspected soil contamination.

The site is located within an industrialized area with residences bordering the southern edge of the property. No area on the site is known to be utilized as a resource for commercial agriculture, silviculture, livestock production or grazing.

Ref. Nos. 2, p. 5; 3

AIR PATHWAY

27. Describe the likelihood of release of hazardous substances 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 and relationship to background.

In 1977, residents in the vicinity of the site complained about solvent-type emissions from the Desoto plant. The NJDEP, Department of Law and Public Safety, Division of Law, Environmental Protection Section alledged that organic emissions and odors in excess of those allowed by the regulations were being emitted from the solvent-borne coatings manufacturing operations at the facility. Desoto claimed that the source of the odors was an adjacent manufacturing facility which had numerous, large spray painting operations using solvent-borne coatings. Desoto's solvent-borne paint manufacturing operations ceased in 1977.

On February 19, 1991, personnel from the NJDEP/DHWM/BPA, conducted a Pre-Sampling Assessment at the site. Although the waste storage tanks had reportedly not been used since solvent-borne paint production ended in 1977, high levels of VOCs were detected with an HNu photoionization detector and an OVA around the perimeter of the dike during the inspection. OVA and HNu readings from the southern downgradient side of the dike adjacent to a brick-lined drainage grate reached 30 ppm and 5 ppm, respectively. OVA readings were also recorded (up to 20 ppm) underneath the tanks outlet valve on the southern side of the dike. This valve has been previously bolted closed with a metal plate. Although a release of contaminants associated with former site operations is suspected, there is currently no potential for a release of hazardous substances to occur at the site.

Ref. No. 2, pp. 9, 44, 46 and 248

28. Determine populations that reside within 4 miles of the site.

Distance	Population
On site	100 (estimated number of workers)
>0 - ¼ mi	226
>¼ - ½ mi	576
>½ - 1 mi	2,715
>1 - 2 mi	26,795
>2 - 3 mi	95,551
>3 - 4 mi	189,706

Approximately 315,569 people reside within 4 miles of the site.

Ref. Nos. 3; 20

29. Identify sensitive environments, including wetlands and associated wetlands acreage, within 4 miles of the site.

Distance	Wetlands Acreage	Sensitive Environments
Onsite	0	None Identified
0 - ¼ mi	0	None Identified
>¼ - ½ mi	18	None Identified
>½ - 1 mi	35	*State and Federal-listed endangered species (1) *State-listed endangered species (10) *State-listed threatened species (1)
>1 - 2 mi	175	Fish House Cove - Natural Heritage Priority Site which contains (3) State-listed endangered species
>2 - 3 mi	181	None Identified
>3 - 4 mi	186	None Identified

* The New Jersey Natural Heritage Database recorded these species in the general vicinity of the project site. The exact locations of these documented occurrences are unknown, but for HRS purposes are assumed to be on the Delaware River, which is located 0.5 miles from the site.

Ref. Nos. 2, p. 9; 24; 29; 30

30. 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.

There are no persons residing within the area of air contamination from the suspected release.

Ref. Nos. 2, p. 9; 3

31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 29, that are or may be located within the area of air contamination from the release.

There are no sensitive environments located within the area of air contamination from the suspected release.

Ref. Nos. 2, p. 9; 29

ATTACHMENT 1

ATTACHMENT 1

PHOTOGRAPH LOG

DESOTO INCORPORATED
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY

OFF-SITE RECONNAISSANCE: JUNE 1, 1999

DESOTO INCORPORATED
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY
OFF-SITE RECONNAISSANCE
JUNE 1, 1999

PHOTOGRAPH INDEX

All Photographs taken by Kiersten Dornemen

Photo No.	Photo Description	Time (hours)
1	View southeast of entrance to the facility.	1341
2	View northeast of parking lot located north of the building.	1344
3	View southeast of storage area along west side of building.	1345
4	View southeast of property fence and ornamental hedge along River Road.	1356
5	View east of Penn Central railroad and residences along John Tipton Blvd.	1358
6	View northwest of the south side of the facility, Penn Central railroad tracks and John Tipton Blvd.	1348
7	View northeast of storage area on the south side of the facility.	1347
8	View north of property fence adjacent to the railroad tracks. Storage area in the background.	1352
9	View north of concrete diked aboveground storage tank area. located in the southeast portion of the site.	1354
10	View northwest of concrete diked aboveground storage tank area located in the southeast portion of the site.	1349
11	View northeast of water tank located in the eastern portion of the site.	1350

Photo 1 - View southeast of entrance to the facility.

Photo 2 - View northeast of parking lot located north of the building.

Photo 3 - View southeast of storage area along west side of building.

Photo 4 - View southeast of property fence and ornamental hedge along River Road.

Photo 5 - View east of Penn Central railroad and residences along John Tipton Blvd.

Photo 6 - View northwest of the south side of the facility, Penn Central railroad tracks and John Tipton Blvd.

Photo 7 - View northeast of storage area on the south side of the facility.

Photo 8 - View north of property fence adjacent to the railroad tracks. Storage area in the background.

Photo 9 - View north of concrete diked aboveground storage tank area located in the southeast portion of the site.

Photo 10 - View northeast of concrete diked aboveground storage tank area located in the southeast portion of the site.

Photo 11 - View northeast of water tank located in the eastern portion of the site.

ATTACHMENT 2

REFERENCES

1. U.S. EPA Superfund Program, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), List-8I: Site/Action Listing, p. 99, April 14, 1999.

2. Site Inspection Report, Desoto, Inc., Pennsauken Township, Camden County, New Jersey, EPA ID No.: NJD005440342, prepared by NJDEP, Division of Hazardous Waste Management, Bureau of Planning and Assessment, September 23, 1991.

3. Field Logbook No. START-02-350, for Desoto, Inc. Site, Pennsauken, Camden County, New Jersey, TDD No. 02-99-08-0092, Off-site Reconnaissance and On-site Sampling Event, Region II START, Edison, New Jersey, June 1, 1999 and June 22 & 23, 2000.

4. Project Note from J. D'Onofrio, Region II START, to Desoto, Inc. File, Subject: Notice of Violations - Desoto, Inc. Site, August 30, 1999; with attachments.

5. Letter from Ken A. Walanski, P. E., Corporate Environmental Engineer, Desoto, Inc., to NJDEP, Division of Waste Mangement, RE: Closure Documents, March 21, 1984; with attachments.

6. Project Note from J. D'Onofrio, Region II START, to Desoto, Inc. File, Subject: Hazardous Waste Manifests - Desoto, Inc. Site, August 30, 1999; with attachments.

7. Report of Final ECRA Inspection, Desoto, Inc., Pennsauken, Camden County, New Jersey, ECRA Case No. 84-147, performed by NJDEP, Bureau of Industrial Site Evaluation, November 2, 1984; with attachment.

8. Preliminary Assessment Report, Desoto, Inc., Pennsauken, Camden County, New Jersey, EPA ID No.: NJD005440342, prepared by NJDEP, Division of Responsible Party Site Remediation, Bureau of Site Assessment, September 20, 1991.

9. U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, Congressional District Atlas, 103rd Congress of the United States, Volume 2, February 1993.

10. Facsimile from Frank Sorce, NJDEP, Environmental Measurements and Site Assessment, to Joanne D'Onofrio, Region II START, RE: March 14, 1991 Sampling Event at the Desoto Site, July 15, 1999.

11. Project Note from J. D'Onofrio, Region II START to Desoto, Inc. File, Subject: Pennsauken Landfill Monitoring Well Data, August 30, 1999; with attachments.

REFERENCES (Continued)

12. New Jersey District Office, Water Resources Division, U.S. Geological Survey, "The Potomac-Raritan-Magothy Aquifer System in the Camden Metropolitan Area: Cultural Impact on an Outcrop Area" by Anthony S. Navoy.

13. NJDEP, Division of Water Resources Memorandum from Robert A. Gallagher Hydrogeologist, Bureau of Groundwater Pollution Assessment to Edward Post, Chief, Southern Bureau of Regional Enforcement and Barker Hamill, Chief, Bureau of Safe Drinking Water, Subject: Puchack, Morris, and Delair Wellfields, Pennsauken Township, Camden County, Groundwater Pollution Assessment Audit, February 28, 1990.

14. City of Camden, Diversion Right Application to State of New Jersey, Division of Water Resources, W.S. Application No. 1799, "Report on Groundwater Hydrology", July 23, 1979.

15. Phone Conversation Record: Telephone conversation between Bob Gallagher, NJDEP, and Joann Wagner, Region II START, RE: Puchack Wellfield Groundwater Contamination, February 4, 1997.

16. Telecon Note: Conversation between Bill Vukoder, Principal, JCA Associates, and Joanne D'Onofrio, Region II START, RE: Pennsauken Landfill Monitoring Wells, August 31, 1999.

17. Federal Register, U.S. EPA, 40 CFR Part 300, Hazard Ranking System; Final Rule, Volume 55, No. 241, December 14, 1990.

18. Four-Mile Vicinity Map for Desoto, Inc. Site, based on U.S. Department of the Interior, Geological Survey Topographic Maps, 7.5 minute series, Quadrangles for Camden, NJ-PA, 1967 revised 1994; Beverly, NJ-PA, 1966 revised 1973; Moorestown, NJ, 1966 revised 1981; and Frankford, PA-NJ, 1967 revised 1983.

19. Project Note from J. D'Onofrio, Region II START, to Desoto, Inc. File, Subject: Groundwater Population Use Summary - Desoto, Inc. Site, August 26, 1999; with attachments.

20. Letters from Bob Frost, Frost Associates, to Diane Minsavage, Region II START, November 27, 1998.

21. Telecon Note: Conversation between Eric Roman, New Jersey Geological Survey, and Joanne D'Onofrio, Region II START, RE: Wellhead Protection Areas, July 26, 2000.

REFERENCE LIST (Continued)

22. Letter from James T. Moore, Assistant Project Manager, Region II START, to Cathy Moyik, Task Monitor, U.S. EPA, RE: Sampling Trip Report, Desoto, Incorporated, June 30, 2000; with attachments.

23. Delaware River Basin Commission, "Delaware River Basin Water Code", December 1996.

24. Fifteen-Mile Surface Water Migration Pathway Map for Desoto, Inc. Site, compiled from U.S. Department of the Interior, Fish and Wildlife Services, National Wetland Inventory Maps, 7.5 minute series (based on March 1986 and April 1989 aerial photography), Quadrangles for Camden, NJ-PA; Philadelphia, PA-NJ; and Woodbury, NJ-PA.

25. Telecon Note: Conversation between Dennis O'Rourke, Pennsauken Township Engineer, and Joanne D'Onofrio, Region II START, RE: Storm Sewer Discharge, June 30, 1999.

26. Hershfield, David M., Rainfall Frequency Atlas of the United States, U.S. Department of Commerce, Weather Bureau, Technical Paper No. 40, 1961.

27. National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Township of Pennsauken, Camden County, New Jersey, Community Panel Number 340142 0005 C, Federal Emergency Management Agency, Effective Date: October 16, 1991.

28. NJDEP and New Jersey Department of Health, "Guide to Health Advisories for Eating Fish and Crabs Caught In New Jersey Waters" March 1995 Edition.

29. Letter from Elena A. Williams, Senior Planner, Natural Heritage Program, NJDEP, to Joanne D'Onofrio, Region II START, RE: Desoto, Inc. and Associated Waterways, July 27, 1999; with attachments.

30. Project Note from J. D'Onofrio, Region II START to Desoto, Inc. File, Subject: Wetland Calculations, September 7, 1999; with attachment.

31. NJDEP, Division of Responsible Party Site Remediation, Responsible Party Cleanup Element, Directive and Notice to Insurers, in the Matter of Puchack Wellfield and Respondents, October 31, 1991.

REFERENCE LIST (Continued)

32. Memorandum from Yunru Yang, Roy F. Weston, Inc. to Joanne D'Onofrio, Region II START, Subject: Organic Data Validation Summary for Desoto Incorporated Site, RFP #6779, September 27, 2000; with attachments.

33. Transmittal Memo from Smita Sumbaly, Inorganic Data Reviewer, Region II START to Cathy Moyik, On-scene Coordinator, Removal Action Branch, U.S. EPA, Subject: Data Validation Assessment for Desoto Incorporated Site, PCS #6779, September 11, 2000; with attachments.

34. Letter from Steffi Pharo, P.G., Advanced Environmental Solutions, L.L.C., to James T. Moore, Roy F. Weston, Inc., Subject: Groundwater Elevation Contour Maps, Aluminum Shapes, L.L.C., River Road, Delair, New Jersey, Project #262-1, June 15, 2000; with attachments.

35. Project Note from J. D'Onofrio, Region II START to Desoto, Inc. File, Subject: Analytical Summary Results for Camden Municipal Well Site, November 14, 2000; with attachment.

REFERENCE NO. 1

EPA ID	Site Name Address City County Name\	Zip Code	Cong Dist	NFRAP Flag	Oprble Unit	Action Type	Action Lead	Action Qualif	Actual Start Date	Actual Compl Date
NJD046644407	DENZER & SCHAFER X-RAY CO		03							
	HICKORY LANE									
	BERKELEY TWP.	08721								
	OCEAN	029								
					00	RV 001	F	C	04/24/96	09/27/96
						SI 001	S	H	03/01/82	08/01/82
						SI 002	F	H	03/01/82	08/01/82
					01	WP 001	S		08/01/86	10/01/86
NJD002491116	DEPTFORD PLATING COMPANY, I		01	NFA						
	ROUTE 41 AND DEIN AVENUE									
	DEPTFORD TWP	08096								
	GLOUCESTER	015								
					00	DS 001	S			04/10/84
						PA 001	S	L	05/01/85	05/31/85
						SI 001	F	N	08/29/88	08/30/88
NJD005440342	DESOTO, INCORPORATED		01							
	8600 RIVER ROAD									
	PENNSAUKEN	08110								
	CAMDEN	007								
					00	DS 001	S			01/23/86
						PA 001	S	L		02/15/86
						SH 001	F		09/03/98	
						SI 001	S	H		12/30/91
NJD047318043	DETREX CHEMICAL INDUSTRIES,		04	NFA						
	835 INDUSTRIAL HIGHWAY									
	CINNAMINSON	08077								
	BURLINGTON	005								
					00	DS 001	S			02/06/86
						PA 001	S	L		03/01/86
						SI 001	S	N	01/01/90	03/30/90
NJD000820142	DEVRO INC USA		07	NFA						
	LOESSER AVE									
	SOMERVILLE	08876								
	SOMERSET	035								
					00	DS 001	F			01/29/92
						PA 001	F	N	06/26/92	09/25/92

Ref. No. 1

REFERENCE NO. 2

Reviewed: [illegible]
Recommend: [illegible]
By [illegible] Ferren

SITE INSPECTION

DeSoto, Inc

PENNSAUKEN TOWNSHIP, CAMDEN COUNTY

EPA ID No.: NJD005440342

New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Bureau of Planning and Assessment

Ref. No. 2, p. 1
(first page)

DESOTO, INC.
8600 RIVER ROAD
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY
EPA ID # NJD005440342

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ATTACHMENTS

A. TITLE OF DESOTO PROPERTY; MARCH 28, 1963; NJDEP, DIVISION OF HAZARDOUS WASTE MANAGEMENT (DHWM), BUREAU OF ENVIRONMENTAL EVALUATION AND CLEANUP RESPONSIBILITY ASSESSMENT (BEECRA)

B. GENERAL INFORMATION SUBMISSION AND SITE EVALUATION SUBMISSION, NJDEP, DHWM, BEECRA

C. INVESTIGATION REPORT; MAY 4, 1987; NJDEP, DHWM, BUREAU OF SOUTHERN ENFORCEMENT (BSE)

D. AGREEMENT OF SALE AND PURCHASE; AUGUST 30, 1984; NJDEP, DHWM, BEECRA

E. MEMO CONCERNING WASTE STORAGE; APRIL 5, 1984; NJDEP, DHWM, BUREAU OF HAZARDOUS WASTE ENGINEERING (BHWE)

F. LETTER REGARDING A USEPA INSPECTION; SEPTEMBER 18, 1981; NJDEP, DHWM, BSE

G. RCRA INSPECTION FORM; SEPTEMBER 18, 1981; NJDEP, DHWM, BSE

H. FIELD NOTES RELATING TO AMOUNT OF WASTES DISPOSED, NJDEP, DIVISION OF WATER RESOURCES (DWR), BUREAU OF GROUNDWATER POLLUTION ABATEMENT (BGWPA)

I. INVENTORY OF HAZARDOUS WASTE SHIPMENTS TO AND FROM SWOPE OIL; DECEMBER 2, 1977; NJDEP, DHWM, BEECRA

J. DIRECTIVE AND NOTICE TO INSURERS; JULY 9, 1986; NJDEP, DHWM, BSE

K. MEMO CONCERNING A JULY 17, 1984 ECRA INSPECTION; AUGUST 22, 1984; NJDEP, DHWM, BEECRA

L. ECRA INSPECTION REPORT WITH DEFICIENCIES NOTED; JULY 17, 1984; NJDEP, DHWM, BEECRA

M. ECRA SAMPLING PLAN; OCTOBER 12, 1984; NJDEP, DHWM, BEECRA

N. ADDENDUM OF INFORMATION TO THE ORIGINAL ECRA GENERAL INFORMATION SUBMISSION; JULY 23, 1984; NJDEP, DHWM, BEECRA

O. DESOTO TANK TESTING RESULTS; AUGUST 3, 1984; NJDEP, DHWM, BEECRA

P. IT CORPORATION'S CONTAMINATION INVESTIGATION OF THE CLARIFIER/SEPARATOR TANK; OCTOBER 4, 1984; NJDEP, DHWM, BEECRA

Q. IT CORPORATION'S WORK PLAN AND TANK INVESTIGATION; JULY 23, 1984; NJDEP, DHWM, BEECRA

R. USEPA NOTIFICATION OF HAZARDOUS WASTE ACTIVITY; AUGUST 8, 1980; NJDEP, DHWM, BHWE

S. LETTER FROM THE NJDEP CONCERNING DESOTO'S CLOSURE; SEPTEMBER 10, 1984; NJDEP, DHWM, BSE

T. NEGATIVE DECLARATION AFFIDAVIT; JUNE 21, 1984; NJDEP, DHWM, BEECRA

U. DEED OF EASEMENT; SEPTEMBER 9, 1982; NJDEP, DHWM, BEECRA

V. DESOTO INCIDENT REPORT; MARCH 23, 1981; NJDEP, DHWM, BSE

W. MEMO CONCERNING SAMPLING RESULTS; NOVEMBER 28, 1984; NJDEP, DHWM, BEECRA

X. ADDENDUM TO IT CORPORATION'S WORK PLAN; NJDEP, DHWM, BEECRA

Y. DESOTO PRE-SAMPLING ASSESSMENT; FEBRUARY 19, 1991; NJDEP, DHWM, BUREAU OF PLANNING AND ASSESSMENT

Z. BUREAU OF SITE ASSESSMENT SAMPLING RESULTS; MARCH 14, 1991

NARRATIVE

DESOTO, INC.
8600 RIVER ROAD
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY
EPA ID # NJD005440342

GENERAL INFORMATION AND SITE HISTORY

DeSoto, Inc. (DeSoto) is a 19.3-acre site which occupies Block 248Z, Lot 5 in Pennsauken Township, Camden County, New Jersey. The area surrounding DeSoto is partially industrial with a residential area bordering the southern edge of the property. Pennsauken Sanitary Landfill borders to the northeast and Camden's Morris Wellfield is approximately 1,000 feet to the west, across River Road. There is an estimated population of 85,000 within 4 miles.

DeSoto purchased the property from Mr. and Mrs. Robeson in March 1963. The land was undeveloped prior to the sale and immediately after the purchase, the paint manufacturing facility was constructed. The plant was designed to produce water- and solvent-borne coatings for the consumer market and solvent-borne coatings for industrial applications. In 1971 a dry solids detergent manufacturing operation was added to the Pennsauken plant. On December 4, 1984 DeSoto sold the property to Aluminum Shapes, Inc. who own an adjacent building on River Road. Two Aluminum Shapes subsidaries, Esther Williams Pools and Spas and Johnny Weismuller Products, currently occupy the building and manufacture pools, spas and miscellaneous aluminum products.

SITE OPERATIONS OF CONCERN

On January 3, 1964 DeSoto began manufacturing water-borne and solvent-borne paints at its newly constructed plant. A dry solids detergent manufacturing operation was added in 1971.

The manufacturing of solvent-borne paints included a blending of emulsions with organic solvents such as toluene, methyl ethyl ketone, xylene and mineral spirits. This mixture was then blended by ball or sand mills with a titanium dioxide slurry to produce a finished product.

In the water-borne (latex) paint manufacturing process, water, rather than organic solvent, was used as the vehicle and high-sheer mixers were used instead of ball or sand mills. The principal components of the water-borne paints were latex emulsion, titanium dioxide, silicas, additives and water. Both types of paints were temporarily stored in two 6,000-gallon thin-down tanks prior to packaging into cans, drums or bulk transport vehicles.

The dry solids detergent operation involved a continuous blending of sodium carbonate, liquid sodium silicate, perfumes and other minor additives at a temperature slightly above ambient to produce the high density solid detergent. After being cooled, the finished product was conveyed to a bulk storage tank and then to a semi-automatic assembly line where the detergent was packaged for sale.

Hazardous wastes were generated from the manufacturing of solvent-borne paints. Wastes included solvents used to clean the ball mills, sand mills, thin-down tanks and associated equipment between batches. Because of the cost of virgin solvents, this mixture was ordinarily reclaimed solvent and

was known as "wash solvent". The dirty wash solvent was pumped to one of two outside diked bulk storage tanks (approximately 7,000 gallons each) where it was temporarily held until being reclaimed by another company.

The storage tanks and diked area were inspected by the NJDEP/Division of Hazardous Waste Management (DHWM)/Bureau of Planning and Assessment (BPA) on February 19, 1991. Although the waste storage tanks had reportedly not been used since solvent-borne paint production ended in 1977, high levels of volatile organic compounds (VOCs) were detected with an HNu photoionization detector and an Organic Vapor Analyzer (OVA) around the perimeter of the dike during the inspection (Attachment Y).

Solvent-borne paints were occasionally returned because of age or condition and would be reused with other batches of similar paint, thus retaining the value of the raw materials. If the "off-spec" paints could not be reused in this manner, they were disposed of as hazardous waste. Other hazardous wastes included laboratory chemicals and samples.

All solvent-borne paint production ended in 1977 and most of the hazardous substances were removed from the thin-down and waste tanks. A September 18, 1981 Resource Concervation Recovery Act (RCRA) inspection conducted by Division of Waste Management (DWM) personnel noted twenty-one 55-gallon drums of solvent-based paints in good condition on the drum storage pad. Seven of the drums were solidified and the remaining drums were awaiting solidification. DeSoto shipped its hazardous waste to Niagara Falls, New York for two years (14 tons), Gems Landfill in Gloucester Township, New Jersey and Swope Oil located 0.5 mile to the east. Swope Oil recovered solvents from DeSoto from December 1964 to February 1977. DeSoto also disposed nonhazardous latex paint sludge (approximately 1,620 tons) from a subsurface, concrete clarifier/separator to the adjacent Pennsauken Landfill over an 18-year period.

Operations ceased at DeSoto in 1982. Before the facility could be sold, DeSoto was required to close through the NJDEP/Division of Hazardous Waste Management (DHWM)/Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) under the Environmental Cleanup Responsibility Act (ECRA) program. A NJDEP/DHWM/BEECRA inspection was conducted on July 17, 1984 with ten deficiencies noted (Attachments K and L). The deficiencies included 1,300 gallons of various solvents remaining in eight 4,000-gallon and three 8,000-gallon underground tanks; the unknown status and sampling of the latex paint wastewater clarifier/separator; and removing the remaining inventory of paint (approximately 4,000 pints) from the facility.

On October 12, 1984 DeSoto submitted to the NJDEP an ECRA Sampling Plan which addressed deficiencies noted in the above inspection. DeSoto removed all organic solvents that remained in the tanks and had the material sent for disposal to S & W Waste, Inc. in Kearny, New Jersey. All tanks, lines, pumps and equipment involved in the production of solvent-borne paints were emptied and cleaned and the wash solvent retained and sent to Swope Oil. Protanic Corp. of Milwaukee, Wisconsin was contracted to test the tank systems for possible leakage. All 14 tank systems were tested between July 17 and 23, 1984 and were found to be tight.

IT Corp. of Pittsburgh, Pennsylvania was contracted by DeSoto to investigate possible soil contamination from the clarifier/separator unit. The tank under investigation was a four-chambered concrete vessel formerly used as a primary clarifier/separator for latex paint process water. It was located south of the main plant building and was 39 feet long and 11 feet wide. When active, it received effluent from the plant via a 4-inch diameter pipe. After separation of solids and liquids, tank waters were discharged to the Pennsauken Sewerage Authority. On August 23, 1984, IT Corp. initiated sampling with four soil borings around the tank. Analytical data from the sampling episode revealed no environmental or public health risk posed by the concentrations of substances found in the samples. The tank was subsequently filled with sand and gravel, concreted over and covered with soil. Over 4,000 one pint cans of latex paint were removed and properly disposed of. The remaining deficiencies addressed during the July 17, 1984 inspection by the NJDEP/BEECRA involved nonhazardous wastes and were remediated by DeSoto (Attachment M).

DeSoto submitted a Part A Hazardous Waste Permit Application to the USEPA on November 5, 1980. The permit specified the storage of 555,000 gallons in containers, storage of 12 million gallons in tanks and 10 million gallons of treatment per day. DeSoto received approval from the Pennsauken Sewerage Authority to discharge wastewater into the municipal sewage colletion system in August 1977. It is unknown if a permit was issued for this discharge.

On March 21, 1984 DeSoto submitted to the NJDEP documentation of complete closure of all hazardous waste treatment and storage activities. DeSoto was subsequently delisted as a treatment, storage and disposal (TSD) facility on September 10, 1984. Based on a NJDEP/DHWM/BEECRA investigation and DeSoto's Initial Notice Submission, a Negative Declaration was issued on November 16, 1984.

The NJDEP/Division of Hazardous Waste Management (DHWM)/Bureau of Planning and Assesment (BPA) conducted a Site Inspection at Desoto on March 14, 1991. Five soil samples were collected adjacent to the two former solvent waste storage tanks. This tank area was previously delisted as a TSD by the Bureau of Hazardous Waste Engineering in September 1984. The results will be discussed below.

GROUNDWATER ROUTE

DeSoto is located within the Inner Coastal Plain Physiographic Province of New Jersey, over an outcrop area of the Potomac-Raritan-Magothy (PRM) Formation. The deposits of this formation are of early to late Cretaceous age and overlie crystalline bedrock which is approximately 200 feet deep. Localized beds of hematite-cemented sands also exist within the formation and have been encountered in test borings at the adjacent Pennsauken Landfill.

The PRM Formation forms a wedge-shaped body 150 to 200 feet thick on site. The aquifer system located within the PRM Formation is the most heavily utilized in the area, accounting for over 90 percent of the Burlington, Gloucester and Camden area's water supply. It consists of aquifers composed of sand and gravel and confining units of silt and clay. Three major aquifers have been defined within the aquifer system; the upper, middle and lower aquifers. The hydrogeology of this system is extremely

complex with several clay layers exhibiting discontinuities throughout the upper and middle PRM system.

The Township of Pennsauken, in conjunction with its operation of the adjacent landfill, installed a groundwater monitoring well on the northeastern section of the DeSoto property. The date of this installation is unknown. DeSoto granted an easement (10 feet by 10 feet) which would allow the township to construct, operate and maintain the monitoring well. The well was designed to provide data on potential subsurface migration of contaminants from the landfill. Discharges of contaminants from the landfill have contributed to the local and regional groundwater contamination problem.

The City of Camden owns and operates three wellfields, Morris, Delair and Puchack, within a 1-mile radius of the site. The Morris Wellfield is located to the west across River Road about 1,500 feet from the site. With its nine operable wells, it is the City of Camden's most productive wellfield pumping approximately 18 million gallons per day (mgd). The Delair Wellfield is located several hundred feet south of the Betsy Ross Bridge and consists of three wells with a capacity of 5,340 gallons per minute (gpm). The Puchack Wellfield also borders the Betsy Ross Bridge and currently has three operable wells which are blended with water from the Morris Wellfield. All of Camden's municipal wells draw water from the lower PRM aquifer and range in depth from 107 feet to 290 feet. These three wellfield systems service 50,000 residents.

In general, Camden's wellfields have a history of high levels of iron, manganese, chromium, mercury and volatile organic compounds (VOCs). The localized cone of depression around the wellfields is significant enough to capture contaminants introduced into the groundwater table.

Other municipal water suppliers within a 4-mile radius include the Merchantville-Pennsauken Water Commission (serving 50,000 residents), the New Jersey-American Water Company (serving 36,500 residents) and the Maple Shade Township Municipal Water System (serving 20,500 residents). Well logs indicate several domestic supply wells in the area but the Merchantville-Pennsauken Water Commission and the NJDEP, Division of Water Resources (DWR), Bureau of Southern Enforcement (BSE) have no knowledge of any private domestic wells currently being used.

There are approximately 11 industrial wells within a 4-mile radius.

Originally, the natural groundwater flow was westerly, towards the Delaware River, but increased pumpage in the PRM aquifer system has reversed the groundwater flow toward the pumping centers and the Delaware River is now a recharge boundary. Depending on which of Camden's wellfields are pumping will determine the local groundwater movement, however, the general movement is southwesterly.

Because on site soil contamination has been detected in the latest round of sampling, there is a potential for contaminants to migrate to the groundwater.

SURFACE WATER ROUTE
The Delaware River lies 0.5 mile to the west and Pennsauken Creek (classified as FW-2 Non-Trout waters) lies approximately 2,000 feet to the north of DeSoto. The Delaware River is used primarily for industrial purposes. There are no upstream and downstream surface water intakes used for drinking purposes within 15 miles of the site.

The state and federally endangered shortnose sturgeon inhabits the river. There are wetlands associated with the river 0.5 mile from the site.

On May 4, 1972 the Pennsauken Sewerage Authority notified DeSoto that they were in violation of local regulations because of latex paint waste discharges to the sewerage system. In response, DeSoto installed a clarifier/separator treatment system to remove pollutants from the plant effluent.

On March 23, 1981 a spill involving approximately 1,000 gallons of titanium dioxide water slurry occurred at the site. Most of the slurry was contained and cleaned up, however, between 50 and 100 gallons escaped through the storm sewer and discharged into marshlands which lead to the Delaware River approximately 0.5 mile away. Titanium dioxide has a high whiting power and a small amount of material will color a large volume of water.

AIR ROUTE
In 1977 residents in the vicinity complained about solvent-type emissions from the DeSoto plant. The State of New Jersey, Department of Law and Public Safety, Environmental Protection Section required DeSoto to develop a compliance plan which included certain physical and operational changes at the facility. On March 9, 1977, the State filed a complaint in Superior Court to legally bind DeSoto in a Consent Judgement to the agreed upon corrective measures. The Consent Judgement was signed by DeSoto and most of the corrective measures were taken in accordance with the provisions. Shortly thereafter, however, a management decision was made to discontinue the manufacturing of industrial solvent-borne coatings at the plant and the matter was resolved.

DeSoto had a permit to operate air pollution control apparatus or equipment (#P-4860) approved by the NJDEP on September 12, 1972 and expired on September 12, 1977.

There is no potential for air contamination as the current facility operations do not produce contaminants that may migrate to air.

SOIL
The soils underlying the site are a member of the Downer-Woodstown-Dragston Association. These soils consist of gently sloping grayish-brown sandy soils deposited by streams or rivers. Elevations range from 5 to 100 feet above sea level.

Soils surrounding the four-chambered concrete tank formerly used as a clarifier/separator for latex paint process waste water were sampled on August 23, 1984 by IT Corp. of Pittsburgh, Pennsylvania. Two samples were collected from each of four soil borings from the perimeter of the tank. Two contaminants, bis (2-ethylhexyl) phthalate and cadmium were detected at

a level of 850 parts per billion (ppb) and 5.2 parts per million (ppm), respectively, in two of the samples. The occurrence of these specific compounds at the levels indicated did not warrant any additional sampling or cleanup. The NJDEP, DHWM, BEECRA approved a negative declaration for DeSoto subsequent to this investigation.

During the July 17, 1984 NJDEP, DHWM, BEECRA inspection, titanium dioxide powder was spilled on the ground adjacent to the titanium dioxide loading area and material alleged to be soda ash was observed on the railroad siding. These and other deficiencies were addressed and cleaned up in an October 12, 1984 ECRA Sampling Plan (Attachment M).

On March 14, 1991 the NJDEP/DHWM/BPA performed a site inspection at the facility. Five soil samples were collected adjacent to two aboveground solvent waste storage tanks located 100 feet east of the former tank farm. Elevated levels of volatile and semivolatile organic compounds were detected.

DIRECT CONTACT
There have been no reported incidents of direct contact and there is no potential since operations ceased in 1982 and all hazardous wastes were hauled off site prior to the sale of the property.

FIRE AND EXPLOSION
There have been no reported incidents of fire and explosion and there is no potential due to the cessation of operations.

ADDITIONAL CONSIDERATIONS
There has been no reported damage to flora, fauna, off-site property or contamination of the food chain and there is no potential for such damage.

ENFORCEMENT ACTIONS
Other than the violations addressed during the July 17, 1984 NJDEP, DHWM, BEECRA inspection, there have been no enforcement actions cited against DeSoto.

SUMMARY OF SAMPLING DATA

1.	Sampling date:	August 23, 1984
	Sampled by:	IT Corporation 5103 Old William Penn Highway Pittsburgh, Pennsylvania 15632
	Samples:	Four soil boring samples
	Laboratory:	IT Corporation 5103 Old William Penn Highway Pittsburgh, Pennsylvania 15632 Lab Certification # 77564
	Parameters:	All priority pollutants except pesticides and polychlorinated biphenyls (PCBs)

Sample description:	Four soil borings were drilled around the perimeter of the clarifier/separator tank. One sample was collected from each boring at approximately 8 feet (1A, 2A, 3A and 4A) and another sample was collected from each boring at approximately 12 feet (1B, 2B, 3B and 4B).
Contaminants detected:	Cadmium was detected ranging from 0.05 ppm to 5.2 ppm. Bis (2-ethylhexyl)phthalate was detected at 850 ppm in one sample.
QA/QC:	None
File location:	Attachment P NJDEP/DRPSR/BEECRA 401 E. State Street Trenton, New Jersey

2.

Sampling date:	March 14, 1991
Sampled by:	NJDEP/DRPSR/BSA Robbinsville, New Jersey
Samples:	Five soil samples
Laboratory:	TCT-St. Louis St. Louis, Missouri Lab Certification No. 64777
Parameters:	Total USEPA Target Compound List
Sample description:	Five soil samples were collected adjacent to two aboveground waste solvent tanks. The samples were collected at a depth ranging from the surface to 3 feet
Contaminants detected:	High levels of volatiles and semivolatiles were detected. (See Table 1)
QA/QC:	One field blank was collected. A chain-of-custody was implemented. A formal QA validation was performed on the data.
File location:	Attachment Z NJDEP/DRPSR/BSA Robbinsville, New Jersey

Recommendations

Because of the confirmed soil contamination revealed in this investigation, the Bureau of Site Assessment recommends the site be transfered to the DRPSR/Southern Field Office for implementation of a cleanup of the affected area. No further action under CERCLA is warranted.

11

Submitted by:

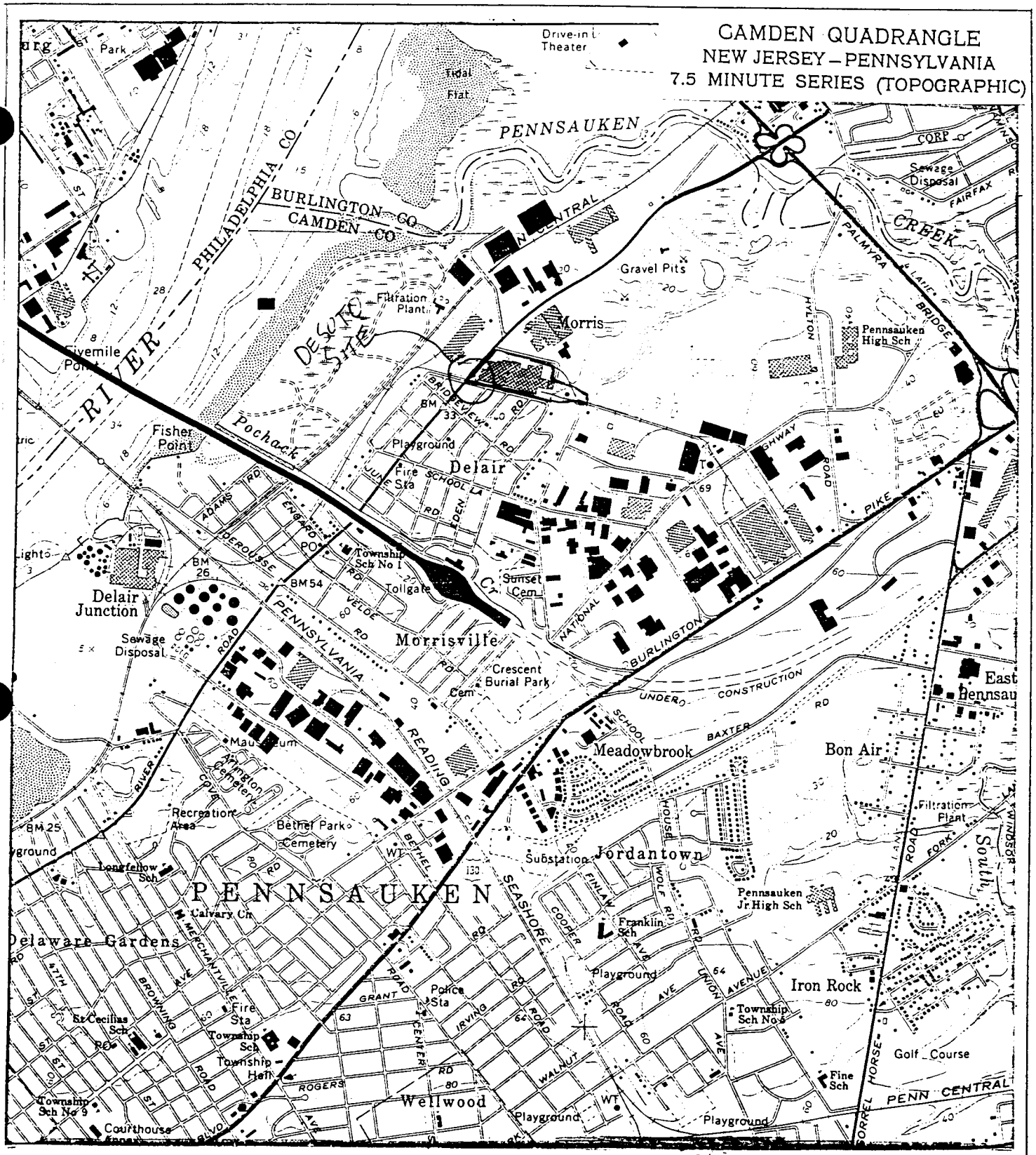
Dan Maltese
HSMS IV
Bureau of Site Assessment
September 23, 1991

TABLE 1

Contaminant	S1	S2	S3	S4	S5
Depth	1.5' to 3'	0 to 6"	0 to 6"	1.5'	1.5'
2-butanone	130				
4-methyl-2-pentanone	400E				
toluene	250E			5,200E	66
ethylbenzene	870E				620
xylene	4,600E	6J	13J	76,000E	10,600E
tetrachloroethene		230	150		
isophorone	8,900E		130		
naphthalene	1,300			7,000E	3,500
2-methylnaphthalene	200J			2,000	560
di-n-butylphthalate	120J	330J	380J	720	190J
bis(2-ethylhexyl)phthalate			310J		

All values are in ppb
blanks indicate non detect values
E= estimated value
J= estimated value

MAPS



1 ½ 0

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

EPA ID # NJD005440342

Lat: 39 59 06 Lon: 75 02 44

15

ATTACHMENT Map

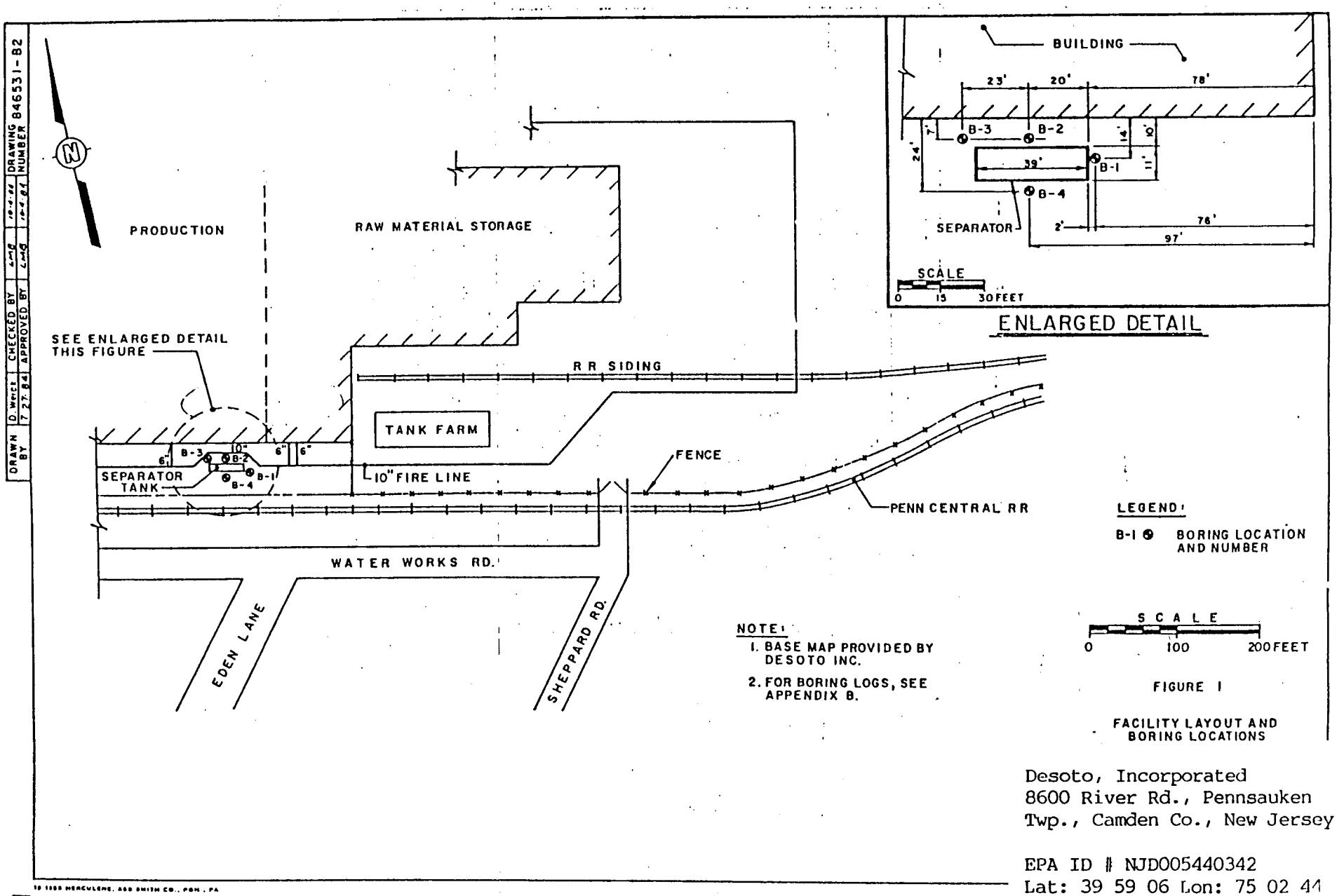


FIGURE 1

FACILITY LAYOUT AND BORING LOCATIONS

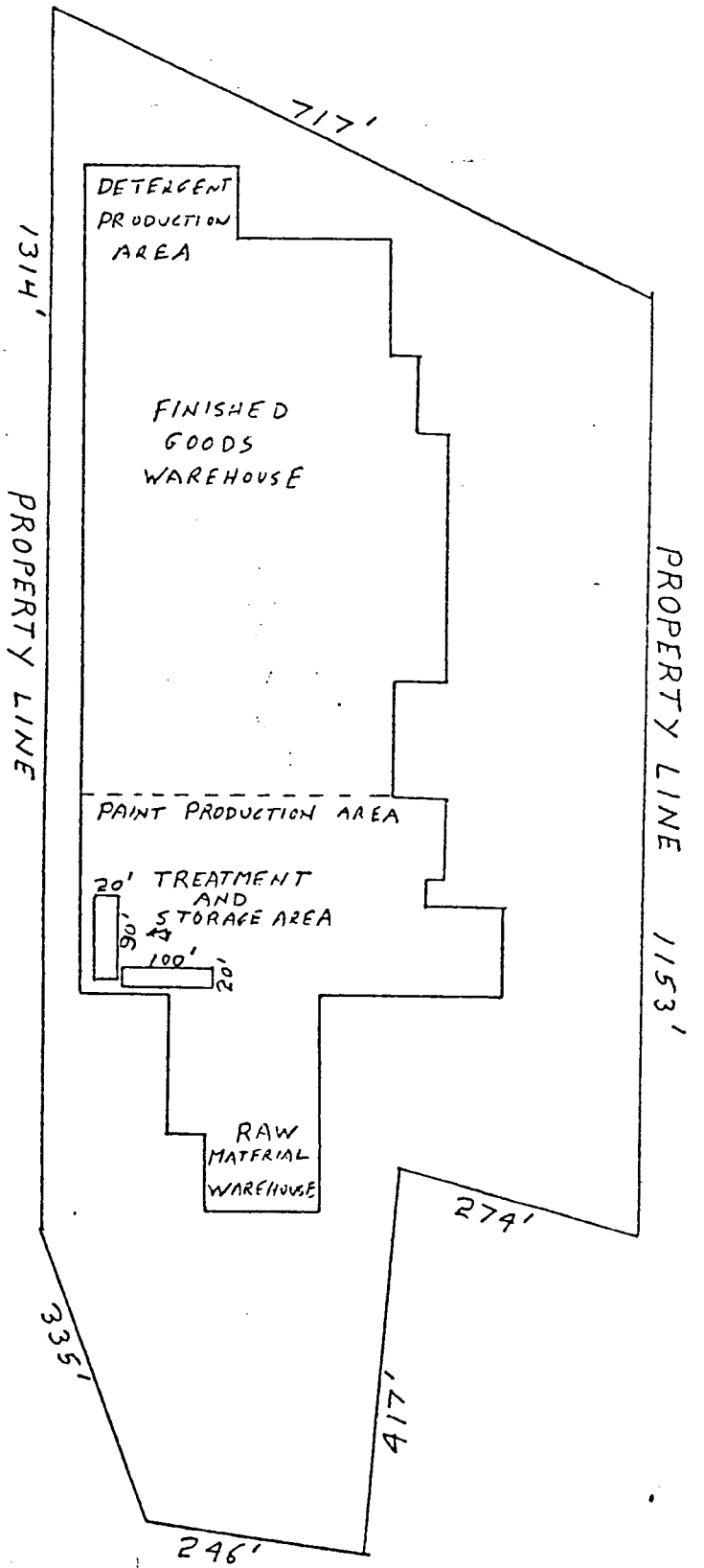
Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT Map

Continued from page 4.

V. FACILITY DRAWING (see page 4)

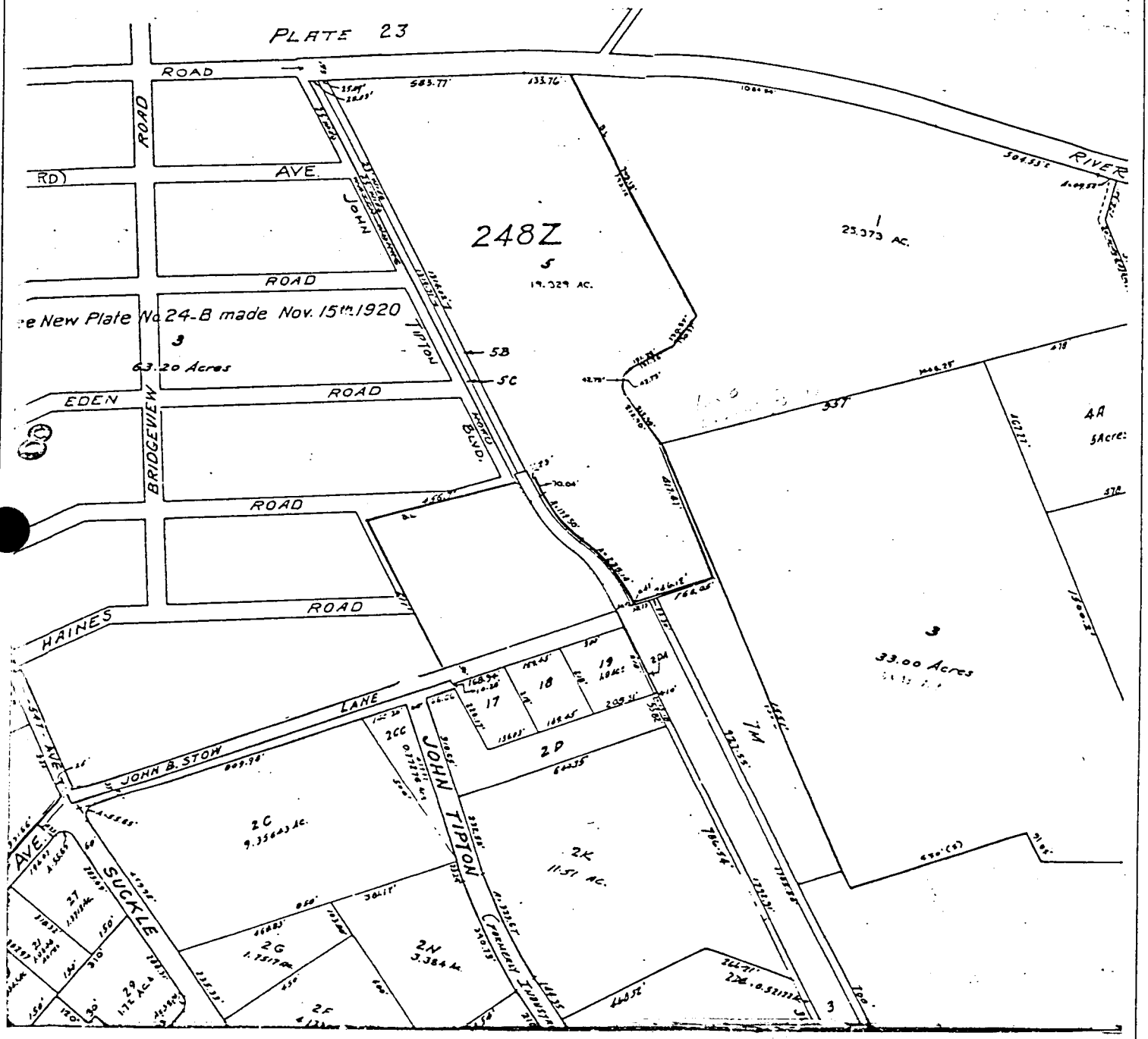


Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey
EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

SCALE - 1" = 200'

17

ATTACHMENT Ma03



TAX MAP

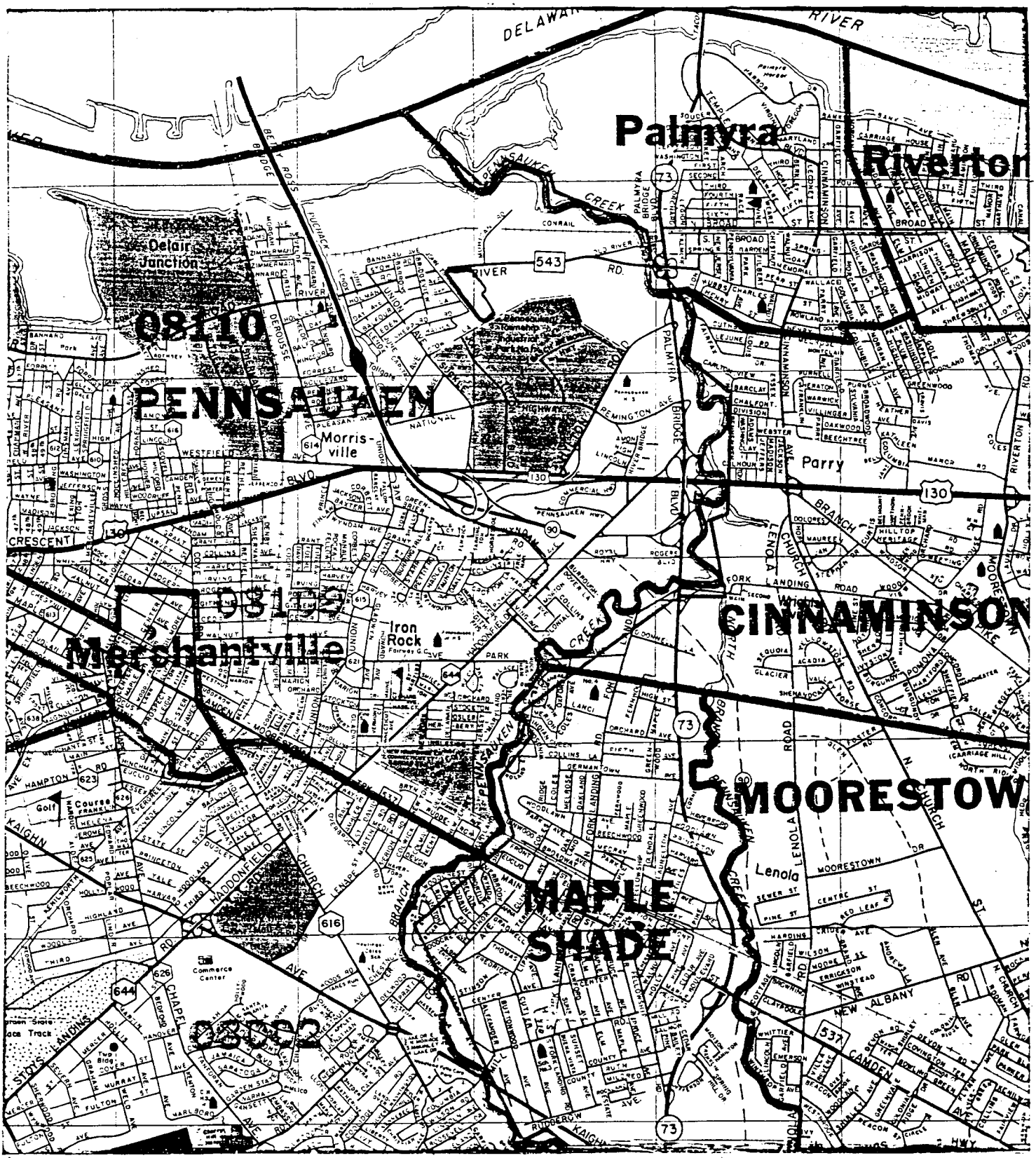
Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

EPA ID # NJD005440342

Lat: 39 59 06 Lon: 75 02 44

18

ATTACHMENT Map



Camden County
New Jersey

SCALE:

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

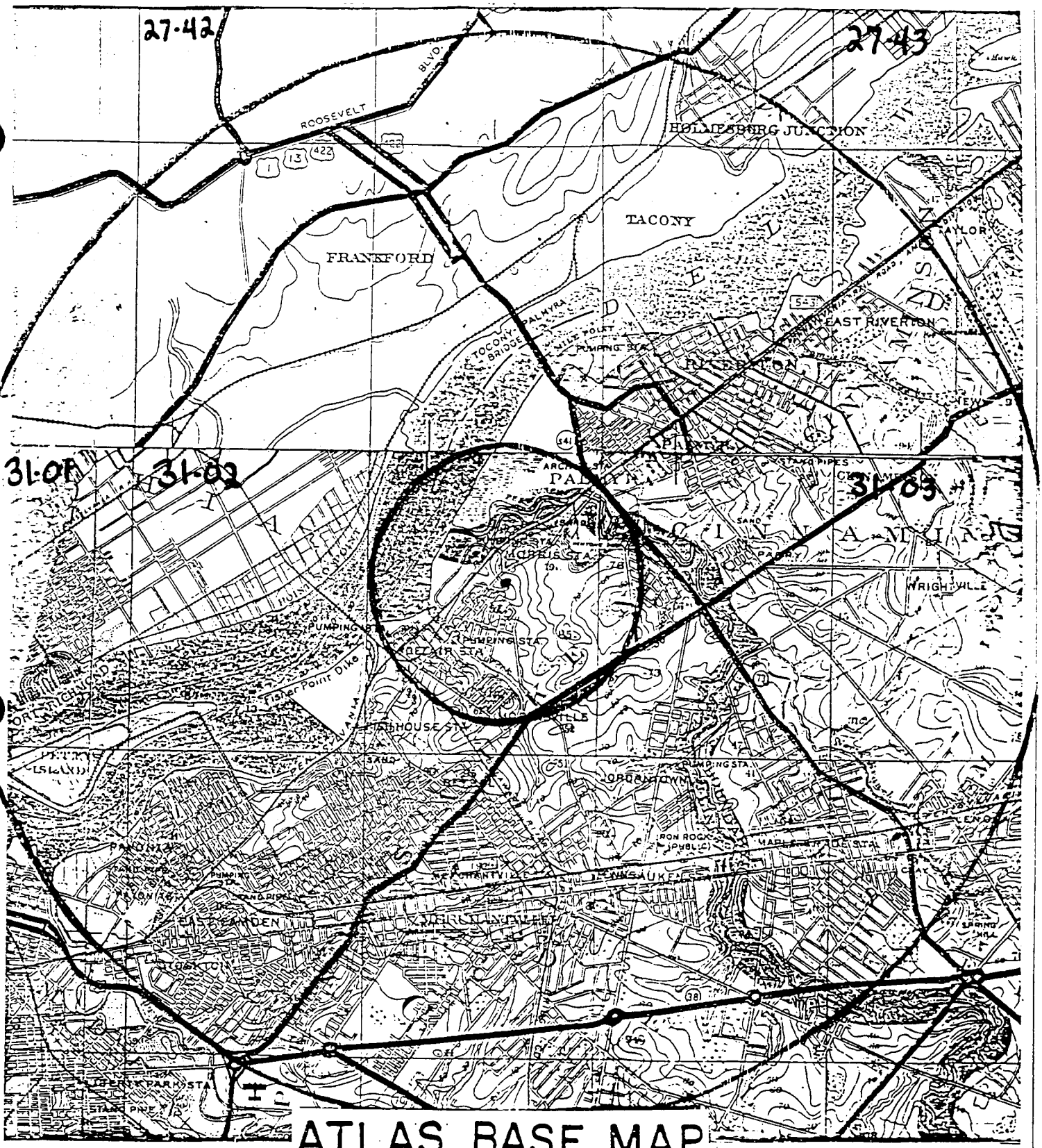
.5 0 1 KILOMETER

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

19

EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT



ATLAS BASE MAP

Scale: 1 Mile to an Inch.

Miles 1 3/4 1/2 1/4 0 1 2 3

Yards 500 0 1000 2000 3000

Meters 500 0 1000 2000 3000

A. HOEN & CO. BALTIMORE MD.

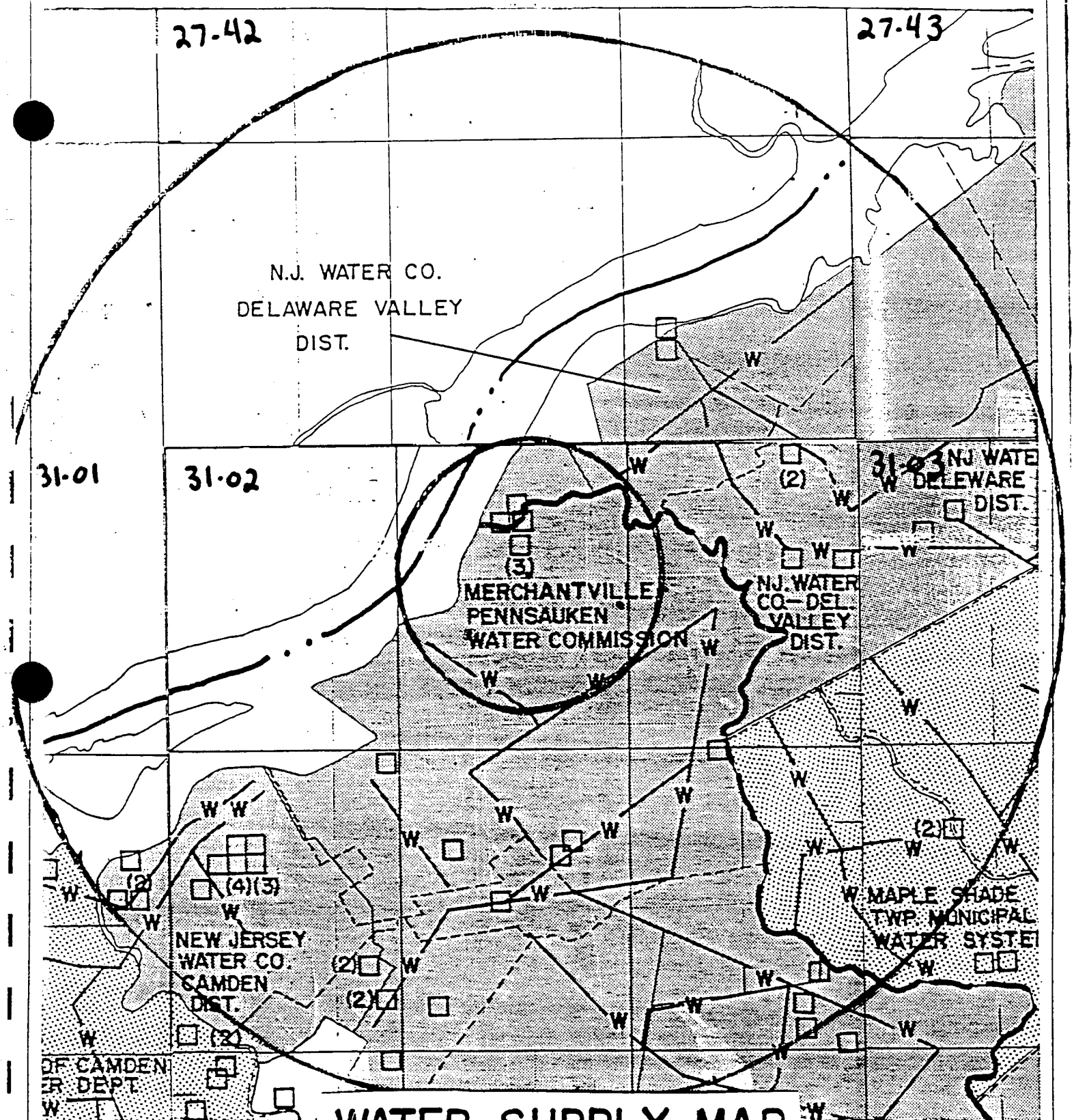
Contour Interval: 20 feet

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

20

EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT 1 Map C



WATER SUPPLY MAP

Scale: 1 Mile to an Inch.

Miles 1 3/4 1/2 1/4 0 1 2 3

Yards 500 0 1000 2000 3000

Meters 500 0 1000 2000 3000

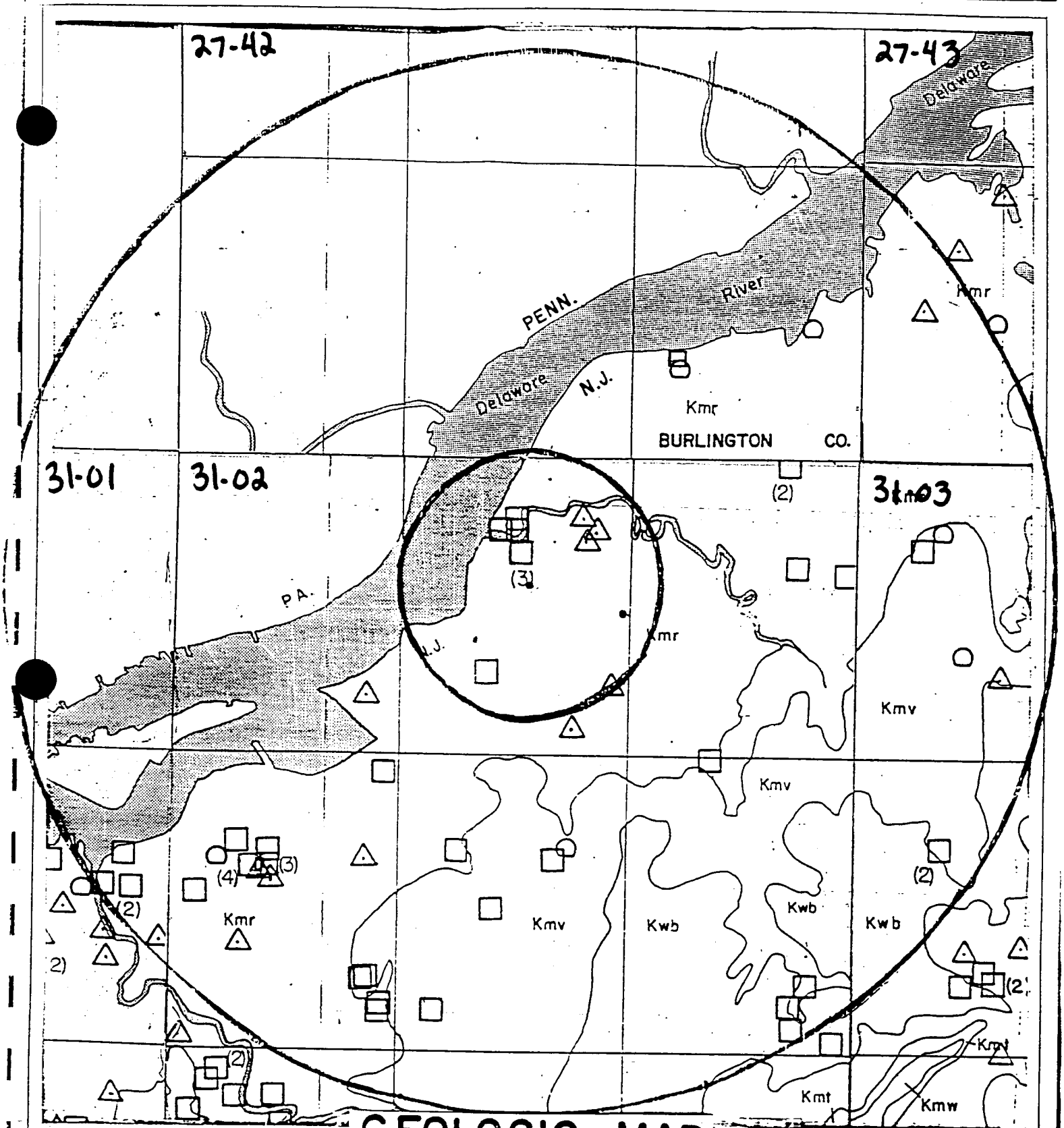
Contour Interval: 20 feet

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

EPA ID # NJD005440342

Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT MAP 7



GEOLOGIC MAP

Scale: 1 Mile to an Inch.

Miles

Yards

Meters

Contour Interval: 20 feet

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

22

EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT Map 3

BLOCK #27-42

A. Frankford

B. Delaware River-Pompeston Creek, Pennsauken

C. 2. Map No. Location Period of Record
193 Delaware River at Palmyra 1962-

3. 193 Delaware River at Palmyra 1964

Water Quality Standards: (explained in Atlas Sheet description) FW3, TW2

D. Magothy and Raritan Formation (Kmr)

E. 1. Physiographic Province: Coastal Plain
Subdivision: Inner Plain
Major Topographic Features: Delaware River, Clay and Marl Region
Elevations (ft.above sea level): hills 50, valleys 0
Relief (ft.): 50

2. a. Normal Year: 43"
Dry Year: 36"
Wet Year: 49"

b. January: 33°F
July: 76°F

c. 250 days. Last killing frost: 4/15; first killing frost: 10/25

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
27-42-648	Riverton-Palmyra Water Co.	1955	62/84	100	503	Qps
27-42-667	Natl. Casin	1955	-	22	75	"
27-42-672	Riverton Palmyra Water Co.	1958	51/71	76	503	"

J. Geodetic Control Survey monuments described
Index Map 44; adjacent Index Maps 48,49

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
27-43-271	Riverside Twp.	1954	35/47	47	75	Kmr
27-43-276	St.Peters R.C. Church	1956	52/64	64	100	"
27-43-279	Bishop's Dairies	1956	53/63	63	100	"
27-43-278	Delaware Valley Water Co.	1967	97/120	120	800	"
27-43-278	"	1955	-	100	15	"
27-43-286	"	1955	97/118	118	483	"
27-43-324	Beauknit Mills (3 wells)	-	-	65(av.)	150(av.)	"
27-43-336	Levitt & Sons, Inc.	-	-	280	-	"
27-43-391	"	1955	-	250	-	"
27-43-391	Robbins, Edward & Sons	1959	-	181	250	"
27-43-393	Levitt, Wm.	1955	147/199	199	990	"
27-43-423	Amico Sand & Gravel Co.	1957	39/49	49	120	"
27-43-427	Haeganes Sponge Iron Co.	1951	119/134	136	326	"
27-43-438	Delaware River Water Co.	1959	89/130	130	974	"
27-43-446	Air Reduction Sales Corp.	1953	138/158	165	115	"
27-43-456	Shell Chemical Co.	1958	101/134	135	254	"
27-43-529	Bridgeboro School Bd.	-	-	250	-	"
27-43-537	Delaware Valley Water Co.	1970	181/235	236	760	"
27-43-539	Delran Twp.	1960	222/232	232	75	"
27-43-543	Delaware River Water Co.	1964	115/165	168	1218	"
27-43-546	Millside Farms	1956	90/106	106	444	"
27-43-551	Holy Cross High School	1958	154/174	174	185	"
27-43-571	Gulf Development Co.	1963	147/157	162	100	"

J. Geodetic Control Survey monuments described
Index Map 44; adjacent Index Maps 45,48,49

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
31-01-652	City of Camden, #5	1963	134-169	171	1000	Kmr
31-01-655	H. Kohnstamm & Co., Inc.	1954	116-136	136	150	"
31-01-656	U.S. Gasket, #1	1953	130-141	153	100	"
31-01-657	Savar Amusement Corp.	1950	82-113	113	500*	Kr
31-01-657	Stanley Corp. of America	1949	118-138	150	200*	"
31-01-662	City of Camden, #15	1954	116-136	155	1000	"
31-01-664	Camden Water Dept., #1-A	1953	135-170	175	1000	"
31-01-665	City of Camden, Test Well #1	1950	129-150	166	300	"
31-01-665	" #14	1953	105-145	164	1000	"
31-01-667	Sungil Co.	1947	147-157	157	100	"
31-01-669	Paris Produce Co.	1964	150-166	167	100	Kmr
31-01-673	Lintonia Pure Food Shop, Inc.	1950	102-123	128	315*	"
31-01-681	Savar Amusement Corp., #2	1950	110-130	130	500*	Kr
31-01-681	Camden Trust Co.	1949	93-123	127	430*	"
31-01-684	Stanley Corp. of America	1949	110-130	152	600*	"
31-01-687	Savar Amusement Corp.	1949	114-134	138	600	"
31-01-691	Baltimore Markets, #2	1950	138-170	170	1200*	"
31-01-912	Public Service Elec.& Gas Co.	1950	120-146	149	600	"
31-01-912	"	1954	113-145	145	350	"
31-01-916	City of Camden, #2-B	1953	111-136	204	1000	"
31-01-921	Stanley Corp. of America	1949	86-150	163	250*	"
31-01-928	Samuel Adelson	1952	92-102	102	200	"
31-01-929	Camden Water Dept.	1948	111-136	165	1012	"
31-01-934	Liberty Theatre #1	1949	112-130	130	150	"
31-01-943	MacAndrews & Forbes Co.	1951	82-103	114	350	"
31-01-956	Camden Water Dept.,#7	1966	123-163	167	1023	"
31-01-961	City of Camden, #11	1942	124-154	166	1005	"

*Indicates use as a recharge well.

J. Geodetic Control Survey monuments described in Index Map 48; Adjacent Index Maps 44,54

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
31-02-195	Paragon Oil Co., #1	1961	51-61	61	100	Kmr
31-02-225	City of Camden, #4-A	1960	95-130	134	1585	"
31-02-227	" #5-NA	1960	79-114	121	1529	"
31-02-228	" #3	1953	73-107	136	1000	"
earest well 31-02-228	" #8	1953	89-124	141	1000	"
31-02-228	" #10	1960	75-115	118	1529	"
31-02-235	Kingston Trap Rock	1955	55-65	68	125	"
31-02-238	" #2	1966	115-123	127	200	"
31-02-238	Atlantic Blue Diamond Corp.	1958	100-110	110	180	"
31-02-281	City of Camden	1975	140-180	190	1200	"
31-02-293	Meadow Brook Swim Club	1963	97-107	107	200	"
31-02-297	H&H Industries	1959	71-81	81	100	"
31-02-331	Riverton-Palmyra Water Co. #16	1965	144-176	192	1034	"
31-02-331	" #13	1963	166-197	206	610	"
31-02-361	Delaware Valley Water Co., #28	1969	225-260	264	1200	"
31-02-363	" #31	1970	215-261	267	1002	"
31-02-419	New Jersey Water Co., #50	1958	139-170	176	1000	"
31-02-427	" #25	1961	305-367	399	1050	"
31-02-433	Merchantville-Pennsauken Water Co.	1968	109-139	139	882	"
31-02-442	City of Camden, Test #6	1954	153-175	181	210	Kr
31-02-443	New Jersey Water Co., #44	1950	154-186	187	1400	Kmr
31-02-443	" #45	1950	141-173	173	955	"
31-02-443	" #46	1950	148-178	179	1400	"
31-02-443	" #48	1954	122-164	171	1412	"
31-02-444	City of Camden, #16	1954	149-179	181	1000	"
31-02-449	Savar Amusement Corp.	1949	169-189	189	450	"
31-02-451	H. Kohnstomm & Co., Inc., #5-A	1967	163-184	194	200	"
31-02-451	"	1959	133-158	158	250	"
31-02-451	New Jersey Water Co., #52	1965	147-198	198	1404	"
31-02-451	" #38	1933	126-162	166	846	"
31-02-451	" #47	1953	159-175	177	1012	"
31-02-462	Parks Dairies	1958	154-170	172	200	"
31-02-477	Camden Co. Park Commission	1950	186-217	217	1200	"
31-02-492	Merchantville-Pennsauken Water Comm., #9	1956	107-137	141	875	"
31-02-492	" #10	1963	223-258	262	1000	"
31-02-496	" #2-A	1965	110-140	143	900	"
31-02-496	" #1-R	1971	132-152	159	875	"
31-02-519	" Test Well	1963	118-138	160	400	"
31-02-537	" Test Well #1	1956	247-268	293	317	"
31-02-554	" #2	1962	245-285	300	1040	"
31-02-561	" #6	1957	242-277	283	1020	"
31-02-575	Camden Co. Board of Ed.	1967	322-401	401	320	"
31-02-621	Merchantville-Pennsauken Water Comm., #7	1958	240-275	330	1000	"
31-02-692	" #8	1960	207-237	240	875	"
31-02-694	New Jersey Water Co., #22	1960	371-453	497	1067	"
31-02-697	" #24	1961	112-167	186	1051	"
31-02-699	"	1967	376-427	430	1030	"

31-02-712	City of Camden, Test #5	1953	205-225	277	280	Kmr
31-02-712	"	1953	185-225	243	1000	"
31-02-712	" #17	1954	230-265	274	1000	"
31-02-714	"	1953	90-115	123	1000	"
31-02-716	Our Lady of Lourdes Hospital	1963	237-257	261	275	"
31-02-718	A. N. Stoll Werck, Inc.	1950	111-131	136	210	"
31-02-725	Boro.of Collingswood, #3-R	1960	257-287	294	1000	Kr
31-02-728	" #2-B	1960	248-278	308	1000	Kmr
31-02-754	Friendship Dairy, #1	1955	143-164	164	100	"
31-02-773	Boro.of Collingswood,Test #1	1964	307-333	370	-	"
31-02-774	A.M.Ellis Theatres,Inc.,#3	1961	83-103	115	250*	"
31-02-781	Boro.of Collingswood, "B"	1965	224-313	336	1034	"
31-02-782	" "A"	1965	219-312	331	1034	"
31-02-837	New Jersey National Guard	1956	96-111	111	150	"
31-02-857	Morgan Brothers, Inc.	1967	431-451	451	302	"
31-02-865	Joe's Trailer Camp	1955	112-122	122	70	"
31-02-879	Twp. of Haddon, #4	1965	417-448	455	1000	"
31-02-879	" #3	1956	432-469	490	800	"
31-02-887	" Bd.of Ed.,#1	1966	142-162	165	200	"
31-02-887	" New #1	1968	401-479	481	870	"
31-02-898	Boro.of Haddonfield,Test #1	1965	490-510	510	350	"
31-02-899	"	1967	307-372	380	1029	"
31-02-982	New Jersey Water Co.,#23	1960	321-378	405	1001	"
31-02-982	" #13	1953	491-527	527	1200	"
31-02-986	Hunt Tract Swimming Club	1957	232-243	243	90	"

*Indicates use as a recharge well.

J. Geodetic Control Survey monuments described in Index Map 48; Adjacent Index Maps 44,49,54,55

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
31-03-119	Riverton-Palmyra Water Co. #12	1961	157-196	201	900	Kmr
31-03-127	#10	1959	240-281	308	1051	"
31-03-135	#15	1964	166-225	229	1060	"
31-03-136	#14	1964	179-229	325	1266	"
31-03-158	Campbell Soup Co.	1959	-	264	-	Kr
31-03-183	"	1971	339-369	395	602	"
31-03-258	Moorestown Field Club,#1	1964	274-302	304	400	"
31-03-328	Twp.of Moorestown, #4	1960	298-337	360	700	Kmr
31-03-336	" #8	1967	282-332	362	717	"
31-03-368	R.C.A.	1959	-	221	-	"
31-03-389	Harold Collins	1953	253-283	283	500	"
31-03-427	Twp. of Maple Shade	1955	211-272	282	1020	"
31-03-427	"	1972	210-270	280	700	"
31-03-458	Interface Corp.	1956	146-156	156	159	"
31-03-465	Twp. of Moorestown	1963	248-288	302	805	"
31-03-466	Moorestown Water Co.	1963	248-288	290	1000	"
31-03-467	Savar Corp.	1955	155-166	166	120	"
31-03-482	Twp. of Maple Shade	1961	414-463	494	1001	"
31-03-483	"	1965	173-209	212	1034	"
31-03-483	"	1975	160-200	220	1007	"
31-03-483	"	1975	440-500	523	1438	"
31-03-489	Layne-New York Co., Inc.	1960	267-287	291	250	"
31-03-541	Town of Moorestown	1914	-	517	-	Wgn
31-03-589	Mt.Laurel Water Co.,#1	1961	558-589	594	548	Kmr
31-03-594	" #2	1965	362-399	399	750	"
31-03-671	Colonial Pipeline Co.	1963	-	188	150	"
31-03-676	Mt.Laurel Twp.M.U.A.,Test #2	1973	596-616	689	108	"
31-03-684	" " #1	1973	627-647	681	250	"
31-03-692	Merchantville-Pennsauken Water Comm.	1960	207-237	240	875	"
31-03-746	N. J. Water Co., #27	1963	366-417	541	812	"
31-03-762	" #28	1964	175-207	268	857	"
31-03-795	Arthur Champion	1960	-	299	-	"
31-03-816	Sea Jay Swim Club	1963	227-237	237	150	"
31-03-818	H.D.& H. Development Co.	1962	410-460	465	550	"
31-03-827	PSE&G Co.	1958	239-245	245	75	"
31-03-898	Evesham Twp.Utility Auth.#3	1967	288-334	341	608	"
31-03-938	Joseph Rudderow	1954	440-456	458	250	Kr
31-03-961	Cherry Valley Const.Co.	1961	-	274	-	"

J. Geodetic Control Survey monuments described in Index Map 49; adjacent Index Maps 44,45,48,54,55

LEGEND FOR ATLAS SHEET

△ INDUSTRIAL WELL YIELD OVER 70 GALLONS PER MINUTE

□ PUBLIC SUPPLY WELL YIELDING OVER 70 GALLONS PER MINUTE

⊕ UNSUCCESSFULL ROCK WELL YIELDING LESS THAN 70 GALLONS PER MINUTE

⊙ UNSUCCESSFULL SAND WELL YIELDING LESS THAN 70 GALLONS PER MINUTE

⊡ NO TEST – NO DATA ON YIELD

——— — — FAULT (DASHED WHERE INFERRED)

——— — — CONTACT (DASHED WHERE INFERRED)

PIEDMONT / COASTAL PLAIN — PHYSIOGRAPHIC PROVINCE BOUNDARY

WATER SUPPLY TRANSMISSION LINE

SEDIMENTARY ROCKS

TERTIARY

Tbh	BEACON HILL GRAVEL
Tch	COHANSEY SAND
Tkw	KIRKWOOD SAND
Tmq	MANASQUAN MARL
Tvt	VINCENTOWN SAND
Tht	HORNERSTOWN MARL

CRETACEOUS

Krb	RED BANK
Krbt	RED BANK (TRANSITIONAL UNIT)
Krbg	RED BANK (GLAUCONITE SAND UNIT)
Kns	NAVESINK MARL
Kml	MOUNT LAUREL SAND
Kw	WENONAH SAND
Kmt	MARSHALLTOWN FORMATION
Ket	ENGLISHTOWN SAND
Kwb	WOODBURY CLAY
Kmv	MERCHANTVILLE CLAY
Kmr	MAGOTHY AND RARITAN FORMATIONS
Km	MAGOTHY FORMATION
Kr	RARITAN FORMATION

LEGEND

WATER SUPPLY

- AREA SERVED BY PRIVATE WATER SERVICE COMPANIES
- AREA SERVED BY REGIONALLY OWNED WATER SERVICE COMPANIES
- AREA SERVED BY MUNICIPALLY OWNED WATER SERVICE COMPANIES
- AREA NOT PRESENTLY SERVED BY WATER SERVICE
- PUBLIC SUPPLY WELLS
- WATER MAIN ACROSS HIGHWAY FOR FUTURE USE
- SURFACE WATER INTAKE
- —W— MAJOR WATER MAINS

SEWAGE, LANDFILL

- AREA SERVED BY PUBLIC SEWAGE SERVICE
- AREA NOT PRESENTLY SERVED BY SEWAGE SERVICE
- SANITARY LANDFILLS
- SEWAGE TREATMENT PLANTS (CAPACITY <0.3mgd)
- SEWAGE TREATMENT PLANTS (CAPACITY ≥0.3mgd)
- —S— MAJOR SEWAGE TRANSMISSION LINES

DRAINAGE BASIN

- DRAINAGE BASIN BOUNDARY
- RIVER BASIN BOUNDARY
- HUDSON DRAINAGE BASIN NAME
- STREAMS AND RIVERS
- FLOOD PRONE AREAS

POPULATION

- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY
- ( ) POPULATION DENSITY IN PERSONS PER SQUARE MILE
- [ ] AREA IN SQUARE MILES
- % PERCENT AREA OF MUNICIPALITY ON BLOCK
- MARKET ROADS
- BUILT UP AREAS
- STATE BOUNDARY

SUBJECT TO REVISION

WATER WITHDRAWAL POINTS AND NJGS CASE INDEX SITES WITHIN 5.0 MILES OF:

LATITUDE 395915
LONGITUDE 750237

DRAFT

SCALE: 1:63,360
(1 Inch = 1 Mile)

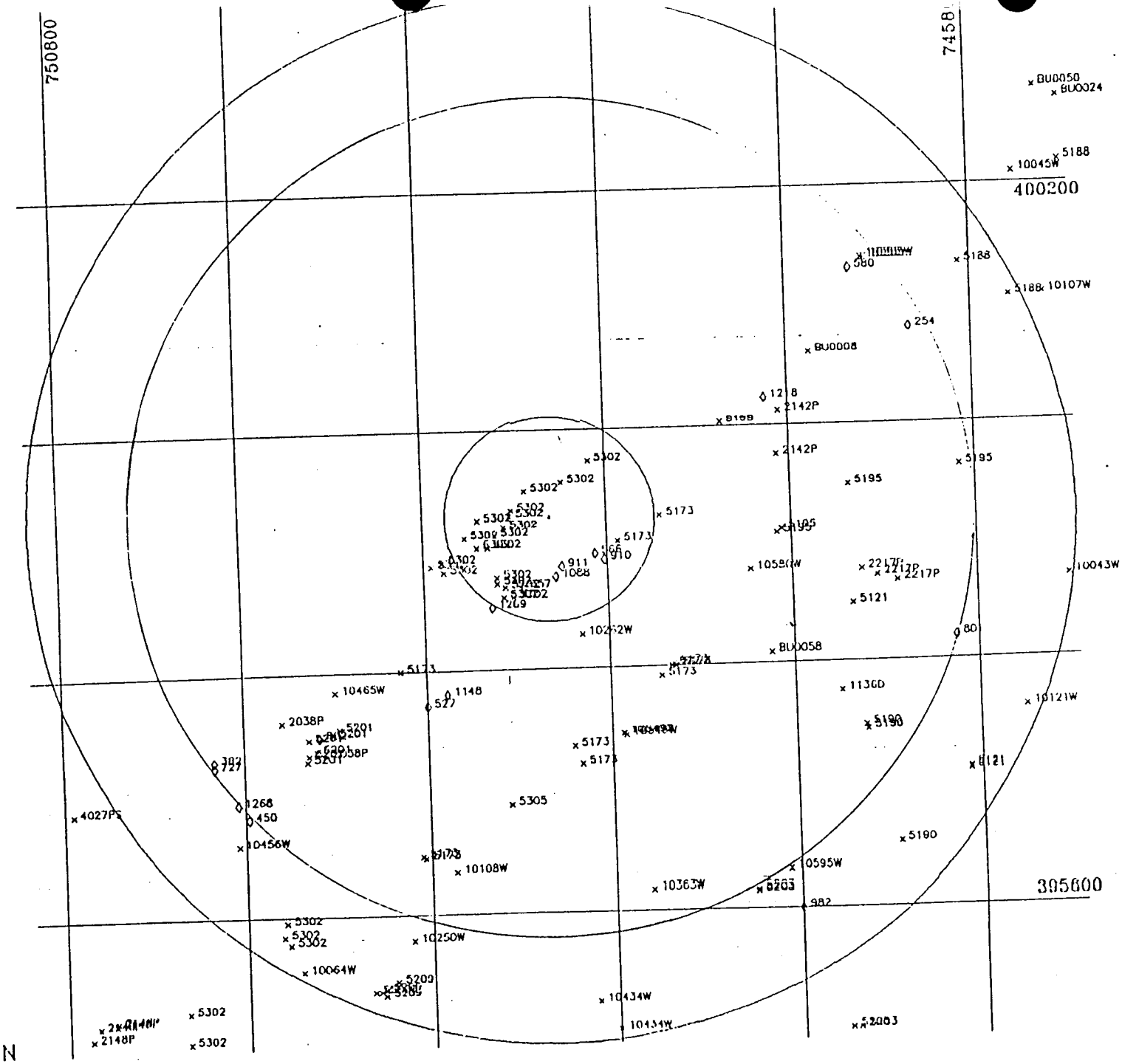
0 mile 1

× WATER WITHDRAWAL POINTS
◊ NJGS CASE INDEX SITES
1 MILE AND 5 MILE RADII INDICATED

NJGS CASE INDEX DATA RETRIEVED FROM:
NEW JERSEY GEOLOGICAL SURVEY
ON 12/22/87

PLOT PRODUCED BY:
NJDEP
DIVISION OF WATER RESOURCES
BUREAU OF WATER ALLOCATION
CN-029
TRENTON, NJ 08625

DATE: 04/17/91



MAP 9

31

SUBJECT TO REVISION

Page 1 of PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 395915 LAT. 750237 LON. (IN ORDER BY PERMIT NUMBER) - 04/17/91

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	U ACC	DISTANCE	COUNTY	NU!	DEPTH	GEO1	GEO2	CAPACITY
10042W	FIRST PRESBYTERIAN CHURCH	3104691	1	395840	745700	F	5.0	05	22		GWR		
10045W	RIVERSIDE BOARD OF EDUCATION	2704523	1	400205	745730	T	5.5	05	30		GWR		
10064W	OUR LADY OF LOURDES MED. CENT.	3104820	1	395532	750525	F	4.9	07	08	257	GWR		250
10107W	HOLY CROSS HIGH SCHOOL	2702821	1	400106	745712	F	5.2	05	10	174	GWR		400
10108W	CAMDEN CO VOC. & TECH. SCHOOLS	3105139	1	395620	750344	F	3.5	07	15	401	GWR		
10121W	CORDES, WILLIAM JR.		1	395735	745730	U	4.9	09	05	150	GTOR		500
10250W	BISHOP ELDTADE PREP SCHOOL	3117884	1	395547	750413	T	4.2	07	27	150	GWR		200
10262W	SCHWEVITZ, LUCAS	3103338	1	395816	750218	T	1.2	07	27		GWR		
	SCHWEVITZ, LUCAS	3103437	2	395816	750218	T	1.2	07	27		GWR		
	SCHWEVITZ, LUCAS	3103444	3	395816	750219	T	1.2	07	27		GWR		
10322W	CHERRY HILL INN	UNKNOWN	1	395810	750136	T	3.6	07	16	179	GWR		400
10365W	HOECHTAES CORP./RIVERTON PLANT	2700238	LAYNE 1	400125	745608	T	3.9	05	08	136	GWR		300
	HOECHTAES CORP./RIVERTON PLANT	WELLPOINTS		400125	745910	U	3.9	05	08	13	GWR		65
10434W	GARDEN STATE RACE TRACK, INC.	5100094	1	395614	750213	T	4.6	07	09	154	GWR		300
	GARDEN STATE RACE TRACK, INC.	5100095	2	395500	750200	M	4.9	07	04	150	GWR		400
10458W	CONCORD CHEMICAL CO., INC.	5100154	1	395635	750605	F	4.3	07	08	140	GWW		400
10465W	ELK ASPHALT/WEST BANK OIL	DELAWARE	RIVER	395750	750600	F	2.6	07	27		SDEL		
10549W	SYCAMORE RIDGE APARTMENTS	3127629	3	395725	750151	T	2.2	07	27		GWR		45
10580W	STAR GAS SERVICE	3129179	1	395846	750027		2.0	05	19		GWR		50
10575W	BENTILE, ALBERT JR/PRODUCE JNT	3130125		395618	750007	T	4.0	05	19				
1136D	MOORESTOWN TOWNSHIP	DEWATERING	DEWATERING	395745	745730	T	3.2	05	22	24	GCOM	GNW	127
2038P	GENERAL COLOR CO.	3119275	7	395735	750535		3.2	07	08	194	GWR		160
	GENERAL COLOR CO.	3105064	6	395712	750607		3.1	07	08	154	GWR		0
2142P	RIVERTON COUNTRY CLUB	3118439	16	400008	750008	S	2.4	05	31	119	GWR		500
	RIVERTON COUNTRY CLUB	2704844	2	395945	750008	S	2.2	05	31	174	GWR		500
2145P	MYC ANDREWS & FORBES COMPANY	3100290	1	395607	750729	F	6.4	07	08	102	GWR		300
	MYC ANDREWS & FORBES COMPANY	5100025	2	395870	750745		6.6	07		99	GWR		350
	MYC ANDREWS & FORBES COMPANY	3123560	3R	395908	750723	F	6.4	07	08	140	GWR		350
	MYC ANDREWS & FORBES COMPANY	DELAWARE RIVER		395906	750740	U	6.5	07	08		SDEL		
2217P	CAMPBELL SOUP COMPANY	3105715	1	395839	745802	T	3.4	05	22	272	GWR		500
	CAMPBELL SOUP COMPANY	3103673	2 RECHARGE	395845	745915	T	3.0	05	22	266	GWR		
	CAMPBELL SOUP COMPANY	3103674	1 OBS.	395842	745906	T	3.2	05	22	268	GWR		
4027PS	GENERAL ELECTRIC/GESD	DELAWARE RIVER		395652	750754	T	5.4	07	08		SDEL		
5121	MOORESTOWN TOWNSHIP	5100041	3	395705	745608	F	4.5	05	22	305	GWR		700
	MOORESTOWN TOWNSHIP	3104663	5	395704	745908	F	4.7	05	22	302	GWR		675
	MOORESTOWN TOWNSHIP	3104727	6	395704	745908	F	4.7	05	22	302	GWR		700
	MOORESTOWN TOWNSHIP	3105202	7	395628	745921	F	3.0	05	22	385	GWR		1000
5173	MERCHANTVILLE-PENNSAUKEN WATER	3105641	BROWNING1A	395627	750404		3.5	07	24	152	GWR		875
	MERCHANTVILLE-PENNSAUKEN WATER	3101417	DEL GARD 2	395800	750417		2.0	07	27	147	GWR		700
	MERCHANTVILLE-PENNSAUKEN WATER	3102915	MARION 1	395720	750225		2.2	07	27	279	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3104641	MARION 2	395711	750220		2.4	07	27	262	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3104936	BROWNING2A	395628	750406		3.4	07	27	140	GWR		900
	MERCHANTVILLE-PENNSAUKEN WATER	3105110	NATL HWY 1	395902	750153		0.7	07	27	231	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3100010	PARK AVE 1	395800	750117		1.8	07	27	274	GWR		1005
	MERCHANTVILLE-PENNSAUKEN WATER	5100064	PARK AVE 2	395800	750118		1.8	07	27	262	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3103534	PARK AVE 3	395801	750119		1.8	07	27	272	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3100011	PARK AVE 5	395800	750120		1.8	07	27	290	GWR		1005
	MERCHANTVILLE-PENNSAUKEN WATER	3114564	PARK AVE 6	395755	750127		1.8	07	27	270	GWR		1000
	MERCHANTVILLE-PENNSAUKEN WATER	3119207	NATL HWY 2	395915	750125		1.1	07	27	211	GWR		1000
5180	NEW JERSEY-AMERICAN WATER CO.	2703080	LEON 19	400122	745907		4.6	05	10	130	GWR		700
	NEW JERSEY-AMERICAN WATER CO.	2704851	TAYLOR 29	400210	745700		5.9	05	30	120	GWR		700
	NEW JERSEY-AMERICAN WATER CO.	2704247	CHESTER 23	400105	745734		4.9	05	10	168	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	2704280	CHESTER 24	400105	745734		4.9	05	10	150	GWR		1000
5190	MAPLE SHADE TOWNSHIP	3100050	2	395725	745914		3.6	05	19	126	GWR		140
	MAPLE SHADE TOWNSHIP	3106020	8	395727	745915		3.6	05	19	280	GWR		760

PERMIT NUMBER	NAME	SOURCEID	LOCID	LAT	LON	ILACC	DISTANCE	COUNTY	MUN	DEPTH	GPM	DEC2	CAPACITY
	MAPLE SHADE TOWNSHIP	3108922	9	395630	745855		4.5	05	19	120	GWR		1000
	MAPLE SHADE TOWNSHIP	3108923	10	395630	745855		4.5	05	19	523	GWR		1500
	MAPLE SHADE TOWNSHIP	3112925	11	395727	745915		3.6	05	19	450	GWR		1250
5195	NEW JERSEY-AMERICAN WATER CO.	3104697	14NEWALBAN	395938	745810	F	3.9	05	08	229	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	3104733	28NEWALBAN	395938	745810	F	3.9	05	08	225	GWR		800
	NEW JERSEY-AMERICAN WATER CO.	3103835	10 POMONA	395929	745922	F	2.9	05	08	281	GWR		800
	NEW JERSEY-AMERICAN WATER CO.	3104276	12 POMONA	395929	745922	F	2.9	05	08	196	GWR		700
	NEW JERSEY-AMERICAN WATER CO.	3105321	28 STEPHEN	395904	750009	F	2.2	05	08	262	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	3105437	31 STEPHEN	395906	750006	F	2.2	05	08	270	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	3104576	13HIGHLAND	400002	750044	F	1.9	05	08	197	GWR		700
	NEW JERSEY-AMERICAN WATER CO.	3104864	27HIGHLAND	400002	750044	F	1.9	05	08	176	GWR		1000
5201	NEW JERSEY-AMERICAN WATER CO.	3103456	50	395726	750519	F	3.1	07	08	170	GWR		700
	NEW JERSEY-AMERICAN WATER CO.	3104760	51	395720	750513	F	3.2	07	08	192	GWR		1300
	NEW JERSEY-AMERICAN WATER CO.	3104847	52	395715	750519	F	3.3	07	08	198	GWR		1050
	NEW JERSEY-AMERICAN WATER CO.	3118947	53	395728	750502	F	2.9	07	08	194	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	3118944	54	395731	750458	F	2.9	07	08	195	GWR		1000
	NEW JERSEY-AMERICAN WATER CO.	3120270	55	395718	750516	F	3.2	07	08	176	GWR		1050
5203	NEW JERSEY-AMERICAN WATER CO.	3104051	COLUMBIA22	395609	750028		4.0	07	09	453	GWR		1050
	NEW JERSEY-AMERICAN WATER CO.	3104274	COLUMBIA24	395608	750028		4.0	07	09	157	GWR		500
	NEW JERSEY-AMERICAN WATER CO.	3105033	COLUMBIA31	395609	750028		4.0	07	09	427	GWR		1050
	NEW JERSEY-AMERICAN WATER CO.	5100007	KINGSTON25	395458	745929		5.6	07	09	367	GWR		1050
	NEW JERSEY-AMERICAN WATER CO.	3104669	KINGSTON27	395458	745924		5.7	07	09	417	GWR		870
	NEW JERSEY-AMERICAN WATER CO.	3104742	KINGSTON28	395456	745929		5.6	07	09	207	GWR		840
5209	COLLINGSWOOD BOROUGH	3104053	2R	395519	750432		4.8	07	12	281	GWR		700
	COLLINGSWOOD BOROUGH	3104054	3R	395522	750422		4.8	07	12	290	GWR		800
	COLLINGSWOOD BOROUGH	5100030	4	395521	750435		4.8	07	12	304	GWR		870
	COLLINGSWOOD BOROUGH	3100079	5	395521	750439		4.8	07	12	311	GWR		850
	COLLINGSWOOD BOROUGH	5100031	6	395526	750424		4.7	07	12	281	GWR		1000
	COLLINGSWOOD BOROUGH	3104799	7	395521	750439		4.8	07	12	312	GWR		1000
5302	CAMDEN CITY, WATER DIVISION	5100050	MORRIS 1	395944	750211		0.7	07	27	107	GWR		1600
	CAMDEN CITY, WATER DIVISION	3100945	MORRIS 3	395933	750229		0.4	07	27	107	GWR		1900
	CAMDEN CITY, WATER DIVISION	3104252	MORRIS 4	395929	750253		0.4	07	27	134	GWR		1600
	CAMDEN CITY, WATER DIVISION	5100051	MORRIS 6	395900	750318		0.7	07	27	138	GWR		1700
	CAMDEN CITY, WATER DIVISION	5100052	MORRIS 7	395916	750303		0.4	07	27	125	GWR		1680
	CAMDEN CITY, WATER DIVISION	3100944	MORRIS 8	395910	750307		0.4	07	27	123	GWR		1670
	CAMDEN CITY, WATER DIVISION	3104251	MORRIS 10	395919	750302		0.4	07	27	118	GWR		1400
	CAMDEN CITY, WATER DIVISION	5100076	MORRIS 9	395906	750313		0.6	07	27	143	GWR		1670
	CAMDEN CITY, WATER DIVISION	3116814	MORRIS 12	395914	750324		0.7	07	27	122	GWR		2020
	CAMDEN CITY, WATER DIVISION	3115745	MORRIS 11	395900	750325		0.8	07	27	149	GWR		2030
	CAMDEN CITY, WATER DIVISION	3116813	MORRIS 13	395905	750333		0.8	07	27	135	GWR		2060
	CAMDEN CITY, WATER DIVISION	5100053	DELAIR 1	395849	750347		1.1	07	27	141	GWR		1690
	CAMDEN CITY, WATER DIVISION	5100054	DELAIR 2	395851	750355		1.2	07	27	146	GWR		1830
	CAMDEN CITY, WATER DIVISION	5100055	DELAIR 3	395853	750348		1.1	07	27	125	GWR		1830
	CAMDEN CITY, WATER DIVISION	5100056	PUCHACK 1	395845	750312		0.8	07	27	141	GWR		1500
	CAMDEN CITY, WATER DIVISION	5100057	PUCHACK 2	395842	750312		0.8	07	27	169	GWR		1000
	CAMDEN CITY, WATER DIVISION	5100058	PUCHACK 3	395840	750307		0.8	07	27	176	GWR		1280
	CAMDEN CITY, WATER DIVISION	5100059	PUCHACK 5	395835	750308		0.9	07	27	186	GWR		1324
	CAMDEN CITY, WATER DIVISION	3100526A	PUCHACK 7	395835	750302		0.8	07	27	180	GWR		2260
	CAMDEN CITY, WATER DIVISION	5100060	CITY 7	395457	750640		6.1	07	08	163	GWR		1500
	CAMDEN CITY, WATER DIVISION	5100061	CITY 11	395512	750640		5.8	07	08	159	GWR		1010
	CAMDEN CITY, WATER DIVISION	3100904	CITY 13	395557	750633		4.6	07	08	220	GWR		1200
	CAMDEN CITY, WATER DIVISION	3101250	CITY 17	395546	750633		4.8	07	08	270	GWR		1500
	CAMDEN CITY, WATER DIVISION	3109574	CITY 18	395557	750637		4.7	07	08	290	GWR		1200
	CAMDEN CITY, WATER DIVISION	3104649	CITY 5	395457	750640		6.1	07	08	171	GWR		1100
5305	MERCHANTVILLE-PENNSAUKEN	3104642	WOODBINE 1	395652	750307		2.8	07	24	238	GWR		1000
	MERCHANTVILLE-PENNSAUKEN	3114563	WOODBINE 2	395652	750307		2.8	07	24	227	GWR		1000

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLASS	DISTANCE	COUNTY	NUM	DEPTH	GEO1	GEO2	CAPACITY
BU0008	HUNTER, JOHN	POND 1	POND 1	400038	745945	F	3.0	05	08	12	SDDEL		600
BU0024	RUSS BROTHERS	RANCOCAS CREEK	STREAM 1	400240	745660	T	6.3	05	09		SDRAN		
BU0050	VARSACI, F & M	RANCOCAS CREEK	STREAM 1	400245	745715	F	6.2	05	12		SDRAN		
BU0058	FARM SOLD	STREAM 1	STREAM 1	395805	750015	F	2.5	05	24		SDRAN		
	FARM SOLD	POND 1	POND 1	395805	750015	F	2.5	05	24	15	GRET		

Number of Observations: 116

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Page 1 of NJGS CASE INDEX SITES WITHIN 5.0 MILES OF 395915 LAT. 750237 LON. AS OF 12/22/87 (IN ORDER BY SITE NUMBER) - 04/17/91

SITENUM	NAME	LAT	LON	DISTANCE	CONTAM	PNCODE1	PNCODE2	STATUS1	STATUS2
254	CINNAMINSON WELL CONTAMINATION, BURLINGTON CO.	400060	745840	3.9	00	2080	0	1	E
382	CAMDEN MUNICIPAL WELLS, CAMDEN CITY, CAMDEN CO.	395716	750820	4.0	00	0102	2080	1	
450	CONRAIL, PAVONIA YARD, CAMDEN, CAMDEN CO.	395648	750858	4.1	53	103	150	1	
527	SGL MODERN HARD CHROME SERVICE, PENNSAUKEN, CAMDEN CO.	395742	750400	2.2	39	2080	0	9	
566	SMOKE OIL AND CHEMICAL, PENNSAUKEN, CAMDEN CO.	395856	750008	0.6	00	2080	0	1	E
580	HOEGANAES-INTERLAKE, CINNAMINSON TWP., BURLINGTON CO.	400120	745918	3.8	00	2080	0	9	
657	CAMDEN'S PUCHACK WELL FIELD, CAMDEN CO.	395840	750235	0.7	39	2080	0	1	
727	HARRISON AVE. LANDFILL, CAMDEN, CAMDEN CO.	395713	750620	4.0	0	2080	0	9	
801	NSM FASTENING SYSTEMS, MOORESTOWN, BURLINGTON CO.	395811	745815	4.0	00	2080	2080	1	B
802	LANGSTON DIV-HOLLING MACHINE CO., CAMDEN, CAMDEN CO.	395727	750611	3.1	00	2080		1	B
910	MERCHANTVILLE/PENNSAUKEN WATER COMMISION, PENNSAUKEN, CAMDEN CO.	395853	750202	0.7	00	0102	2080	1	C
911	PENLAN ANODIZING, PENNSAUKEN, CAMDEN CO.	395850	750230	0.5	00	2080	0	1	C
932	MAPLE SHADE AMOCO, HIGHLAND PARK, MIDDLESEX CO.	395600	75 0	4.4	0	0	0	3	
1069	GARDEN STATE MOTORS, PENNSAUKEN, CAMDEN CO.	395845	750234	0.6	55	2080	0	1	B
1148	SHELL SERVICE STATION, RT 130 & BORNING RD, PENNSAUKEN, CAMDEN CO.	395748	750347	2.0	51			3	
1218	NEW JERSEY WATER COMPANY, RIVERTON-PALMYRA, BURLINGTON CO.	400015	750015	2.4	05	2088		1	
1238	ADVANCED CHEMICAL TECHNOLOGY, CAMDEN CITY, CAMDEN CO.	395655	750608	4.0	08	0102	2080	1	B
1239	ADVANCED PROCESS SUPPLY, PENNSAUKEN, CAMDEN CO.	395830	750316	1.0	00	2080		1	B

Number of Observations: 18

ATTACHMENT A

West Jersey Title and Guaranty Company

CAMDEN, NEW JERSEY

App. No. 218663 Policy No. 268669 Amount, $ [redacted]

This Policy of Title Insurance *WITNESSETH THAT* WEST JERSEY TITLE AND GUARANTY COMPANY (hereinafter called the Company) in consideration of the payment of its premium for insuring the title to the land hereinafter described in Schedule A of this Policy, hereby covenants that it will indemnify, keep harmless and insure DESOTO CHEMICAL COATINGS, INC., a corporation under and by virtue of the laws of the State of Delaware,

(hereinafter called the insured)
~~and all persons or corporations lawfully claiming the estate and property hereinafter mentioned under~~ by descent or will, and all persons to whom this Policy may be transferred with the assent of this Company, testified by the signatures of its proper officers, endorsed thereon, against all loss or damage, not exceeding THREE HUNDRED THOUSAND - dollars, which the said Insured shall sustain by reason of defects in or unmarketability of the title of the Insured to the estate, mortgage or interest described in Schedule A, hereto annexed, or because of liens or encumbrances charging the same at the date of this Policy;—saving estates, defects, objections, liens or encumbrances excepted in Schedule B or by the Conditions and Provisions of this Policy, hereto annexed; which Schedules, Conditions and Provisions are hereby incorporated into and made part of this Contract. The loss and the amount to be ascertained in the manner provided in the said Conditions and Provisions and to be payable upon compliance by the Insured with the stipulations of said Conditions and Provisions and not otherwise.

This Policy is issued upon an application by or in behalf of the Insured, numbered 218663 and agreed by all persons or corporations claiming under this Policy to be a warranty of the facts therein stated.

IN WITNESS WHEREOF, WEST JERSEY TITLE AND GUARANTY COMPANY has caused its common seal to be hereunto affixed, and these presents to be signed by its President and Secretary, this twenty-eighth day of March in the year of our Lord one thousand nine hundred and sixty-three.

President

Secretary

SCHEDULE A

1. The Estate or Interest of Insured covered by this Policy.

   Estate in fee simple.

2. How Title is vested in the Insured.

   By Four Deeds:
   One Deed from George B. Robeson and Marie K., his wife, dated March 27, 1963, recorded March 28, 1963 in the Register's Office of Camden County in Book 2614 of Deeds, page 332.
   One Deed of Easement from George B. Robeson and Marie K., his wife, dated March 27, 1963, recorded March 28, 1963 in the said Office in Book 2614 of Deeds, page 332.
   The other Deed from George B. Robeson and Marie K., his wife and Philip B. Robeson and Lesley W., his wife, dated March 27, 1963, recorded March 28, 1963 in Book 2614 of Deeds, page 338.
   And the other Deed of Easement from George B. Robeson and Marie K., his wife and Philip B. Robeson and Lesley W., his wife, dated March 27, 1963, recorded March 28, 1963 in Book 2614 of Deeds, page 338.

~~2. Description of the property insured.~~

3. Description of the property insured.

   Premises situate in the Township of Pennsauken, County of Camden and State of New Jersey; described as set forth in the Schedule attached hereto.

SCHEDULE B

Showing estates, defects or objections to title, and liens, charges and encumbrances thereon, which do or may now exist, and against which the Company does not agree to insure or indemnify.

1. ANY VARIATION in location of lines, or dimensions and any other objections and easements which an accurate survey approved by this Company would disclose, or which are visible, or are known to the Insured. Affects Easements 1 to 4 inclusive.

2. AGREEMENT: Between Fidelity Corporation, a corporation of New Jersey and Public Service Electric and Gas Company, a corporation of New Jersey, dated February 25, 1954, recorded March 8, 1954 in Deed Book 1807, page 439 &c. Affects Easement No. 3.

3. EASEMENT in Deed from Rebecca A. Beckenbach, widow of Jacob A. Beckenbach, and others, to City of Camden, dated October 28, 1896, recorded October 29, 1896 in Deed Book 216, page 58 &c. Affects Easement No. 4.

4. SLOPE and drainage rights as reserved in Deed from County of Camden, to The Township of Pennsauken in the County of Camden, dated June 30, 1955, recorded in Book 1934, page 466. Affects Tract of 21.160 Acres and Easement No.2.

5. FLOODING and drainage rights, if any, in Pennsauken Creek or in any stream or water course crossing or affecting Easement No.

6. JURISDICTION and rights of the United States of America in that part of Easement No. 4 lying below high water mark of Pennsauken Creek, claimed as

ATTACHMENT A

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7. RIGHTS of owners and advertisers in signs on insured premises. Guy wire one foot on insured premises at the N--therly corner thereof. As shown on survey dated March 25, 1963, made by Rol   on & Johnson, C. E. & L. S. Affects 21.106 Acres only.
Note: Nothing hereby guaranteed that Water Works Road has been dedicated to a width of 50 feet as shown on aforesaid survey.

8. TAXES for last half of year 1963.

9. RIGHTS, public and private in that part of Easements Nos. 3 and 4 included within the lines of and old unnamed road running from River Road to Pennsauken Creek.

CONDITIONS AND PROVISIONS OF THIS POLICY

[illegible]

THIS POLICY IS TRANSFERRED AS FOLLOWS.

DATE	ASSIGNOR	ASSIGNEE	WITNESS	APPROVED

OFFICERS

Warren C. Evey, Chairman of the Board
Frank J. McDonough, President
Alexander Feinberg, V. P. & General Counsel
Raymond B. Heston, V. P.-Treasurer
Joseph E. Lovellen, Secy.-Asst. Treasurer
Myron P. Walker, Asst. Secretary & Asst. Title Officer
F. Victor Westermaier, Jr, Assistant Secretary

Edward A. Tobin ....Title Officer

Assistant Title Officers
Alvin C. Lewis   Wm. H. Trevilla, Jr.

Capehart & Scatchard, Counsel

DIRECTORS

Ernest L. Bartok   Harold W. Hannold
William W. Chalmers   Rowland B. Harden
M. LeRoy Cobbin   Isadore H. Hermann
Joseph Wm. Cowgill   Robert J. Kiesling
S. Lewis Davis   Frank J. McDonough
Warren C. Evey   William L. Rogers, Jr.
Alexander Feinberg   Abraham J. Rosenfeld
Henry S. Haines   Harrison L. Todd
M. F. Van Istendal, Jr.

Title Service Throughout
New Jersey and Pennsylvania

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RIDER attached to and forming part of title insurance Policy No. 268689 of WEST JERSEY TITLE AND GUARANTY COMPANY, issued pursuant to Application No. 218663

Schedule B Continued.

10. RESTRICTIONS as contained in Deed from Ralph E. Brittin and Lucy Kathleen, his wife, to Fidelity Corporation, a corporation of New Jersey, dated June 27, 1952, recorded July 1, 1952 in Book 1662, page 9, and as in Deed from Fidelity Corporation, a corporation of New Jersey, to George B. Robeson, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 317 ~~and as in Deed from George B. Robeson and Marie K., his wife,~~ to DeSota Chemical Coatings, Inc., a corporation of Delaware, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 332. The above restrictions apply only to the rear 417.47 feet of insured premises adjoining lands of Lexington Manor Corporation and it is hereby insured that the above restrictions do not prohibit the use of the property for storage of finished products or raw materials, or other activity related to but not involved in the manufacturing process.

11. RESTRICTION prohibiting building within 10 feet of lands of Penndel Company on the South as contained in Deed recorded in Book 2013, page 143; and in Deed recorded in Book 2013, page 149; and as imposed in Deed from Fidelity Corporation, a corporation of New Jersey, to George B. Robeson, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 317; and Deed from George B. Robeson and Marie K., his wife, to DeSoto Chemical Coatings, Inc., a corporation of Delaware, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 332.

12. TERMS AND CONDITIONS of the following Easements:

Deed from George B. Robeson and Marie K., his wife, to Penndel Company, Corp., dated May 1, 1956, recorded May 8, 1956 in Deed Book 2013, page 149.

Deed from Fidelity Corporation, a corporation of New Jersey, to George B. Robeson, dated April 30, 1956, recorded May 8, 1956 in Deed Book 2013, page 143.

Deed from Fidelity Corporation, a corporation of New Jersey, to The Township of Pennsauken in the County of Camden, a municipal corporation of New Jersey, dated December 14, 1957, recorded January 27, 1960 in Deed Book 2326, page 297.

Deed from Fidelity Corporation, a corporation of New Jersey, to River Road Corporation, a corporation of New Jersey, dated February 20, 1956, recorded February 24, 1956 in Deed Book 1996, page 298.

Deed from Maurice Weiner and Anne, his wife, to Fidelity Corporation, a corporation of New Jersey, dated April 1, 1953, recorded April 2, 1953 in Deed Book 1728, page 383 &c., applies only to Easement No. 4.

Agreement relocating rights and easements (1st part) John Mansely Company, a corporation of Pennsylvania; (2nd part) United States Steel Corporation, a corporation of New Jersey, (3rd part) Fidelity Corporation, dated May 25, 1954, recorded June 29, 1954 in Deed Book 1835, page 150. Applies only to Easement No. 4 and as imposed in Deed from Fidelity Corporation, a corporation of New Jersey, to George B. Robeson, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 317; and Deed from George B. Robeson and Marie K. Robeson, his wife, to DeSoto Chemical Coatings, Inc., a corporation of Delaware, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 332; and as in Deed of Easement between Fidelity Corporation, a corporation of New Jersey and George B. Robeson and Philip B. Robeson, dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 393; and as in Deed of Easement between George B. Robeson and Marie K., his wife and Philip B. Robeson and Lesley W. Robeson, his wife,

-over-

dated March 27, 1963, recorded March 28, 1963 in Book 2614, page 338.

13. RIGHTS of the State of New Jersey in that part of Easement #4 lying below high water mark of Pennsauken Creek.

WEST JERSEY TITLE AND GUARANTY COMPANY

By- Joseph E. Lewellen, Secretary.

ATTACHMENT B

GENERAL INFORMATION SUBMISSION

1. Facility: DeSoto, Inc.
8600 River Road
Pennsauken, New Jersey 08110

(609-665-6700)

Township: Pennsauken

County: Camden

Latitude and Longitude: A full legal description of the Site is provided as Attachment A

Owner: DeSoto, Inc.
1700 South Mt. Prospect Road
Des Plaines, Illinois 60018

(312-391-9000)

Standard Industrial Classification: 2851 Paint Manufacturing
2841 Detergent Manufacturing

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2. The Site was undeveloped land when purchased by DeSoto. Immediately afterwards, the paint manufacturing facility was constructed by DeSoto for its exclusive use. As such, there are no previous owners or operators nor any known former operations at the Site.

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3. A decision to close the Site was announced on February 4, 1982. DeSoto's right to close the facility was then challanged by the labor union representing the employees. A judicial order prohibiting the closing (but not ordering the resumption of

ATTACHMENT BL 42

manufacturing operations) of the facility was issued. For the next two years the matter worked its way through the Courts as well as through the National Labor Relations Board, until both reached a decision in 1984 allowing the actual "closing" of the facility on economic grounds.

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4. There is no current agreement to sell, lease or otherwise transfer the property to other parties. However, DeSoto wishes to do so as soon as a purchaser can be found.

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5. Since there is no current agreement to sell the property, there is no date known to us at this time when the transfer will occur.

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6. The following is the name and other appropriate information regarding the agent authorized to work with the Department concerning the provisions of ECRA.

Kenneth A. Walanski, P.E.
Corporate Environmental Engineer
DeSoto, Inc:
1700 South Mt. Prospect Road
Des Plaines, Illinois 60018
(312-391-9334)

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7. The following is a list of all federal and state environmental permits applied for and received throughout the history of DeSoto's ownership of the site.

a) U.S. Environmental Protection Agency
Hazardous Waste Permit Application, Part A

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Permit Application Date: November 5, 1980
Permit Approval or Denial: Yes, Part A only
Permit Expiration Date: Not Applicable
Permit Identification Number: NJD005440342

b) Pennsauken Sewerage Authority
Municipal Building
5605 N. Crescent Boulevard
Pennsauken, New Jersey 08110

i) Permit to locate Factory and to Discharge Wastewater
Permit Application Date: September 8, 1972
Permit Approval: Yes
Permit Expiration Date: None
Permit Identification Number: None

ii) Application to Discharge Waste In the Municipal Sewage Collection System
Permit Application Date: August 25, 1977
Permit Approval: Unknown
Permit Expiration Date: Unknown
Permit Identification Number: Unknown

c) State of New Jersey
Department of Environmental Protection
Division of Environmental Quality
John Fitch Plaza
P.O. Box 1390
Trenton, New Jersey 08625

Permit to operate air pollution control Apparatus or Equipment
Permit Application Date: March 16, 1971
Permit Approval: Yes, September 12, 1972
Permit Expiration Date: September 12, 1977
Permit Identification Number: P-4860

d) State of New Jersey
Department of Environmental Protection
Division of Environmental Quality
John Fitch Plaza
P.O. Box 2807
Trenton, New Jersey 08625

Application for a "Permit to Construct, Install or Alter Control Apparatus or Equipment". DeSoto was seeking permission to install conservation vents and bottom filling pipes to bulk solvent storage tanks, as well as

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permission to paint the tanks white in accordance with applicable air pollution regulations.

Permit Application Date: July 20, 1976
Permit Approval: No
Permit Disapproval Date: August 10, 1976
Reason for Disapproval: Organic emissions from tanks were judged to be in excess of those allowed by codes.

Resolution of Matter: All industrial solvent-borne coatings manufacturing operations at the Site were permanently discontinued, thereby eliminating the need for the storage tanks.

e) State of New Jersey
Department of Environmental Protection
Division of Water Resources
P.O. Box CN-029
Trenton, New Jersey 08625

NJPDES/Significant Industrial User
for discharge of wastewater to a POTW
Permit Application Date: July 27, 1981
Permit Approval: No
Reason: Operations at the Site ceased, and as such there was no reason to pursue permitting.

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8. The following is a list of all New Jersey Department of Environmental Protection, or other governmental enforcement actions for violation of any applicable federal, state or local environmental laws or regulations throughout the history of ownership of the Site.

a) U.S. EPA
Region II
26 Federal Plaza
New York, New York 10007

On December 5, 1973, the Site was notified by the U.S. EPA that they did not have an NPDES permit for the discharging of wastewater to a federally controlled surface water. The Site formally responded, saying that they were not a point source under applicable laws and regulations, and discharged wastewater only to sewer. The U.S. EPA took no furthur action and the matter was resolved.

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b) Pennsauken Sewerage Authority
Municipal Building
5605 North Crescent Boulevard
Pennsauken, New Jersey 08110

On May 4, 1972, the Pennsauken Sewerage Authority notified the Site that they were in violation of local regulations because of latex paint waste discharges to the sewerage system. In response to the communication, DeSoto installed a physical-chemical wastewater treatment system to remove pollutants for the plant effluent. This action brought the Site into full compliance with the requirements of the PSA.

c) State of New Jersey
Department of Law and Public Safety
Division of Law
Environmental Protection Section
36 West State Street
Trenton, New Jersey 08625

In 1977, in response to complaints from residents in the vicinity of the Site, the New Jersey Department of Environmental Protection alledged that organic emissions and odors in excess of those allowed by the regulations were being emitted from the solvent-borne coatings manufacturing operations at the Facility. DeSoto believed, and still maintains, that the source of the odors was an adjacent manufacturing facility which had numerous and large spray painting operations using solvent-borne coatings.

In subsequent meetings between DeSoto and the Department, a compliance plan was developed which included certain physical and operational changes at the facility. DeSoto agreed to all of these. On March 9, 1977, a complaint was filed in Superior Court on behalf of the Department of Environmental Protection. This complaint was filed in order to legally bind DeSoto in a Consent Judgement to the agreed upon corrective measures.

The Consent Judgement was signed by DeSoto, and most of the corrective measures were taken in accordance with its provisions. However, shortly thereafter a management decision was made to discontinue the manufacture of industrial solvent-borne coatings at the Site. Consequently, the matter was resolved to the satisfaction of the Department of Environmental Protection.

d) State of New Jersey
Department of Environmental Protection
Division of Waste Management

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B5

120 Rt. 156
Yardville, New Jersey 08620

On September 9, 1983, the Department of Environmental Protection notified the Site that it had failed to submit a Hazardous Waste Generator Annual Report for calendar year 1982. In response to the notice, an annual report was filed.

e) State of New Jersey
Department of Environmental Protection
Division of Waste Management
120 Rt. 156
Yardville, New Jersey 08620

On September 6, 1983, the Department of Environmantal Protection notified the Site of its failure to establish financial assurance for closure and post-closure and to demonstrate financial responsibility for claims. In response to the notice, the instruments were filed which were necessary to demonstrate compliance with the financial responsibility provisions of the State's hazardous waste regulations.

f) State of New Jersey
Department of Environmental Protection
Division of Waste Management
120 Rt. 156
CN 402
Yardville, New Jersey 08625

On October 29, 1982, the Department of Environmental Protection notified the Site of its failure to submit an annual report for calendar year 1981. In response to the notice, an annual report was submitted.

SITE EVALUATION SUBMISSION

9. A scale map identifying all area where hazardous substances or waste were generated, manufactured, refined, transported, treated, stored, handled or disposed, above or below ground is attached.

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10. All manufacturing at the Facility ceased on February 4, 1982, when DeSoto intended to close the plant due to its uneconomical operation. Subsequent legal and administrative action taken by the labor union representing the employees, in which they demanded the full resumption of all operations, delayed formal "closing" until 1984, when the Courts and the National Labor Relations Board ruled that DeSoto would not have to resume operations there.

The following is a detailed description of the two individual manufacturing operations which were conducted at the Site, i.e. 1) paint and coatings manufacturing and 2) solid detergent manufacturing from the Facility's opening on January 3, 1964, until all regular operations ceased on February 4, 1982.

PAINT MANUFACTURING

On January 3, 1964, DeSoto began waterborne and solvent-borne paint manufacturing operations at its newly constructed Pennsauken Plant. The plant was designed to produce water-borne and solvent-borne coatings for the do-it-yourself consumer market and solvent-borne coatings for industiral applications. The physical facility contained several discrete operational and processing components relating to the production, storage, and shipment of coatings. These are:

Raw Material Storage The manufacture of paints is essentially a blending operation in which liquid, solid and semi-solid raw materials are combined to produce a finished product. For storing these raw materials the Facility had (1) an indoor dry raw material storage area for pallet loads of bagged dry solids; (2) indoor bulk storage tanks for non-combustible liquids such as latex emulsions; (3) outdoor bulk storage tanks below grade for flammable raw materials, primarily organic solvents; (4) indoor bulk storage tanks for titanium dioxide slurry, and (5) indoor storage of drummed liquids which could not be economically managed in bulk.

Bagging Dry raw materials were removed from their bags in an operation which was inappropriately referred to as "bagging". A worker would cut open the bags in a hooded area and empty its contents into the high speed disperser, which would blend the pigment particles with a vehicle by wetting the particles and forming a slurry.

Pigment Dispersion The next step in paint manufacturing is the dispersion of dry solid pigments such as titanium dioxide, silicas, etc. in water if the paint is to be a "latex", or in organic solvent if the coating is to be an "Oil" based product. This was also commonly known as the "grinding" step and was intended to wet the pigment particles in order to suspend them in the vehicle.

Water-borne pigment dispersions were made in high-sheer mixers, known as Hockmeyers after their manufacturer. An extremely viscous paste-like material was produced which would be used in the next step in the manufacturing operation.

Solvent-borne pigment dispersions were made in sand mills or in ball mills. In addition to dispersing the pigments in an organic solvent, some size reduction is affected in a ball mill.

Thin-Down Tanks After dispersion of the pigments in a vehicle, the material is transferred to tanks where furthur additions of raw materials are made. These tanks are known in the jargon of the coatings industry as "thin-down" or sometimes "let-down" tanks. These tanks are as large as the particular batch of coating to be made, ranging in size to 6000 gallons.

In the manufacture of latex paint, the latex emulsion, coloring agents and water are added and mixed in the thin-down tanks. In the production of solvent-borne coatings, the resin, colorants and organic solvent are added. The material in the thin-down tanks is finished product, i.e. a paint or coating, which is temporarily stored there until it is filled into cans, drums, or bulk transport vehicle.

Filling Area A large portion of the production area is dedicated to filling. For latex paint, there were two automated filling lines which fill, label and pack gallons or quarts of paint. A single, non-automatic filling line for two gallon "pails" was also used. Solvent-borne coatings for the consumer market were also filled in automatic lines, while industrial products were filled into drums or tank wagons.

Warehouse After filling, the coatings are sent to the warehouse part of the Facility for storage prior to shipment.

Shipping Docks for the loading of shipments onto trucks were also an integral part of the Facility.

Laboratory The Facility contained a fully equipped quality control laboratory for analysis of incoming raw materials and for finished products. The laboratory was responsible for determining the make-up of "hits" to the thin-down tanks, i.e.

the amount of colorants, emulsion, etc. in order to produce a quality product.

Office The Facility contained a large office for administration of their day to day affairs. This included payroll, ordering, personnel administration, etc.

DETERGENT MANUFACTURING

In 1971, a dry solids detergent manufacturing operation was added to the Pennsauken Plant. The process is a proprietary one, designed to produce a high density product for the consumer market by continuously blending sodium carbonate, silicates and additives. The following are the component elements for the overall process.

Raw Material Storage Solid sodium carbonate was stored in an outdoor bulk storage tank. Liquid sodium silicate was also stored in bulk. Perfumes and other minor additives were stored in drums.

Raw Material Unloading Dry and liquid raw materials were brought to the Facility in bulk, either by railcar or by tank wagon. A dedicated railroad siding was used for this purpose. Dry sodium carbonate was mechanically conveyed to the bulk storage outside bulk storage tank.

Blending A Patterson-Kelly continuous blender formed the heart of the manufacturing process. In it the sodium carbonate, sodium silicate, perfumes and additives were mixed and reacted exothermically at a temperature slightly above ambient, producing the high density solid detergent.

Cooling After being blended and reacted, the product was cooled in a continuous cooling reel to essentially ambient. Room air, drawn into the cooling reel, was the cooling medium and it was discharged into a baghouse to prevent the release of particulates.

Finished Product Storage Upon exiting the cooling reel, the finished product was conveyed to a bulk storage tank which were located on the exterior of the building.

Filling and Packaging A semi-automatic line was used to fill and package the detergents.

Warehouse and Shipping After packaging, the detergents were pallatized and sent to the warehouse for storage. Later, as a function of orders, the detergents were shipped to stores for ultimate sale to the consumer.

Hazardous Substance and Waste Generation, Manufacturing, Refining, Transportation, Treatment, Storage and Handling on Site

During the manufacture of solvent-borne coatings, hazardous substances were used, transported, stored and handled on site. In addition, hazardous wastes were also generated and stored on site. However, no hazardous wastes were ever disposed of on site. The following is a complete and detailed description of the individual operations which involved hazardous substances or wastes.

Solvent-Borne Paint Manufacturing In the manufacture of solvent-borne coatings, organic solvents such as toluene, methyl ethyl ketone, xylene and mineral spirits were used as a vehicle and as such were an integral part of the coatings.

a) Storage: These solvents were stored either in outside underground tanks or in drums when only limited quantities were needed. They were also transported from the underground storage tanks to the production area by means of hard piping.

b) Wash Solvent: A clean but low-grade mixture of organic solvents was used to clean the ball mills, sand mills, thin down tanks and associated equipment between batches. Because of the cost of virgin solvents, this mixture was ordinarily reclaimed solvent and was known appropriately as "wash solvent". The dirty wash solvent was pumped to one of two outside bulk storage tanks where it was temporarily held until the reclaiming company could transport it to the site of their operation.

c) Off-Spec Coatings: Occasionally, coatings were returned because of age or condition. Such "off-spec" or "distressed" materials could be reused in other batches of similar paint or coatings, and in that way the value of the raw materials would be recovered. If the off-spec coating could not be reused in this manner, it was sent off-site for disposal.

d) Laboratory: Chemicals were routinely used in the laboratory, and mixtures, reagents, samples, etc. required disposal. These were sent for disposal as "lab packs".

Water-Borne Coatings Manufacturing The manufacture of latex paints closely parallels the steps used to make solvent borne coatings, except that ball and sand mills are not used and water, rather than organic solvent, is used as the vehicle. However, none of the raw materials used in latex paints is a hazardous substance, the principle components being latex emulsion, titanium dioxide, silicas, additives, and water.

a) Storage: Liquid raw materials which were used in large quantities were stored in bulk storage tanks, indoors, to prevent them from freezing. Titanium dioxide slurry, approximately 50% water and 50% titanium dioxide, was also stored in bulk. Dry raw materials were stored indoors in paper bags, on pallets until used.

No hazardous substances were used in the manufacture of latex paint, and consequently none were stored.

b) Wash Water: Tanks and equipment dedicated to the manufacture of latex paint require cleaning between batches, unless the rinse water is assimilateable in a next batch. This wash, or "rinse" water was handled in one of two ways. It would either be a) sent to a holding tank, where it would be accumulated with other compatible rinse water and later used in the manufacture of other batches of paint. This wash water has been referred to as "reuse water". Alternatively, if the quality of the wash water was such that it could not be combined and reused, it was pumped to the wastewater treatment system.

The wastewater treatment system is a classical physical-chemical one, utilizing two 5000 gallon tanks and a polyelectrolyte as a flocculating agent. One tank was used as the rapid mix tank, and the other the clarifier and sludge concentrator. Clarified supernatant was discharged to the Pennsauken Sanitary District, and sludge was sent for disposal to a local landfill.

In 1981, an experimental secondary and tertiary wastewater treatment system was installed. After physical-chemical treatment, the effluent was pumped to a ultrafiltration system, followed by carbon absorption. This system was not totally operational before manufacturing ceased and as such the process was never fully evaluated.

Neither the wastewater from the manufacture of latex paint, or the sludge generated by the treatment of it, was classified as a hazardous waste according to New Jersey or Federal regulations. Additionally, neither was a hazardous substance according to the regulations.

c) Off-Specification Coatings: Occasionally, latex paint would be returned to the Site because of age or condition. This "distressed" material was evaluated to determine if it could be

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incorporated into new batches of paint, and in that way we could recover the cost of the raw materials. If it was determined that the paint would not be reused, it was sent off-site for ultimate disposal. Since latex paints are not hazardous substances or hazardous wastes, they were sent to a local landfill after receiving permission to do so.

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11. The Site has no vessels, surface impoundments, secured landfills, or other types of stroage facilities containing hazardous substances or hazardous wastes remaining.

During the course of its operation, the Site contained vessels, i.e. tanks, which were used to store hazardous substances. However, all hazardous substances were removed from these vessels either in 1977, when all industrial sovlvent-borne paint production stopped at the Site, or in 1982 when all operations totally ceased.

In 1980, the Site filed a "Notification of Harardous Waste Activity" as a hazardous waste generator and a "Part A Application" as a hazardous waste storage site. This was done because hazardous waste was generated and subsequently stored in drums on-site for longer than ninety days prior to off-site disposal. All hazardous wastes have been removed and formal hazardous waste site closure has been undertaken (documents attached) and formally approved by the State of New Jersey.

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12. No hazardous substances or hazardous wastes remain on the Site.

The following is a description and inventory, based on available records, of hazardous substances and wastes which were generated, refined, transported, treated, stored, handled, above or below ground at the Site.

a) No inventory exists for the quantities and types of organic solvents which were used at the Site in the production of coatings. These business records, to the best of our knowledge, do not exist.

b) No hazardous substances or wastes were treated at the Site.

c) The only available information relating to the shipment

of hazardous substances to the site is the attached document "Inventory of Shipments to and from the Swope Oil and Chemical Co." The other hazardous substances shipped to the Site were those used as raw materials in the manufacture of coatings, and no records for such shipments exist.

d) Hazardous substances transported off the site include solvent-borne coatings, an inventory and discription of which does not, to the best of our knowledge, exist.

e) An inventory and description of hazardous wastes generated and transported off the Site, is shown in the two attached documents. These are (1) Inventory of Shipments to and from the Swope Oil and Chemical Co., and (2) copies of the hazardous waste manifests for all such shipments since the adoption of those regulations.

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13. To the best of our knowledge, no spill of a hazardous substance or hazardous waste occurred during the years in which the Site was operated.

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14. Because the Site was fully paved and manufacturing activity was contained within a building, no soil, groundwater or surface water sampling plan is intended.

The City of Pennsauken, in conjunction with its operation of landfill, has installed a groundwater monitoring well on the Site. DeSoto has not been provided (nor have we requested) any data from the well. This well was designed to provide data on potential subsurface migration of pollutants from the landfill and not from the DeSoto Site.

DeSoto proposes that the Department of Environmental Protection not require sampling or a sampling plan pursuant to N.J.A.C. 7:1-3.7(d)14, for soil, groundwater, surface water and air for the following reasons.

a) All of the hazardous substances and hazardous wastes have been removed from the Site, pursuant to the Facility's Hazardous Waste Closure Plan, and the liability provisions of the federal Superfund Act.

b) All tanks, lines, pumps, equipment etc., have been decontaminated, resulting in a clean manufacturing facility.

Route 515
Vernon, New Jersey 07462

e) Many bulk storage tanks have been removed and sent to other DeSoto manufacturing locations in order to reuse them.

---

16. No soil, groundwater, or surface water sampling was, to the best of our knowledge, ever conducted at the facility. Also, the facility was not a direct discharger of wastewater to a surface water, and as such no effluent quality monitoring was ever conducted.

ATTACHMENT C

Form DWM-051
1/86

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INVESTIGATION

CASE #: _____

DWM FILE #: 04-27-12
TIME ARRIVED: 1520
TIME DEPARTED: 1535

INVESTIGATOR: S. FROW
DATE: 5/4/87
LOCATION: (DESOTO INC)
PROPERTY OWNER: _____
ADDRESS: 8600 River Road
Pennsauken County - Camden
MAILING ADDRESS: _____
BLOCK: 248Z LOT: 5
RESPONSIBLE PARTY: _____
LOCATION TELEPHONE #: _____
ADDRESS: _____
EPA ID #: NJD 005 440 342
LOCAL HEALTH DEPT. REP. _____
TELEPHONE #: _____
ORIGIN OF COMPLAINT: _____
TELEPHONE #: _____
NATURE OF COMPLAINT: Limited RCRA Facility Assessment
PHOTOGRAPHS TAKEN: _____
SAMPLE #: _____

FINDINGS: Arrived at the site at approx 1520 hrs. Facility at 8600 River Road is no longer DESOTO, is now occupied by Esther Williams Pools & SPAs and JOHNNY WEISSMULLER PRODUCTS which are both affiliated with Aluminum Shapes Inc.

The facility is bounded by Aluminum Shapes Inc at 9000 River Road and John Tipton Blvd at the edge of Pennsauken Industrial Park. The facility looks to be very well kept and may be able to accommodate rail shipments. There was no evidence of dumping on the property. This writer secured from the area at approx. 1535 hrs.

Review of the file indicates that DESOTO, INC went through a complete closure of all hazardous waste areas under the direction of BHWE and was delisted 9/10/84. The property was subsequently sold to Aluminum Shapes, Inc. Review of previous RCRA inspections indicates that the overall housekeeping practices of DESOTO INC were excellent and that all applicable regulations were complied with. No forwarding address is available.

Terry Ostrander 5/28/87
Supervisor Signature

Investigator Signature

COPIES: White - DWM File Yellow - Local Health Dept. Pink - Investigator

ATTACHMENT C1
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SUMMARY OF FINDINGS

FACILITY DESCRIPTION AND OPERATIONS

On September 10, 1984 De Soto, Inc. was delisted as a TSD Facility by the Bureau of Hazardous Waste Engineering. A copy of the notification is attached.

Upon arriving at the facility I was stopped at the gate by the guard. I was informed that the facility is no longer De Soto, Inc. Evidently De Soto went out of business and this property is now owned by Aluminum Shapes, Inc.. The facility is to be operated by Ester Williams Pools, Inc..

After leaving the facility I proceeded to the Pennsauken Municipal Office, Tax Assessor. I was informed that Aluminum Shapes, Inc. purchased the property on 11/20/84. The person in this office did not have a forwarding address.

ATTACHMENT D

AGREEMENT OF SALE AND PURCHASE

AGREEMENT made this 30th day of August, 1984, between DESOTO, INC. a Delaware corporation, ("Seller"), and ALUMINUM SHAPES, INC., a New Jersey corporation, or its assignee or nominee ("Purchaser").

BACKGROUND:

In consideration of the covenants contained herein, the parties agree as follows:

1. Agreement to Sell and Purchase. Seller agrees to sell to Purchaser, and Purchaser agrees to purchase from Seller, subject to the terms and conditions of this agreement, the property situate at 8600 River Road, Pennsauken, New Jersey, consisting of the following:

(a) The tract of land more fully described by metes and bounds on Exhibit A hereto, with the buildings, fixtures and other improvements situate thereon (said tract of land and said buildings, fixtures and improvements being hereafter collectively referred to as the "Real Property"); together with all right, title and interest of Seller in and to any land lying in the bed of any highway, street, road or avenue,

ATTACHMENT E

3

ADM-012

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO File

FROM William Sharples DATE April 5, 1984

SUBJECT DeSoto, Inc., Chemical Coatings Division, 8600 River Road, Pennsauken, NJ - EPA ID NO. NJD005440342

The above subject facility submitted to the Bureau a closure certification for hazardous waste drum storage, tank storage and tank treatment on March 21, 1984.

On April 3, 1984 the writer performed an engineering inspection with Mr. Anthony Portella, Maintenance Manager of the subject facility. According to Mr. Portella the subject facility has been closed or inactive for the past two years. The facility used to generate oil and water base paints/coatings waste. This waste was stored in four mixing tanks then transferred to two settling tanks where ultrafiltration or pigment removal occurred prior to reuse of the water base in other paints. Drummed wastes were stored outdoors on a blacktop pad. Two tanks located outdoors in a diked area were used to store waste solvents.

To date all tanks are empty and no drums exist on-site.

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ATTACHMENT E1

3

ADM-012

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO File

FROM William Sharples DATE April 5, 1984

SUBJECT DeSoto, Inc., Chemical Coatings Division, 8600 River Road, Pennsauken, NJ - EPA ID NO. NJD005440342

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To date all tanks are empty and no drums exist on-site.

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ATTACHMENT E1

ATTACHMENT F

04-

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 FEDERAL PLAZA
NEW YORK NEW YORK 10278

APR 8 1982

Irving P. Schwerd, Plant Manager
5000 River Road
Pennsauken, NJ 08110

Re:
Lecoto, Inc.
EPA Identification number: NJD053440342
Facility located at : Pennsauken, NJ

Inspection performed on : September 18, 1981

Dear Sir or Madam:

The Environmental Protection Agency ("EPA") is charged with responsibility for implementing the Solid Waste Disposal Act, as amended, 42 U.S.C. §6901 et seq. ("the Act"). [Note: Among the statutes amending the Act is the Resource Conservation and Recovery Act ("RCRA"), 90 Stat. 2795, P.L. 94-580 (1976).]

In accordance with this responsibility, an inspection was performed at the above referenced facility ('the facility") by a duly authorized representative of the EPA pursuant to Section 3007 of the Act. On the basis of this inspection, the Director of the Enforcement Division of the EPA Region II office has determined that you have violated Section 3005 of the Act, 42 U.S.C. §6925 and the regulati promulgated thereunder, as specified by the checked boxes on the following pages

1. By notification you informed EPA that you conduct activities at the facil involving "hazardous waste," as that term is defined in Section 1004(5) of the A 42 U.S.C. §6904(5) and in 40 CFR §261.3. By the submittal of a Part A applicati pursuant to the requirements of 40 CFR Part 122, you requested a permit to condu such hazardous waste activities.

2. The above-referenced inspection revealed that your facility was being used the treatment, storage, or disposal of hazardous waste.

3. 40 CFR Part 265 sets interim status standards for treatment, storage and disposal facilities for hazardous wastes. These interim status standards apply until final administrative disposition of permit applications submitted by the owners of these facilities has been made. No such final disposition has been made with respect to your facility, and thus the standards of Part 265 apply to facility.

4. The above-referenced inspection revealed that your facility was in violatic of certain provisions of the Part 265 interim status standards. The following checked paragraphs indicate the regulatory provisions that have been violated:

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ATTACHMENT F1

ATTACHMENT G

(7)

RCRA INSPECTION REVIEW SHEET

Name of Facility - DESOTO INCORPORATED
RCRA ID# - NJD005440342
Date of Inspection - 9-18-81
Type of Inspection: ~~Generator~~ Transporter TSD
Name of EPA/State Inspector - WAYNE HOWITZ N.J.D.E.P

Findings of Inspection:
WITH ~~[illegible]~~ THE FOLLOWING VIOLATIONS IN ACCORDANCE 40 CFR PARTS:

262.32(d) - NO MARKINGS ON CONTAINERS.
265.65(b) - NO WRITTEN INSPECTION SCHEDULE.
265.16(d) - NO PERSONNEL TRAINING PLAN

Action(s) Taken: MR. McGROARTY, QUALITY ASSURANCE MANAGER, WAS INFORMED OF THE ABOVE NOTED VIOLATIONS, ACCORDING TO MR. McGROARTY THOSE ~~[illegible]~~ VIOLATIONS WILL BE CORRECTED.

Action(s) Recommended: NOTICE OF VIOLATION ~~[illegible]~~

ATTACHMENT G1

RCRA GENERATOR INSPECTION FORM

COMPANY NAME: DESOTO INCORPORATED

EPA I.D. NUMBER: NJD005440342

COMPANY ADDRESS: 8600 River Rd
Pennsauken, N.J 08110

COMPANY CONTACT OR OFFICIAL: MICHAEL MCGROARTY

INSPECTOR'S NAME: WAYNE HOWARD

TITLE: QUALITY ASSURANCE MANAGER

BRANCH/ORGANIZATION: N.J. DEP

CHECK IF FACILITY IS ALSO A TSD FACILITY [X]

DATE OF INSPECTION: 9-18-81

	YES	NO	DON'T KNOW
(1) Is there reason to believe that the facility has hazardous waste on site?	X		

a. If yes, what leads you to believe it is hazardous waste? Check appropriate box:

[ ] Company admits that its waste is hazardous during the inspection.

[X] Company admitted the waste is hazardous in its RCRA notification and/or Part A Permit Application.

[ ] The waste material is listed in the regulations as a hazardous waste from a nonspecific source (§261.31)

[X] The waste material is listed in the regulations as a hazardous waste from a specific source (§261.32)

[ ] The material or product is listed in the regulations as a discarded commercial chemical product (§261.33)

[ ] EPA testing has shown characteristics of ignitability, corrosivity, reactivity or extraction procedure toxicity, or has revealed hazardous constituents (please attach analysis report)

[ ] Company is unsure but there is reason to believe that waste materials are hazardous. (Explain)

	YES	NO	DON'T KNOW
b. Is there reason to believe that there are hazardous wastes on-site which the company claims are merely products or raw materials?		X	

Please explain:

c. Identify the hazardous wastes that are on-site, and estimate approximate quantities of each.
21-drums of SOLVENT BASED PAINT
7 of these 21 drums ARE SOLIDIFIED
14 ARE AWAITING SOLIDIFICATION

d. Describe the activities that result in the generation of hazardous waste. MANUFACTURE of WATER AND 4/90 SOLVENT BASED PAINT

(2) Is hazardous waste stored on site?	X		
a. What is the longest period that it has been accumulated? SINCE NOV. 19TH 1980			
b. Is the date when drums were placed in storage marked on each drum?		X	
(3) Has hazardous waste been shipped from this facility since November 19, 1980?		X	
a. If "yes," approximately how many shipments were made?			
(4) Approximately how many hazardous waste shipments off site have been made since November 19, 1980? 0			
a. Does it appear from the available information that there is a manifest copy available for each hazardous waste shipment that has been made?			

b. If "no" or "don't know," please elaborate.
TO DATE 9-18-81, DESOTO HAS NOT SHIPPED ANY WASTE OFF SITE SINCE 11/19/80

	YES	NO	DON'T KNOW
c. Does each manifest (or a representative sample) have the following information?			
- a manifest document number		N/A	
- the generator's name, mailing address, telephone number, and EPA identification number		N/A	
- the name, and EPA identification number of each transporter		N/A	
- the name, address and EPA identification number of the designated facility and an alternate facility, if any:		N/A	
- a description of the wastes (DOT)		N/A	
- the total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle		N/A	
- a certification that the materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation under regulations of the Department of Transportation and the EPA		N/A	
(5) Were there any hazardous wastes stored on site at the time of the inspection?	X		
a. If "yes," do they appear properly packaged (if in containers) or, if in tanks, are the tanks secure?	X		
b. If not properly packaged or in secure tanks, please explain.			
c. Are containers clearly marked and labelled?		X	
d. Do any containers appear to be leaking?		X	
e. If "yes," approximately how many?	0		

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G4

*(6) Has the generator submitted an annual report to EPA covering the previous calendar year? — N/A —

a. How do you know?

(7) Has the generator received signed copies (from the TSD facility) of all manifests for wastes shipped off site more than 35 days ago? N/A — —

a. If "no," have Exception Reports been submitted to EPA covering these shipments? — — —

(8) General comments.

HOUSE KEEPING OF DRUM STORAGE AREA & OVER ALL FACILITY IS EXCELLENT.

* The effective date for this requirement is March 1, 1982.

RCRA TREATMENT, STORAGE AND DISPOSAL FACILITY INSPECTION FORM
FOR TSD FACILITIES ONLY

COMPANY NAME: DESOTO INCORPORATED EPA I.D. Number: NJD005440342

COMPANY ADDRESS: 8600 RIVER Rd. Pennsauken N.J

COMPANY CONTACT OR OFFICIAL: MICHAEL MCGROARY

TITLE: QUALITY ASSURANCE MANAGER

INSPECTOR'S NAME: WAYNE HOWITZ

BRANCH/ORGANIZATION: NJ DEP BUREAU OF HAZARDOUS WASTE

OTHER ENVIRONMENTAL PERMITS HELD BY FACILITY: [/] NPDES [/] AIR [/] OTHER

DATE OF INSPECTION: 09-18-81

TIME OF DAY INSPECTION TOOK PLACE:

(1) Is there reason to believe that the facility has hazardous waste on site?

a. If yes, what leads you to believe it is hazardous waste? Check appropriate box:

[/] Company admits that its waste is hazardous during the inspection.

[✓] Company admitted the waste is hazardous in its RCRA notification and/or Part A Permit Application.

[/] The waste material is listed in the regulations as a hazardous waste from a nonspecific source (§261.31)

[✓] The waste material is listed in the regulations as a hazardous waste from a specific source (§261.32)

[/] The material or product is listed in the regulations as a discarded commercial chemical product (§261.33)

[/] EPA testing has shown characteristics of ignitability, corrosivity, reactivity or extraction procedure toxicity, or has revealed hazardous constituents (please attach analysis report)

[/] Company is unsure but there is reason to believe that waste materials are hazardous. (Explain)

	YES	NO	DON'T KNOW
b. Is there reason to believe that there are hazardous wastes on-site which the company claims are merely products or raw materials?		✓	

Please explain:

c. Identify the hazardous wastes that are on-site, and estimate approximate quantities of each.

(2) Does the facility generate hazardous waste?	✓		
(3) Does the facility transport hazardous waste?		✓	
(4) Does the facility treat, store or dispose of hazardous waste?	✓		

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G6

VISUAL OBSERVATIONS

	YES	NO	DON'T KNOW
(5) SITE SECURITY (§265.14)			
a. Is there a 24-hour surveillance system?	✓		
b. Is there a suitable barrier which completely surrounds the active portion of the facility?	✓		
c. Are there "Danger-Unauthorized Personnel Keep Out" signs posted at each entrance to the facility?	✓		
(6) Are there ignitable, reactive or incompatible wastes on site? (§265.27)	✓		
a. If "YES", what are the approximate quantities? 21 - 55 gallon drums of solidified solvent based paint waste			
b. If "YES", have precautions been taken to prevent accidential ignition or reaction of ignitable or reactive waste?	✓		
c. If "YES", explain WASTE MATERIALS ARE STORED IN A WELL VENTILATED & SECURE AREA.			
d. In your opinion, are proper precautions taken so that these wastes do not:			
- generate extreme heat or pressure, fire or explosion, or violent reaction?	✓		
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficent quantities to threaten human health?	✓		
- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions?	✓		
- damage the structural integrity of the device or facility containing the waste?	✓		
- threaten human health or the environment?	✓		

Please explain your answers, and comment if necessary.

e. Are there any additional precautions which you would recommend to improve hazardous waste handling procedures at the facility?

(7) Does the facility comply with preparedness and prevention requirements including maintaining: (§265.32)

	YES	NO	DON'T KNOW
- an internal communications or alarm system?	✓		
- a telephone or other device to summon emergency assistance from local authorities?	✓		
- portable fire equipment?	✓		
- adequate aisle space?	✓		
- in your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain.	✓		

In your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain.
Yes All Are Needed.

*(8) Have you inspected to verify that the groundwater monitoring wells (if any) mentioned in the facility's groundwater monitoring plan (see no. 19 below) are properly installed?	N/A		
If you have, please comment, as appropriate.			
(9) a. Is there any reason to believe that groundwater contamination already exists from this facility? If "YES", explain.			
b. Do you believe that operation of this facility may affect groundwater quality?			
c. If "YES", explain.			

RECORDS INSPECTION

(10) Has the facility received hazardous waste from an off-site source since Nov. 19, 1980 (effective date of the regulations)?		✓	
a. If "YES", does it appear that the facility has a copy of a manifest for each hazardous waste load received?		N/A	
b. How many post-November 19 manifests does it have? (If the number is large, you may estimate)	N/A		
c. Does each manifest (or a representative sample) have the following information?			
- a manifest document number		N/A.	

* This requirement applies only after November 19, 1981.

	YES	NO	DON'T KNOW
- the generator's name, mailing address, telephone number, and EPA identification number	___	___	___
- the name, and EPA identification number of each transporter	___	___	___
- the name, address and EPA identification number of the designated facility and an alternate facility, if any;	___	___	___
- a DOT description of the wastes	___	___	___
- the total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle	___	___	___
- a certification that the materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation under regulations of the Department of Transportation and the EPA	___	___	___
d. Are there any indications that unmanifested hazardous wastes have been received since November 19, 1980? If YES, explain.	___	X	___
(11) Does the facility have a written waste analysis plan specifying test methods, sampling methods and sampling frequency? (§265.13)	X	___	___
a. Does the character of wastes handled at the facility change from day to day, week to week, etc., thus requiring frequent testing? (You may check more than one) Waste characteristics vary ___ All wastes are basically the same X Company treats all waste as hazardous ___ Don't Know ___			
b. Does hazardous waste come to this facility from off-site sources?	___	X	___
c. If waste comes from an off-site source, are there procedures in the plan to insure that wastes received conform to the accompanying manifest?	___	N/A	___
(12) INSPECTIONS (§265.15)			
a. Does the facility have a written inspection schedule?	___	X	___
b. Does the schedule identify the types of problems to be looked for and the frequency for inspections?	___	X	___
c. Does the owner/operator record inspections in a log?	___	X	___
d. Is there evidence that problems reported in the inspection log have not been remedied? If "YES," please explain.	___	X	___

	YES	NO	DON'T KNOW
(13) PERSONNEL TRAINING (§265.16)			
a. Is there written documentation of the following:			
- job title for each position at the facility related to hazardous waste management and the name of the employee filling each job?		✓	
- type and amount of training to be given to personnel in jobs related to hazardous waste management?		✓	
- actual training or experience received by personnel?		✓	
(14) Does the facility have a written contingency plan for emergency procedures designed to deal with fires, explosion or any unplanned release of hazardous waste? (§265.51)	✓		
a. Does the plan describe arrangements made with local authorities?	✓		
b. Has the contingency plan been submitted to local authorities?	✓		
How do you know? LETTER FROM MR. LESLIE RICH INSPECTOR BUREAU OF FIRE PREVENTION, PENNSAUKEN FIRE DEPARTMENT DATED: 8/18/81			
c. Does the plan list names, addresses, and phone numbers of Emergency Coordinators?	✓		
d. Does the plan have a list of what emergency equipment is available?	✓		
e. Is there a provision for evacuating facility personnel?	✓		
f. Was an Emergency Coordinator present or on call at the time of the inspection?	✓		
(15) Does the owner/operator keep a written operating record with: (§265.73)			
- a description of wastes received with methods and dates of treatment, storage or disposal?		N/A	
- location and quantity of each waste?		N/A	
- detailed records and results of waste analysis and treatability tests performed on wastes coming into the facility?		N/A	
- detailed operating summary reports and description of all emergency incidents that required the implementation of the facility contingency plan?		N/A	
*(16) Does the facility have written closure and post-closure plans? (§265.110)	✓		
a. Does the written closure plan include:			
- a description of how and when the facility will be partially (if applicable) and ultimately closed?	✓		

* Effective date for this requirement is May 19, 1981.

	YES	NO	DON'T KNOW
- an estimate of the maximum inventory of wastes in storage or treatment at any time during the life of the facility?	✓	—	—
- a description of the steps necessary to decontaminate facility equipment during closure?	✓	—	—
- a schedule for final closure including the anticipated date when wastes will no longer be received and when final closure will be completed?	✓	—	—
b. What is the anticipated date for final closure?	—	—	—
†c. Does the owner/operator have a written post-closure plan identifying the activities which will be carried on after closure and the frequency of these activities?	†	N/A	—
d. Does the written post-closure plan include:			
- a description of planned groundwater monitoring activities and their frequencies during post-closure?	✓	—	—
- a description of planned maintenance activities and frequencies to ensure integrity of final cover during post-closure?	✓	—	—
- the name, address and phone number of a person or office to contact during post-closure?	—	—	—
*(17) Does the owner/operator have a written estimate of the cost of closing the facility? (§265.142) What is it? $5000.00	✓	—	—
*(18) Does the owner/operator have a written estimate of the cost for post-closure monitoring and maintenance?	—	—	—
What is it? (§265.144)	✓	—	—
*(19) Has a groundwater monitoring plan been submitted to the Regional Administrator for facilities containing a surface impoundment, landfill or land treatment process? (This requirement does not apply to recycling facilities.) (§265.90)	N/A		
a. Does the plan indicate that at least one monitoring well has been installed hydraulically upgradient from the limit of the waste mangement area?	—	—	—
b. Does the plan indicate that there are at least three monitoring wells installed hydraulically downgradient at the limit of the waste management area?	—	—	—

† This section applies only to disposal facilities.

* Effective date for this requirement is May 19, 1981.

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SITE-SPECIFIC

Please circle all appropriate activities and answer questions on indicated pages for all activities circled. When you submit your report, include only those site-specific pages that you have used.

STORAGE	TREATMENT	DISPOSAL
Waste Pile p. 9	Tank p. 8	Landfill pp. 10-11
Surface Impoundment p. 8	Surface Impoundment pp. 8-9	Land Treatment pp. 9, 10
Container p. 7	Incineration pp. 12-13	Surface Impoundment p. 8
Tank, above ground p. 8	Thermal Treatment pp. 12-13	Other _____
Tank, below ground p. 8	Land Treatment pp. 9-10	
Other _____	Chemical, Physical p. 13 and Biological Treatment (other than in tanks, surface impoundment or land treatment facilities)	
	Other _____	

CONTAINERS (§265.170)

	YES	NO	DON'T KNOW
1. Are there any leaking containers? If "YES", explain.		✓	
2. Are there any containers which appear in danger of leaking? If "YES", explain.		✓	
3. Do wastes appear compatible with container materials?		✓	
4. Are all containers closed except those in use?	✓		
5. Do containers appear to be opened, handled or stored in a manner which may rupture the containers or cause them to leak?		✓	
6. How often does the plant manager claim to inspect container storage areas? TWICE A WEEK.			
7. Does it appear that incompatible wastes are being stored in close proximity to one another? If "YES", explain.		✓	
8. Are containers holding ignitable or reactive wastes located at least 15 meters (50 feet) from the facility's property line?		N/A	

9. What is the approximate number and size of containers with hazardous wastes?
21 - 55-gallon drums.

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ATTACHMENT H

(2)

De Soto Chemical 8600 River Road

- pretreatment phy/chemical -
- sludge 97 T/yr. to landfill
- Zinc used on site
- formaldehyde used on site
- non-haz latex paint waste to Pennsauken landfill 18 yrs. - 1620 tons
- solvent based paint waste to Niagara Falls - 2 yrs. 14 tons

Aluminum Shapes - 1600 - no well

- pretreatment - neutralization & oil and grease removal
- generates waste
- subject to SPCC plan
- air emissions permit
- discharge 14,000 gpd of heavy metal waste to POTW
- " 135 T/yr to S+W waste
- haul 60 T/y paint waste S+W
- haul 60 T/y. oil waste
- discharg 126,000 gpd to POTW
- phenols present in disch to POTW
- chromium " " " " "

Natico 1600 Nat'l Hwy. - no well

- air emissions permit
- Sanitary & cooling water 33,000 gpd

CJ Osborn

- POTW discharg contains priority pollutants
- subject to SPCC
- air emissions permit
- discharge phenols to POTW
- corrosive + solvents thinners + degreasers

ATTACHMENT H

ATTACHMENT I

ATTACHMENT c

INVENTORY OF SHIPMENTS TO AND FROM THE SWOPE OIL AND CHEMICAL CO.

SHIPMENTS TO SWOPE OIL & CHEMICAL COMPANY

DATE	QTY GALS	ITEM	DOCUMENT DESCRIPTION DATE	DOCUMENT
12/21/64	5,000	Dirty Solvent	12/21/64 12/21/64 12/21/64	DeSoto Bill of Lading #2465 Wagner Demurrage Ticket Wagner Bill of Lading #10118
1/18/65	4,500	Dirty Solvent	1/18/65 1/18/65	DeSoto Bill of Lading #2477 Wagner Bill of Lading #160
1/29/65	4,700	Dirty Solvent	1/29/65 1/29/65	DeSoto Bill of Lading #2482 Wagner Bill of Lading #11987
2/10/65	5,500	Dirty Solvent	2/10/65 2/10/65 2/10/65	DeSoto Bill of Lading #2491 Wagner Demurrage Ticket Wagner Bill of Lading #9921
2/23/65	4,105	Dirty Solvent	2/23/65 2/23/65	DeSoto Bill of Lading #2498 Wagner Bill of Lading #11104
3/4/65	4,500	Dirty Solvent	3/4/65 3/4/65	DeSoto Bill of Lading #2506 Wagner Bill of Lading #313
3/15/65	4,700	Dirty Solvent	3/15/65 3/15/65	DeSoto Bill of Lading #2513 Wagner Bill of Lading #321

RETURN SHIPMENTS TO DeSOTO

DATE	QTY GALS	ITEM	DOCUMENT DESCRIPTION DATE	DOCUMENT
1/5/64	4,377	Recovered Solvent (Dirty Xylol)	1/5/65 1/5/65 1/5/65 1/5/65 1/7/65 1/19/65	Swope Bill of Lading Wagner Bill of Lading #425 Swope Invoice #3847 DeSoto Receiving Report #01-1003 DeSoto Purchase Order #01-38 DeSoto Check to Swope #2331
1/25/65	3,280	Recovered Solvent	1/25/65 1/25/65 1/25/65 1/7/65 2/5/65	Swope Bill of Lading Wagner Bill of Lading #167 Swope Invoice #3858 DeSoto Purchase Order #01-38 DeSoto Check to Swope #2600
2/-/65	3,795	Recovered Solvent	2/-/65 2/4/65 2/4/65 1/28/65 2/15/65	Swope Bill of Lading (two pages of copyset) Wagner Bill of Lading #175 Swope Invoice #3865 DeSoto Purchase Order 01-324 (two pages of copyset) DeSoto Check to Swope #2786
2/26/65	3,905	Recovered Solvent	2/26/65 2/26/65 2/26/65 2/9/65 3/8/65	Swope Bill of Lading Wagner Bill of Lading #11717 Swope Invoice #3873 DeSoto Purchase Order #01-471 (two pages of copyset) DeSoto Check to Swope #3174
3/4/65	3,097	Recovered Solvent	3/4/65 3/4/65 3/4/65 2/23/65 3/16/65	Swope Bill of Lading Wagner Bill of Lading #312 Swope Invoice #3877 DeSoto Purchase Order 01-669 (two pages of copyset) DeSoto Check to Swope #3310
3/17/65	3,800	Recovered Solvent	3/17/65 3/17/65 3/17/65 3/3/65 3/29/65	Swope Bill of Lading Wagner Bill of Lading #10356 Swope Invoice #3886 DeSoto Purchase Order #01-793 (two pages of copyset) DeSoto Check to Swope #3569
3/25/65	3,557	Recovered Solvent	3/25/65 3/25/65 3/26/65 3/22/65 4/8/65	Swope Bill of Lading Swope Invoice #3891 Wagner Bill of Lading #1184 DeSoto Purchase Order #01-1042 (two pages of copyset) DeSoto Check to Swope #3737

SHIPMENTS TO SWOPE OIL & CHEMICAL COMPANY

DATE	QTY GALS	ITEM	DOCUMENT DESCRIPTION DATE	DOCUMENT
2/17/77	6,700	Xylol	2/9/77	Chem Leaman Frt Bill #02 03583
2/17/77	5,719	Xylol	2/22/77	Chem Leaman Frt Bill #02 16224

RETURN SHIPMENTS TO DESOTO

DATE	QTY GALS	ITEM	DOCUMENT DESCRIPTION DATE	DOCUMENT
2/17/77	5,100	Recovered Solvent Disposal of Residue/2,860 Gal	2/17/77	Swope Invoice #5969
			2/17/77	DeSoto Rec Report #111 52691
		Freight Charges	2/28/77	Swope Invoice #5975
			2/22/77	Chem Leaman Frt Bill #02 16224
			2/22/77	Chem Leaman Frt Bill #02 16225
			3/11/77	DeSoto Voucher
3/31/77	5,000	Recovered Solvent	3/31/77	Swope Invoice #5990
			8/11/77	DeSoto Voucher
10/17/77		2 Loads Residue Pumped Out/Hauled Away	10/17/77	Swope Invoice #6026
			10/21/77	DeSoto Voucher
10/25/77	12,050	Waste Material/ Pumped out/Hauled Away	10/25/77	Swope Invoice #6032
			11/2/77	DeSoto Voucher
12/2/77		Statement that unreclaimed solvent has been disposed of	12/2/77	Swope Letter from Lillian Greenberg

Proper name and address for abbreviated companies:

(a) DeSoto, Inc.
8600 River Road
Pennsauken, New Jersey 08110

(b) Swope Oil & Chemical Company
8281 National Highway
Pennsauken, New Jersey 08110

(c) Wagner Truck Lines
Jobstown, New Jersey

(d) Matlack, Inc.
10 W. Baltimore Avenue
Lansdowne, Pennsylvania 19050

(e) P. B. Mutrie Motor Trans., Inc.
Calvary Street
Waltham, Massachusetts 02154
(Main Office

(f) Machise Express Co., Inc.
500 N. Egg Harbor Road
Hammonton, New Jersey 08037

(g) Blue Line Transfer

(h) Chemical Leaman Tank Lines, Inc.
P. O. Box 200
Downingtown, Pennsylvania 19335

T3 84

ATTACHMENT J

4-27-12

Disposal of Gems Landfill

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
CN 028, Trenton, N.J. 08625
609-292-1250

...N.J. TRELA Ph.D.
...CTING DIRECTOR

IN THE MATTER OF THE :
GLOUCESTER ENVIRONMENTAL :
MANAGEMENT SERVICES, INC. :
LANDFILL :

-AND-

ARCO SPECIAL CHEMICAL COMPANY, INC.; :
ATLANTIC RICHFIELD CO., INC.; :
CBS RECORDS, INC.; :
CERTAINTEED CORPORATION; :
COLE BUSINESS FURNITURE CO.; :
COLE STEEL COMPANY; :
DAUBERT INDUSTRIES, INC.; :
DESOTO CHEMICAL CO.; :
GENERAL METALCRAFT, INC.; :
GILBERT-SPRUANCE CO., INC.; :
GLIDDEN COATING AND RESINS; :
H.J. HOLMAN COMPANY; :
M.A. BRUDER AND SONS, INC.; :
PHILADELPHIA NEWSPAPERS, INC.; :
SARTOMER RESINS, INC.; :
S.C.M. CORPORATION; :
SHERWIN-WILLIAMS CO., INC.; :
TRIANGLE PUBLICATIONS, INC.; :
UNITED STATES PRINTING INK CO., :
INC.; :
VINELAND CHEMICAL CO., INC.; :

DIRECTIVE
AND
NOTICE TO INSURERS
NUMBER TWO

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") 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 for Enforcement of the Division of Waste Management pursuant to N.J.S.A. 13:1B-4.

On March 4, 1986, the Department issued a Directive and Notice to Insurers (hereinafter "Directive Number One") in the

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86
JUL 14 1986
ATTACHMENT J1
Division of Waste Mgt.

Matter of the Gloucester Environmental Management Services, Inc. Landfill. A copy of Directive Number One is attached hereto and is incorporated herein.

FINDINGS

A. THE SITE

1. The Gloucester Environmental Management Services, Inc. (hereinafter "GEMS") Landfill is an approximately sixty acre landfill site located at the intersection of Erial and Hickstown Roads in Gloucester Township, Camden County, New Jersey, Plate 31, Block 357, Lot 9 on the municipal tax map. The GEMS Landfill has been operated at various times by various entities and has been also known as, among other things, the Gloucester Township Landfill or Dump and the Amadei Landfill or Dump. The Landfill shall be referred to herein as the "GEMS Landfill" or "the site".

B. RESPONDENTS

2. CBS Records, Inc. (hereinafter "CBS") of Pitman, N.J. is a corporation that produced various chemical products and wastes, including hazardous substances.

3. Certainteed Corporation (hereinafter "Certainteed") of Valley Forge, Pa. is a corporation that produced various chemical products and wastes, including hazardous substances.

4. Cole Steel Company (hereinafter "Cole Steel"), predecessor to Cole Business Furniture Co., of York, Pa., is a company that generated various chemical products and wastes, including hazardous substances.

5. Cole Business Furniture Co. of York, Pa. is the parent of or successor to Cole Steel Company.

6. Daubert Industries (hereinafter "Daubert") of Oak Brook, Illinois, is a corporation that produced various chemical products and wastes, including hazardous substances.

7. Desoto Chemical Company (hereinafter "Desoto") whose last known location was in Delair, N.J., was a corporation that produced various chemical products and wastes including hazardous substances.

8. General Metalcraft, Inc. (hereinafter "General Metalcraft") of Dover, Delaware, is a corporation that produced various chemical-based products and wastes, including hazardous substances.

C. SITE HISTORY

19. Gloucester Township originally operated a twelve (12) acre landfill at the site during the 1950's and 1960's.

20. On July 17, 1969 Gloucester Township leased the site to Amadei Sand and Gravel for operation as a sand and gravel pit and a landfill.

21. Anthony Amadei and Sidney Liss personally guaranteed Amadei Sand and Gravel's performance of the lease for the site including that Amadei Sand and Gravel would adhere to all present and future laws, rules and regulations of the State of New Jersey, Camden County and the Township of Gloucester regarding the operation and maintenance of the site.

22. Among the officers of Amadei Sand and Gravel and the individuals responsible for the operation of the landfill site and for the disposal of hazardous substances therein were Anthony Amadei, Jack M. Liss, and Sidney Liss.

23. In 1976 the registration for the GEMS Landfill site was transferred from Amadei Sand and Gravel to Gloucester Environmental Management Services Inc. (GEMS). The principals and officers of GEMS were Anthony Amadei, Dennis Dubin, David Erlich, and Richard Winn.

24. GEMS ceased operations at the landfill in November of 1981.

25. GMES, Anthony Amadei, Dennis Dubin, David Erlich, Richard Winn, and Robert Wisner allowed hazardous wastes, including hazardous substances, to be landfilled at the GEMS Landfill.

D. GENERATORS AND HAULERS

26. Certainteed disposed or arranged for the disposal of hazardous substances at the GEMS Landfill.

27. CBS Records hired Marvin Jonas, Inc. (hereinafter "Jonas Waste Removal") of Sewell, N.J. to transport and dispose of hazardous substances.

28. Cole Steel hired Jonas Waste Removal to transport and dispose of hazardous substances.

29. Daubert hired Jonas Waste Removal to transport and dispose of hazardous substances.

30. Desoto hired Jonas Waste Removal to transport and dispose of hazardous substances.

three (3) barbed wire strands and with metal posts set in concrete.

46. The current estimated cost for the erection of the fence is one hundred and fifty thousand dollars ($150,000). This estimated cost does not reflect land acquisition costs, if any.

I. LIABILITY

BASED ON THE FOREGOING AND THE ENTIRE ADMINISTRATIVE RECORD:

47. The hazardous substances referred to above were and are continuing to be discharged into the water and or onto the lands of the State of New Jersey in violation of Section 4 of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11c.

48. Arco Special Chemical Company, Atlantic Richfield Company, CBS, Certainteed, Cole Business Furniture Company, Cole Steel, Dawbert, Desoto, General Metalcraft, Gilbert-Spurance, Glidden, H.J. Holman Co., M.A.B., Philadelphia Newspapers, Sartomer Resins, S.C.M. Corporation, Sherwin-Williams, Triangle, U.S. Printing Ink, and Vineland (hereinafter "Respondents") are responsible for the discharge of hazardous substances at and around the GEMS Landfill.

49. Pursuant to N.J.S.A. 58:10-23.11g(c), the Respondents, along with those Respondents set forth in Directive Number One, are strictly liable, jointly and severally, without regard to fault, for all costs of the cleanup and removal of the hazardous substances discharged at or around the GEMS Landfill.

50. Pursuant to N.J.S.A. 58:10-23.11f, whenever a 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 dischargers to remove, or arrange for the removal of such discharge.

DIRECTIVE

NOW, THEREFORE, RESPONDENTS ARE HEREBY DIRECTED TO:

51. Arrange for the construction of a perimeter fence as set forth in paragraphs 43 through 45, by paying the sum of one hundred and fifty thousand dollars ($150,000) to the Department on or before August 12, 1986. Payment shall be made by certified check payable to "Treasurer, State of New Jersey."

NOTICE

51. In the event that the costs of implementing these immediate remedial measures exceed current estimates, the Department reserves the right to direct the Respondents to pay such additional costs and to seek full reimbursement and damages for all such costs. In addition, the Department reserves the right to seek reimbursement and damages from the Respondents for the costs of designing and implementing other immediate remedial measures it deems necessary and for the costs of designing and implementing the selected remedial action alternative or to compel the Respondents to design and implement other immediate remedial measures and/or the selected alternative. Furthermore, the Department reserves the right to require Respondents to take, or arrange for the taking of, additional remedial actions should the Department determine that such actions are necessary to protect public health and safety or the environment.

52. If Respondents fail to make the payment set forth in paragraph 50, on or before August 12, 1986, the Department will utilize public funds to finance the costs of the specified immediate remedial actions. In addition, should Respondents fail to make the payment, the Department will commence suit against the Respondents seeking reimbursement and damages for all costs incurred. Specifically, failure to comply with this DIRECTIVE will increase Respondents' liability to the Department to an amount equal to three (3) times the costs of conducting the immediate remedial measures set forth herein.

54. The Department reserves all rights and remedies under the Spill Compensation and Control Act and all other applicable statutes other than those set forth herein.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DATE: July 9 86

Ronald Corcory
Acting Assistant Director
Division of Waste Management

ATTACHMENT K

M E M O R A N D U M

August 22, 1984

TO: Anthony J. McMahon, Chief,
Bureau of Industrial Site Evaluation

THROUGH: Richard J. McMahon, Assistant Chief,
Bureau of Industrial Site Evaluation

FROM: Maria C. Petix, Case Manager,
Bureau of Industrial Site Evaluation

SUBJECT: DeSoto Incorporate
8600 River Road
Pennsauken, New Jersey
ECRA Case No. 84-147

On July 17, 1984 the I conducted a Preliminary ECRA Inspection at the DeSoto Inc. facility, Pennsauken, New Jersey. The writer met with Mr. Anthony Patello, Maintenance Supervisor and Protanic Professional Tank Investigation Corporation, contractor, performing petro-tite tank tests on the underground tank farm.

DeSoto Inc. made latex-based paints. The facility was closed approximately two years ago, a financial decision of the company. On the day of inspection, machinery and house clean-up was the only on-going activity.

Findings:

Upon entering the site, the writer noted nine areas of concern:

1. Tank Farm.

   The tank farm was found to contain approximately 3,000 gallons of hazardous substances. These substances were left behind when the company closed. According to Mr. Patello, DeSoto did not realize the tanks contained residual product. Consequent to the finding, DeSoto initiated tank testing for all 11 underground tanks. Tank capacity ranged from 4,000 - 8,000 gallons. Upon the day of inspection, Protanic was in the process of performing "Kent-Moore" tank tests.

2. Upon reviewing the plant's site plan, a concrete "separator box" was used prior to 1974 as a receptacle for liquid wastes from paint

ATTACHMENT K1

manufacturing. DeSoto was notified that this area must addressed in a sampling plan. Priority pollutant analyses must be performed.

3. Soda Ash.

Soda ash was found on the railroad siding and in the elevator shaft in the building. DeSoto advised to remove substances.

4. On the northern side of the building, what appeared to be titanium dioxide power was spilled on the ground. DeSoto was instructed to remove all residual substances from the ground.

5. The trash compactor was found to contain residual solids. The solids spilled onto the ground and on the asphalt pavement. DeSoto was instructed to remove all residual solids from the area.

6. Drain in Solvent Recovery Tank Farm.

DeSoto must determine the final disposition of the tank farm drain. Mr. Patello believed that the drain was fully enclosed; rain water was pumped out by a sump. I asked him to supply documentation to verify his statement.

7. Trough Area.

The concrete trough along the the tank car fill area must be cleaned. Residuals remained in the drains and trough.

8. Storage Area - Bulk.

The floors in the bulk storage area were found to have residuals of paint and paint sludges. The company was advised to scarify the floors.

Inside the building, there were approximately 4,000 cans of paint (inventory) remaining in the quality assurance retaining room. It was stated that these quart cans are product and will be given to employees.

9. Laboratory Decommissioning.

Laboratory wastes still remain. DeSoto was instructed to manifest all waste lab packs, and supply documentation for same.

Recommendations:

The writer recommends that DeSoto implement the above as a part of a sampling plan for the facility. This sampling plan should encompass all areas of concern, including but not limited, to soil borings of the separator box, cleanup of residual spillage on the ground, decommissioning of laboratory equipment and waste, and provide all documentation for above-mentioned items.

M.C.P.

MCP/33sn

ATTACHMENT L

(23)

Bureau of Industrial Site Evaluation
Environmental Cleanup Responsibility Act

Report of Inspection

ECRA CASE # 84-147 Date of Inspection July 17, 1984

Inspection Category: Preliminary X Final _____

Inspector Maria C. Petix

Industrial Establishment De Soto, Incorporated

Location 8500 Pennsauken Road

Pennsauken, Camden County

Individuals Involved: Anthony Patello, Maintenance Manager, DeSoto, Inc.

NARRATIVE DESCRIPTION: (SEE ATTACHED)

DEFICIENCIES NOTED: (See Attached List)

ACTIONS REQUIRED ON THE PART OF THE APPLICANT: (See Attached List)

ACTIONS REQUIRED ON THE PART OF BISE: Notify USEPA of DeSoto's ECRA Notification

Inspector/Case Manager Signature Maria C. Petix

Approved: Richard Kat, Assistant Chief
Bureau of Industrial Site Evaluation

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ATTACHMENT L1

ATTACHMENTS--DESOTO, INC.

NARRATIVE DESCRIPTION: Latex and oil-based paints were manufactured at the facility Current conditions--the facility is virtually empty. All products and substances were removed. Equipment and appurtenances in paint manufacturing were decommissioned.

Underground tank testing was being conducted by Protanic Tank Testing, Inc.

DEFICIENCIES NOTED:

1. Underground tank farm contained approximately 1300 gallons of product. (product being various solvents).
2. Material alleged to be soda ash was observed on railroad siding.
3. Alleged titanium dioxide power spilled on ground adjacent to the titanium dioxide loading area.
4. Previously used wastewater separator box, now covered with vegetation remains on site.
5. Residuals of unidentifiable substances remain in the trough and drains in the tank car filling area.
6. Residual solids spilled from the trash dumpster onto the ground.
7. Disposition of Solvent Recovery Tank farm sump is unknown.
8. Floors in the bulk storage area contain heavy paint sludge residue.
9. Laboratory decommissioning incomplete.
10. Over four thousand cans (one pint containers) of paint samples remain in the Quality Assurance Retaining Room.

REQUIRED ACTION:

1. Provide detailed sampling plan designed to evaluate the extent and degree of contamination (if any) in the area identified under Deficiencies Noted, Items 1 thru 7.
2. Provide detailed description of procedures used for scarifying the Bulk Storage Area floors, decommissioning and disposing of Laboratory wastes and final disposition of paints in the Quality Assurance Retaining Room.
3. Supply copies of all manifests forms.
4. Provide underground tank test certification results.

ATTACHMENT M

ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT

SAMPLING PLAN

DESOTO, INC.
8600 RIVER ROAD
PENNSAUKEN, CAMDEN COUNTY, NEW JERSEY
ECRA CASE #84-147
OCTOBER 12, 1984

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ATTACHMENT M1

OVERVIEW

The New Jersey Department of Environmental Protection (DEP), in accordance with the requirements of the Environmental Cleanup and Responsibility Act (ECRA), has reviewed DeSoto's initial ECRA submission for a facility located in Pennsauken, Camden County. As part of their review, the DEP also inspected the facility.

As a result of the on-site inspection and an information review, the DEP disapproved DeSoto's Negative Declaration. They cited a number of alleged deficiencies which, in their view, needed to be addressed or corrected prior to issuing an ECRA clearence for the facility. They directed DeSoto to correct the alleged deficiencies and then provide a "Sampling Plan" which outlines the measures which were taken to satisfactorily meet their demands before an ECRA clearence would be provided.

This "Sampling Plan" systematically addresses each of the alleged deficiencies which the DEP provided as the basis for denying an ECRA clearence to the facility. In cases where action needed to be taken, a detailed description of that action is provided along with supporting documentation (if available). In those instances where testing or studies were required, the results of the tests or studies are provided. Lastly, some alleged deficiencies were resolved by clarification.

ALLEGED DEFICIENCIES AND CORRECTIVE STEPS TAKEN

1. UNDERGROUND TANK FARM CONTAINED APPROXIMATELY 1300 GALLONS OF ORGANIC SOLVENT.

During the underground tank testing, approximately 800 gallons of organic solvents were discovered in the tanks. This material was sent for disposal to S&W Waste, Inc., Karney, New Jersey. A copy of the manifest (No. NJ 0226811) for the shipment is attaced as Attachment 1.

2. MATERIAL ALLEGED TO BE SODA ASH WAS OBSERVED ON RAILROAD SIDING.

In accordance with the request of the facility's ECRA caseworker, the soda ash (a non-hazardous substance and a non-hazardous waste) on the facility's railroad siding has been removed and sent for disposal.

100

M2

3. ALLEGED TITANIUM DIOXIDE POWER (sic) ON GROUND ADJACENT TO THE TITANIUM DIOXIDE LOADING (sic) AREA.

In accordance with the request of the facility's ECRA caseworker, the titanium dioxide powder (a non-hazardous substance and a non-hazardous waste) has been removed from the unloading station area.

4. PREVIOUSLY USED WASTEWATER SEPARATOR BOX, NOW COVERED WITH VEGETATION REMAINS ON SITE.

In accordance with the request of the facility's ECRA caseworker, a coring study was conducted to determine what, if any subsurface contamination existed in the vacinity of an unused wastewater clarifier which at one time was in series with the sanitary sewer line.

Prior to undertaking the coring study, the DEP reviewed the proposed testing protocol and approved it. The approval letter is included as Attachment 2.

The coring study conclusively demonstrated that the subsurface adjacent to the wasterwater clarifier was not contaminated nor did it pose an environmental or public health risk. The results of the coring study are provided as Attachement 3.

5. RESIDUALS OF UNIDENTIFIABLE SUBSTANCES REMAIN IN THE TROUGH AND DRAINS IN THE TANK CAR FILLING AREA.

All dried latex emulsions and resins which are non-hazardous substances and non-hazardous wastes, have been removed from the trough and drains in the tank car filling area.

6. RESIDUAL SOLIDS SPILLED FROM THE TRASH DUMPSTER ONTO THE GROUND.

Residues on the ground adjacent to the trash dumpster (all of which are non-hazardous wastes and non-hazardous substances), were removed and sent for disposal.

7. DISPOSITION OF SOLVENT RECOVERY TANK FARM SUMP IS UNKNOWN.

The sump in the waste solvent tank farm area is concrete lined. It was used to provide a low point from which precipitation could be effectively pumped out of the area. 101

M3

8. FLOORS IN THE BULK STORAGE AREA CONTAIN HEAVY PAINT SLUDGE RESIDUE (sic).

Paint was not stored in the Bulk Storage Area and as such could not have collected on the floor there. This area was dedicated to latex emulsions, a non-hazardous substance and non-hazardous waste.

However, in accordance with the request of the facility's ECRA caseworker, the floor in the bulk storage was cleaned and all of the residues were removed.

9. LABORATORY DECOMMISSIONING INCOMPLETE.

All of the laboratory reagents have been removed and sent for disposal. Attachment 4 contains the manifests which were used to affect the disposal of these substances.

10. OVER FOUR THOUSAND CANS (ONE PINT CONTAINERS) OF PAINT SAMPLES REMAIN IN THE QUALITY ASSURANCE RETAINING ROOM.

The one pint cans in the Quality Assurance Retaining Room, contained latex paint, a non-hazardous waste and a non-hazardous substance. However, in accordance with the request of the facility's ECRA caseworker, these have been removed and sent for disposal.

11. COPIES OF ALL MANIFESTS

Except for the manifests discussed above, Attachment 5 contains copies of all manifests which were used after July 17, 1984 for the shipment of hazardous wastes from the facility (copies of all other manifests have been already sent to the DEP).

12. DETAILED DESCRIPTION OF PROCEDURES USED FOR SCARIFYING THE BULK STORAGE AREA FLOORS, DECOMMISSIONING AND DISPOSING OF LABORATORY WASTES AND FINAL DISPOSITION OF PAINTS IN THE QUALITY ASSURANCE RETAINING ROOM.

A. The floors in the bulk storage were scraped of all residual resins and emulsions.

B. All laboratory reagents were removed, cataloged and transported for disposal in accordance with the regulations of the State of New Jersey. Copies of manifests are provided.

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M4

C. All retain samples of latex paint have been removed from the facility and disposed of in accordance with the regulations of the State of New Jersey.

13. PROVIDE UNDERGROUND TANK TEST CERTIFICATION RESULTS.

The results of the underground tank leak testing are provided as Attachment 6.

Kenneth A. Walanski 10-12-2004

K.A. Walanski, P.E.

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MS

ATTACHMENT N

DeSoto, Inc.
1700 SOUTH MOUNT PROSPECT ROAD, DES PLAINES, ILLINOIS 60018 TELEPHONE 312-391-9000
(412) 243-3230

July 23, 1984

Mr. Anthony J. McMahon
Division of Waste Management
Bureau of Industrial Site Evaluation
Department of Environmental Protection
P. O. Box CN 029
Trenton, New Jersey 08625

Attention: Ms. Maria Petix

Re: DeSoto, Inc.
8600 River Road
Pennsauken, Camden County, N. J.

Dear Mr. McMahon:

The following information is provided as an addendum to the original Environmental Clean-up Responsibility Act (ECRA) submission for the facility.

1. A sampling plan is being prepared which will address Department of Environmental Protection (DEP) concerns over possible subsurface contamination from a below grade wastewater separator at the facility. The plan will be submitted to the DEP for its approval. Afterwards it will be implemented and the results provided to the DEP. This separator was used as a primary clarifier for wastewater generated during the production of latex paint, and was completely independent of transfer or storage systems used for wastes from organic solvent-borne (often referred to as oil-base) paints.

2. The secondary containment area for the two abovegrade waste solvent tanks has a sump with a concrete bottom. This sump was used as an accumulation point to effect the pumping out of precipitation, and has no outlet.

3. The organic solvent which was discovered in the underground tanks, the laboratory schemicals, and the containers of what appears to be sulfuric acid will be removed from the facility. The DEP will be notified of the location to which these materials are sent, and provided with copies of manifests if they are managed as hazardous wastes.

4. There are no wells on the site, with the exception of the one which is owned and operated by Pennsauken Township.

5. Residual titanium dioxide and sodium carbonate will be removed from the railroad tracks, even though they are not hazardous substances/wastes and do not fall under the ambit of ECRA.

6. The floors within the building will be cleaned of residues even though these materials, i.e. titanium dioxide, latex emulsion, sodium carbonate and inorganic pigments, are not hazardous substances/wastes and do not fall under the ambit of ECRA.

received
30 JUL 1984

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ATTACHMENT N1

Mr. Anthony J. McMahon
Department of Environmental Protection
Trenton, N.J. 08625
Attn: Ms. Maria Petix

7. No wastes or other substances, either hazardous or not, were ever buried on the site.

Sincerely,

Ken Walanski

K. A. Walanski, P.E.
Corporate Environmental Engineer

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N2

ATTACHMENT O

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

Mr. Ken Wallenski
DeSoto, Inc.
1700 S. Mount Prospect Road
Des Plaines, IL 60018

RECEIVED
AUG 7 1984
ENGINEERING DEPT.

Re: Tank System Test, July 17, 18 & 19, 1984
8600 River Road
Pennsauken, New Jersey

Dear Mr. Wallenski:

The tank systems tested at this location are identified as follows:

Tank System # 1	8,000 gallon tank.
Tank System # 2	8,000 gallon tank.
Tank System # 3	8,000 gallon tank.

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than .050 gal/hr. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

During the stand-pipe test procedure the liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

Tank System # 1 showed a rate of leak of +.023 gal/hr.
Tank System # 1 is tight.

Tank System # 2 showed a rate of leak of -.013 gal/hr.
Tank System # 2 is tight.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

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ATTACHMENT 01

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

Mr. Ken Wallenski
Page 2

Tank System # 3 showed a rate of leak of +.010 gal/hr.
Tank System # 3 is tight.

Prior to the test procedure the tanks were filled with water for test purposes and all product lines were disconnected.

Sincerely,

William J. Purpora

WJP/mmo

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

Data Chart for Tank System Tightness Test

petro tite
TANK TESTER

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Desoto Inc. 5600 River Road Pennsauken New Jersey [illegible]
Name / Address / Representative / Telephone

Name / Address / Representative / Telephone

2. OPERATOR

Name / Address / Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name / Title / Company or Affiliation / Date

Address / Telephone

5. WHO IS PAYING FOR THIS TEST?

DeSoto, Inc. Ken Walienski
Company, Agency or Individual / Person Authorizing / Title / Telephone

1700 S. Mount Prospect Rd. Des Plaines, IL 600[illegible]
Billing Address / City / State / Zip

Attention of: / Order No. / Other Instructions

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#1	3000				[illegible]
#2	3000				[illegible]
#3	3000				[illegible]

7. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
	Gravel	3"	2"	—	—
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Titsfill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

8. UNDERGROUND WATER

Depth to the Water table _____"

Is the water over the tank? ☐ Yes ☐ No

9. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____ Name / Telephone

Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company / Name / Telephone

10. CONTRACTOR, MECHANICS, any other contractor involved

11. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test etc.

12. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for petro tite as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#1	Yes	+.023 G.P.H.	7-17-84
#2	Yes	-.013 G.P.H.	7-18-84
#3	Yes	+.010 G.P.H.	7-19-84

13. CERTIFICATION

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Date

Serial No. of Thermal Sensor

Jim Christensen
Steve Purpora
Technicians

BOTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

Testing Contractor or Company / By: / Signature

Address

110

14. Desoto Inc. (Name of Supplier, Owner or Dealer) 8600 River Road (Address, No. and Street(s)) Pennsauken, (City) New Jersey (State) 7-17-84 (Date of Test)

15. TANK TO TEST

#1 (Identity by position)

(Brand and Grade)

16. CAPACITY

Nominal Capacity 8000 (Gallons)

By most accurate capacity chart available 7896 (Gallons)

Is there doubt as to True Capacity? ☐

See Section "DETERMINING TANK CAPACITY"

From
- ☐ Station Chart
- ☒ Tank Manufacturer's Chart
- ☐ Company Engineering Data
- ☐ Charts supplied with petro tite
- ☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water (to ⅛ in.) (Gallons)

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		7896
	topoff		10
	Water	Testing with Water	
Product in full tank (up to fill pipe)			7906

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

☐ Water in tank ☐ High water table in tank excavation ☐ Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- ☐ Stage I
- ☐ Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* 126"

Add 30" for 4" L "

Add 24" for 3" L or air seal "

Total tubing to assemble Approximate 156"

20. EXTENSION HOSE SETTING

Tank top to grade* 30"

Extend hose on suction tube 6" or more below tank top 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? ( ) Colder? ( ) ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or -)

22. Thermal-Sensor reading after circulation 15948 (digits) 70-71 (Nearest) °F

23. Digits per °F in range of expected change 325 (digits)

24. 7906 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .90919 (volume change in this tank per °F) gallons

25. .90919 (volume change per °F (24)) ÷ 325 (Digits per °F in test Range (23)) = .0027975 (Volume change per digit. Compute to 4 decimal places.) This (test factor (a)) (.0028) OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Standpipe Level in Inches: Level to which Restored	32. Product in Graduate: Before Reading	32. Product in Graduate: After Reading	Product Replaced (-) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) = (a) = Expansion + Contraction -	Temperature Adjustment: Volume Minus Expansion (+) or Contraction ( ) #33(V) — #37(1)	At High Level record Total End Deflection / At Low Level compute Change per Hour (HPPR criteria)

PETRO TITE TANK TESTER

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

100 TOSCA DRIVE
P.O. BOX CS-200

111

0900	Arrive at Test Site												
	All Product Lines Disconnected									Factor A (.0028)			
	Fill Tank with Water												
	Setup Test Equipment												
	Vent Capped												
	Manway Bled												
1045	Pump Primed + Running												
								15					
1130	1st Screen Reading	1		42				948					
45	Start Hi-Level Test	2	36.3	42	.765	.480	-.285	940	-8	-.022	-.263		
1200	Cont " "	3	37.7	42	.480	.255	-.225	956	+16	+.045	-.270		
1215	" "	4	38.8	42	.890	.720	-.170	963	+7	+.020	-.190		
1230	" "	5	39.1	42	.720	.575	-.145	973	+10	+.028	-.173		
1245	" "	6	39.5	42	.575	.445	-.130	985	+12	+.034	-.164		
1300	" "	7	40.0	42	.445	.345	-.100	994	+9	+.025	-.125		
1315	" "	8	40.1	42	.345	.255	-.090	004	+10	+.028	-.118		
1330	" "	9	40.3	42	.255	.180	-.075	016	+12	+.034	-.109		
1332	Dropped To Low-Level			12				016					
1345	Start Low-Level Test	10	13.5	12	.180	.250	+.070	025	+9	+.025	+.045		
1400	Cont " "	11	12.9	12	.250	.290	+.040	035	+10	+.028	+.012	+.018	
1415	" "	12	12.4	12	.290	.320	+.030	042	+7	+.020	+.010	+.022	
1430	" "	13	12.5	12	.320	.350	+.030	052	+10	+.028	+.002	+.024	
1445	" "	14	12.5	12	.350	.380	+.030	063	+11	+.031	-.001	+.023	
													OK
	Tank Tested Tight		+.023	G.P.H.									

PROTANIC INC.
P.O. BOX 1531
MILWAUKEE, WISC. 53201

14. Desoto Inc. — Name of Supplier, Owner or Dealer
8600 River Road — Address No. and Street(s)
Pennsauken — City
New Jersey — State
7-17-84 — Date of Test

15. TANK TO TEST
Tank #2 — Identity by position
Brand and Grade

16. CAPACITY
Nominal Capacity: 8000 Gallons
By most accurate capacity chart available: 7896 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
[ ] Station Chart
[X] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with petro tite
[ ] Other

17. FILL-UP FOR TEST

	Stick Readings to ⅛ in.	Gallons	Total Gallons as. Reading
Stick Water Bottom before Fill-up (to ⅛ in.) Testing with Water Gallons			
Inventory	96"		7896
	topoff		10
	Testing with Water		
Product in full tank (up to fill pipe)			7906

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (26).
[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[ ] Stage I
[ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* ..... 126"
Add 30" for 4" L ..... "
Add 24" for 3" L or air seal ..... "
Total tubing to assemble Approximate ..... 156"

20. EXTENSION HOSE SETTING
Tank top to grade* ..... 30"
Extend hose on suction tube 6" or more below tank top ..... 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or -)

22. Thermal-Sensor reading after circulation 16154 digits 71-72 Nearest °F

23. Digits per °F in range of expected change 325 digits

24. 7906 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .90919 gallons volume change in this tank per °F

25. .90919 (volume change per °F (24)) ÷ 325 (Digits per °F in test Range (23)) = .0027975 Volume change per digit. Compute to 4 decimal places. (.0028) This is test factor (a)

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (-) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower - (t)	37. Computation (c) = (b) - Expansion + Contraction -	Temperature Adjustment / Volume Effect Expansion (+) or Contraction (-) .032(V) - .037(t)	At high level record total net deviation / At low level compute change per hour (EPA only-Ark)

0330	Arrive at Test Site									Factor A	(.0028)	
	All Product Lines Disconnected											
2½ hrs	Transfer Product - Tank 1 to Tank 2 - 8000 Gallons											
	Setup Test Equipment											
	Vent Capped											
	Manway Bled											
0330	Pump Primed + Running											
								16				
0720	1st Sensor Reading	1		42				154				
0735	Start Hi-Level Test	2	37.2	42	.900	.620	-.280	160	+6	+.017	-.297	
0750	Con't " "	3	38.3	42	.620	.400	-.220	169	+9	+.025	-.245	
1005	" "	4	39.0	42	.400	.215	-.185	172	+3	+.008	-.193	
1020	" "	5	39.3	42	.905	.750	-.155	180	+8	+.022	-.177	
1035	" "	6	40.0	42	.750	.620	-.130	188	+8	+.022	-.152	
1050	" "	7	40.0	42	.620	.420	-.130	197	+9	+.025	-.155	
1105	" "	8	40.3	42	.490	.380	-.110	205	+8	+.022	-.132	
1120	" "	9	40.4	42	.380	.280	-.100	213	+8	+.022	-.122	
1122	Dropped to Low-Level			12				213				
1135	Start Low-Level Test	10	13.2	12	.280	.350	+.070	220	+7	+.020	+.050	
1150	Con't " "	11	12.1	12	.350	.360	+.010	225	+5	+.014	-.004	-.004
1205	" "	12	12.2	12	.360	.380	+.020	233	+8	+.022	-.002	-.006
1220	" "	13	12.2	12	.380	.400	+.020	241	+8	+.022	-.002	-.008
1235	" "	14	12.1	12	.400	.415	+.015	248	+7	+.020	-.005	-.013

Tank Tested Tight -.013 G.P.H.

OK

PROTANIC INC.
P.O. BOX 17501
MILWAUKEE, WISC. 53

14. Desolo Tire — 8600 River Road — Pennsauken, New Jersey — 7- -84

Name of Supplier, Owner or Dealer — Address No. and Street(s) — City — State — Date of Test

15. TANK TO TEST

Tank #3

Identity by position

Brand and Grade

16. CAPACITY

Nominal Capacity 8000 Gallons

By most accurate capacity chart available 7896 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with Petro Tite
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		7896
	top of F		10
	Testing	with	Water
Product in full tank (up to fill pipe)			7906

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* ..... 126" "

Add 30" for 4" L ..... "

Add 24" for 3" L or air seal ..... "

Total tubing to assemble Approximate ..... 156" "

20. EXTENSION HOSE SETTING

Tank top to grade* ..... 30" "

Extend hose on suction tube 6" or more below tank top ..... 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 16428 digits 72.73 Nearest °F

23. Digits per °F in range of expected change 323 digits

24. 7906 total quantity in full tank (16 or 17) × .000115 coefficient of expansion for involved product = .90919 volume change in this tank per °F gallons

25. .90919 volume change per °F (24) ÷ 323 Digits per °F in test Range (23) = .0028148 Volume change per digit. Compute to 4 decimal places. (.0028) This is test factor OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Standpipe Level in Inches: Level to which Restored	32. Product in Graduate: Before Reading	32. Product in Graduate: After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) × (a) = Expansion + Contraction −	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High Level record Total End Deflection / At Low Level compute Change per Hour (NFPA criteria)

Petro Tite TANK TESTER

Petro Tite Corporation
100 TOSCA DRIVE
P.O. BOX CS-200
STOUGHTON, MA. 02072-0000
(617) 344-1400

115

	Arrive at Test Site										Factor A	(.0028)
	All Product Lines Disconnected											
3 hrs	Transfer Product - Tank # 2 to Tank # 3				8000 Gallons							
	Setup Test Equipment											
	Vent Capped											
	Manway Filed											
1025	Pump Primed + Pumping											
								16				
1115	1st Sensor Reading	1		12				428				
1130	Start Low-Level Test	2	36.8	12	.700	.250	-.450	439	+11	+.031	-.481	
1145	Cont "	3	36.0	12	.960	.450	-.510	450	+11	+.031	-.541	
1200	" "	4	37.9	12	.450	.100	-.350	462	+12	+.039	-.384	
1215	" "	5	38.6	12	.710	.420	-.290	472	+10	+.028	-.318	
1230	" "	6	39.1	12	.420	.170	-.250	484	+12	+.034	-.284	
1245	" "	7	40.0	12	.890	.720	-.170	489	+5	+.014	-.184	
1300	" "	8	40.7	12	.720	.610	-.110	495	+6	+.017	-.127	
1315	" "	9	41.5	12	.610	.570	-.040	506	+11	+.031	-.071	
1317	Dropped to Low-Level			12				506				
1330	Start Low-Level Test	10	13.1	12	.210	.275	+.085	514	+8	+.022	+.063	
1345	Cont " "	11	12.4	12	.275	.325	+.030	524	+10	+.028	+.002	+.002
1400	" "	12	12.4	12	.325	.355	+.030	535	+11	+.031	-.001	+.001
1415	" "	13	12.4	12	.355	.385	+.030	544	+9	+.025	+.005	+.006
1430	" "	14	12.4	12	.385	.420	+.035	555	+11	+.031	+.004	+.010
	Tank Tested Tight		+.010 G.P.H.									OK

1-19-84

#3B

116

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P.O. BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

RECEIVED
AUG 7 1984
ENGINEERING DEPT.

August 3, 1984

Mr. Ken Wallenski
DeSoto, Inc.
1700 S. Mount Prospect Road
Des Plaines, IL 60018

Re: Tank System Test, July 17 & 18, 1984
8600 River Road
Pennsauken, New Jersey

Dear Mr. Wallenski:

The tank systems tested at this location are identified as follows:

Tank System # 4 4,000 gallon tank.
Tank System # 5 4,000 gallon tank.
Tank System # 6 4,000 gallon tank.

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than .050 gal/hr. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

During the stand-pipe test procedure the liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

Tank System # 4 showed a rate of leak of +.003 gal/hr.
Tank System # 4 is tight.

Tank System # 5 showed a rate of leak of +.018 gal/hr.
Tank System # 5 is tight.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

117
03

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

Mr. Ken Wallenski
Page 2

Tank System # 6 showed a rate of leak of +.009 gal/hr.
Tank System # 6 is tight.

Prior to the test procedure the tanks were filled with water for test purposes and all product lines were disconnected.

Sincerely,

William J. Purpora

WJP/mmo

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

118
04

Data Chart for Tank System Tightness Test

Petro Tite
TANK TESTER

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Name: Desoto Inc. Address: 8600 River Road Pennsauken, New Jersey 7-17- Representative: Telephone:

2. OPERATOR

Name: Address: Representative: Telephone:

3. REASON FOR TEST (Explain Fully)

Name: Address: Telephone:

4. WHO REQUESTED TEST AND WHEN

Name: Title: Company or Affiliation: Date:

5. WHO IS PAYING FOR THIS TEST?

Company, Agency or Individual: DeSoto, Inc. Person Authorizing: Ken Wallenski Telephone:

Billing Address: 1000 Mount Prospect Rd. City: Des Plaines State: Ill. Zip: 60001

Attention of: Order No. Other Instructions:

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#4	4000				Steel
#5	4000				Steel
#6	4000				Steel

7. INSTALLATION DATA

Location (North inside driveway, Rear of station, etc.)	Cover (Concrete, Block Tar, Earth, etc.)	Fills (Size, Tilefill mass, Drop tubes, Remote Fills)	Vents (Size, Manifolded)	Siphones (Which tanks?)	Pumps (Suction, Remote, Make if known)
	Gravel	3"	2"	—	—

8. UNDERGROUND WATER

Depth to the Water table _____ Is the water over the tank? ☐ Yes ☐ No

9. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____ Name Telephone

Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company

10. CONTRACTOR, MECHANICS, any other contractor involved

Name Telephone

11. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test etc.

12. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for Petro Tite as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#4	Yes	+.003 G.P.H.	7-17-84
#5	Yes	+.018 G.P.H.	7-18-84
#6	Yes	+.009 G.P.H.	7-18-84

13. CERTIFICATION

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Date

Serial No. of Thermal Probe

Jim Christensen
Technician

Steve Pucparo
Technician

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217
Address

Testing Contractor or Company

By: Signature

119

14. Desoto Inc. (Name of Supplier, Owner or Dealer) 8600 River Road (Address No. and Street(s)) Pennsauken, (City) New Jersey (State) 2-17-84 (Date of Test)

15. TANK TO TEST

Tank #4 (Identity by position)

(Blend and Grade)

16. CAPACITY

Nominal Capacity 4000 (Gallons)

By most accurate capacity chart available 3948 (Gallons)

Is there doubt as to True Capacity? ☐

See Section "DETERMINING TANK CAPACITY"

From
- ☐ Station Chart
- ☒ Tank Manufacturer's Chart
- ☐ Company Engineering Data
- ☐ Charts supplied with petro tite
- ☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water (to ⅛ in.) (Gallons)

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		3948
	topoff		10
	Testing	With	Water
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26)

☐ Water in tank ☐ High water table in tank excavation ☐ Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- ☐ Stage I
- ☐ Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* ..... 126" "

Add 30" for 4" L ..... "

Add 24" for 3" L or air seal ..... "

Total tubing to assemble Approximate ..... 156" "

20. EXTENSION HOSE SETTING

Tank top to grade* ..... 30" "

Extend hose on suction tube 8" or more below tank top ..... 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or -)

22. Thermal-Sensor reading after circulation 15836 (digits) 70-71 (Nearest) °F

23. Digits per °F in range of expected change 325 (digits)

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 325 (Digits per °F in test Range (23)) = .0014005 (Volume change per digit. Compute to 4 decimal places.) This is test factor (a) (.0014) OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (-) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) × (a) = Expansion + Contraction -	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (-) #33(V) — #37(T)	At High Level record Total End Deflection / At Low Level compute Change per Hour (NFPA criteria)

Petro Tite TANK TESTER

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

100 TOSCA DRIVE
P.O. BOX CS-200
STOUGHTON, MA. 02072-9946

120

0930	Arrive at Test Site											
	All Product Lines Disconnected										Factor - A (.0014)	
	[redacted] Setup Test Equipment											
	Vent Capped											
	Manway Bled											
	Pump Primed & Running											
								15				
1205	1st Sensor Reading	1		42				836				
1220	Start Hi-Level Test	2	42.0	42	.240	.240	±.000	854	+18	+.025	-.025	
1235	Cont " "	3	42.2	42	.240	.270	+.030	876	+22	+.031	-.001	
1250	" "	4	42.1	42	.270	.290	+.020	891	+15	+.021	-.001	
1305	" "	5	42.1	42	.290	.310	+.020	909	+18	+.025	-.005	
1320	" "	6	42.1	42	.310	.330	+.020	928	+19	+.027	-.007	
1335	" "	7	42.2	42	.330	.360	+.030	946	+18	+.025	+.005	
1350	" "	8	42.2	42	.350	.380	+.030	962	+16	+.022	+.008	
1405	" "	9	42.2	42	.380	.410	+.030	981	+19	+.027	+.003	
1407	Dropped to Low-Level			12				981				
1420	Start Low-Level Test	10	13.0	12	.050	.150	+.100	999	+18	+.025	+.075	
1435	Cont " "	11	12.2	12	.150	.170	+.020	1013	+14	+.020	±.000	+.000
1450	" "	12	12.2	12	.170	.195	+.025	030	+17	+.024	+.001	+.001
1505	" "	13	12.2	12	.195	.220	+.025	046	+16	+.022	+.003	+.004
1520	" "	14	12.2	12	.220	.240	+.020	061	+15	+.021	-.001	+.003
	Tank Tested Tight	+.003 G.P.H.										

PROTANIC INC
P.O. BOX 17591
MILWAUKEE, WISC. 53217

121

14. Desoto Inc. (Name of Supplier, Owner or Dealer) 8600 River Road (Address No. and Street(s)) Pennsauken (City), New Jersey (State) 7-18-84 (Date of Test)

15. TANK TO TEST

#5- (Identity by position)

(Brand and Grade)

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 3948 Gallons

Is there doubt as to True Capacity? ☐

See Section "DETERMINING TANK CAPACITY"

From
- ☐ Station Chart
- ☒ Tank Manufacturer's Chart
- ☐ Company Engineering Data
- ☐ Charts supplied with Petro Tite
- ☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill up Testing with Water (to ⅛ in.) Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		3948
	topoff		10
	Testing	With	Water
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

☐ Water in tank ☐ High water table in tank excavation ☐ Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- ☐ Stage I
- ☐ Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* ..... 126" "

Add 30" for 4" L ..... "

Add 24" for 3" L or air seal ..... "

Total tubing to assemble Approximate ..... 156" "

20. EXTENSION HOSE SETTING

Tank top to grade* ..... 30" "

Extend hose on suction tube 6" or more below tank top ..... 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 16454 digits 72-73 °F (Nearest)

23. Digits per °F in range of expected change 323 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 323 (Digits per °F in test Range (23)) = .0014091 (Volume change per digit. Compute to 4 decimal places.) (.0014) This is test factor (a)

OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / DATE (01 Th.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (a)	37. Computation (a) = (a) − Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High Level record Total End Deflection / At Low Level compute Change per Hour (NFPA criteria)
	122											

Petro Tite
PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217
100 TOSCA DRIVE
P.O. BOX 68-[illegible]

Factor-A (.001)

0830	Arrive at Test Site											
	All Product Lines Disconnected											
0845	Transfer Product - Tank #1 to Tank #5 - 4000 Gallons											
	Setup Test Equipment											
	Vent Capped											
	Manway Bled											
0900	Pump Primed + Running											
0945	1st Sensor Reading	1		42				16 454				
1000	Start Hi-Level Test	2	41.0	42	.570	.450	-.110	466	+12	+.017	-.127	
1015	Cont " "	3	41.0	42	.460	.355	-.105	473	+7	+.010	-.115	
1030	" "	4	41.0	42	.355	.245	-.110	482	+9	+.013	-.123	
1045	" "	5	41.1	42	.245	.145	-.100	493	+11	+.015	-.115	
1100	" "	6	41.1	42	.500	.405	-.095	500	+7	+.010	-.105	
1115	" "	7	41.2	42	.405	.325	-.080	509	+9	+.013	-.093	
1130	" "	8	41.2	42	.325	.240	-.085	520	+11	+.015	-.100	
1145	" "	9	41.2	42	.240	.160	-.080	528	+8	+.011	-.091	
1147	Dropped to Low-Level			12				528				
1200	Start Low-Level Test	10	12.2	12	.160	.195	+.035	531	+3	+.004	+.031	
1215	Cont " "	11	12.1	12	.195	.215	+.020	538	+7	+.010	+.010	+.010
1230	" "	12	12.1	12	.215	.230	+.015	547	+9	+.013	+.002	+.012
1245	" "	13	12.1	12	.230	.245	+.015	557	+10	+.014	+.001	+.013
1300	" "	14	12.1	12	.245	.260	+.015	564	+7	+.010	+.005	+.018
	Tank Tested Tight		+.018 G.P.H.									

OK

PROTANK INC.
P.O. BOX [illegible]

123

14. Desoto Inc. — Name of Supplier, Owner or Dealer
8600 River Road — Address No. and Street(s)
Pennsauken — City
New Jersey — State
7-18-84 — Date of Test

15. TANK TO TEST

Tank #6 — Identity by position

Brand and Grade

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 3948 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with Petro Tite
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		3948
	top off	10	10
	Testing	with	water
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

- [ ] Water in tank
- [ ] High water table in tank excavation
- [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* ..... 126" "
Add 30" for 4" L ..... "
Add 24" for 3" L or air seal ..... "
Total tubing to assemble Approximate ..... 156" "

20. EXTENSION HOSE SETTING

Tank top to grade* ..... 30" "
Extend hose on suction tube 6" or more below tank top ..... 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 16712 digits − 73.74 Nearest °F

23. Digits per °F in range of expected change 322 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 322 (Digits per °F in test Range (23)) = .0014135 (Volume change per digit. Compute to 4 decimal places.) (.0014) This is test factor (a)

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) = (a) − Expansion + Contraction −	Temperature Adjustment: Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High Level record Total End Deflection / At Low Level compute Change per Hour (Hi Fill criteria)
	124											

Petro Tite TANK TESTER

PETRO CONSULTANTS
100 TOSCA DRIVE
P.O. BOX CS-200
STOUGHTON, MA. 02072-9000
(617) 344-1400

PROTANIC INC.
P.O. BOX 7591
MILWAUKEE, WISC. 5321

	All Product Lines Disconnected											.0014
	Setup Test Equipment											
	Vent Capped											
	Primary Bled											
1500	Pump Primed - Running											
1530	1st Sensor Reading	1		42				16 712				
1545	Start Hi Level Test	2	42.0	42	.190	.190	±.000	729	+17	+.024	-.024	
1600	Cont " "	3	42.0	42	.190	.190	±.000	744	+15	+.021	-.021	
1615	" "	4	42.1	42	.190	.200	+.010	754	+10	+.014	-.004	
1630	" "	5	42.0	42	.200	.200	±.000	767	+13	+.018	-.018	
1645	" "	6	42.1	42	.200	.210	+.010	778	+11	+.015	-.005	
1700	" "	7	42.1	42	.210	.220	+.010	793	+15	+.021	-.011	
1715	" "	8	42.2	42	.220	.240	+.020	807	+14	+.020	±.000	
1730	" "	9	42.2	42	.240	.260	+.020	820	+13	+.018	+.002	
1731	Capped to Low Level			42				820				
1745	Start Low Level Test	10	12.9	12	.260	.325	+.065	827	+7	+.010	+.055	
1800	Cont " "	11	12.2	12	.325	.345	+.020	838	+11	+.015	+.005	+.005
1815	" "	12	12.2	12	.345	.365	+.020	851	+13	+.018	+.002	+.007
1830	" "	13	12.2	12	.365	.385	+.020	864	+13	+.018	+.002	+.009
1845	" "	14	12.2	12	.385	.405	+.020	878	+14	+.020	±.000	+.009
	Tank Tested Tight		+.009 G.P.H.									OK

PROPANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

125

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

RECEIVED
AUG 7 1984
ENGINEERING DEPT.

Mr. Ken Wallenski
DeSoto, Inc.
1700 S. Mount Prospect Road
Des Plaines, IL 60018

Re: Tank System Test, July 19 & 20, 1984
8600 River Road
Pennsauken, New Jersey

Dear Mr. Wallenski:

The tank systems tested at this location are identified as follows:

Tank System # 7	4,000 gallon tank.
Tank System # 8	4,000 gallon tank.
Tank System # 9	4,000 gallon tank.

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than .050 gal/hr. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

During the stand-pipe test procedure the liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

Tank System # 7 showed a rate of leak of +.015 gal/hr.
Tank System # 7 is tight.

Tank System # 8 showed a rate of leak of -.022 gal/hr.
Tank System # 8 is tight.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

126
05

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

Mr. Ken Wallenski
Page 2

Tank System # 9 showed a rate of leak of +.005 gal/hr.
Tank System # 9 is tight.

Prior to the test procedure the tanks were filled with water for test purposes and the product lines were disconnected.

Sincerely,

William J. Purpora

WJP/mmo

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

127
06

Data Chart for Tank System Tightness Test

petro tite
TANK TESTER

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Desoto Inc. 3600 River Road Pennsauken, New Jersey 7-20-84
Name Address Representative Telephone

Name Address Representative Telephone

2. OPERATOR

Name Address Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name Title Company or Affiliation Date

Address Telephone

5. WHO IS PAYING FOR THIS TEST?

Desoto, Inc. Ken Wallenski
Company, Agency or Individual Person Authorizing Title Telephone
1700 S. Mount Prospect Rd. Des Plaines IL 60018
Billing Address City State Zip

Attention of: Order No. Other Instructions

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#7	4000				Steel
#8	4000				Steel
#9	4000				Steel

7. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
	Gravel	3"	2"	—	—
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Titanic make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

8. UNDERGROUND WATER

Depth to the Water table _____"

Is the water over the tank? ☐ Yes ☐ No

9. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____
Name Telephone

Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____
Company Name Telephone

10. CONTRACTOR, MECHANICS, any other contractor involved

11. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers prese during test etc.

12. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for petro tite as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#7	Yes	+.015 G.P.H.	7-20-84
#8	Yes	-.022 G.P.H.	7-19-84
#9	Yes	+.005 G.P.H.	7-20-84

13. CERTIFICATION

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established b the National Fire Protection Association Pamphlet 329.

Date

Serial No. of Thermal Sensor

Jim Christensen
Steve Purpora
Technicians

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

Testing Contractor or Company By: Signature

Address

128

14. Dempsey Inc. — Name of Supplier, Owner or Dealer
8600 River Road — Address: No. and Street(s)
Pennsauken, New Jersey — City, State
7-20-94 — Date of Test

Petro Tite TANK TESTER

15. TANK TO TEST

Tank #1 — Identify by position

Brand and Grade

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 3143 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
[ ] Station Chart
[x] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with Petro Tite
[ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up: Reading with Water to ½ in. — Gallons

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ½ in.	Gallons	Total Gallons as Reading
Inventory	96"		3948
depth			10
Reading with			water
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[ ] Stage I
[ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* 126"
Add 30" for 4" L "
Add 24" for 3" L or air seal "
Total tubing to assemble Approximate 156"

20. EXTENSION HOSE SETTING

Tank top to grade* 30"
Extend hose on suction tube 8" or more below tank top 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 17041 — 74.75 °F (Nearest)

23. Digits per °F in range of expected change 321 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 321 (Digits per °F in test Range (22)) = .0014179 (Volume change per digit. Compute to 4 decimal places.) This is test factor (.0014) OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (If RECORD TO .001 GAL)			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. Date / Time (24 hr)	28. Record details of setting up and running test (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) = (a) − Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High level record total fuel indication / At low level compute Change per Hour (With subtotal)

129

Arrive at Test Site
All Product Lines Disconnected
Transfer Product - Tank 3 to Tank 7 4000 Gallons
Setup Test Equipment
Vent Capped
Manway Bled
0805 Pump Primed + Running

Factor - A (.0014)

(OK)

								17				
0835	1st Sensor Reading	1		42				041				
0850	Start Hi Level Test	2	41.3	42	.560	.500	-.060	047	+6	+.008	-.068	
0905	Con't " "	3	41.9	42	.500	.480	-.020	054	+7	+.010	-.030	
0920	" "	4	41.9	42	.470	.450	-.020	064	+10	+.014	-.034	
0935	" "	5	41.9	42	.450	.430	-.020	066	+2	+.003	-.023	
0950	" "	6	42.0	42	.430	.430	±.000	075	+9	+.013	-.013	
1005	" "	7	42.0	42	.430	.430	±.000	085	+10	+.014	-.014	
1020	" "	8	42.1	42	.430	.445	+.015	093	+8	+.011	+.004	
1035	" "	9	42.0	42	.445	.445	±.000	102	+9	+.013	-.013	
1037	Dropped to Low-Level			12				102				
1050	Start Low-Level Test	10	12.3	12	.445	.480	+.035	112	+10	+.014	+.021	
1105	Con't " "	11	12.2	12	.480	.500	+.020	120	+8	+.011	+.009	+.009
1120	" "	12	12.1	12	.500	.515	+.015	129	+9	+.013	+.002	+.011
1135	" "	13	12.1	12	.515	.530	+.015	138	+9	+.013	+.002	+.013
1150	" "	14	12.1	12	.530	.545	+.015	147	+9	+.013	+.002	+.015

Tank Tested Tight +.015 G.P.H.

OK

PROTANIC INC.
P.O. BOX 1759
MILWAUKEE, WISC. 53217

130-

14. Desoto Inc. (Name of Supplier, Owner or Dealer) — 8600 River Road (Address No. and Street(s)) — Pennsauken (City), New Jersey (State) — 7-19-84 (Date of Test)

15. TANK TO TEST

Tank #8 (Identity by position)

(Brand and Grade)

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 3948 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with petro tite
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water (to ⅛ in.) Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		3948
	top off		10
	Testing with Water		
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

- [ ] Water in tank
- [ ] High water table in tank excavation
- [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* ..... 126" "

Add 30" for 4" L ..... "

Add 24" for 3" L or air seal ..... "

Total tubing to assemble Approximate ..... 156" "

20. EXTENSION HOSE SETTING

Tank top to grade* ..... 30" "

Extend hose on suction tube 6" or more below tank top ..... 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] ___ °F Product in Tank ___ °F Fill-up Product on Truck ___ °F Expected Change (+ or -)

22. Thermal-Sensor reading after circulation 16934 digits 73-74 °F Nearest

23. Digits per °F in range of expected change 322 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 322 (Digits per °F in test Range (23)) = .0014135 (Volume change per digit. Compute to 4 decimal places.) (.0014) This is test factor (a)

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (R) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. DATE / TIME (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (-) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) × (a) = Expansion + Contraction -	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(1)	At High Level record Total End Deflection / At Low Level compute Change per Hour (NTTA criteria)

PROTANIC INC.
191
RICHMOND, WISC. 53217

100 TOSCA DRIVE
P.O. BOX 08-800
PROVIDENCE, WISC. 53217

131

Factor-A (.001)

	Arrive at Test Site											
	All Product Lines Disconnected											
2 hrs	Transfer Product Tank	6	to Tank	8	[illegible] Gallons							
	Setup Test Equipment											
	Cap Vent											
	Manway Bled											
1050	Pump Primed & Running											
								16 934				
1120	1st Sensor Reading	1		42								
1135	Start Air Level Test	2	41.0	42	.390	.280	-.110	940	+6	+.008	-.118	
1150	Cont " "	3	41.2	42	.280	.200	-.030	952	+12	+.017	-.097	
1205	" "	4	41.8	42	.920	.870	-.050	964	+12	+.017	-.067	
1220	" "	5	41.8	42	.830	.790	-.040	975	+11	+.015	-.055	
1235	" "	6	41.9	42	.790	.770	-.020	987	+12	+.017	-.037	
1250	" "	7	42.0	42	.770	.770	±.000	997	+10	+.014	-.014	
1305	" "	8	42.0	42	.770	.770	±.000	17 008	+11	+.015	-.015	
1320	" "	9	42.0	42	.770	.770	±.000	019	+11	+.015	-.015	
1322	Dropped to Low-Level			12				019				
1335	Start Low Level Test	10	12.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	+7	+.010	+.020	
1350	Cont " "	11	12.1	12	.150	.165	+.015	035	+9	+.013	+.002	+.002
1405	" "	12	12.0	12	.165	.165	±.000	043	+8	+.011	-.011	-.009
1420	" "	13	12.0	12	.165	.165	±.000	050	+7	+.010	-.010	-.019
1435	" "	14	12.1	12	.165	.175	+.010	059	+9	+.013	-.003	-.022

Tank Tested Tight -.022 G.P.H.

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

OK

132

14. [illegible] Name of Supplier Owner or Dealer — [illegible] Road [illegible] Address No. and Street(s) — [illegible] City — [illegible] State — 7-20-84 Date of Test

15. TANK TO TEST
Tank #9
Identify by position
Brand and Grade

16. CAPACITY
Nominal Capacity 4000 Gallons
By most accurate capacity chart available 3948 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
[ ] Station Chart
[x] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with petro tite
[ ] Other

17. FILL-UP FOR TEST

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	96"		3948
Stick Water Bottom before Fill-up (Testing with Water to ⅛ in.)	dry		10
Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY	Testing	with	Water
Product in full tank (up to fill pipe)			3958

Gallons

Tank Diameter 96"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (26).
[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[ ] Stage I
[ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade*	126"
Add 30" for 4" L	"
Add 24" for 3" L or air seal	"
Total tubing to assemble Approximate	156"

20. EXTENSION HOSE SETTING

Tank top to grade*	30"
Extend hose on suction tube 6" or more below tank top	10"

*If fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 17038 digits — 74-75 °F Nearest

23. Digits per °F in range of expected change 321 digits

24. 3958 (total quantity in full tank (18 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 gallons volume change in this tank per °F

25. .45517 (volume change per °F (24)) ÷ 321 (Digits per °F in test Range (23)) = .0014179 Volume change per digit. Compute to 4 decimal places. This is test factor (a) (.0014)

OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS ON RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCEPTANCE CRITERIA
27. TIME	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) = (a) = Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High level record Total End Reduction / At Low level compute Change per Hour (100% criteria)

133.

PROTANK INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

100 TOSCA DRIVE
P.O. BOX CS-200

petro tite
TANK TESTER

	[illegible]												
2hrs	[illegible]	3	[illegible]	9	- 4000 Gallons								
	[illegible]												
	[illegible]												
	[illegible]												
1020	[illegible]							17					
1055	[illegible]	1		12				038					
1110	[illegible]	2	39.3	12	.735	.460	-.275	044	+6	+.008	-.283		
1125	[illegible] "	3	39.3	12	.460	.180	-.280	050	+6	+.008	-.288		
1140	"	4	39.9	12	.770	.545	-.225	062	+12	+.017	-.242		
1155	"	5	41.0	12	.540	.420	-.120	070	+8	+.011	-.131		
1210	"	6	41.4	12	.420	.360	-.060	074	+4	+.006	-.066		
1225	"	7	41.1	12	.360	.260	-.100	084	+10	+.014	-.114		
1240	"	8	41.8	12	.260	.230	-.030	093	+9	+.013	-.043		
1255	"	9	41.7	12	.230	.160	-.070	102	+9	+.013	-.083		
1257	[illegible]			12				102					
1310	[illegible]	10	12.2	12	.160	.185	+.025	108	+6	+.008	+.017		
1325	"	11	12.1	12	.185	.200	+.015	116	+8	+.011	+.004	+.004	
1340	"	12	12.1	12	.200	.210	+.010	123	+7	+.010	±.000	+.004	
1355	"	13	12.1	12	.210	.220	+.010	131	+8	+.011	-.001	+.003	
1410	"	14	12.1	12	.220	.235	+.015	140	+9	+.013	+.002	+.005	

Tank Tested Tight + .005 G.P.H.

PROTAGIC INC.
P.O. BOX 1759
[illegible] WISC. 53217

OK

134

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

RECEIVED
AUG 7 1984
ENGINEERING DEPT.

Mr. Ken Wallenski
DeSoto Inc.
1700 S. Mount Prospect Road
Des Plaines, IL 60018

Re: Tank System Test, July 20, 1984
8600 River Road
Pennsauken, New Jersey

Dear Mr. Wallenski:

The tank systems tested at this location are identified as follows:

Tank System # 10 4,000 gallon tank.
Tank System # 11 4,000 gallon tank.

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than .050 gal/hr. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

During the stand-pipe test procedure the liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

Tank System # 10 showed a rate of leak of +.032 gal/hr.
Tank System # 10 is tight.

Tank System # 11 showed a rate of leak of +.027 gal/hr.
Tank System # 11 is tight.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

135 07

Data Chart for Tank System Tightness Test

petro tite
TANK TESTER

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Desoto Inc. 8600 River Road Pennsauken, New Jersey 7-20-

Name | Address | Representative | Telephone

Name | Address | Representative | Telephone

2. OPERATOR

Name | Address | Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name | Title | Company or Affiliation | Date

Address | Telephone

5. WHO IS PAYING FOR THIS TEST?

DeSoto, Inc. Ken Walienski

Company, Agency or Individual | Person Authorizing | Title | Telephone

1700 S. Mount Prospect Rd Des Plaines, IL 60018

Billing Address | City | State | Zip

Attention of: | Order No. | Other Instructions

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#10	4000				Steel
#11	4000				Steel

7. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
	Gravel	3"	2"	—	—
North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Tinshi make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known

8. UNDERGROUND WATER

Depth to the Water table _____"

Is the water over the tank? ☐ Yes ☐ No

9. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____ Name Telephone

Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company Name Telephone

10. CONTRACTOR, MECHANICS, any other contractor involved

11. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test etc.

12. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for petro tite as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#10	Yes	+.032 G.P.H.	7-20-34
#11	Yes	+.027 G.P.H.	7-20-34

13. CERTIFICATION

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Date

Serial No. of Thermal Sensor

Jim Christensen
Steve Purpora
Technicians

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

Testing Contractor or Company | By: Signature | Address

136

14. Deanto Inc, 8600 River Road, Pennsauken, New Jersey, 7-20-84

Name of Supplier, Owner or Dealer | Address No. and Street(s) | City | State | Date of Test

15. TANK TO TEST

Tank # 10

Identify by position

Brand and Grade

16. CAPACITY

Nominal Capacity 4000 Gallons

By most accurate capacity chart available 3948 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with petro tite
- [ ] Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

Inventory	Stick Readings to ⅛ in.	Gallons	Total Gallons as. Reading
	96"		3948
	topoff		10
	Testing with		water
Product in full tank (up to fill pipe)			3958

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

- [ ] Water in tank
- [ ] High water table in tank excavation
- [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* 126"

Add 30" for 4" L "

Add 24" for 3" L or air seal "

Total tubing to assemble Approximate 156"

20. EXTENSION HOSE SETTING

Fill tap to grade* 30"

Stand hose on suction tube 6" or more

Flow tank tap 10"

* Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (e) TO TEST THIS TANK

Is Today Warmer? ( ) Colder? ( ) ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 17155 74-75 °F (Nearest)

23. Digits per °F in range of expected change 327 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons

25. .45517 (volume change per °F (24)) ÷ 321 (Digits per °F in test Range (23)) = .0014179 (Volume change per digit. Compute to 4 decimal places.) (.0017) This is test factor (e)

LOG OF TEST PROCEDURES: Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	30. HYDROSTATIC PRESSURE CONTROL: Standpipe Level in Inches: Beginning of Reading	Level to which Restored	31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.: 32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	34. TEMPERATURE COMPENSATION (UNE FACTOR (e)): 35. Thermal Sensor Reading	36. Change Higher + Lower − (t)	37. Computation (c) = (e) = Expansion + Contraction −	38. NET VOLUME CHANGES EACH READING: Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	39. ACCUMULATED CHANGES: At High Level Total Bal Deduction / At Low Level or quite Change per Hour (#38 added+)

0[illegible]	Arrive at Test Site											
	All Product Lines Disconnected									Factor - A	(.0014)	
2 hrs	Transfer Product Tank	to Tank #10 - 4000 Gallons										
	Setup Test Equipment											
	Vent Capped											
	Manway Bled											
0740	Pump Primed + Running											
								12				
0815	1st Sensor Reading	1		42				155				
0830	Start Hi-Level Test	2	41.4	42	.290	.240	-.050	163	+8	+.011	-.061	
0845	Con't " "	3	41.8	42	.240	.220	-.020	169	+6	+.008	-.028	
0900	" "	4	41.9	42	.280	.210	-.010	176	+7	+.010	-.020	
0915	" "	5	41.8	42	.210	.185	-.025	183	+7	+.010	-.035	
0930	" "	6	41.8	42	.185	.170	-.015	190	+7	+.010	-.025	
0945	" "	7	41.8	42	.170	.150	-.020	195	+5	+.007	-.027	
1000	" "	8	42.0	42	.150	.150	±.000	201	+6	+.008	-.008	
1015	" "	9	42.0	42	.150	.150	±.000	208	+7	+.010	-.010	
1017	Dropped to Low-Level			12				208				
1030	Start Low-Level Test	10	12.6	12	.150	.200	+.050	213	+5	+.007	+.043	
1045	Con't " "	11	12.1	12	.200	.220	+.020	220	+7	+.010	+.010	+.010
1100	" "	12	12.1	12	.220	.240	+.020	227	+7	+.010	+.010	+.020
1115	" "	13	12.1	12	.240	.255	+.015	233	+6	+.008	+.007	+.027
1130	" "	14	12.1	12	.255	.270	+.015	240	+7	+.010	+.005	+.032

Tank Tested Tight +.032 G.P.H

OK

PROFENIC INC.
P.O. BOX 17391
MILWAUKEE, WISC. 5332[illegible]

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14. Desoto Tire — Name of Supplier, Owner or Dealer
8300 River Road — Address No. and Street(s)
Pennsauken — City
New Jersey — State
7-20-81 — Date of Test

15. TANK TO TEST
Tank #11 — Identify by position
Brand and Grade

16. CAPACITY
Nominal Capacity 4000 Gallons
By most accurate capacity chart available 3948 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with petro tite
- [ ] Other

17. FILL-UP FOR TEST
Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

	Stick Readings to ⅛ in.	Gallons	Total Gallons as. Reading
Inventory	96"		3948
	top off		10
	Testing	with	Water
Product in full tank (up to fill pipe)			3958

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (26).
- [ ] Water in tank
- [ ] High water table in tank excavation
- [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* 126"
Add 30" for 4" L "
Add 24" for 3" L or air seal "
Total tubing to assemble Approximate 156"

20. EXTENSION HOSE SETTING
Tank top to grade* 30"
Extend hose on suction tube 6" or more below tank top 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] °F Product in Tank °F Fill-up Product on Truck °F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 17238 digits — 74-75 °F Nearest

23. Digits per °F in range of expected change 321 digits

24. 3958 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .45517 (volume change in this tank per °F) gallons (.0014)

25. .45517 (volume change per °F (24)) ÷ 321 (Digits per °F in test Range (23)) = .0014179 (Volume change per digit. Compute to 4 decimal places.) This is test factor (a)

OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL			34. TEMPERATURE COMPENSATION (SEE FACTOR (a))			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. Date / Time (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading lbs	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (t)	37. Computation (t) × (a) = Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	At High Level record Total Net Reflection / At Low Level compute Change per Hour (Diff. between)

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petro tite TANK TESTER
PROTANK INC. 100 TOSCA DRIVE P.O. BOX CS-800 STOUGHTON, MA. 02072 617-344-0780
PROTANK INC. P.O. BOX 1701 Janesville, WISC. 53547

	Arrive at Test Site											
	All Product Lines Disconnected									Factor - A	(.0014)	
1 hr.	Transfer Product Tank # 10 to Tank # 11 4000 Gallons											
	Setup Test Equipment											
	Vent Capped											
	Manway Bled											
1300	Pump Primed + Running											
								17				
1330	1st Sensor Reading	1		42				238				
1345	Start Hi-Level Test	2	40.5	42	.280	.110	-.170	243	+5	+.007	-.177	
1400	Con't " "	3	40.9	42	.650	.510	-.140	248	+5	+.007	-.147	
1415	" "	4	41.1	42	.510	.410	-.100	254	+6	+.008	-.108	
1430	" "	5	41.5	42	.400	.340	-.060	262	+8	+.011	-.071	
1445	" "	6	41.4	42	.330	.260	-.070	266	+4	+.006	-.076	
1500	" "	7	41.8	42	.260	.220	-.040	275	+9	+.013	-.053	
1515	" "	8	41.7	42	.210	.150	-.060	279	+4	+.006	-.066	
1530	" "	9	42.0	42	.150	.150	±.000	288	+9	+.013	-.013	
1532	Dropped to Lower Level			12				288				
1545	Start Lower Level Test	10	12.2	12	.150	.175	+.025	293	+5	+.007	+.018	
1600	Con't " "	11	12.2	12	.175	.195	+.020	302	+9	+.013	+.007	+.007
1615	" "	12	12.2	12	.195	.215	+.020	312	+10	+.014	+.006	+.013
1630	" "	13	12.2	12	.215	.240	+.025	324	+12	+.017	+.008	+.021
1645	" "	14	12.2	12	.240	.260	+.020	334	+10	+.014	+.006	+.027

Tank Tested Tight +.027 G.P.H.

OK

PROTEMIC INC.
P.O. BOX 1759
MILWAUKEE, WISC. 53217

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

RECEIVED
AUG 7 1984
ENGINEERING DEPT.

August 3, 1984

Mr. Ken Wallenski
DeSoto Inc.
1700 S. Mount Prospect Road
Des Plaines, IL 60018

Re: Tank System Test, July 23, 1984
8600 River Road
Pennsauken, New Jersey

Dear Mr. Wallenski:

The tank systems tested at this location are identified as follows:

Tank System # 12	7,500 gallon tank.
Tank System # 13	7,500 gallon tank.
Tank System # 14	25,000 gallon tank.

The National Fire Protection Association's criteria for a tight tank system is a system with a rate of leak less than .050 gal/hr. These are calculated, mathematical tolerances only and are not meant to indicate the permission of any leak.

During the stand-pipe test procedure the liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

Tank System # 12 showed a rate of leak of +.008 gal/hr.
Tank System # 12 is tight.

Tank System # 13 showed a rate of leak of +.004 gal/hr.
Tank System # 13 is tight.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

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08

PROTANIC PROFESSIONAL TANK INVESTIGATION CORP.

P O BOX 17591 • MILWAUKEE, WISCONSIN 53217 • PHONE WISCONSIN (414) 332-9422
332-0494

August 3, 1984

Mr. Ken Wallenski
Page 2

Tank System # 14 showed a rate of leak of -.015 gal/hr.
Tank System # 14 is tight.

Prior to the test procedure the tanks were filled with water for test purposes.

Prior to the test procedure of tank system # 12 the vent pipe was found to be leaking and repaired.

Sincerely,

William J. Purpora

WJP/mmo

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE

Data Chart for Tank System Tightness Test

petro tite
TANK TESTER

PLEASE PRINT

1. OWNER Property ☐ Tank(s) ☐

Desoto Inc. 8600 River Road Pennsauken New Jersey 7-[illegible]-73
Name Address Representative Telephone

Name Address Representative Telephone

2. OPERATOR

Name Address Telephone

3. REASON FOR TEST (Explain Fully)

4. WHO REQUESTED TEST AND WHEN

Name Title Company or Affiliation Date

Address Telephone

5. WHO IS PAYING FOR THIS TEST?

DeSoto, Inc. Ken Wallenski
Company, Agency or Individual Person Authorizing Title Telephone

1700 S. Mount Prospect RD Des Plaines, IL 60018
Billing Address City State Zip

Attention of: Order No. Other Instructions

6. TANK(S) INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
#12	7500				Steel
#13	7500				Steel
#14	25000				Steel

7. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
North inside driveway, Rear of station, etc.	Earth Concrete, Black Top, Earth, etc.	4" (Remote) Size, Titefill make, Drop tubes, Remote Fills	2½" Size, Manifolded	— Which tanks?*	— Suction, Remote, Make if known

8. UNDERGROUND WATER

Depth to the Water table _____"

Is the water over the tank? ☐ Yes ☐ No

9. FILL-UP ARRANGEMENTS

Tanks to be filled _____ hr. _____ Date Arranged by _____
Name Telephone

Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____
Company Name Telephone

10. CONTRACTOR, MECHANICS, any other contractor involved

11. OTHER INFORMATION OR REMARKS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test etc.

12. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for petro tite as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#12 (South)	Yes	+.008 G.P.H.	7-23-84
#13 (North)	Yes	+.004 G.P.H.	7-23-84
#14 (East)	Yes	-.015 G.P.H.	7-23-84

13. CERTIFICATION

This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Date

Serial No. of Thermal

Jim Christensen
Technicians

Steve Purpura

PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

Testing Contractor or Company By: Signature

Address

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14. Donato Inc. — Name of Supplier, Owner or Dealer
8600 River Road — Address No. and Street(s)
Pennsauken — City
New Jersey — State
7-23-83 — Date of Test

15. TANK TO TEST
Tank # 12 (North) — Identify by position
Brand and Grade

16. CAPACITY
Nominal Capacity 7500 Gallons
By most accurate capacity chart available 7520 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
[ ] Station Chart
[X] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with petro tite
[ ] Other

17. FILL-UP FOR TEST

	Stick Readings to ⅛ in.	Gallons	Total Gallons
Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons			
Inventory	96"		7520
Test			10
Testing with Water			
Product in full tank (up to fill pipe)			7530

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 96"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (26).
[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with VLLT

VAPOR RECOVERY SYSTEM
[ ] Stage I
[ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* 134"
Add 30" for 4" L "
Add 24" for 3" L or air seal "
Total tubing to assemble Approximate 168"

20. EXTENSION HOSE SETTING
Tank top to grade* 38"
Extend hose on suction tube 6" or more below tank top 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? [ ] Colder? [ ] ___°F Product in Tank ___°F Fill-up Product on Truck ___°F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 15857 digits — 70-71 °F Nearest

23. Digits per °F in range of expected change 325 digits

24. 7530 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .86595 (volume change in this tank per °F) gallons

25. .86595 (volume change per °F (24)) ÷ 325 (Digits per °F in test Range (23)) = .0026644 Volume change per digit. Compute to 4 decimal places

(0027)

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (1) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. Date / Time (24 hr.)	28. Record details of setting up and running test (Use full length of line if needed.)	29. Reading lbs	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Gradouts: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (a)	37. Computation (c) = (a) − Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #32(V) − #37(T)	At High Level record Total Bad Deliveries / At Low Level compute Change per Hour (37% allowed +)

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Petro Tite TANK TESTERS
100 TOSCA DRIVE
P.O. BOX CB 200
STONINGTON, CT
PROTANIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

Factor A .0087

0700	Arrive at Test Site											
	Manway Re Set											
	Setup Test Equipment											
1220	Pump Primed + Running											
	Test Stopped: Vent Pipe Leaking Underground - Dug up, Plugged											
1510	1st Sensor Reading	1		42				857				
1525	Start Hi Level Test	2	38.7	42	.840	.665	-.175	859	+2	+.005	-.180	
1540	Con't " "	3	38.8	42	.665	.495	-.170	861	+2	+.005	-.175	
1555	"	4	39.1	42	.495	.350	-.145	866	+5	+.014	-.159	
1610	"	5	39.1	42	.350	.200	-.150	872	+6	+.016	-.166	
1625	"	6	39.3	42	.200	.070	-.130	877	+5	+.014	-.144	
1640	"	7	39.8	42	.720	.680	-.040	882	+5	+.014	-.054	
1655	"	8	40.6	42	.680	.605	-.075	886	+4	+.011	-.086	
1710	"	9	41.0	42	.605	.540	-.065	892	+6	+.016	-.081	
1712	Dropped to Low-Level			12				892				
1725	Start Low-Level Test	10	12.7	12	.540	.580	+.040	893	+1	+.003	+.037	
1740	Con't " "	11	12.2	12	.580	.600	+.020	899	+6	+.016	+.004	+.004
1755	" "	12	12.2	12	.600	.615	+.015	904	+5	+.014	+.001	+.025
1810	" "	13	12.2	12	.615	.635	+.020	910	+6	+.016	+.004	+.009
1825	" "	14	12.1	12	.635	.645	+.010	914	+4	+.011	-.001	+.008

Tank Tested Tight +.008 G.P.H.

OK

PROTEC INC.
P.O. BOX 17501
MILWAUKEE, WISC 53217

14. Desoto Inc. — Name of Supplier Owner or Dealer
8600 River Road — Address No and Street(s)
Pennsauken — City
New Jersey — State
7-23-84 — Date of Test

petro tite TANK TESTER

15. TANK TO TEST

Tank #13 (South) — Identity by position

Brand and Grade

16. CAPACITY

Nominal Capacity 7500 Gallons

By most accurate capacity chart available 7520 Gallons

Is there doubt as to True Capacity? [ ]

See Section "DETERMINING TANK CAPACITY"

From
- [ ] Station Chart
- [X] Tank Manufacturer's Chart
- [ ] Company Engineering Data
- [ ] Charts supplied with petro tite
- [ ] Other

OK

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Product in full tank (up to fill pipe)

	Stick Readings to ⅛ in.	Gallons	Total Gallons on Reading
Inventory	96"		7520
	top off		10
	Testing with Water		7530

Tank Diameter 96"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

See manual sections applicable. Check below and record procedure in log (26).

- [ ] Water in tank
- [ ] High water table in tank excavation
- [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- [ ] Stage I
- [ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to Grade* 134"
Add 30" for 4" L "
Add 24" for 3" L or air seal "
Total tubing to assemble Approximate 168"

20. EXTENSION HOSE SETTING

Tank top to grade* 38"
Extend hose on suction tube 8" or more below tank top 10"

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK

Is Today Warmer? [ ] Colder? [ ] °F Product in Tank °F Fill-up Product on Truck °F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 16690 digits — 73-74 °F Nearest

23. Digits per °F in range of expected change 322 digits

24. 7530 (total quantity in full tank (16 or 17)) × .000115 (coefficient of expansion for involved product) = .86595 (volume change in this tank per °F) gallons (.0027)

25. .86595 (volume change per °F (24)) ÷ 322 (Digits per °F in test Range (23)) = .0026892 (Volume change per digit. Compute to 4 decimal places.) This test factor (a)

OK

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION (BY FACTOR (a))			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. Date / Time (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (c)	37. Computation (c) × (a) = Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T)	If High Level record Total Tank Delivery / If Low Level compute Change per Line (MVPS cellular)

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PROTANK INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

CONSULTANTS
100 TOSCA DRIVE
P.O. BOX CS-200
STOUGHTON, MA 02072-0006

0700	Arrive at Test Site												
	Tank Fill with Water									Factor A	(.0027)		
	Manway Re Set												
	Setup Test Equipment												
1125	Pump Primed + Running												
								16					
1205	1st Sensor Reading	1		42				690					
1220	Start Hi-Level Test	2	38.9	42	.435	.210	-.225	685	-5	-.014	-.211		
1235	Con't " "	3	40.0	42	.210	.070	-.140	694	+9	+.024	-.164		
1250	" "	4	40.2	42	.870	.740	-.130	691	-3	-.008	-.122		
1305	" "	5	40.7	42	.740	.640	-.100	691	±0	±.000	-.100		
1320	" "	6	40.9	42	.640	.555	-.085	691	±0	±.000	-.085		
1335	" "	7	40.9	42	.555	.470	-.085	690	-1	-.003	-.082		
1350	" "	8	41.2	42	.470	.405	-.065	691	+1	+.003	-.068		
1405	" "	9	41.3	42	.405	.345	-.060	691	±0	±.000	-.060		
1407	Dropped to Low Level			12				691					
1420	Start Low-Level Test	10	12.3	12	.420	.445	+.025	693	+2	+.005	+.020		
1435	Con't " "	11	12.1	12	.445	.455	+.010	696	+3	+.008	+.002	+.002	
1450	" "	12	12.1	12	.455	.460	+.005	697	+1	+.003	+.002	+.004	
1505	" "	13	12.1	12	.460	.465	+.005	697	±0	±.000	+.005	+.009	
1520	" "	14	12.0	12	.465	.465	±.000	699	+2	+.005	-.005	+.004	
													OK
	Tank Tested Tight		+.004	G.P.H.									

PROTANK INC.
P.O. BOX 17591
MILWAUKEE, WISC. 532

14. Desoto Inc. — Name of Supplier, Owner or Dealer
Blue River Road — Address No. and Street(s)
Pennsauken, New Jersey — City, State
2-23-83 — Date of Test

15. TANK TO TEST
Tank #1 (East) — Identify by position
Brand and Grade

16. CAPACITY
Nominal Capacity 25000 Gallons
By most accurate capacity chart available 25262 Gallons
Is there doubt as to True Capacity? [ ]
See Section "DETERMINING TANK CAPACITY"

From
[ ] Station Chart
[X] Tank Manufacturer's Chart
[ ] Company Engineering Data
[ ] Charts supplied with petro tite
[ ] Other

17. FILL-UP FOR TEST
Stick Water Bottom before Fill-up Testing with Water to ⅛ in. Gallons

	Stick Readings to ⅛ in.	Gallons	Total Gallons ea. Reading
Inventory	126"		25262
	tranff		10
	Testing with		Water
			25272

Fill up STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Product in full tank (up to fill pipe)

Tank Diameter 126"

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
See manual sections applicable. Check below and record procedure in log (28).
[ ] Water in tank [ ] High water table in tank excavation [ ] Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
[ ] Stage I
[ ] Stage II

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
Bottom of tank to Grade* 161" "
Add 30" for 4" L " "
Add 24" for 3" L or air seal " "
Total tubing to assemble Approximate 192" "

20. EXTENSION HOSE SETTING
Tank top to grade* 35" "
Extend hose on suction tube 6" or more below tank top 10" "

*If Fill pipe extends above grade, use top of fill.

21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK
Is Today Warmer? ( ) Colder? ( ) ___ °F Product in Tank ___ °F Fill-up Product on Truck ___ °F Expected Change (+ or −)

22. Thermal-Sensor reading after circulation 16100 digits 71-72 Nearest °F

23. Digits per °F in range of expected change 325 digits

24. 25272 total quantity in full tank (16 or 17) × .000115 coefficient of expansion for involved product = 2.90628 gallons volume change in this tank per °F (.0099)

25. 2.90628 volume change per °F (24) ÷ 325 Digits per °F in test Range (23) = .0089424 Volume change per digit. Compute to 4 decimal places. This is less than .05 for one hour

26. LOG OF TEST PROCEDURES			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (If Record to .001 Gal.)			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGES EACH READING	39. ACCUMULATED CHANGE
27. Date / Time (24 hr.)	28. Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches: Beginning of Reading	Level to which Restored	32. Product in Graduate: Before Reading	After Reading	Product Replaced (−) / Product Recovered (+)	35. Thermal Sensor Reading	36. Change Higher + Lower − (a)	37. Computation (a) = (a) = Expansion + Contraction −	Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #32(V) − #37(T)	At High Level record Total Test Reduction / At Low Level compute Change per Hour (NFPA criteria)

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petro tite TANK TESTER

PROTANK INC.
100 TOSCA DRIVE
P.O. BOX CS-200
STOUGHTON, MA. 02072-0000
(617) 344-1400

PROTANK INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

7-23-84

#14-B

													.0089
	Manway Reset												
	Setup Test Equipment												
	All Piped Lines Disconnected												
	Vent Capped												
1200	Pump Primed + Running												
									16				
1230	1st Sample Pulling	1		42					100				
1315	Start Hi-Level Test	2	39.1	42	.375	.165	-.210		099	-1	-.009	-.201	
1330	Cont"	"	3	40.0	42	.930	.770	-.160	101	+2	+.018	-.178	
1345	"	"	4	40.2	42	.770	.630	-.140	106	+5	+.045	-.185	
1300	"	"	5	40.6	42	.630	.515	-.115	100	-6	-.053	-.062	
1315	"	"	6	41.0	42	.515	.425	-.090	104	+4	+.036	-.126	
1330	"	"	7	41.0	42	.425	.340	-.085	106	+2	+.018	-.103	
1345	"	"	8	41.1	42	.340	.265	-.075	109	+3	+.027	-.102	
1400	"	"	9	41.3	42	.265	.205	-.060	111	+2	+.018	-.078	
1415	"	"	10	41.3	42	.205	.145	-.060	111	±0	±.000	-.060	
1430	"	"	11	41.5	42	.145	.105	-.040	114	+3	+.027	-.067	
1445	"	"	12	41.6	42	.105	.070	-.035	115	+1	+.009	-.044	
1500	"	"	13	42.0	42	.070	.070	±.000	117	+2	+.018	-.018	
1502	Dropped to Low Level			12					117				
1515	Start Low Level Test	14	12.8	12	.580	.580	+.060		118	+1	+.009	+.051	
1530	~~Cont"~~	"	15	12.1	12	.580	.595	+.015	120	+2	+.018	-.003	-.003
1545	"	"	16	12.1	12	.595	.610	+.015	121	+1	+.009	+.006	+.003
1600	"	"	17	12.0	12	.610	.610	±.000	122	+1	+.009	-.009	-.006
1615	"	"	18	12.0	12	.610	.610	±.000	123	+1	+.009	-.009	-.015
	Tank Tested Tight		-.015	G.P.H.									

ROTAMIC INC.
P.O. BOX 17591
MILWAUKEE, WISC. 53217

OK

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ATTACHMENT P

CONTAMINATION INVESTIGATION
BURIED DECOMMISSIONED TANK
PENNSAUKEN, NEW JERSEY

PREPARED FOR

DESOTO, INC.
DES PLAINES, ILLINOIS

OCTOBER 4, 1984

PROJECT NO. 846531

IT CORPORATION
PITTSBURGH, PENNSYLVANIA

ATTACHMENT P1
151

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1.0 INTRODUCTION

Under contract to DeSoto, Inc. (DeSoto), IT Corporation (IT) has performed an investigation relative to potential contamination from a buried decommissioned tank at the DeSoto plant in Pennsauken, New Jersey. This report provides an account of the activities and results of this study.

1.1 BACKGROUND

The tank under investigation is a four-chambered concrete vessel formerly used as a primary clarifier/separator for latex paint process water. It is located south of the main plant building and is approximately 39 feet long and 11 feet wide (Figure 1). When active, it received effluent from the plant via a four-inch-diameter line. After separation of solids and liquids, tank waters were discharged to the Pennsauken Sewer Authority. The bottom of the tank was about six feet below the ground surface with the sidewalls extending about 1.7 feet above grade (Figure 2). As part of the tank decommissioning, DeSoto removed the sludge contained in the clarifier, filled the tank with sand and gravel, placed concrete over the tank, and covered it with soil. Although oil-based paints were manufactured at the plant, associated liquid wastes were prohibited from entry into this tank; an independent collection system was used for these wastes.

1.2 PURPOSE AND OBJECTIVES OF STUDY

DeSoto plans to sell the Pennsauken plant property. Pursuant to the requirements of the New Jersey Environmental Cleanup Responsibility Act (ECRA), DeSoto requires information for submittal to the New Jersey Department of Environmental Protection, Bureau of Industrial Site Evaluation (DEP), regarding potential soil contamination. The buried tank described in Section 1.1 was the focus of potential contamination concern. The purpose of the IT study was to develop needed data in strict compliance with ECRA regulations and requirements. Work plans were submitted and notice was given to the DEP prior to initiating this investigation.

2.0 METHODOLOGY

2.1 FIELD PROGRAM

The field program undertaken for this project involved the selection of locations for and installation of four borings to access subsurface soils for sampling. Information obtained from site exploration activities was recorded and documented in accordance with appropriate sections of the IT Quality Assurance Manual. Required documentation for this project included daily logs of project activities and subsurface logs. Completed forms are given as Appendices A and B, respectively.

2.1.1 Soil Borings

On August 20, 1984, an IT representative met with DeSoto plant personnel to review proposed boring locations. The locations of the buried tank and nearby underground utilities were evaluated and access conditions assessed. Based on this inspection, four boring locations were selected as shown in Figure 1.

Boring development occurred on August 23, 1984. Drilling was performed under the supervision of an IT field geologist. Holes were advanced using a Mobile Model B-61 truck-mounted rotary drill rig; hollow-stem augers, which precluded the need for drilling mud, were employed. Borings were advanced to depths of 14 to 15 feet. These depths were sufficient to accomplish the following:

- Assure soil samples were made available from horizons at or below the bottom of the tank
- Penetrate fill materials and reach natural soils.

In each of the borings, soil materials encountered were sampled and Standard Penetration tests performed continuously using a split-spoon sampler in accordance with the American Society for Testing and Materials (ASTM) Procedure D 1586. Borings were logged by the IT field geologist; boring logs are provided as Appendix B. As the continuous

samples were collected, they were visually inspected in conjunction with the logging effort. During the logging process, emphasis was placed on identifying evidence of contamination such as differences in soil texture, color, or the presence of noticeable odors. An internal IT technical procedure entitled "IT Visual Classification of Subsurface Materials, Classification Log Legend" describes the manner in which information obtained from subsurface borings was recorded.

2.1.2 Sample Collection

The following considerations formed the basis for the site-specific sampling program:

- Location and number of stations to be sampled
- Methods of sampling to be employed
- Volume of samples to be collected
- Type and kind of analyses to be performed in the laboratory
- Procedures and precautions to be followed during sampling
- Methods of preservation and shipment.

The following general procedure was used to implement the field sampling program:

- Prepare and study a site map showing the location of sampling
- Review the sample collection program to become familiar with the overall scope of the study and also sampling procedures and equipment, handling procedures, and shipping requirements
- Determine the characteristics of the material to be sampled, become familiar with the safety precautions and practices, and obtain the necessary safety equipment

- Obtain equipment and materials necessary to perform field sampling and analyses
- Fill out sample field collection report completely prior to leaving the field location
- Label all sample containers with appropriate information
- Complete chain-of-custody records which will accompany samples during shipment.

Collected soil samples were carefully removed from the split-spoon sampler and placed in appropriate containers as follows:

- Metals and Cyanide - 100 grams of sample in glass container
- Phenolics - 100 grams of sample in glass container
- Purgeable organics - 40 grams of sample in 40-milliliter volatile organic analysis (VOA) vial
- Other organics - 100 grams of sample in glass container.

No preservatives were necessary for soil samples.

Containers with tight, screw-type lids of the appropriate volume and composition were cleaned prior to testing in accordance with the following procedures:

- For metals determinations - Standard Methods, page 142 (American Public Health Association, et al., 1980)
- For organics determinations - "Methods for the Analysis of Pesticide Residues in Human and Environmental Samples," Section 3A, pages 1 through 3 (U.S. Environmental Protection Agency, 1977).

Prior to the collection of each sample, the split-spoon was triple cleaned as follows:

- Primary wash with tap water
- Wipe with hexane
- Secondary wash with distilled water.

The augers were decontaminated only if noticeable signs (e.g., odor) of contamination existed in the hole.

2.1.3 Sample Identification

Sample containers were marked to allow identification from the time of collection and packaging through shipping and storage. Sample identification included the following:

- Project name and number
- Sample number
- Sampling location (e.g., boring, sampling interval)
- Sampling date
- Individual performing the sampling.

Samples were placed in ice chests containing "blue ice" or a similar pack of frozen gel and packed to prevent breakage during shipment. All of the collected samples were delivered to IT's analytical laboratory near Pittsburgh, Pennsylvania. Sample storage in the laboratory was in a refrigerated, secure area until required analyses were completed.

2.1.4 Chain-of-Custody

The following is a discussion of IT's chain-of-custody program that was implemented in conjunction with the transport of soil samples from the DeSoto site to IT's laboratory. Chain-of-custody procedures are designed to document sample possession from the time of collection to disposal, in accordance with federal guidelines. For the purpose of these procedures, a sample is considered in custody if it is:

- In one's actual possession
- In view, after being in physical possession
- Locked so that no one can tamper with it, after having been in physical custody
- In a secured area, restricted to authorized personnel.

These procedures were followed for samples subject to chemical analysis for this project:

- A chain-of-custody record (Appendix C) was initiated in the field for every sample. This record accompanied its sample.
- Each time responsibility for custody of the sample changed, the new custodian signed the record and noted the date. A copy of the signed record was made by the immediately previous custodian and sent to the sample custodian at the IT Pittsburgh laboratory to allow tracking of sample possession. All changes of custody of samples were by person-to-person exchange of custody documents and samples.
- Upon sample destruction or disposal, the laboratory custodian responsible for the disposal will complete the chain-of-custody record, file a copy, and send a copy to the Project Manager or to his designated representative for recordkeeping. All samples not consumed during analysis shall be kept for a minimum of three months.
- The following documentation supplemented the chain-of-custody records:
  - Sample label on each sample
  - Soil field collection report and analysis request (copy accompanies the samples).

During the field program, preparations were made to split samples with one portion to be provided to the New Jersey DEP on-site representative. No DEP representatives were present during the field program so that no splits of samples were delivered.

2.2 LABORATORY TESTING

2.2.1 Selection of Samples for Analysis

Samples for analysis were selected by the IT field geologist on the basis of evidence of contamination and position within the soil profile. One sample which represented either an area of evident contamination or soil conditions at the base of the tank was selected from each boring for analysis. The second sample selected from each boring was that taken at the top of the undisturbed materials. This protocol provides data concerning the migration of contaminants (evident or not) into the natural materials zone. The location at the base of the tank was selected because it is the zone closest to the tank which can be used to detect contamination.

The samples selected for analysis are identified in Table 1. The shallower (A-series) samples reflect conditions adjacent to the base of the tank. The deeper (B-series) samples reflect conditions of the top of the native soils.

2.2.2 Analysis Program

The analytical parameters selected--all priority pollutants except pesticides and polychlorinated biphenyls (PCBs)--were those requested by the New Jersey DEP during discussions between DeSoto representatives and Ms. Maria Petix of the DEP. These parameters were selected on the basis of the site developmental history and the nature of the processes at the site which may have resulted in environmental contamination.

The methods used by IT's laboratory in the conduct of these analyses are those recommended by the U.S. Environmental Protection Agency (EPA). Samples were prepared and analyzed in accordance with accepted protocols.

Soil samples for organic contaminant analysis were prepared and then analyzed by gas chromatography/mass spectrometry (GC/MS) in accordance with the following EPA procedures (U.S. Environmental Protection Agency, 1980b):

- Volatile Compounds - Method 8.24
- Acid Extractable Compounds - Method 8.25
- Base-Neutral Extractable Compounds - Method 8.25.

Heavy metals were determined by first digesting the soil with nitric acid and then analyzing the extract using the following EPA procedures (U.S. Environmental Protection Agency, 1979):

- Antimony - Method 204.2
- Arsenic - Method 206.2
- Beryllium - Method 210.2
- Cadmium - Method 213.1
- Chromium - Method 218.1
- Copper - Method 220.1
- Lead - Method 239.1
- Mercury - Method 245.1
- Nickel - Method 249.1
- Selenium - Method 270.2
- Silver - Method 272.2
- Thallium - Method 279.2
- Zinc - Method 289.2.

Soil samples subjected to cyanide and phenolic compound analyses were prepared by deionized water digestion/distillation. Analyses of the distillates were performed in accordance with accepted procedures as follows:

- Cyanide - Method 335.2 (U.S. Environmental Protection Agency, 1979)

- Phenolic Compounds - Method 510B (American Public Health Association, et al., 1980).

IT accomplished the analyses at the detection limits given in Table 2. The detection limits for organics on the table are generally those required by the EPA for the Contract Laboratory Program (CLP). The

detection limits for metals generally represent drinking water standards or practically achievable levels needed for meaningful data interpretation. Explanations for detection limits arrived at other than by the above methods are described in the table.

The results of this testing are given in Tables 3, 4, 5, and 6. The reported data relate to the total composition of the soils analyzed and, as such, are pertinent to the evaluation of potential direct-contact and airborne exposure pathways. The reported values do not directly reflect the fraction of the organic or inorganic compounds/elements that would normally be leached from the soil by infiltrating rainwater.

2.2.3 Laboratory Facility

The analytical program for this project was completed by the following laboratories:

- IT Corporation
  5310 Old William Penn Highway
  Export, Pennsylvania 15632
  (412) 327-3030

- IT Corporation
  17605 Fabrica Way
  Cerritos, California 90701
  (213) 921-9831.

The procedures in IT laboratories have been reviewed by many federal and state regulatory agencies. The laboratory in Pittsburgh (Export) maintains the following certifications and proficiency ratings:

- EPA and the Commonwealth of Pennsylvania for drinking water analyses under the Safe Drinking Water Act (Laboratory Certification No. 38-1207).

- National Institute for Occupational Safety and Health (NIOSH) under the Proficiency Analytical Testing (PAT) Program (Laboratory Identification No. 15225001).

- EPA Natural Gas Condensate Check Sample Program for PCBs.

- The laboratory participates in the certification program with the American Association of State Highway and Transportation Officials (AASHTO) Materials Reference Laboratory at the National Bureau of Standards in Washington, DC.

- The laboratory is approved by the Commonwealth of Kentucky to perform overburden/soil analyses. Approval is granted by the Division of Regulatory Services, University of Kentucky, Lexington, Kentucky.

IT's Cerritos laboratory is certified as and EPA CLP laboratory and maintains various other state and federal certifications.

It should be noted that IT is currently under contract to Diamond Shamrock to complete analyses associated with dioxin and other chemical evaluations at the 80 Lister Avenue site, Newark, New Jersey. As part of this project, IT's laboratory facilities have been evaluated and accepted by the New Jersey DEP.

2.3 QUALITY ASSURANCE PLAN

Project activities (i.e., field, laboratory, and office) were controlled by applicable elements of the following project-specific Quality Assurance Program. The program is based on the requirements of:

- IT Quality Assurance Manual
- EPA guidelines and recommendations
- Available contract documents and the statement of work.

2.3.1 Procurement and Control of Subcontractors

IT used the procurement documents to "pass down" the performance of specific quality requirements to the subcontractor. The "pass down" of specific requirements provided that appropriate conditions could be met without requiring the subcontractor to have his own individual quality assurance program.

2.3.2 Instructions and Procedures

Quality-related activities, whether performed in the field, laboratory, or office, are documented in detailed instructions or procedures. Included among these documents are the following:

- Applicable sections of the IT Quality Assurance Manual.
- Specific work instructions (whenever possible, recognized standards such as those published by the EPA and the ASTM were used).
- Project-specific sampling plan.

2.3.3 Identification and Control of Samples

Samples taken in the field were labeled to identify clearly sampling location (e.g., site, borehole, depth, and coordinates), sample number, and sampling date, as appropriate. Packaging, handling, shipping, and storage of samples were performed in accordance with the sampling plan and established work instructions. Packaging was based on the protection required during handling, shipping, and storage, and the extent to which in situ characteristics needed to be preserved. Handling and shipping was performed so that damage, loss, or unacceptable deterioration was prevented. Samples transmitted to the laboratory were accompanied by a chain-of-custody record providing a record of samples shipped. Approved methods of storage on site and in laboratories prevented loss or unacceptable deterioration.

2.3.4 Test Control

Laboratory testing was performed in accordance with documented and approved procedures by trained personnel using calibrated equipment. Test performance and results were documented using standard data forms/formats. Also, reduction of test data underwent formal documented verification (checking).

Standard IT analytical laboratory quality control checks were performed. These can include, as appropriate, the following:

- Field blanks
- Method blanks
- Duplicate samples
- Spiked samples
- Surrogate standards performance evaluation.

2.3.5 Control of Measuring and Test Equipment

Measuring and test equipment used in the field or laboratory was controlled by a formal calibration program. The program provides equipment of the proper type, range, accuracy, and precision to develop data compatible with the specified requirements and desired results.

Documented procedures were used for calibrating the equipment. Whenever possible, widely accepted procedures, such as those published by the ASTM or EPA, or procedures provided by manufacturers were adopted.

Calibrated equipment is uniquely identified by using either the manufacturer's serial number, a calibration system identification number, or other means. This identification, along with a label indicating when the next calibration is due, is attached to the equipment.

Measuring and test equipment is calibrated at prescribed intervals and/or prior to use. Frequency is based on the type of equipment, inherent stability, manufacturer's recommendations, values given in national standards, intended use, and experience. Equipment is calibrated, whenever possible, using reference standards traceable to nationally recognized standards (e.g., National Bureau of Standards) or accepted values of natural physical constants. Records are prepared and maintained for each piece of calibrated measuring and test equipment to indicate that established calibration procedures have been followed.

Equipment that fails calibration or becomes inoperable during use is removed from service and segregated to prevent inadvertent use, or is tagged to indicate it is out of calibration. Results of activities performed using equipment that has failed recalibration are evaluated by laboratory and project management, as appropriate. If the activity results are adversely affected, appropriate personnel are notified.

2.3.6 Nonconformance/Corrective Action

Procedures are implemented for the detection, identification, reporting, and follow-up of nonconformances to project requirements. Each nonconformance is documented by the personnel identifying or originating it. Documentation, when necessary, includes the following:

- Identification of the individual(s) identifying or originating the nonconformance
- Cause and description of the nonconformance
- Any required approval signatures
- Method(s) for correcting the nonconformance (corrective action) or description of the variance granted
- Schedule for completing corrective action.

Documentation is made available to IT project and/or laboratory management and, if applicable, subcontractor management. It is the responsibility of management to then notify appropriate personnel of the nonconformance.

2.3.7 Project Records Administration

Sufficient records are prepared during the project to furnish documentary evidence of the conduct and quality of the work. Transmittal, receipt, indexing, filing, storage, maintenance, and retrieval of the project records are controlled by standard IT procedures.

3.0 DISCUSSION OF RESULTS

This chapter presents the results of the investigation of the buried decommissioned tank at the DeSoto Pennsauken, New Jersey plant.

3.1 SUBSURFACE CONDITIONS

The area around the separator tank is underlain by 11 to 12 feet of fill, comprised of fine to coarse sand with little or no fines (Unified Standard Classification System [USCS] SP-SW). These sands are generally loose to medium dense with an average Standard Penetration resistance of approximately nine blows per foot. Based on the gradation and density of these sands, the saturated permeability of these materials is expected to be on the order of 10^{-2} centimeter per second.

The fill is underlain by natural soils. The upper two feet of soil is comprised of medium dense to very dense medium to coarse sand with little or no fines (SP-SW). A layer of sandy silt/silty sand (ML-SM) and very dense fine to medium sand appears to lie beneath the coarser materials. The saturated permeability of these natural soils would be expected to range from approximately 1×10^{-4} to 8×10^{-3} centimeter per second.

Many of the observed soils were moist, but no significant water inflow to the borings was noted. It is inferred that the bottom of the tank lies above the water table; seasonal fluctuations in ground water elevations may alter this situation at certain times of the year.

3.2 EXTENT AND DEGREE OF CONTAMINATION

The results of laboratory testing of the collected soil samples (Tables 3 through 6) demonstrate that no significant contamination of the subsurface has occurred in the vicinity of the wastewater clarifier nor is there any environmental or public health threat associated with it. The following sections provide a more detailed basis for these conclusions.

3.2.1 Organic Priority Pollutants

Except for a trace amount of ethylbenzene (16 parts per billion) at a single location, no volatile organic priority pollutants were detected in any of the soil samples (Table 3). There are no established standards for allowable ethylbenzene concentrations in soil or water. The EPA recently determined at the Enterprise Avenue waste site in Philadelphia, Pennsylvania that a level of 12,000 parts per billion in soil constituted a threshold for environmental concern. During remedial action at this site, soils containing ethylbenzene concentrations below this threshold were not subject to removal and allowed to be used at the site as backfill. Based on these factors, a localized soil concentration of 16 parts per billion ethylbenzene does not constitute an environmental or public health threat.

None of the acid-extractable priority pollutants were detected in site soil samples (Table 4).

No base-neutral extractable priority pollutants were found above detection limits, with the exception of bis (2-ethylhexyl) phthalate (Table 5). This compound was found above detection limits in single sample at a concentration of 850 parts per billion. No standards for allowable soil or water concentrations have been established, but the following guidance (U.S. Environmental Protection Agency, 1980a) is available for water concentrations (parts per billion):

- To protect human health - 15,000
- No adverse effect level in drinking water (as calculated by the National Academy of Science/ National Research Council - 4,200.

Based on these factors, the observed soil concentration of 850 parts per billion does not constitute an environmental or public health threat.

3.2.2 Heavy Metals

Table 6 lists the concentrations of heavy metals found in the site soils. Because heavy metals are a natural component of all soils, a comparison of the analytical results with the range of heavy metal concentrations normally found in soils (Table 7) provides a basis for an assessment. Such a comparison indicates that the concentrations of heavy metals found in the soils around the separator tank are within the ranges found in natural soil (for those heavy metals for which normal range data were available).

A normal concentration range of cadmium in soils was not available in the literature reviewed. To assess the significance of the cadmium concentrations found in site soil samples, an evaluation of leachability is appropriate. The solubility of cadmium compounds is very sensitive to pH, and it is apparent that the amount of cadmium that could be leached from site soils is quite limited. Calculations based on solubility-pH relationships for cadmium hydroxide (Benefield, et al., 1982) indicate that this soil would produce a nondetectable cadmium concentration in the extraction procedure (EP) leachate.

3.2.3 Cyanides and Phenolic Compounds

Cyanide was not detected above 0.5 part per million in any of the tested soils (Table 6). The results of the GC/MS analysis of acid-extractable priority pollutants (Section 3.2.1, Table 4) indicate that no phenolic priority pollutants were present.

4.0 SUMMARY AND CONCLUSIONS

Under contract to DeSoto, IT has completed an investigation of potential soil contamination associated with a formerly used separator tank at the DeSoto plant site in Pennsauken, New Jersey. The study, which was designed and executed to meet applicable New Jersey ECRA requirements, involved the development of four soil borings and laboratory analysis of eight soil samples. Samples were selected from horizons at or below the bottom of the tank to define maximum levels of contamination and to assess what, if any, migration of such contamination has occurred. The developed analytical data show that no environmental or public health risk is posed by the concentrations of substances found in the subsurface adjacent to the clarifier.

We trust that this report satisfies your requirements at this time. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully submitted,

Leo M. Brausch
Manager, Project Development

LMB:mbu

Project No. 846531
October 4, 1984

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TABLES

TABLE 1

SAMPLES SELECTED FOR ANALYSIS

SAMPLE IDENTIFICATION	BORING NUMBER[1]	SPLIT SPOON SAMPLE NUMBER[2]	DEPTH INTERVAL[2] (feet)
B-1A	B-1	S-4	7.0-9.0
B-1B	B-1	S-6	11.0-13.0
B-2A	B-2	S-4	7.0-9.0
B-2B	B-2	S-6	11.0-13.0
B-3A	B-3	S-4	6.0-8.0
B-3B	B-3	S-6	10.0-12.0
B-4A	B-4	S-5	8.0-10.0
B-4B	B-4	S-7	12.0-14.0

[1] For boring locations, see Figure 1.

[2] For descriptions of materials sampled, see boring logs (Appendix B).

TABLE 2
DETECTION LIMITS FOR ANALYTICAL PARAMETERS

VOLATILES

COMPOUND	DETECTION LIMIT (ppb)	COMPOUND	DETECTION LIMIT (ppb)
acrolein	50[1]	1,1-dichloroethylene	5
acrylonitrile	50[1]	1,2-dichloropropane	5
benzene	5	1,3-dichloropropylene	5
bromoform	5	ethylbenzene	5
carbon tetrachloride	5	methyl bromide	10
chlorobenzene	5	methyl chloride	10
chlorodibromomethane	5	methylene chloride	5
chloroethane	10	1,1,2,2-tetrachloroethane	5
2-chloroethylvinyl ether	10	tetrachloroethylene	5
chloroform	5	toluene	5
dichlorobromomethane	5	1,2-trans-dichloroethylene	5
1,1-dichloroethane	5	1,1,1-trichloroethane	5
1,2-dichloroethane	5	1,1,2-trichloroethane	5
		trichloroethylene	5
		vinyl chloride	10

ACID COMPOUNDS

COMPOUND	DETECTION LIMIT (ppb)	COMPOUND	DETECTION LIMIT (ppb)
2-chlorophenol	330	4-nitrophenol	1,600
2,4,-dichlorophenol	330	p-chloro-m-cresol	330
2,4-dimethylphenol	300	pentachlorophenol	1,600
4,6-dinitro-o-cresol	1,600	phenol	330
2,4-dinitrophenol	1,600	2,4,6-trichlorophenol	330
2-nitrophenol	330		

BASE/NEUTRAL

COMPOUND	DETECTION LIMIT (ppb)	COMPOUND	DETECTION LIMIT (ppb)
acenaphthene	330	diethyl phthalate	330
acenaphthylene	330	dimethyl phthalate	330
anthracene	330	di-n-butyl phthalate	330
benzidine	1,600	2,4-dinitrotoluene	330
benzo(a)anthracene	330	2,6-dinitrotoluene	330
benzo(a)pyrene	330	di-n-octyl phthalate	330
3,4-benzofluoranthene	330	1,2-diphenylhydrazine (as azobenzene)	330[1]
benzo(ghi)perylene	330	fluoranthene	330
benzo(k)fluoranthene	330	fluorene	330
bis(2-chloroethoxy)methane	330	hexachlorobenzene	330
bis(2-chloroethyl)ether	330	hexachlorobutadiene	330
bis(2-chloroisopropyl)ether	330	hexachloroethane	330
bis(chloromethyl) ether	330	indeno(1,2,3-cd)pyrene	
bis(2-ethylhexyl)phthalate	330	isophorone	330
4-bromophenyl phenyl ether	330	naphthalene	330
butylbenzyl phthalate	330	nitrobenzene	330
2-chloronaphthalene	330	N-nitrosodimethylamine	330
4-chlorophenyl phenyl ether	330	N-nitrosodi-n-propylamine	330
chrysene	330	N-nitrosodiphenylamine	330
dibenzo(a,h)anthracene	330	phenanthrene	330
1,2-dichlorobenzene	330	1,2,4-trichlorobenzene	330
1,3-dichlorobenzene	330	pyrene	330
1,4-dichlorobenzene	330	hexachlorocyclopentadiene	330
3,3'-dichlorobenzidine	660		

OTHER POLLUTANTS: METALS, CYANIDE

COMPOUND	DETECTION LIMIT (ppm)	COMPOUND	DETECTION LIMIT (ppm)
Antimony	0.05[2]	Nickel	0.1[3]
Arsenic	0.05	Selenium	0.05[3]
Beryllium	0.1[3]	Silver	0.05
Cadmium	0.05[3]	Thallium	0.01[3]
Chromium	0.05	Zinc	5.0[4]
Copper	1.0[4]	Cyanide	0.5[3]
Lead	0.50[3]	Phenols	0.1[2]
Mercury	0.10[3]		

(1) No standard established by EPA for Contractor Laboratory Program. Detection limits set by IT Analytical Laboratory based on chemical characteristics of the compound.

(2) Detection limits based on U.S. Environmental Protection Agency (1980c).

(3) Detection limits provided by IT Analytical Laboratory.

(4) Detection limits based on Secondary Drinking Water Standards, 40 CFR Part 143.

TABLE 3

LABORATORY ANALYSIS RESULTS
VOLATILE ORGANIC PRIORITY POLLUTANTS

PARAMETER[1]	CAS NUMBER[2]	SAMPLE IDENTIFICATION[3] (Concentration in micrograms per kilogram or parts per billion)							
		B-1A	B-1B[4]	B-2A	B-2B	B-3A	B-3B	B-4A	B-4B
Acrolein	107-02-8	<50[5]	<50	<50	<50	<50	<50	<40	<50
Acrylonitrile	107-13-3	<50	<50	<50	<50	<50	<50	<50	<50
Benzene	71-43-2	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	75-25-2	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	108-90-7	<5	<5	<5	<5	<5	<5	<5	<5
Chlorodibromomethane	124-48-1	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	75-00-3	<10	<10	<10	<10	<10	<10	<10	<10
2-Chloroethylvinyl ether	110-75-8	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	67-66-3	<5	<5	<5	<5	<5	<5	<5	<5
Dichlorobromomethane	75-27-4	<5	<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	75-71-8	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	75-34-3	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	107-06-2	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethylene	75-35-4	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	78-87-5	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichloropropylene	542-75-6	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	100-41-4	<5	<5	16	<5	<5	<5	<5	<5
Methyl bromide	74-83-9	<10	<10	<10	<10	<10	<10	<10	<10
Methyl chloride	74-87-3	<10	<10	<10	<10	<10	<10	<10	<10
Methylene chloride	75-09-2	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	79-34-5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	127-18-4	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	108-88-3	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethylene	156-60-5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	71-55-6	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	79-00-5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	79-01-6	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Chloride	75-01-4	<10	<10	<10	<10	<10	<10	<10	<10

(1) For detection limits, see Table 2. Testing procedures are given in Section 2.2.2.

(2) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(3) For sample location information, see Table 1.

(4) Sample was analyzed in duplicate with identical results for each run.

(5) "<" indicates below detection limit for compound.

TABLE 4

LABORATORY TESTING RESULTS
ACID EXTRACTABLE PRIORITY POLLUTANTS

PARAMETER[1]	CAS NUMBER[2]	SAMPLE IDENTIFICATION[3] (Concentration in micrograms per kilogram or parts per billion)							
		B-1A	B-1B	B-2A	B-2B	B-3A	B-3B	B-4A	B-4B
2-Chlorophenol	95-57-8	<330[4]	<330	<330	<330	<330	<330	<330	<330
2,4-Dichlorophenol	120-83-2	<330	<330	<330	<330	<330	<330	<330	<330
2,4-Dimethylphenol	105-67-9	<300	<300	<300	<300	<300	<300	<300	<300
4,6-Dinitro-o-cresol	534-52-1	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600
2,4-Dinitrophenol	51-28-5	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600
2-Nitrophenol	88-75-5	<330	<330	<330	<330	<330	<330	<330	<330
4-Nitrophenol	100-02-7	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600
p-Chloro-m-cresol	59-50-7	<330	<330	<330	<330	<330	<330	<330	<330
Pentachlorophenol	87-86-5	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600
Phenol	108-95-2	<330	<330	<330	<330	<330	<330	<330	<330
2,4,6-Trichlorophenol	88-06-2	<330	<330	<330	<330	<330	<330	<330	<330

(1) For detection limits, see Table 2. Testing procedures are given in text Section 2.2.2.

(2) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(3) For sample location information, see Table 1.

(4) "<" indicates below detection limit for compound.

TABLE 5

LABORATORY ANALYSIS RESULTS
BASE-NEUTRAL EXTRACTABLE
PRIORITY POLLUTANTS

PARAMETER[1]	CAS NUMBER[2]	SAMPLE IDENTIFICATION[3] (Concentration in micrograms per kilogram or parts per billion)							
		B-1A	B-1B	B-2A	B-2B	B-3A	B-3B	B-4A	B-4B
Acenaphthene	83-32-9	<330[4]	<330	<330	<330	<330	<330	<330	<330
Acenaphthylene	208-96-8	<330	<330	<330	<330	<330	<330	<330	<330
Anthracene	120-12-7	<330	<330	<330	<330	<330	<330	<330	<330
Benzidine	92-87-5	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600
Benzo(a)anthracene	56-55-3	<330	<330	<330	<330	<330	<330	<330	<330
Benzo(a)pyrene	50-32-8	<330	<330	<330	<330	<330	<330	<330	<330
3,4-Benzofluoranthene	205-99-2	<330	<330	<330	<330	<330	<330	<330	<330
Benzo(ghi)perylene	191-24-2	<330	<330	<330	<330	<330	<330	<330	<330
Benzo(k)fluoranthene	207-08-9	<330	<330	<330	<330	<330	<330	<330	<330
Bis(2-chloroethoxy)methane	111-91-1	<330	<330	<330	<330	<330	<330	<330	<330
Bis(2-chlorethyl)ether	111-44-4	<330	<330	<330	<330	<330	<330	<330	<330
Bis(2-chloroisopropyl)ether	39638-32-9	<330	<330	<330	<330	<330	<330	<330	<330
Bis(chloromethyl)ether	542-88-1	<330	<330	<330	<330	<330	<330	<330	<330
Bis(2-ethylhexyl)phthalate	117-81-7	<330	<330	<330	850	<330	<330	<330	<330
4-Bromophenyl phenyl ether	101-55-3	<330	<330	<330	<330	<330	<330	<330	<330
Butyl benzyl phthalate	85-68-7	<330	<330	<330	<330	<330	<330	<330	<330
2-Chloronaphthalene	91-58-7	<330	<330	<330	<330	<330	<330	<330	<330
4-Chlorophenyl phenyl ether	7005-72-3	<330	<330	<330	<330	<330	<330	<330	<330
Chrysene	218-01-9	<330	<330	<330	<330	<330	<330	<330	<330
Dibenzo(a,h)anthracene	53-70-3	<330	<330	<330	<330	<330	<330	<330	<330
1,2-Dichlorobenzene	95-50-1	<330	<330	<330	<330	<330	<330	<330	<330
1,3-Dichlorobenzene	541-73-1	<330	<330	<330	<330	<330	<330	<330	<330
1,4-Dichlorobenzene	106-46-7	<330	<330	<330	<330	<330	<330	<330	<330
3,3'-Dichlorobenzidine	91-941-1	<660	<660	<660	<660	<660	<660	<660	<660
Diethyl phthalate	84-66-2	<330	<330	<330	<330	<330	<330	<330	<330
Dimethyl phthalate	131-11-3	<330	<330	<330	<330	<330	<330	<330	<330
Di-n-butyl phthalate	84-74-2	<330	<330	<330	<330	<330	<330	<330	<330
2,4-Dinitrotoluene	121-14-2	<330	<330	<330	<330	<330	<330	<330	<330
2,6-Dinitrotoluene	606-20-2	<330	<330	<330	<330	<330	<330	<330	<330

See footnotes at end of table.

TABLE 5
(Continued)

PARAMETER[1]	CAS NUMBER[2]	SAMPLE IDENTIFICATION[3] (Concentration in micrograms per kilogram or parts per billion)							
		B-1A	B-1B	B-2A	B-2B	B-3A	B-3B	B-4A	B-4B
Di-n-octyl phthalate	117-84-0	<330	<330	<330	<330	<330	<330	<330	<330
1,2-Diphenylhydrazine (Azobenzene)[5]	122-6-7	<330	<330	<330	<330	<330	<330	<330	<330
Fluoranthene	206-44-0	<330	<330	<330	<330	<330	<330	<330	<330
Fluorene	86-73-7	<330	<330	<330	<330	<330	<330	<330	<330
Hexachlorobenzene	118-71-1	<330	<330	<330	<330	<330	<330	<330	<330
Hexachlorobutadiene	87-68-3	<330	<330	<330	<330	<330	<330	<330	<330
Hexachlorocyclopentadiene	77-47-4	<330	<330	<330	<330	<330	<330	<330	<330
Hexachloroethane	67-72-1	<330	<330	<330	<330	<330	<330	<330	<330
Indeno(1,2,3-cd)pyrene	193-39-5	<330	<330	<330	<330	<330	<330	<330	<330
Isophorone	78-59-1	<330	<330	<330	<330	<330	<330	<330	<330
Naphthalene	91-20-3	<330	<330	<330	<330	<330	<330	<330	<330
Nitrobenzene	98-95-3	<330	<330	<330	<330	<330	<330	<330	<330
N-Nitrosodimethylene	62-75-9	<330	<330	<330	<330	<330	<330	<330	<330
N-Nitrosodi-n-propylamine	621-64-7	<330	<330	<330	<330	<330	<330	<330	<330
N-Nitrosodiphenylamine (Diphenylamine)[5]	86-30-6	<330	<330	<330	<330	<330	<330	<330	<330
Phenanthrene	85-01-8	<330	<330	<330	<330	<330	<330	<330	<330
Pyrene	129-00-0	<330	<330	<330	<330	<330	<330	<330	<330
1,2,4-Trichlorobenzene	120-82-1	<330	<330	<330	<330	<330	<330	<330	<330

(1) For detection limits, see Table 2. Testing methods given in Section 2.2.2.

(2) The numbers presented in this column are the Chemical Abstracts Service (CAS) numbers used for cataloging the indicated compounds in the Chemical Abstracts Index.

(3) For sample location information, see Table 1.

(4) "<" indicates below detection limit for compound.

(5) Detected as compound in parentheses.

TABLE 6

LABORATORY ANALYSIS RESULTS
METALS, CYANIDE, AND PHENOLIC COMPOUNDS

PARAMETER[1]	UNITS	SAMPLE IDENTIFICATION[2]							
		B-1A	B-1B	B-2A	B-2B	B-3A	B-3B	B-4A	B-4B
Antimony	mg/kg	0.14	<0.05[3]	<0.05	<0.05	<0.05/<0.05[4]	<0.05	<0.05	<0.05
Arsenic	mg/kg	10/11	10	11	11	11	11	10	11
Beryllium	mg/kg	0.24	0.15/0.15	0.20	0.24	0.19	0.20	0.29	0.29
Cadmium	mg/kg	5.2	0.26	0.22	<0.05	0.05	0.05	0.05	0.09/0.09
Chromium (total)	mg/kg	28	13	14/14	17	16	5.7	47	16
Copper	mg/kg	9.4/7.4	7.4	7.0	7.1	7.9	10	14	9.0
Lead	mg/kg	2.1	0.59	1.6/1.1	1.1	0.59	2.6	0.59	<0.50
Mercury	mg/kg	<0.10	<0.10	0.83/0.84	<0.10	<0.10	0.17	<0.10	<0.10
Nickel	mg/kg	25/23	23	19	23	24	17	29	22
Selenium	mg/kg	<0.05	<0.05	<0.05/<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	mg/kg	0.12	0.27	<0.05/0.12	15	5.3	0.17	0.17	4.1
Thallium	mg/kg	0.10	0.10/0.10	0.05	0.10	0.10	0.15	0.10	0.20
Zinc	mg/kg	41/41	26	19	25	34	23	84	33
Total Cyanide	mg/kg	<0.5	<0.5	<0.5	<0.5/<0.5	<0.5	<0.5	<0.5	<0.5
Phenolic Compounds	mg/kg	3.6	2.2	1.9	2.9	1.4/1.0	1.1	0.12	1.3

(1) For detection limits, see Table 2. Testing protocols are given in Section 2.2.2.

(2) For sample location information, see Table 1.

(3) "<" indicates below detection limit for element/compound.

(4) "#/#" indicates duplicate analysis as part of laboratory quality control program.

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TABLE 7

NORMAL TOTAL METALS CONCENTRATIONS IN SOILS

METAL	UNITS	CONCENTRATION RANGE	REFERENCE
Arsenic	mg/kg	<1 to 400	Underwood (1971)[1,2]
Beryllium	mg/kg	<1 to 7	Shacklette, et al. (1971b)[1]
Chromium[3]	mg/kg	1 to 1,500	Shacklette, et al. (1971b)
Copper	mg/kg	<1 to 300	Shacklette, et al. (1971b)
Lead	mg/kg	<10 to 700	Shacklette, et al. (1971b)
Mercury	µg/kg	10 to 3,400	Shacklette, et al. (1971a)[1,4]
		10 to 500	Andersen (1967)[5]
Nickel	mg/kg	<5 to 700	Shacklette, et al. (1971b)
Zinc	mg/kg	<25 to 2,000	Shacklette, et al. (1971b)

(1) Study of soils in natural conditions unaffected by significant sources of man-made pollution.

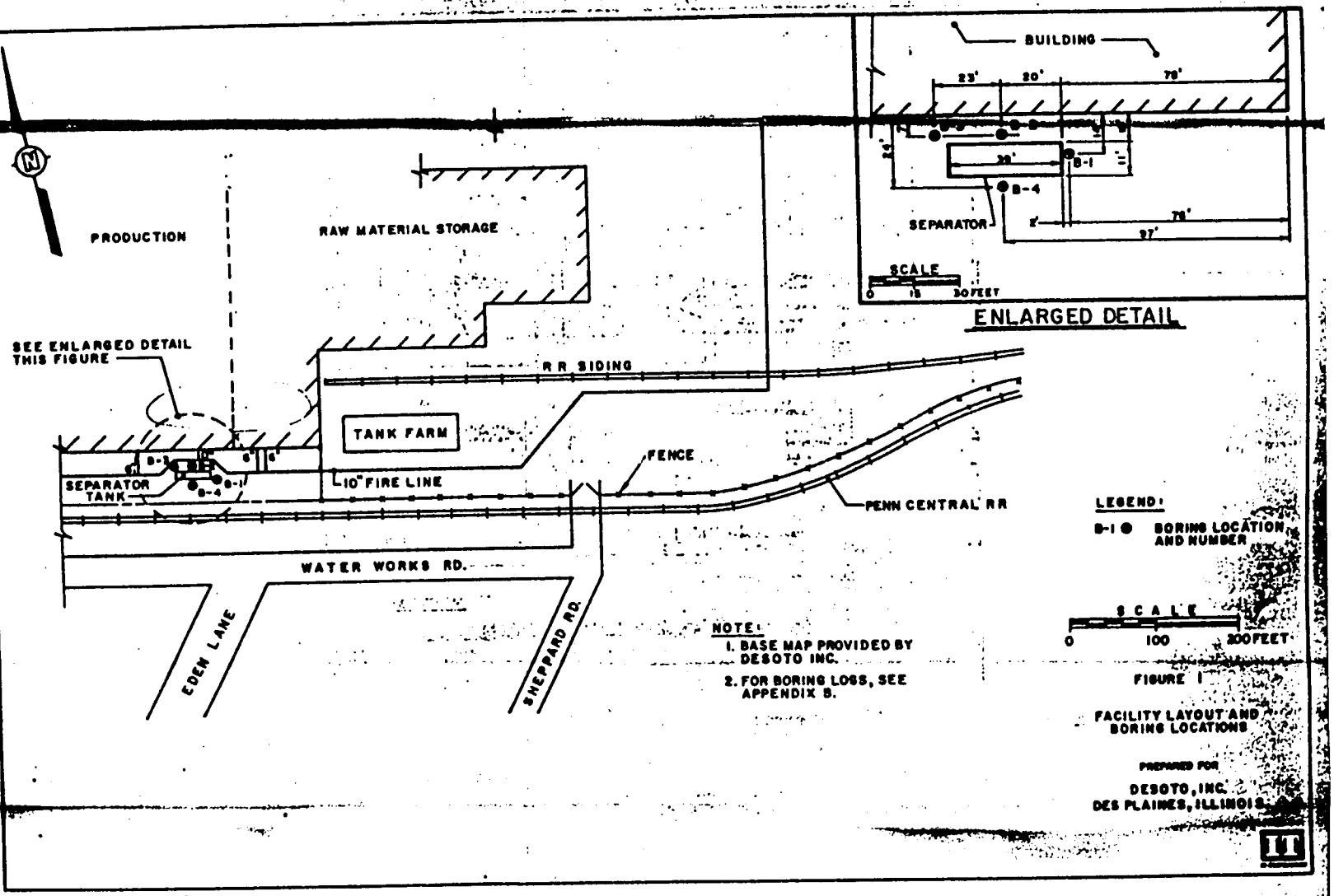
(2) Study of surficial soils in the conterminous United States.

(3) Total chromium.

(4) Values for the eastern United States.

(5) Study of soils in Sweden.

FIGURES


BUILDING
23'
20'
78'
24'
38'
B-1
11'
B-4
SEPARATOR
2'
78'
37'
SCALE
0 15 30 FEET
ENLARGED DETAIL
PRODUCTION
RAW MATERIAL STORAGE
SEE ENLARGED DETAIL THIS FIGURE
R R SIDING
TANK FARM
FENCE
B-3
B-1
B-4
SEPARATOR TANK
10" FIRE LINE
PENN CENTRAL RR
WATER WORKS RD.
EDEN LANE
SHEPPARD RD.
LEGEND:
B-1 ● BORING LOCATION AND NUMBER
SCALE
0 100 200 FEET
NOTE:
1. BASE MAP PROVIDED BY DESOTO INC.
2. FOR BORING LOGS, SEE APPENDIX B.
FIGURE 1
FACILITY LAYOUT AND BORING LOCATIONS
PREPARED FOR
DESOTO, INC.
DES PLAINES, ILLINOIS

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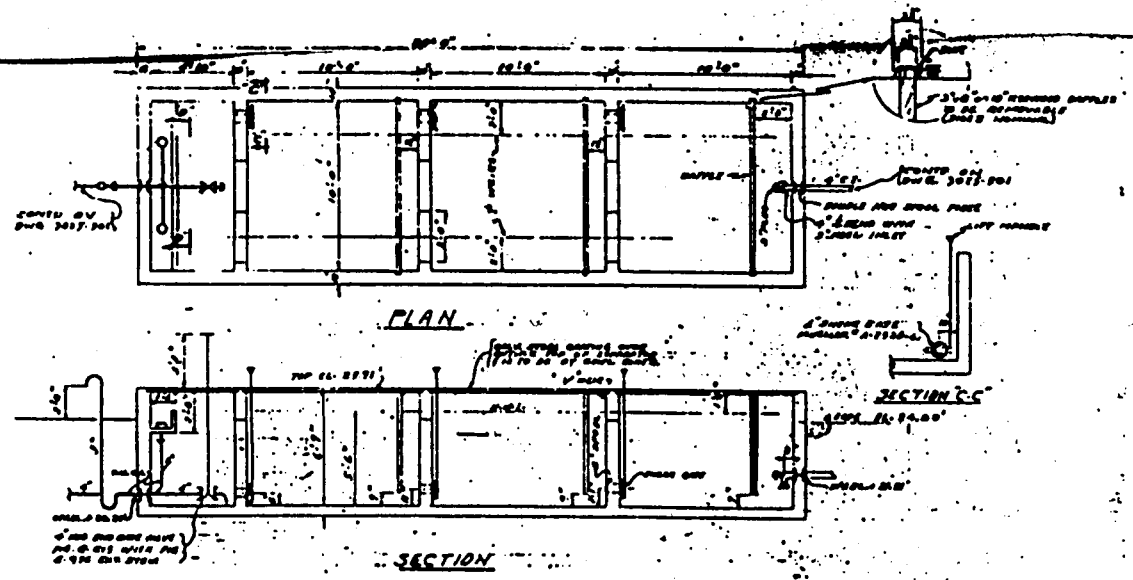

WASTE SEPARATOR DETAILS

NOTE:

1. INFORMATION PROVIDED BY DESOTO

FIGURE 2

WASTE SEPARATOR DETAILS

PREPARED FOR

DESOTO, INC.
DES PLAINES, ILLINOIS

IT

DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER 04-6531-B1

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APPENDIX A
FIELD ACTIVITY DAILY LOGS

IT

FIELD ACTIVITY DAILY LOG

DAILY LOG			
DATE	08	20	84
NO.			
SHEET	1	OF	3

PROJECT NAME: DeSoto Inc

PROJECT NO. 846531

FIELD ACTIVITY SUBJECT: Site Visit for Boring Locations

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

Visited plant site with Tony Portello from DeSoto Inc to locate boring locations. We reviewed several drawings to determine the location of the buried Tank and any underground utilities. The existing drawings were not very accurate and locations are best estimations from available information.

Arrived on site 11:00 hrs.

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS:

Sunny 85°

IMPORTANT TELEPHONE CALLS:

Dean Anderson: Empire Soil

Gave Dean details for drilling project and requested letter be sent to Leo Brunch to confirm Prices

IT PERSONNEL ON SITE: Dennis Brunner

Dennis Brunner (FIELD ENGINEER) DATE 8-20-84

IT

FIELD ACTIVITY DAILY LOG

DAILY LOG			
DATE	08	23	8[illegible]
NO.			
SHEET 2 OF 3			

PROJECT NAME De Soto Inc. **PROJECT NO.** 846531

FIELD ACTIVITY SUBJECT: Soil Boring Inspection

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

Arrived on site at 08:00 hours.

Drillers arrived on site 08:45 hours

SUPERVISED DRILLING OPERATIONS FOR 4 SAMPLE BORINGS AND CLEANING OF EQUIPMENT.

COMPLETED DRILLING 17:00 HRS

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS: Cloudy 78°

IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE: Dennis Brunner

Dennis Brunner **(FIELD ENGINEER)** **DATE** 8-23-84

DAILY LOG			
DATE	08	24	89
NO.			
SHEET 3 OF 3			

FIELD ACTIVITY DAILY LOG

PROJECT NAME DESOTO INC.	PROJECT NO. 84C531

FIELD ACTIVITY SUBJECT: DRILLING

DESCRIPTION ON DAILY ACTIVITIES AND EVENTS:

ARRIVED ON SITE 08:30

COMPLETED SOIL BORING LOGS and PACKING OF SAMPLES FOR SHIPMENT

LEFT SITE

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE: D. BRUNNER

D. BRUNNER (FIELD ENGINEER) DATE 8-24-89

APPENDIX B
BORING LOGS

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:	PROJECT NAME:	
BORING NUMBER:	COORDINATES:	DATE:
ELEVATION:	GWL: Depth Date/Time	DATE STARTED:
ENGINEER/GEOLOGIST:	Depth Date/Time	DATE COMPLETED:
DRILLING METHODS:		PAGE OF

DEPTH ( )	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER ( )	RECOVERY ( )	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS

NOTES:

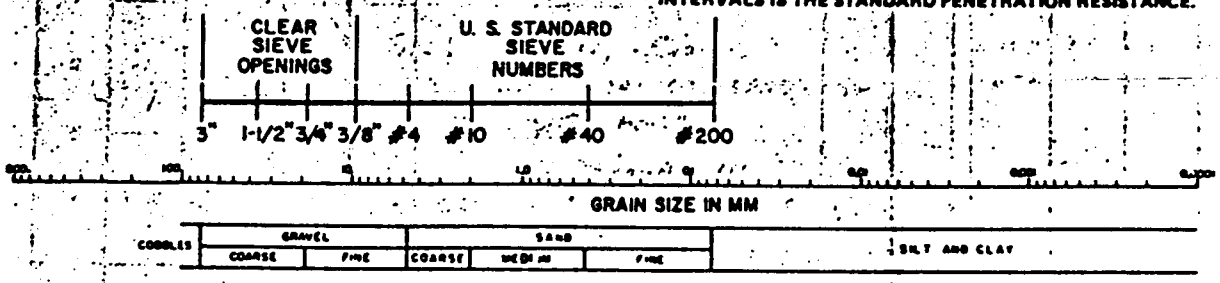
CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH (TONS PER SQUARE FOOT)
VERY SOFT	LESS THAN 0.25
SOFT	0.25 TO 0.50
MEDIUM STIFF	0.50 TO 1.0
STIFF	1.0 TO 2.0
VERY STIFF	2.0 TO 4.0
HARD	MORE THAN 4.0

DENSITY OF GRANULAR SOILS

DENSITY	STANDARD PENETRATION RESISTANCE (1)
VERY LOOSE	0 – 4
LOOSE	5 – 10
MEDIUM DENSE	11 – 30
DENSE	31 – 50
VERY DENSE	OVER 50

(1) STANDARD PENETRATION RESISTANCE IS THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2-INCH O.D. SPLIT BARREL SAMPLER 12 INCHES USING A 140-POUND HAMMER FALLING FREELY THROUGH 30 INCHES. THE SAMPLER IS DRIVEN 18 INCHES AND THE NUMBER OF BLOWS RECORDED FOR EACH 6-INCH INTERVAL. THE SUMMATION OF THE FINAL TWO INTERVALS IS THE STANDARD PENETRATION RESISTANCE.



USCS CLASSIFICATION FOR SOILS

COARSE-GRAINED SOILS

CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	GC	CLAYEY GRAVELS GRAVEL-SAND-CLAY MIXTURES
CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES

FINE-GRAINED/HIGHLY ORGANIC SOILS

SILTS AND CLAYS LIQUID LIMIT (LESS THAN 50)	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS, OF LOW PLASTICITY
SILTS AND CLAYS LIQUID LIMIT (GREATER THAN 50)	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS	PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

IT CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 846531	PROJECT NAME: De Soto Inc	
BORING NUMBER: B-1	COORDINATES: —	DATE: 8-23-84
ELEVATION: —	GWL: Depth — Date/Time —	DATE STARTED: 8-23-84
ENGINEER/GEOLOGIST: D Brunner	Depth — Date/Time —	DATE COMPLETED: 8-23-84
DRILLING METHODS: Hollow Stem Augers / Split Spoon Samples		PAGE 1 OF 1

DEPTH (Ft)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER 6"	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
1				Concrete Pad			
2	S-1	2,2,4,6	25%	FILL: Loose, Brown, Medium grained, sand, some silt, moist	SW		Samples have a chemical odor
3							
4	S-2	2,3,4,5	20%	Fill: Loose, Brown, med. grained sand, some gray silt, moist	SW		
5							
6	S-3	6,6,11,19	75%	FILL: Med dense lt. brown and brown, med to course grained sand, little gravel, moist	SP		
7							
8	S-4	10,11,11,13	75%	Fill: Med. dense, brown med. grained sand, trace gravel, moist	SW		
9							
10	S-5	8,9,11,16	75%				
11							
12	S-6	5,7,8,7	80%	Med. dense, brown, med. grained, sand. trace dk brown sandy silt, moist	SW		
13							
14	S-7	6,6,7,7	20%	Med. stiff, brown, sandy silt, little clay, moist	ML		
15							

NOTES B.O.H 15.0'

Drilling contractor: Empire Soil Testing

Weather: Cloudy 72° some scattered rain

Driller: R. Logel

Helper: T. Carlini

Drill: Mobile Drill Model B-61

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IT CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 8465 31	PROJECT NAME: DE SOTO INC	
BORING NUMBER: B-2	COORDINATES: —	DATE: 2-23-84
ELEVATION: —	GWL: Depth — Date/Time —	DATE STARTED: 2-23-84
ENGINEER/GEOLOGIST: D. BRUNNER	Depth —. Date/Time —	DATE COMPLETED: 2-23-84
DRILLING METHODS: HOLLOW STEM AUGERS / CONTINUOUS SPLIT SPOON SAMPL		PAGE 1 OF 1

DEPTH (FT)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6")	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
				CONCRETE PAD			
1							SAMPLES HAVE A CHEMICAL ODOR
2	S-1	3,3,4 4	20%	FILL: BROWN AND GRAY, LOOSE MED TO FINE GRAINED SAND SOME SILT, MOIST	SP		
3							
4	S-2	2,3,3, 4	0%	NO RECOVERY			
5							
6	S-3	3,5,5, 7	20%	FILL: MED. DENSE, BROWN, MED GRAINED SAND, SOME SANDY SILT, TRACE GRAVEL, MOIST	SP		
7							
8	S-4	4,4,7, 7	75%				
9							
10	S-5	10,12, 12 14	75%				
11				MED. DENSE, BROWN, MED. GRAINED, SAND, SOME LAYERS SANDY SILT, MOIST	SP		
12	S-6	13,15, 14,13	70%				
13				DENSE LT. BROWN, SANDY SILT, SOME CLAY, MOIST	SM		
14	S-7	17,23 27,33	85%	VERY DENSE LT. BROWN AND BROWN FINE TO MED. SAND, LITTLE SILT MOIST	SW		
15							

NOTES

B.P.H. 15.0'

DRILLING CONTRACTOR: EMPIRE SOIL TESTING

DRILLER: R. LOGEL

HELPER: T. CARLINI

WEATHER: CLOUDY 73° WITH SCATTERED RAIN

DRILL: MOBILE DRILL MODEL B-61

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IT CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 846531	PROJECT NAME: DE SOTO INC	
BORING NUMBER: B-3	COORDINATES: —	DATE: 8-23-84
ELEVATION: —	GWL: Depth — Date/Time —	DATE STARTED: 8-23-84
ENGINEER/GEOLOGIST: D. BRUNNER	Depth — Date/Time —	DATE COMPLETED: 8-23-84
DRILLING METHODS:		PAGE 1 OF 1

DEPTH (FT.)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6")	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
1	S-1	8, 11, 12, 15	40%	FILL: MED DENSE, BROWN MED. SAND, WITH GRAY SANDY SILT, MOIST	SP		SAMPLE S-1 HAS A SLIGHT CHEMICAL ODOR
2							
3	S-2	10, 8, 6, 6	50%	FILL: MED DENSE BROWN MED. SAND, TRACE GRAVEL, MOIST	SP		
4							
5	S-3	6, 7, 9, 11	25%				
6				FILL: BR MED SAND w/ WHITE RESIDUE			
7	S-4	14, 17, 20, 23	75%	FILL: DENSE BROWN, MED., SAND SOME SILT, TRACE GRAVEL, MOIST	SP		SAMPLE S-6, S-7 HAVE SLIGHT CHEMICAL ODOR
8							
9	S-5	15, 17, 21, 28	70%				
10							
11	S-6	19, 23, 29, 34	70%				
12							
13	S-7	23, 29 33, 40	80%	VERY DENSE BROWN, MED TO COURSE, SAND TRACE GRAVEL MOIST	SW		
14							
				B.O.H. 14.0'			
15							

NOTES: DRILLING CONTRACTOR: EMPIRE SOIL TESTING

DRILLER: R. LOGEL

HELPER: T. CARLINI

DRILL: MOBILE DRILL MODEL B-61

WEATHER CLOUDY 72° WITH SCATTERED RAIN

195 P23

IT CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 8465 31	PROJECT NAME: DE SOTO INC	
BORING NUMBER: B-4	COORDINATES: —	DATE: 8-23-84
ELEVATION: —	GWL: Depth — Date/Time —	DATE STARTED: 8-23-84
ENGINEER/GEOLOGIST: D. BRUNNER	Depth — Date/Time —	DATE COMPLETED: 8-23-84
DRILLING METHODS: HOLLOW STEM AUGERS / CONTINUOUS SPLIT SPOON SAMPLES		PAGE 1 OF 2

DEPTH (FT)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6")	RECOVERY (%)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
1	S-1	4, 3, 3, 3	15%	FILL: LOOSE, BROWN, MED. TO FINE, SAND, TRACE GRAVEL MOIST	SP		
2							
3	S-2	2, 2, 3, 5	60%	FILL: LOOSE, BROWN, MED SAND, LITTLE SILT, TRACE GRAVEL MOIST.	SP		
4							
5	S-3	4, 4, 4, 5	40%				SAMPLES S-4, 5, 6, 7 and 8 HAVE SLIGHT CHEMICAL ODOR
6							
7	S-4	4, 7, 9, 11	60%	FILL: MED. DENSE BROWN MED SAND, SOME DK GRAYISH BROWN SANDY SILT, TRACE GRAVEL, MOIST	SW		
8							
9	S-5	11, 13, 15, 17	50%	FILL: DENSE, BROWN MED. SAND, TRACE GRAVEL, MOIST	SP		
10							
11	S-6	12, 12, 14, 15	70%				
12							
13	S-7	9, 9, 11, 9	80%	MED DENSE, BROWN MED. TO FINE SAND, TRACE SILT, MOIST	SP		
14							
15							

NOTES

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APPENDIX C
CHAIN-OF-CUSTODY FORMS

IT CORPORATION

SHEET NO. 1 OF 4

CHAIN OF CUSTODY RECORD

PROJECT NAME DE SOTO INC. PENNSAUKEN N.J. SAMPLER(S) SIGNATURE

PROJECT NO. PY 55 3

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE: WATER	SOLID	AIR	OIL	COMP.	GRAB	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
B-1 S-1	BORING #1	8-23-89		X					300 gr.	1	9:15		9:20		
B-1 S-2	BORING #1	8-23-89		X					300 gr.	1	9:25		9:30		
B-1 S-3	BORING #1	8-23-89		X					300 g.	1	9:35		9:40		
B-1 S-4	BORING #1	8-23-89		X					300 g.	1	9:45		9:50		
B-1 S-4	BORING #1	8-23-89		X					40 mL	1	9:45		9:50		
B-1 S-5	BORING #1	8-23-89		X					300 g.	1	9:55		10:00		
B-1 S-5	BORING #1	8-23-89		X					40 mL	1	9:55		10:00		
B-1 S-6	BORING #1	8-23-89		X					300 g.	1	10:05		10:10		
B-1 S-6	BORING #1	8-23-89		X					40 mL	1	10:05		10:10		
B-1 S-7	BORING #1	8-23-89		X					300 g.	1	10:15		10:20		

RELINQUISHED BY: NAME DATE/TIME 8/23 09:40 RECEIVED BY: NAME DATE/TIME 8/23/89 9

RELINQUISHED BY: NAME DATE/TIME RECEIVED BY: NAME DATE/TIME

RELINQUISHED BY: NAME DATE/TIME RECEIVED BY: NAME DATE/TIME

AUTHORIZATION FOR DISPOSAL DATE/TIME DISPOSED BY: DATE/TIME

SHEET NO. 2 OF 4

CHAIN OF CUSTODY RECORD

PROJECT NAME De Soto Inc Pennsauken N.J. SAMPLER(S) SIGNATURE

PROJECT NO. 84 65 31

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE: WATER	SOLID	AIR	OIL	COMP.	GRAB	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
B-2 S-1	Boring-2	8-23-84		X					300 g	1	10:30		10:35		
B-2 S-2	Boring-2	8-23-84		X					300 g	1	10:40		10:45		
B-2 S-3	Boring-2	8-23-84		X					300 g	1	10:50		10:55		
B-2 S-3	Boring-2	8-23-84		X					40 ml	1	10:50		10:55		
B-2 S-4	Boring-2	8-23-84		X					300 g	1	11:00		11:05		
B-2 S-4	Boring-2	8-23-84		X					40 ml	1	11:00		11:05		
B-2 S-5	Boring-2	8-23-84		X					300 g	1	11:10		11:15		
B-2 S-5	Boring-2	8-23-84		X					40 ml	1	11:10		11:15		
B-2 S-6	Boring-2	8-23-84		X					300 g	1	11:20		11:25		
B-2 S-6	Boring-2	8-23-84		X					40 ml	1	11:20		11:25		
B-2 S-7	Boring-2	8-23-84		X					300 g	2	11:30		11:35		
B-2 S-7	Boring-2	8-23-84		X					40 ml	1	11:30		11:35		

RELINQUISHED BY: NAME _____ DATE/TIME 8/27 09:40 RECEIVED BY: NAME _____ DATE/TIME 8/27/84 9:

RELINQUISHED BY: NAME _____ DATE/TIME _____ RECEIVED BY: NAME _____ DATE/TIME _____

RELINQUISHED BY: NAME _____ DATE/TIME _____ RECEIVED BY: NAME _____ DATE/TIME _____

AUTHORIZATION FOR DISPOSAL _____ DATE/TIME _____ DISPOSED BY: _____ DATE/TIME _____

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IT CORPORATION

CHAIN OF CUSTODY RECORD

SHEET NO. 3 OF 4

PROJECT NAME DE SOTO INC. PENNSAUKEN N.J. SAMPLER(S) SIGNATURE

PROJECT NO. 8465.31

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE: WATER	SOLID	AIR	OIL	COMP.	GRAB	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
B-3 S-1	BORING 3	8-23-89		X					300g	1	12:15		13:20		
B-3 S-2	BORING 3	8-23-89		X					300g	1	12:25		13:30		
B-3 S-3	BORING 3	8-23-89		X					300g	1	12:35		13:40		
B-3 S-4	BORING 3	8-23-89		X					300g	1	12:45		13:50		
B-3 S-4	BORING 3	8-23-89		X					40ml	1	12:45		13:50		
B-3 S-5	BORING 3	8-23-89		X					300g	1	12:55		14:00		
B-3 S-5	BORING 3	8-23-89		X					40ml	1	12:55		14:00		
B-3 S-6	BORING 3	8-23-89		X					300g	1	14:05		14:10		
B-3 S-6	BORING 3	8-23-89		X					40ml	1	14:05		14:10		
B-3 S-7	BORING 3	8-23-89		X					300g	1	14:15		14:20		
B-3 S-7	BORING 3	8-23-89		X					40ml	1	14:15		14:20		

RELINQUISHED BY: NAME DATE/TIME 8/27 09:40 RECEIVED BY: NAME DATE/TIME 8/27/89 9:40

RELINQUISHED BY: NAME DATE/TIME RECEIVED BY: NAME DATE/TIME

RELINQUISHED BY: NAME DATE/TIME RECEIVED BY: NAME DATE/TIME

AUTHORIZATION FOR DISPOSAL DATE/TIME DISPOSED BY: DATE/TIME

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IT CORPORATION

CHAIN OF CUSTODY RECORD

SHEET NO. 4 OF 7

PROJECT NAME: De Soto Inc. Pennsauken N.J. SAMPLER(S) SIGNATURE: [signature]

PROJECT NO. 24651

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE: WATER	SOLID	AIR	OIL	COMP.	GRAB	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
B-4 S-1	Boring 4	8-23-84		X					300 g	1	15:05		15:10		
B-4 S-2	Boring 4	8-23-84		X					300 g	1	15:15		15:20		
B-4 S-3	Boring 4	8-23-84		X					300 g	1	15:25		15:30		
B-4 S-4	Boring 4	8-23-84		X					300 g	1	15:35		15:40		
B-4 S-5	Boring 4	8-23-84		X					300 g	1	15:45		15:50		
B-4 S-5	Boring 4	8-23-84		X					40 ml	1	15:45		15:50		
B-4 S-6	Boring 4	8-23-84		X					300 g	1	15:55		16:00		
B-4 S-6	Boring 4	8-23-84		X					40 ml	1	15:55		16:00		
B-4 S-7	Boring 4	8-23-84		X					300 g	1	16:05		16:10		
B-4 S-7	Boring 4	8-23-84		X					40 ml	1	16:05		16:10		
B-4 S-8	Boring 4	8-23-84		X					300 g	2	16:15		16:20		

RELINQUISHED BY: NAME [signature] DATE/TIME 8/27 07:40
RELINQUISHED BY: NAME _____ DATE/TIME _____
RELINQUISHED BY: NAME _____ DATE/TIME _____
AUTHORIZATION FOR DISPOSAL _____ DATE/TIME _____

RECEIVED BY: NAME [signature] DATE/TIME 8/27/84 9:40
RECEIVED BY: NAME _____ DATE/TIME _____
RECEIVED BY: NAME _____ DATE/TIME _____
DISPOSED BY: _____ DATE/TIME _____

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ATTACHMENT Q

CF

IT CORPORATION

July 23, 1984

Project No. 846531

Mr. Anthony McMahon
Division Waste Management
Bureau of Industrial Site Evaluation
New Jersey Department
of Environmental Protection
65 Prospect Road
Trenton, NJ 08618

Attn: Maria Petix

Transmittal
Work Plan
Tank Investigation
Pennsauken, New Jersey

Dear Ms. Petrix:

Mr. Ken Walanski of DeSoto, Inc., has requested that IT Corporation (IT) prepare and transmit this work plan to you. The plan presents our scope of work to undertake an investigation relative to a buried decommissioned tank at their Pennsauken, New Jersey plant. It was formulated based on Mr. Walanski's discussions with you. The major items which will be completed as part of this work plan will be the drilling of four holes adjacent to the tank, obtaining soil samples and analyzing them for selected priority pollutants.

Problem Statement

The tank under investigation is a four-chambered concrete container used as a primary clarifier for latex paint process water. It is located in the back portion of the plant property and is approximately 39 feet long and 10 feet wide. When active, it received influent from the plant via a four-inch diameter line. Effluent was discharged to the Pennsauken Sewer Authority. The bottom of the tank was about eight feet below ground surface with the sides nearly two feet high. As part of the decommissioning, DeSoto removed the sludges, filled the tank with sand and gravel, poured concrete over the tank and covered it with dirt. Although oil based paints were manufactured at the plant, liquid wastes were prohibited from entry into this tank (an independent treatment process was used). However, because of the possibility of the liquid wastes from the manufacture of oil-based paints reaching this tank, New Jersey Department of Environmental Protection (NJDEP) is requesting that an investigation be undertaken.

ATTACHMENT Q1
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Work Plan

To investigate the subsurface conditions immediately adjacent to the tank, IT will drill four borings (one on each side of the tank). The perimeter of the tank will be located based on the existing drawings and discussion with plant personnel. Actual boring locations will be dependent upon access and location of underground utilities. The borings will be advanced using hollow stem augers and continuous samples will be taken with split spoons. It is expected that each hole will be terminated at a depth of 12 to 15 feet. This will insure that samples are obtained from a depth below the bottom of the tank. Samples will, however, continue to be taken until natural materials are encountered. A detailed log describing subsurface conditions will be prepared for each hole. Prior to sampling, the split-spoon will be triple cleaned as follows:

- Primary wash with water
- Wipe with hexane
- Secondary wash with distilled water

The augers will be decontaminated only if noticeable signs (e.g., odor) of contamination exist in the hole. The samples will be placed in appropriately labeled and sized jars. Two samples from each hole will be selected for analyses and shipped to our laboratory in Pittsburgh. The analyses, which will be performed, will be all priority pollutants with the exception of the pesticides and PCBs. The appropriate methods and detection limits are given in Table 1.

Schedule

IT expects to be in the field within one week of NJDEP's authorization to DeSoto to proceed. During the first day, while the drilling crews will be mobilized, the supervising geologist will meet with plant personnel and familiarize himself with site conditions, delineate underground utilities and lay out the boring locations. The holes will be drilled in the next 2 days and samples delivered to the laboratory within 48 hours of sampling. A report will be issued relative to the findings four weeks after completion of the field program.

Very truly yours,

David Andrews

David E. Andrews
Engineering Operations Manager

DEA:jmc

Enclosure

cc: K. Walanski

204 Q2

DRAWN BY	RW	CHECKED BY		DRAWING NUMBER 84-6531-B1
	7-27-84	APPROVED BY		

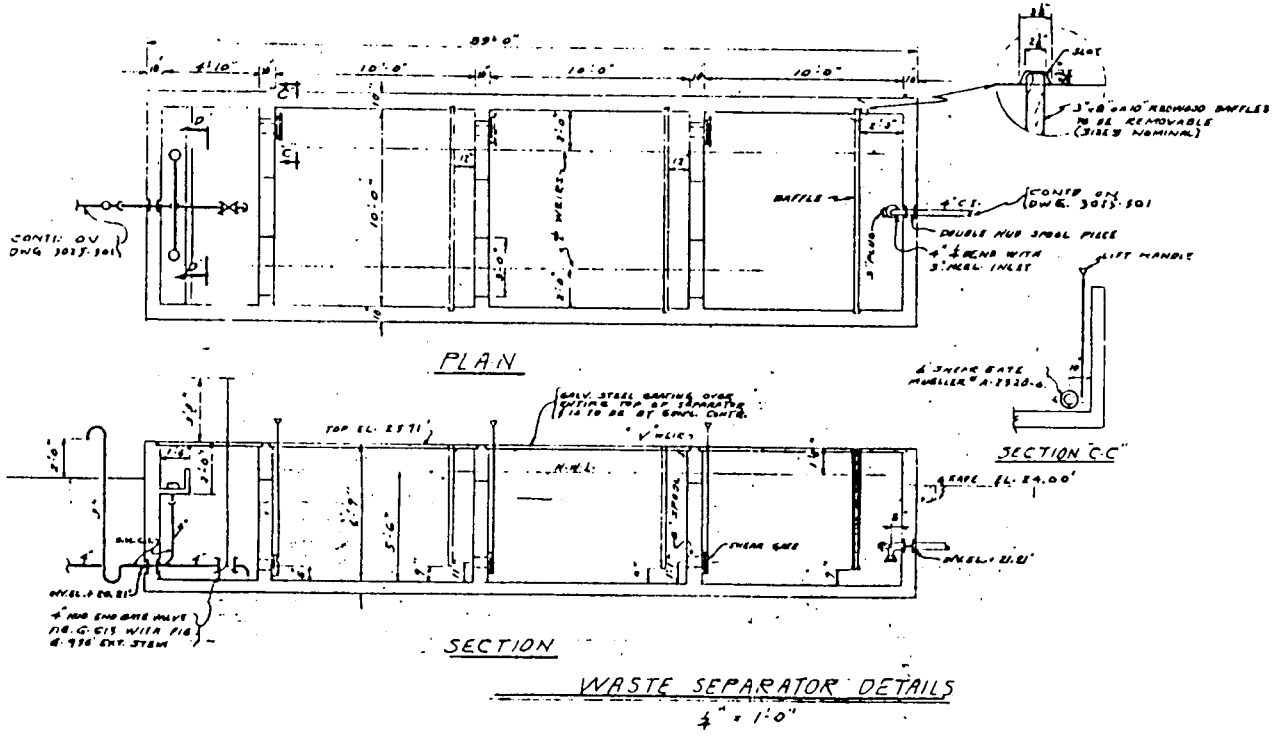


FIGURE 3

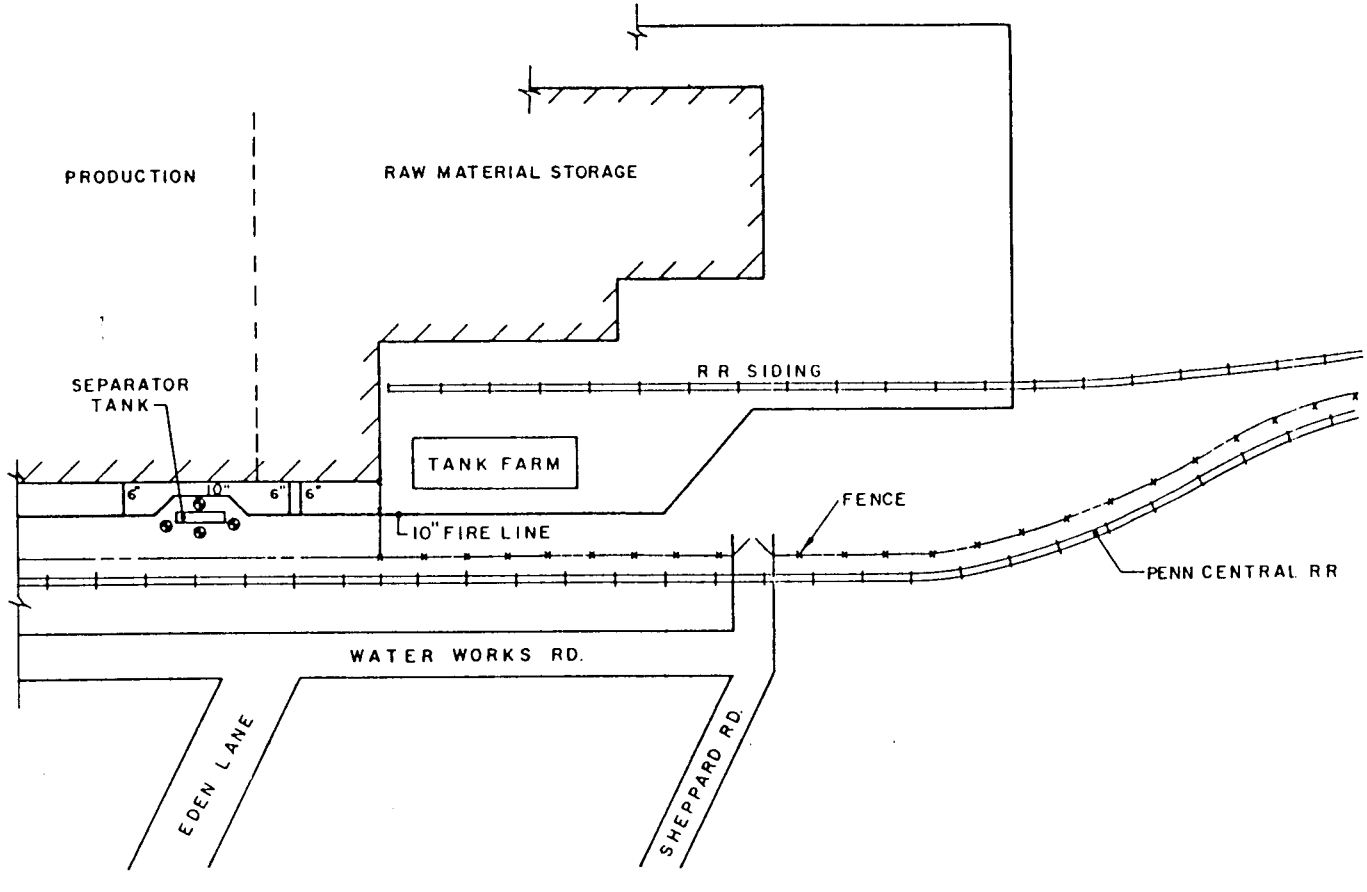
WASTE SEPARATOR DETAILS

PREPARED FOR

DESOTO, INC.
DES PLAINS, ILLINOIS

205 Q3

Q4
206



LEGEND:

⊗ BORING LOCATION

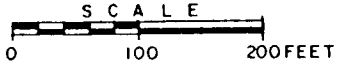


FIGURE 2

FACILITY LAYOUT & BORING LOCATION

PREPARED FOR

DESOTO, INC.
DES PLAINS, ILLINOIS

IT

DRAWN BY	D. Weick 7-27-84	CHECKED BY	APPROVED BY	DRAWING NUMBER 846531-B2

ATTACHMENT R

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.	NJD005440342
I. NAME OF INSTALLATION	DESOTO INC
II. INSTALLATION MAILING ADDRESS	8600 RIVER RD PENNSAUKEN, NJ 08110
III. LOCATION OF INSTALLATION	8600 RIVER RD PENNSAUKEN, NJ 08110

Amend 11/18/80 CP

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F — T/A: 1 — APPROVED: — DATE RECEIVED (yr., mo., & day):

I. NAME OF INSTALLATION

DESOTO INCORPORATED

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 8600 RIVER ROAD

CITY OR TOWN: 4 PENNSAUKEN — ST.: NJ — ZIP CODE: 0810

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 8600 RIVER ROAD

CITY OR TOWN: 6 PENNSAUKEN — ST.: NJ — ZIP CODE: 0810

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title): 2 SCHNEIDER IRVING P PLANT MANAGER — PHONE NO. (area code & no.): 609-665-[illegible]

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 DESOTO INCORPORATED

DETACH

B. TYPE OF OWNERSHIP (enter the appropriate letter into box): F = FEDERAL, M = NON-FEDERAL — M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [ ] A. FIRST NOTIFICATION
- [X] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.: NJD005440342

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

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CONTINUE ON REVERSE

EPA Form 8700-12 (6-80)

ATTACHMENT R1

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA — U.S. ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.	NJD005440342
I. NAME OF INSTALLATION	DESOTO INC
II. INSTALLATION MAILING ADDRESS	8600 RIVER RD PENNSAUKEN, NJ 08110
III. LOCATION OF INSTALLATION	8600 RIVER RD PENNSAUKEN, NJ 08110

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: FWJD005440342 T/A 3 C 1

APPROVED:

DATE RECEIVED (yr., mo., & day): 8 0 0 8 1 2

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: C 3

CITY OR TOWN / ST. / ZIP CODE: C 4

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: C 5

CITY OR TOWN / ST. / ZIP CODE: C 6

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title): C 2 SCHWERD IRVING A PLANT MANAGER

PHONE NO. (area code & no.): 609-665-6700

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: C 8 DESOTO INCORPORATED

B. TYPE OF OWNERSHIP (enter the appropriate letter into box): M

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

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CONTINUE ON REVERS

R2

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.	NJD005440342
I. NAME OF INSTALLATION	DESOTO INC
II. INSTALLATION MAILING ADDRESS	8600 RIVER RD PENNSAUKEN, NJ 08110
III. LOCATION OF INSTALLATION	8600 RIVER RD PENNSAUKEN, NJ 08110

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER	T/A	C	APPROVED	DATE RECEIVED (yr., mo., & day)
F		1		

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3

CITY OR TOWN	ST.	ZIP CODE
4		

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5

CITY OR TOWN	ST.	ZIP CODE
6		

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 SCHNERD IRVING F PLANT MANAGER	609-665-6700

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 DESOTO INCORPORATED

DETACH

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

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CONTINUE ON REVERSE

R3

Please print or type in the unshaded areas only (fill-in areas are spaced for elite type, i.e., 12 chars/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F NJD005440342

GENERAL INSTRUCTIONS

If a preprinted label has been provided, aff it in the designated space. Review the inform ation carefully; if any of it is incorrect, cro through it and enter the correct data in th appropriate fill-in area below. Also, if any the preprinted data is absent (the area to th left of the label space lists the informatio that should appear), please provide it in th proper fill-in area(s) below. If the label complete and correct, you need not comple Items I, III, V, and VI (except VI-B whic must be completed regardless). Complete items if no label has been provided. Refer the instructions for detailed item descri tions and for the legal authorizations und which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER: NJD005440342

III. FACILITY NAME: ~~DESOTO INC~~

V. FACILITY MAILING ADDRESS: ~~8600 RIVER RD~~ PENNSAUKEN, NJ 08110

VI. FACILITY LOCATION: ~~8600 RIVER RD~~ PENNSAUKEN, NJ 08110

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

C T SKIP: DESOTO INC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title): C 2 SCHIERD IRVING P PLANT MANAGER

B. PHONE (area code & no.): 609 665 6700

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: C 3 8600 RIVER ROAD

B. CITY OR TOWN: C 4 PENNSAUKEN

C. STATE: NJ

D. ZIP CODE: 08110

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: C 5 8600 RIVER ROAD

B. COUNTY NAME: CAMDEN

C. CITY OR TOWN: C 6 PENNSAUKEN

D. STATE: NJ

E. ZIP CODE: 08110

F. COUNTY CODE (if known):

211

Please print or type in the unshaded areas only (fill-in areas are spaced for elite type, i.e., 1 [illegible] s/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F L T D 0 6 5 4 4 6 5 4 2 3

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	6 4	0 1	0 3

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. **PROCESS CODE** – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	555000	G		7				
2	S 0 2	1200000	G		8				
3					9				
4	T 0 1	1000000			10				

CONTINUE ON REVERSE

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Continued from page 2.
NOTE: Photocopy this page before completi you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): W N J D 0 0 5 4 4 0 5 4 2 T/A 3 C 1

FOR OFFICIAL USE ONLY: W DUP T/A 3 C 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	K079	3200000	T	S02	T01			
2	K051	90000	T	S01	D80			
3	K052	3000000	P	S01	T01			
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

CONTINUE ON REV

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

F6: A/55 F6: A/56

EPA I.D. NO. (enter from page 1)	T/N C
F A J D 0 0 5 4 4 0 3 4 2	3 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
39 58 570	075 [illegible] 50[illegible]

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E DESOTO INCORPORATED	312-391-9600

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F 1700 S MT. PROSPECT RD	G DES PLAINES	IL	60018

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
R. J. Anderson-Vice President	[signature]	[illegible]

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
I. P. Schwerd Plant Manager	[signature]	11/5/80

EPA Form 3510-3 (6-80) PAGE 4 OF 5

CONTINUE ON PAGE 5

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CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
7 2851 (specify) PAINT MANUFACTURING	7 2841 (specify) DETERGENT MANUFACTURING
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: DESOTO INCORPORATED

B. Is the name listed in Item VIII-A also the owner? YES ☒ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC *(other than federal or state)*, O = OTHER *(specify)*: P (specify)

D. PHONE *(area code & no.)*: A 609 665 6700

E. STREET OR P.O. BOX: 8000 RIVER RD

F. CITY OR TOWN: PENNSAUKEN

G. STATE: NJ

H. ZIP CODE: 08110

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
9 N	9 P
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*
9 U	9 (specify)
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*
R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9: A/50

XII. NATURE OF BUSINESS *(provide a brief description)*

MANUFACTURE OF CONSUMER PAINTS AND HOUSEHOLD LAUNDRY DETERGENT.

F9: A/51

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the 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.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
R. J. Anderson - Vice President	[signature]	11/3/80

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (6-80) REVERSE

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I.D. FOR OFFICIAL USE ONLY			
S		T/A	C
W			1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON—SPECIFIC SOURCES. Enter the four—digit number from 40 CFR Part 261.31 for each listed hazardous waste from non—specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four—digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13 K079	14 K080	15 K081	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four—digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four—digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON—LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non—listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED
[signature]	IRVING P. SCHWERA PLANT MANAGER	AUG 5, 1980

EPA Form 8700-12 (6-80) REVERSE

216 R9

IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

I.D. – FOR OFFICIAL USE ONLY

W N J D 0 0 5 4 4 0 3 4

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13 K079	14 K080	15 K081	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

SIGNATURE: [signature]

NAME & OFFICIAL TITLE (type or print): IRVING F. SCHWERD PLANT MANAGER

DATE SIGNED: Aug. 8, 1980

DETACH

EPA Form 8700-12 (6-80) REVERSE

ap

217 R10

I.D. – FOR OFFICIAL USE ONLY			
S		T/A	C
W			1
1	2	13 14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13 K082	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

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E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

X. CERTIFICATION

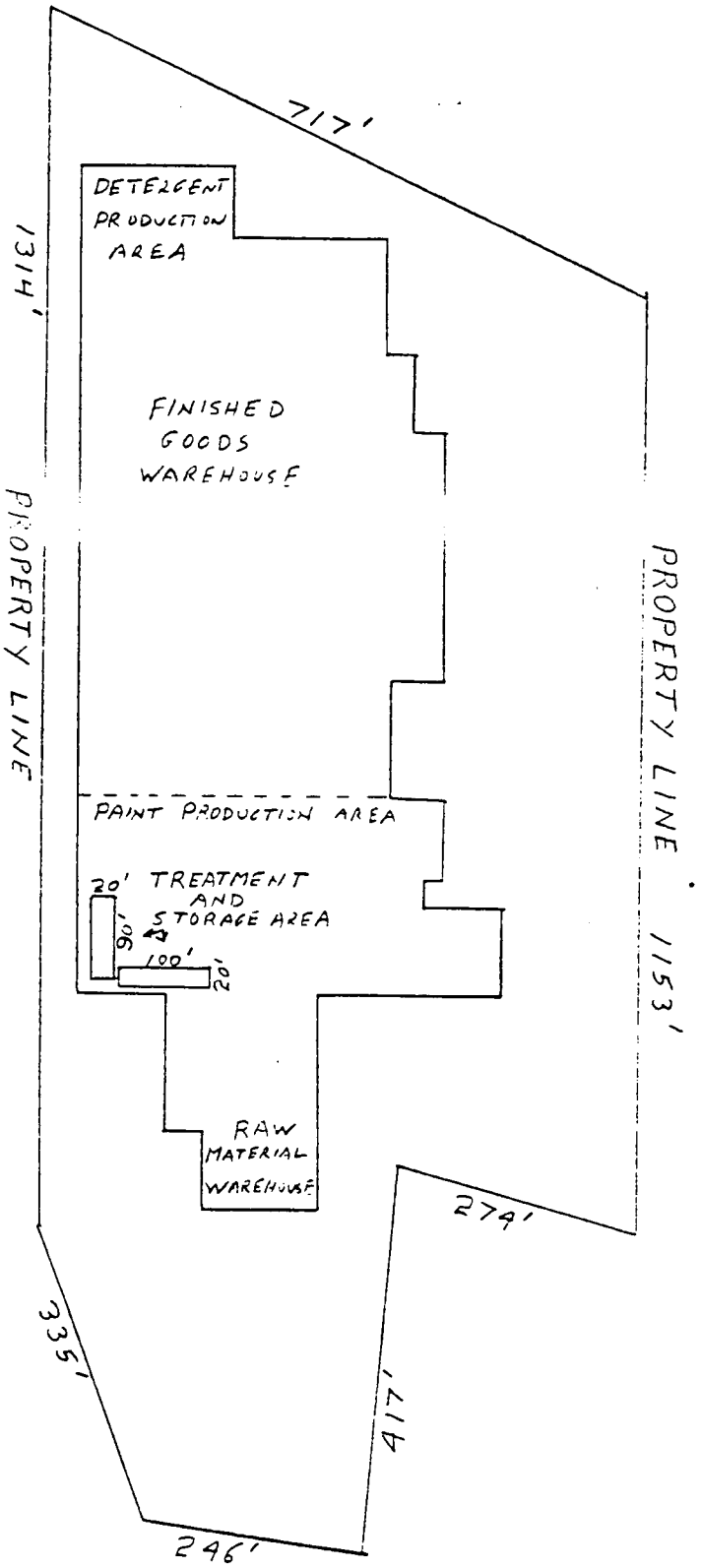
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
I P Schwerd	I. P. Schwerd - Plant Manager	11/5/[illegible]

EPA Form 8700-12 (6-80) REVERSE

218 R11

..CILITY DRAWING *(see page 4)*



SCALE: 1" = 200'

219 R12

ATTACHMENT S

4-27-12 SEO

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
32 E. Hanover St., CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

LINO F. PEREIRA, P.E.
DEPUTY DIRECTOR

10 SEP 1984

Mr. K. A. Walanski, P.E.
Corporate Environmental Engineer
DeSoto, Inc.
1700 South Mount Prospect Road
Des Plaines, IL 60018

RE: Closure
DeSoto, Inc.
8600 River Road
Pennsauken, NJ
NJD 005 440 342

Dear Mr. Walanski:

The Department of Environmental Protection has reviewed your March 21, 1984 notification with documentation as evidence of a complete closure of all hazardous waste storage and treatment activities at the above referenced facility.

The certification of closure by a registered professional engineer and by the owner are in accordance with the requirements of N.J.A.C. 7:26-9.8 and the June 21, 1984 Closure Plan.

On the basis of the aforementioned, the Department concludes that DeSoto, Inc., Pennsauken, NJ identified as:

EPA ID NO. NJD 005 440 342

has completed closure of hazardous waste storage and treatment activities at the facility and is no longer considered a hazardous waste treatment, storage, disposal (TSD) facility.

The EPA identification number can be retained for the site as requested to identify the Pennsauken facility as a generator only provided that the requirements of N.J.A.C. 7:26-9.3(a) are met (copy attached).

Your company's hazardous waste facility is no longer included in DEP's list of "existing facilities" (see N.J.A.C. 7:26-1.4 and 12.3) and therefore does not need to conform with the interim operating requirements of N.J.A.C. 7:26-1 et seq. for existing facilities.

The issuance of this letter by the Department does not indicate, or imply, and should not be construed as a waiver of any requirements pursuant to the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and regulations promulgated thereunder concerning New Jersey Pollutant Discharge Elimination System, N.J.A.C. 7:14A-1 et seq. If your facility is in any of the regulated categories identified in the above cited regulations, you are hereby directed to apply for any and all permits necessary within ninety (or 180 days - at the option of DWR) to the Bureau of Ground Water Discharge Permits, CN 029, Trenton, New Jersey, 08625. Applications may be obtained by calling (609) 292-0424.

You are further reminded that to operate a hazardous waste facility without prior approval from the DEP is a violation of the Solid Waste Management Act N.J.S.A. 13:1E-1 et seq.

Very truly yours,

Frank Coolick

Frank Coolick, Chief
Bureau of Hazardous Waste Engineering

EP6/slw
Att.
c: A. Chang, Region II USEPA
S. Schiffman, BHWCM

RECEIVED
SEP 18 1984
Division of Waste Mgt.

ATTACHMENT T

(18)

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

NEGATIVE DECLARATION AFFIDAVIT

RICHARD J. ANDERSON, being first duly sworn, on oath deposes and says as follows:

(1) This Affidavit is a Negative Declaration which is made pursuant to regulations adopted under the New Jersey Environmental Cleanup Responsibility Act, P.L. 1983, c.330 (N.J.S.A. 13:1K-6 et seq.).

(2) I, Richard J. Anderson, Vice-President of DeSoto, Inc. and President of the Chemical Group, am the authorized officer for the DeSoto, Inc. facility located at 8600 River Road, Pennsauken, New Jersey 08625 (the "Site").

(3) On behalf of DeSoto, Inc., I hereby attest that, to the best of my knowledge, there has been no discharge of hazardous substances or wastes on the Site, and no hazardous substances or wastes remain at the Site.

(4) The following information is provided with this Affidavit to substantiate this Negative Declaration:

a. A description of the Site cleanup activities involving the removal of contaminated substances, including manifests, is provided in the attached responses to the "General Information Submission" and "Site Evaluation Submission" requirements of the regulations.

b. No results from soil, groundwater or surface water sampling are provided for the reasons stated in our responses to the "General Information Submission" and "Site Evaluation Submission" requirements of the regulations.

Further, Affiant sayeth not.

R. J. Anderson, Vice President
DeSoto, Inc.

Date: 6/21/84

Subscribed and sworn before me
this 21st day of June, 1984.

Nancy E. Bruckert
Notary Public

ATTACHMENT T1
224

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028 Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. LERKOWITZ, M.D.
ADMINISTRATOR

July 26, 1984

Mr. Kenneth Walanski
DeSoto Inc.
1700 South Mount Prospect Rd.
Des Plaines, IL 60018

Re: DeSoto Incorporate
3600 River Road
Pennsauken, Camden County, NJ

Dear Mr. Walanski:

Please be advised that your Negative Declaration dated June 21, 1984 and received by this office on July 13, 1984 is hereby disapproved, due to the inadequate disclosure regarding the remaining wastes currently stored at the facility.

If you have any questions regarding the above, please feel free to contact Ms. Maria C. Petix of my staff at (609) 633-7141.

Sincerely,

Anthony J. McMahon, Chief
Bureau of Industrial Site
Evaluation

HS95/sje

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

NEGATIVE DECLARATION AFFIDAVIT

RICHARD J. ANDERSON, being first duly sworn, on oath deposes and says as follows:

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b. No results from soil, groundwater or surface water sampling are provided for the reasons stated in our responses to the "General Information Submission" and "Site Evaluation Submission" requirements of the regulations.

Further, Affiant sayeth not.

R. J. Anderson, Vice President
DeSoto, Inc.

Date: September 28, 1984

Subscribed and sworn before me
this 28th day of September, 1984.

Carol Ann Karkowski
Notary Public

received
5 OCT 1984

226 T3

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

November 16, 1984

Kenneth A. Walanski
DeSoto, Inc.
1700 South Mt. Prospect Road
Des Plains, IL 60018

Re: Industrial Establishment: DeSoto, Inc.
Location: 8600 River Road, Pennsauken, Camden County
Block: 248Z Lot(s): 5
Transaction: Sale of Real Property, Building and Easements
Seller(s): DeSoto, Inc., 1700 South Prospect Road, Des Plains, Il.
Buyer(s): Alumium Shapes, Inc., 9000 River Road, DeLair
Negative Declaration: dated September 28, 1984 by R. J. Anderson, Vice President, DeSoto, Inc.

Dear Mr. Walanski:

Pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (DEP) by the Environmental Cleanup Responsibility Act (ECRA, N.J.S.A. 13:1K-6 et seq.) and duly designated to the Chief of the Bureau of Industrial Site Evaluation pursuant to N.J.S.A. 13:1B-4, the referenced Negative Declaration is hereby approved. This approval is based upon information provided in your Initial Notice as well as a DEP investigation of the site.

This approval shall be limited to the referenced transaction only and shall not restrict or prohibit the DEP or any other agency from taking regulatory action under any other statute, rule or regulation.

Sincerely,

Anthony J. McMahon, Chief
Bureau of Industrial Site
Evaluation

HS38/sje

Federal Express

New Jersey Is An Equal Opportunity Employer

227 T4

ATTACHMENT U

DEED OF EASEMENT

THIS DEED OF EASEMENT, made the 9TH day of September, 1982, between DeSoto, Inc., a corporation having a place of business at River Road in the Township of Pennsauken, County of Camden, State of New Jersey, designated as Grantor (hereinafter sometimes referred to as DeSoto), and the Township of Pennsauken, a body politic and corporate, of the County of Camden, State of New Jersey, designated as Grantee (hereinafter sometimes referred to as Pennsauken).

W I T N E S S E T H :

That the Grantor, DeSoto, Inc., for and in consideration of One and no/100 Dollar ($1.00) and other good and valuable consideration paid and supplied by the Grantee at or before the sealing and delivering of these presents, the receipt of which is hereby acknowledged, and the Grantor being therewith fully satisfied, does by these presents grant, bargain, sell and convey unto the Grantee, Township of Pennsauken, forever, an easement to the lands and premises described hereinbelow pursuant to the terms and conditions set forth herein as follows:

1. DeSoto has granted and conveyed to Pennsauken, subject to the conditions contained herein, an easement, the description of which is recited hereinbelow to construct, operate, maintain and repair monitoring wells needed to monitor leakage which may eminate from the Pennsauken Sanitary Landfill, together with the right to enter on the lands in question of DeSoto as described hereinbelow, so far as may be necessary for any of the purposes aforesaid.

2. Access to the easement area by Grantee, its employees, agents and representatives, shall be permitted only during Grantor's normal working hours through the primary entrance to Grantor's premises and only after a reasonable request for such access is made to and approved by the plant manager of the plant located on the Grantor's premises, or, if the said plant manager is not available, by a corporate officer of the Grantor, or by the owner of the premises. Such requests to enter by the Township of Pennsauken shall not be unreasonably withheld by the Grantor, its employees, agents, and/or representatives.

3. The lands and premises that are subject to this easement and the conditions contained herein are as follows:

ALL THAT CERTAIN tract or parcel of land, situate in the Township of Pennsauken, County of Camden, State of New Jersey, more particularly described in a plan entitled "Proposed Easement-DeSoto Chemical Coatings, Inc. for Pennsauken Township Sanitary Landfill" dated 5/17/82, revised on 8/5/82, by John G. Reutter Associates (a copy of

ATTACHMENT U1 / 229

which is attached hereto and made a part hereof), as follows:

BEGINNING at a point corner to lands now or formerly DeSoto Chemical Coatings, Inc., the following two courses from the Northeasterly line of Pennsylvania Railroad (Penndel Co.); (1) N 30°10'10" E, along the line of lands now or formerly Lexington Manor Corp., 246.12 feet to the line of lands now or formerly Charles Maxwell; (2) N 65°14'05" W along the line of same 407.47 feet to the point of beginning and extending;

thence (1) S 24°45'55" W a distance of 10 feet;

thence (2) N 65°14'05" W, a distance of 10 feet;

thence (3) N 24°45'55" E, a distance of 10 feet to a corner to lands of the grantor and lands now or formerly Charles Maxwell;

thence (4) S 65°14'05" E, along the line of same, 10 feet to the point and place of beginning.

4. By its acceptance of the benefits of this Deed of Easement, Pennsauken hereby acknowledges that it accepts the grant of easement as herein described subject as herein set forth.

5. Construction, operation, maintenance and repair of said monitoring wells shall be at the sole cost and expense of Pennsauken and decisions concerning the construction, operation, maintenance and repair of said monitoring wells are within the exclusive discretion of Pennsauken.

6. Pennsauken shall retain exclusive and sole ownership to any materials, structures, machinery, etc. which are installed by Pennsauken within the lands subject to this Deed of Easement.

7. Pennsauken hereby assumes all risks of loss or damage to any property whatsoever that it installs, maintains, constructs and/or repairs in the areas affected by this Deed of Easement.

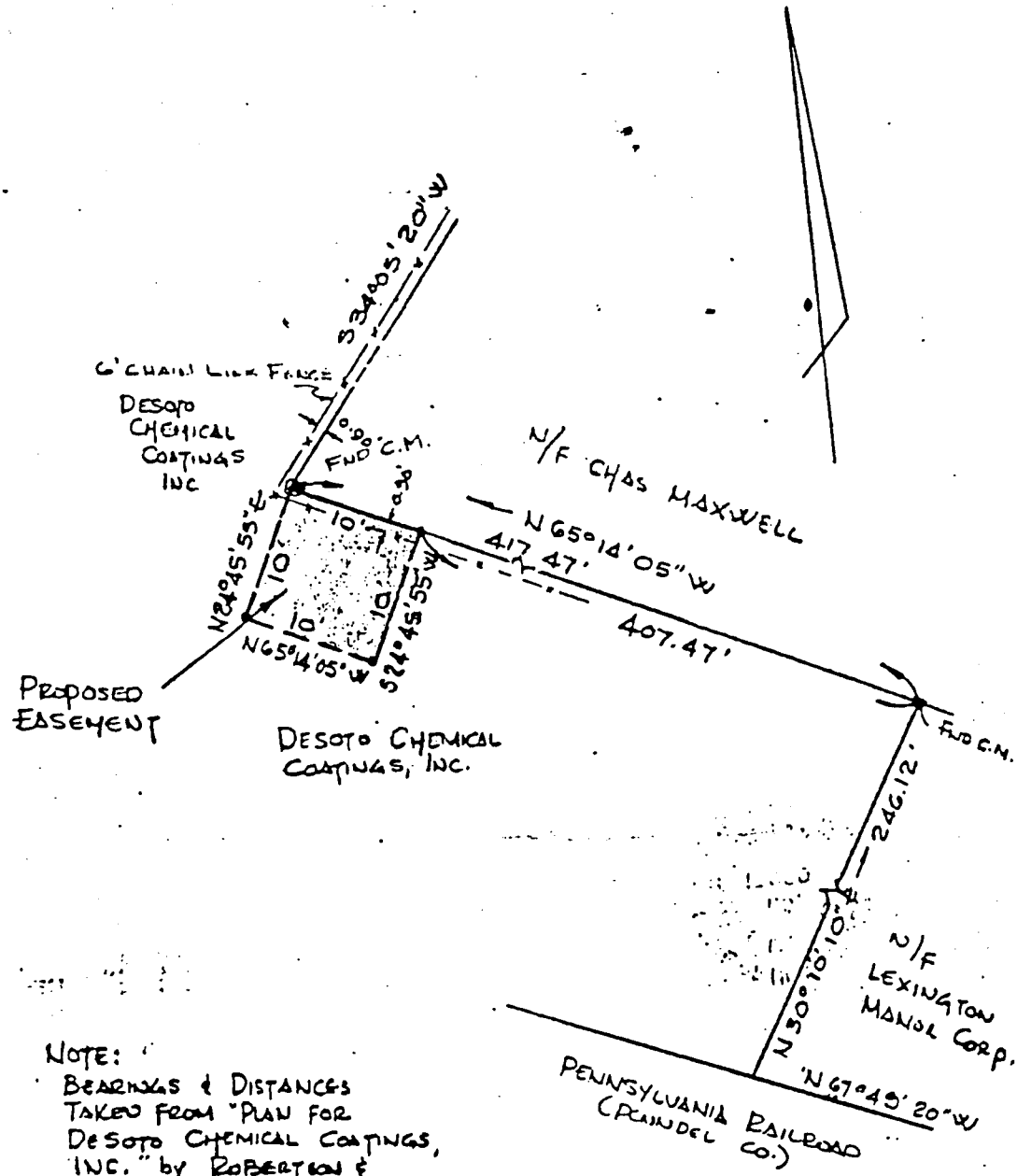
8. Upon completion of the construction of said monitoring wells, Pennsauken shall furnish to Grantor a set of as-built plans identifying the construction that occurred within the lands affected by this Deed of Easement.

9. Notices which either party may desire to give to the other shall be deemed sufficiently given when placed in an envelope directed to the party to be notified at the following address and deposited in the United States mails by certified or registered mail, postage prepaid:

If to Grantor:

DeSoto, Inc.
1700 South Mount Prospect Road
Des Plaines, Illinois 60018
Attention: Vice President - Finance

230



NOTE:
BEARINGS & DISTANCES TAKEN FROM "PLAN FOR DESOTO CHEMICAL COATINGS, INC." by ROBERTSON & JOHNSON, CE & LS, DATED 3/25/63

NOTE:
• DENOTES 1 1/2" IRON PINS SET

PROPOSED EASEMENT - DESOTO CHEMICAL COATINGS, INC.
SITUATED
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY
FOR
PENNSAUKEN TOWNSHIP SANITARY LANDFILL

REVISION	JOHN G. REUTTER ASSOCIATES CONSULTING ENGINEERS SURVEYORS & PLANNERS CAMDEN, NEW JERSEY	DATE 5/17/8
8/5/82 BEARINGS CHANGED		SCALE 1"=
		DRAWN JR
		CHECKED I
	EDWARD G. DUCKINFIELD, JR. LS N.J. LICENSE NO. 15880	888

231 U3

If to Grantee: Township of Pennsauken
5605 North Crescent Boulevard
Pennsauken, New Jersey 08110

Attention: Mayor

Either party may change its address by written notice as to the new address delivered to the other party as hereinabove provided.

10. The provisions of this easement shall be obligatory upon the respective parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF, the Grantor has caused these presents to be signed and attested by its proper corporate officers and its corporate seal to be hereto affixed the day and year first above written.

DESOTO, INC.

By William L. Lamey Jr.
Vice President

ATTEST:

Robert S. Kersch
Secretary

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

BE IT REMEMBERED, that on September 9, 1982, before me, the subscriber, a Notary Public authorized to take acknowledgments and proofs in said County and State, personally appeared ROBERT S. KERSCH, to me known, who, being by me duly sworn on his oath, deposes and makes proof to my satisfaction that he is the Secretary of DeSoto, Inc., the corporation named in the within instrument; that WILLIAM L. LAMEY, JR. is a Vice President of said corporation; that the execution as well as the making of this instrument has been duly authorized by a proper resolution of the Board of Directors of the said corporation; that deponent well knows the corporate seal of said corporation; that the seal affixed to said instrument is the proper corporate seal and was thereto affixed and said instrument signed and delivered by said Vice President as the voluntary act and deed of said corporation in presence of deponent, who thereupon subscribed his name thereto as attesting witness; and that the full and actual consideration paid or to be paid for the easement evidenced by the within Deed of Easement, as such consideration is defined in P.L. 1968, ch. 49, Sec. 1(c), is $1.00

Subscribed and sworn to
before me this 9TH
day of September, 1982.

Carol Ellen Ratkowski
Notary Public

Prepared By
David W. Munion
Mail: David W. Munion
9th & Cooper St.
Camden, N.J. 08101

232 U2

ATTACHMENT V

org. RMP-005
/80

4-27-12

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF HAZARDOUS SUBSTANCE CONTROL

INCIDENT REPORT

O.H.S.C. Assigned Case Number 81-03-23-006	OFFICE USE ONLY County/Munic. Code

Date 3/23/81	Time (Military) 12:00	O.H.S.C. I.D. No. of Employee Receiving Call Bill

INCIDENT REPORTED BY:

Name Don Deutsch	Phone 609-665-6700	
Affiliation DeSoto, Inc. Production Manager		
Street		
City	State	Zip Code

INCIDENT LOCATION:

Name De Soto Inc.	Phone	
Street 8600 River Road		
City Pennsauken	State	Zip Code

SUSPECTED SPILLED SUBSTANCE:

1. Titanium dioxide slurry
2.

Date of Spill 3/23/81	Time (Military)	☐ SOLID ☐ LIQUID ☐ GAS ☐ MIXTURE
Amount Spilled 1500	Units gal	☐ ACTUAL ☐ ESTIMATED ☐ POTENTIAL

Cause: malfunctioning pump gasket blew

Water Body Affected: Small Pond through Storm Sewer

Associated Fire and/or Hazards:

Remarks: not a hazardous substance — NFA jH 3/24/81

O.H.S.C. Assigned Investigator I.D. No. ____

SOURCE OF SPILLED SUBSTANCE: ☒ CONFIRMED ☐ ALLEGED

Name Same as Incident	Phone	
Street		
City	State	Zip Code

COMMENTS:

1. Approximately 90% contained before storm sewer
2. Most of the material in the sewer is being cleaned-out.
3. A small amount may reach the pond.

ATTACHMENT VI
234

81-3-23-6

DeSoto, Inc.
CHEMICAL COATINGS DIVISION
8600 RIVER ROAD, PENNSAUKEN, NEW JERSEY 08110 TELEPHONE 609-665-6700

April 3, 1981

N. J. Department of Environmental Protection
Division of Hazard Management
120 Route 156
Yardville, New Jersey 08620

Attn: Mr. Bill Cronin

Dear Mr. Cronin:

Confirming our telephone conversation of March 23, 1981, the following is a description of the minor spill which the DeSoto, Inc. plant in Pennsauken, N.J. had in the early morning hours of March 23, 1981. The spill was approximately 1000 gallons of a non-toxic and insoluble Titanium Dioxide water slurry. Most of the 1000 gallons was contained and cleaned up on the plant property, with between 50 and 100 gallon escaping through the storm sewer off the plant property.

As you requested, we have throughly cleaned the storm sewer pipe on the plant property. This storm sewer, after leaving the plant property, ties into other local storm sewers and discharges into marshlands which lead to the Delaware River approximately 1 mile away.

As I explained in our conversation, the amount of material escaping was minimal, but a small amount of material, because of its high whiting power, will color a large volume of water making the condition seem far worse than it really is.

If you require any additional information, please call the writer at anytime.

Very truly yours,

D. A. Deutsch

D. A. Deutsch
Production Manager

DAD/ep

235
V2

ATTACHMENT W

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

MEMORANDUM

28 NOV 1984

TO: MARIA KENT-PETIX, CASE MANAGER, BISE

THROUGH: DR. MERRY L. MORRIS, CHIEF, BEERA

THROUGH: ROB PREDALE, ASSISTANT CHIEF, EE/RA R.P.

FROM: PHIL SANDINE, TECHNICAL COORDINATOR, EE/RA

SUBJECT: REVIEW OF SAMPLING AND ANALYTICAL DATA FOR DESOTO, INC. IN PENNSAUKEN, (ECRA 84-147)

These comments are in response to your referral of 26 October 1984.

The facility has been used for the manufacturing of paints.

As we discussed on the phone (13 November), the information and data submitted indicates that the site apparently does not contain areas of contamination that warrant a cleanup. Specifically, the results of the priority pollutants analyses showed only one contaminant in one sample to be above expected "background" levels. This contaminant, bis(2-ethythexyl)phthalate, was detected at a level of 850 ppb. It was not detected in any of the other 7 samples. The occurrence of this specific compound at the level detected does not warrant any additional sampling or cleanup.

HS103:dr

RECEIVED 28 NOV 1984

ATTACHMENT X

(17)

Addition to IT scope of work

WORK PLAN

TANK INVESTIGATION
PENNSAUKEN, NEW JERSEY
ADDENDUM I

ITEM NO. 1

Justification for the location, number, and frequency of samples.

RESPONSE

As indicated in the Work Plan, four on-site borings will be used to characterize the soils between the ground surface and the undisturbed materials at the site. This is expected to require boring to a depth of 12 to 15 feet. Continuous samples will be collected from all borings and two of the samples from each boring will be returned to IT's laboratory for analysis.

Samples for analysis will be selected in the field on the basis of evidence of contamination and position within the soil profile. As the continuous samples are collected, they will be visually inspected in conjunction with the logging effort. During the logging process, emphasis will be placed on identifying evidence of contamination such as differences in soil texture, color, or the presence of noticeable odors. One sample which represents either an area of evident contamination or soil conditions at the base of the tank will be selected from each boring for analysis. The second sample from each boring that will be analyzed will be taken at the top of the undisturbed materials. This will provide data concerning the migration of contaminants (evident or not) into the natural materials zone. The location at the base of the tank has been selected since it is the zone closest to the tank which can be used to detect contamination from the entire system.

We believe that the analysis of two samples from each boring (approximately 25 percent of total depth) will be suitable for the purposes of this evaluation which is to determine if contamination is present.

These procedures will be followed for samples subject to chemical analysis for this project:

- A chain-of-custody record (Figure 1) will be initiated in the field for every sample. This record will accompany its sample.

- Each time responsibility for custody of the sample changes, the new custodian will sign the record and note the date. A copy of the signed record should be made by the immediately previous custodian and sent to the sample custodian at the IT Pittsburgh laboratory to allow tracking of sample possession. All change of custody of samples must be a person-to-person exchange of custody documents and samples.

- Upon sample destruction or disposal, the laboratory custodian responsible for the disposal will complete the chain-of-custody record, file a copy, and send a copy to the Project Manager or to his designated representative for recordkeeping. All samples not consumed during analysis shall be kept for a minimum of three months.

- The following documentation will supplement the chain-of-custody records:

  - Sample label on each sample

  - Soil field collection report and analysis request (copy accompanies the samples)

  - Photographic records (wherever practical).

- Prior to sampling, personnel involved will have received copies of the chain-of-custody procedure. A briefing for these personnel will be held to detail the chain-of-custody procedure (as well as sampling and sample handling procedures). Briefing of personnel is the responsibility of the on-site Field Supervisor or his designated representative.

ITEM NO. 5

Information on the rationale for the analytical parameters that have been selected and information on the analytical methods for each of the analytical parameters.

240
X2

RESPONSE

The analytical parameters that have been selected--all priority pollutants except pesticides and PCB's--are those requested by the NJDEP during discussions between DeSoto, Inc. representatives and Ms. Maria Petix. These parameters were selected on the basis of the site developmental history and the nature of the processes at the site which may have resulted in environmental contamination.

As indicated in the Work Plan, the soil samples will be analyzed for priority pollutants exclusive of pesticides and PCB's. The methods used by IT's laboratory in the completion of these analyses are those recommended by the U.S. Environmental Protection Agency as referenced in the following documents:

1. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Waste Characterization Branch, Office of Solid Waste, U.S. Environmental Protection Agency, Washington, DC, May 1980.

2. Methods for Chemical Analysis of Water and Wastes, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio, March 1979.

3. Standard Methods for the Examination of Water and Wastewater, 15th Edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, Washington, DC 1980.

The specific analytical methods that will be used for the analysis of samples from the DeSoto, Inc., site are as follows:

- Volatiles - Method 8.24 (from No. 1)
- Acid Compounds - Method 8.25 (from No. 1)
- Base Neutrals - Method 8.25 (from No. 1)
- Metals (from No. 2)

  - Antimony, Method 204.2
  - Arsenic, Method 206.2
  - Beryllium, Method 210.2

- Cadmium, Method 213.1
- Chromium, Method 218.1
- Copper, Method 220.1
- Lead, Method 239.1
- Mercury, Method 245.1
- Nickel, Method 249.1
- Selenium, Method 270.2
- Silver, Method 272.2
- Thallium, Method 279.2
- Zinc, Method 289.2

- Cyanide, Method 335.2 (from No. 2)
- Phenols, Method 510B (from No. 3)

ITEM NO. 6

Information on the name, address, and certification of the laboratory that will complete the analytical program.

RESPONSE

The analytical program for this project will be completed by the following laboratory:

IT Corporation
5310 Old William Penn Highway
Export, PA 15632
412/327-3030, 412/731-8806

The procedures in the IT laboratory have been reviewed by many Federal and state regulatory agencies and the laboratory in Pittsburgh maintains the following certifications and proficiency ratings:

- U.S. Environmental Protection Agency (EPA) and the Commonwealth of Pennsylvania for drinking water analyses under the Safe Drinking Water Act (Laboratory Certification No. 38-120).

- National Institute for Occupational Safety and Health (NIOSH) under the Proficiency Analytical Testing (PAT) Program (Laboratory Identification No. 15225001).

- U.S. Environmental Protection Agency (EPA) Natural Gas Condensate Check Sample Program for PCBs.

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- The laboratory participates in the certification program with the American Association of State Highway and Transportation Officials (AASHTO) Materials Reference Laboratory at the National Bureau of Standards in Washington, DC.

- The laboratory is approved by the Commonwealth of Kentucky to perform overburden/soil analyses. Approval is granted by the Division of Regulatory Services, University of Kentucky, Lexington, Kentucky.

It should be noted that IT is currently under contract to Diamond Shamrock to complete analyses associated with dioxin and other chemical evaluations at the 80 Lister Avenue site, Newark, New Jersey. As part of this project, IT's laboratory facilities have been evaluated and accepted by the NJDEP.

ITEM NO. 7

Information on the site Quality Assurance Plan.

RESPONSE

Project activities (i.e., field, laboratory, and office) will be controlled by applicable elements of the following project-specific Quality Assurance Program. The program is based on the requirements of:

- IT Quality Assurance Manual
- EPA guidelines and recommendations
- Available contract documents and the statement of work.

Procurement and Control of Subcontractors

Subcontractors will be delegated applicable quality requirements in the procurement documents, provided that the subcontractor has an internal documented and acceptable quality assurance program. If the subcontractor does not have such a program, IT shall use the procurement documents to "pass down" the performance of specific quality requirements to the

subcontractor. The "pass down" of specific requirements provides that appropriate conditions can be met without requiring the subcontractor to have his own individual quality assurance program.

Instructions and Procedures

Quality-related activities, whether performed in the field, laboratory, or office, will be documented in detailed instructions or procedures. Included among these documents will be:

- Applicable sections of the Quality Assurance Manual
- Specific Work Instructions identifying step-by-step instructions, required equipment and materials, data recording form/format, data processing requirements, required analyses, and documentation and reporting requirements, as appropriate. Whenever possible, recognized standards such as those published by the EPA and the ASTM will be employed.
- Project-Specific Sampling Plan.

Identification and Control of Samples

Samples taken in the field will be labeled to clearly identify sampling location (e.g., site, borehole, depth, and coordinates), sample number, and sampling date, as appropriate.

Packaging, handling, shipping, and storage of samples will be performed in accordance with the Sampling Plan and established work instructions. Packaging will be based on the protection required during handling, shipping, and storage, and the extent to which in situ characteristics must be preserved. Handling and shipping will be performed so that damage, loss, or unacceptable deterioration is prevented. Samples transmitted to the laboratory will be accompanied by a chain-of-custody record providing a record of samples shipped. Approved methods of storage on site and in laboratories will prevent loss or unacceptable

deterioration. Whenever possible, field storage should be indoors in a controlled environment.

Test Control

Laboratory testing will be performed in accordance with documented and approved procedures by trained personnel using calibrated equipment. Test requirements and any acceptance criteria will be provided or approved by the group responsible for the testing. Test performance and results will be completely documented using standard data forms/ formats. Also, reduction of test data will undergo formal documented verification (checking).

Standard IT analytical laboratory quality control checks will be performed. These can include, as appropriate:

- Field blanks (VOA's only)
- Method blanks
- Duplicate samples
- Spiked samples
- Surrogate standards performance evaluation.

Appendix D contains detailed information on laboratory analytical quality control procedures.

Control of Measuring and Test Equipment

Measuring and test equipment used in the field or laboratory will be controlled by a formal calibration program. The program will provide equipment of the proper type, range, accuracy, and precision to provide data compatible with the specified requirements and desired results.

Documented procedures will be used for calibrating the equipment. Whenever possible, widely accepted procedures, such as those published by the ASTM or EPA, or procedures provided by manufacturers shall be adopted.

Calibrated equipment will be uniquely identified by using either the manufacturer's serial number, a calibration system identification number, or other means. This identification, along with a label indicating when the next calibration is due, will be attached to the equipment. If this is not possible, records traceable to the equipment will be readily available for reference.

Measuring and test equipment will be calibrated at prescribed intervals and/or prior to use. Frequency will be based on the type of equipment, inherent stability, manufacturer's recommendations, values given in national standards, intended use, and experience. Equipment will be calibrated, whenever possible, using reference standards traceable to nationally recognized standards (e.g., National Bureau of Standards) or accepted values of natural physical constants. Records will be prepared and maintained for each piece of calibrated measuring and test equipment to indicate that established calibration procedures have been followed.

Equipment that fails calibration or becomes inoperable during use will be removed from service and segregated to prevent inadvertent use, or will be tagged to indicate it is out of calibration. Results of activities performed using equipment that has failed recalibration will be evaluated by laboratory and project management, as appropriate. If the activity results are adversely affected, appropriate personnel will be notified.

Nonconformance/Corrective Action

Procedures will be implemented for the detection, identification, reporting, and follow-up of nonconformances to project requirements. Each nonconformance will be documented by the personnel identifying or originating it. Documentation will, when necessary, include:

- Identification of the individual(s) identifying or originating the nonconformance
- Cause and description of the nonconformance

ATTACHMENT Y

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

M E M O R A N D U M

TO: File

FROM: Dan Maltese, HSMS IV
Bureau of Planning and Assessment

DATE: February 25, 1991

SUBJECT: PRE-SAMPLING ASSESSMENT OF DESOTO, INC.
EPA ID # NJD005440342

On Tuesday, February 19, 1991, Frank Sorce and myself, NJDEP, DHWM, Bureau of Planning and Assessment, conducted a Pre-Sampling Assessment at the DeSoto, Inc. plant in Pennsauken, New Jersey. The current owner is Aluminum Shapes and the building is currently occupied by Esther Williams Pools and Spas and Johnny Weismeuller Products, both a subsidary of Aluminum Shapes. We were met at Aluminum Shapes at 10:00 a.m. by Ed Willis, environmental engineer for the company and we proceeded across the parking lot to the former DeSoto paint manufacturing facility.

The inside of the building was redesigned for the manufacturing of pools and spas. All tanks used in the production of water-and solvent-based paints were removed from the site prior to sale. Tanks which protruded through the mezzanine were also removed and the openings which were left in the flooring were concreted over.

We proceeded outside to where the tank farm and separator unit were located. No readings from an OVA or a HNu photoionizer were detected around the former tank farm adjacent to the building. This area is currently being used as storage for used machine parts, pallets, etc. and is partially paved. The separator unit is located on the southern side of the building and had been cleaned out, filled in and concreted over by DeSoto. This unit had been sampled and closed through ECRA.

One unit which was not addressed through ECRA or RCRA is the diked waste storage area located about 100 feet east of the former tank farm and in between the railroad siding and the main Penn Central railroad tracks (see attached map). The diked area contains two elevated storage tanks (approximately 2-3,000 gallons each) which were used by DeSoto for storage of wastes from the manufacturing of solvent-borne paints. OVA and HNu readings from the southern downgradient side of the dike around a brick-lined drainage grate reached 30 ppm and 5 ppm, respectively. OVA readings were also recorded (up to 20 ppm) underneath the tanks outlet valve on the southern side of the dike. This valve has been previously bolted closed with a metal plate.

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ATTACHMENT 1

There are several large abandoned propane tanks east of the building towards the end of the property. These were emptied and removed by Aluminum Shapes within the last several years. No readings were recorded with the instruments. Also, there are approximately 7 fire wells surrounding the building which are fed by an on-site water storage tank. There is one monitoring well located in the front parking lot and is used to monitor contaminants from the adjacent Pennsauken Landfill.

We left the site at 12:30 p.m.

DM:mz

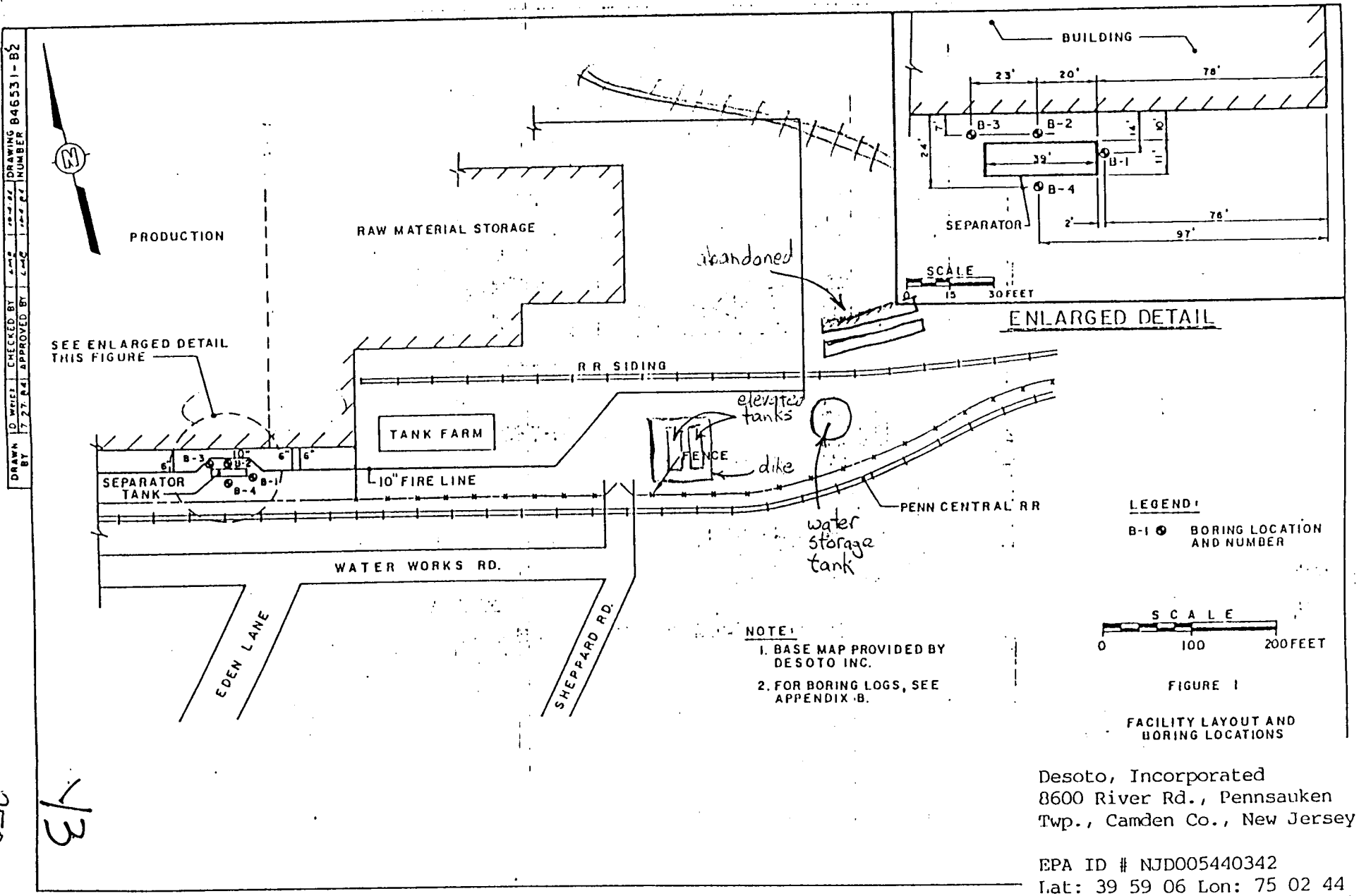

FIGURE 1

FACILITY LAYOUT AND BORING LOCATIONS

Desoto, Incorporated
8600 River Rd., Pennsauken
Twp., Camden Co., New Jersey

EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02 44

ATTACHMENT Z

TCT - St. Louis

formerly Envirodyne Engineers, Inc.

Consulting Engineers, Scientists and Analytical Services

1908 Innerbelt Business Center Drive
St. Louis, Missouri 63114-5700
Phone (314) 426-0880
Fax (314) 426-4212

April 24, 1991
3540-00011

Mr. Frank Sorce
NJDEP/DHWM/BPA
300 Horizon Center, Route 130
Robbinsville, New Jersey 08691

Dear Mr. Sorce:

Attached is a report of results of analysis of samples received by TCT-St. Louis from the Desoto site under Task IV of our X-408 contract. Five soil samples, one soil sample designated MS/MSD and a field blank were received on March 15, 1991, for analysis of full CLP organics and inorganics. The samples received are listed below:

NJDEP No.	TCT Lab No.
S-1	91001113
S-1 MS/MSD	91001114
S-2	91001115
S-3	91001116
S-4	91001117
S-5	91001118
FIELD BLANK	91001119

The designated sample was used for the matrix spike and matrix spike duplicate for volatile, semi-volatile and pesticide/PCB analyses and compared to sample S-1 for calculation of percent recovery. Because the purpose of this sample was not clear to all sections of the laboratory, this sample (S-1 MS/MSD) was analyzed as a sample as well as MS/duplicate for the inorganic parameters.

QC was performed on the field blank, though not necessary, for the inorganic parameters and is included in the report.

Several of the samples required dilution for the organic parameters.

If you have any questions about this report, please contact me at (314) 426-0880.

Sincerely,

Doni Moore

Doni Moore
Project Manager

ANALYTICAL CHRONOLOGY, DESOTO

2/28/91	Initial calibration for volatile soils, 59852B
3/13/91	Sample bottles arrive at NJDEP
3/14/91	Initial Calibration for volatile waters, 59702E, and volatile soils, 59704G.
3/15/91	Samples received at TCT-St. Louis
3/16/91	Volatile analysis: S-1, S-4, and S-5
3/18/91	Initial calibration for volatile soils, 59704G, and volatile analysis: S-1 RE, S-4 RE and S-5 RE Volatile analysis: Field Blank, 59702E
3/19/91	Volatile analysis: S-2 and S-3, 59852B Volatile analysis: S-1 MS and S-1 MSD, 59704G
3/20/91	Extraction of samples for semi-volatile and pesticide/PCB analyses
3/21/91	Distillation and analysis of Cyanide samples.
3/22/91	Initial calibration for semi-volatiles, 59703F
3/28/91	Mercury digestion: Field Blank
3/29/91	Semi-volatile analysis: Field Blank, 59703F Initial calibration for semi-volatiles, 59701D Semi-volatile analysis: S-1, S-1 MS, S-2, S-3, S-4, S-5 and S-1 MSD Mercury analysis: Field blank
4/02/91	Mercury digestion of soil samples. Determination of % Solids on soil samples.
4/03/91	Analysis of pesticide/PCB standards and samples (continuing through 4/04/91) Mercury analysis: all soil samples.
4/08/91	Initial calibration for semi-volatiles, 59701D.
4/09/91	Digestion of all samples ICP and GFAA metals analysis
4/10/91	Semi-volatile analysis: S-3 RE DL, S-4 RE DL and S-1 RE DL GFAA analysis: As, Pb, Ag

ANALYSIS CHRONOLOGY, DESOTO

4/11/91	GFAA analysis: As, Pb Flame AA analysis: K
4/12/91	ICP metals analysis: Al, Ba, Be, Cd, Pb, Mn, Ni, Zn, Ca, Mg, Cr, Co, Cu, Fe, Na, V GFAA analysis: As, Tl
4/15/91	GFAA metals analysis: Sb, Se
4/16/91	GFAA metals analysis: Sb, Se Flame AA analysis: Se

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SAMPLE DATA SUMMARY

3540-00011
SDG: FIELD BLANK

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD BLANK

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 5 (g/ml) ML Lab File ID: >E6795

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD BLANK

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 5 (g/mL) ML Lab File ID: >E6795

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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30.				

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD BLANK

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >F6230

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD BLANK

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >F6230

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenyl ether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD BLANK

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 1000 (g/mL) ML Lab File ID: >F6230

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/29/91

Cleanup: (Y/N) N pH 5 Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

Number TICs found: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	128370	PHENOL,2,6-BIS(1,1-DIMETHYL-	16.43	15	J
2.					
3.					
4.					
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30.					

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EPA SAMPLE NO.

FIELDBLANK

PESTICIDE ORGANICS DATA SHEET
1D

Lab Name: TCT-ST. LOUIS Contract:

Lab Code: TCT Case No.: 3540-11 Sas: SDG No.: Field Blank

Matrix: (soil/water) WATER Lab Sample ID: 91001119

Sample wt/vol: 1000(g/ml) ml Lab File ID:

Level: (low/med) low Date Received: 3/15/91

%Moisture: not dec._NA_ dec._NA_ Date Extracted: 3/20/91

Extraction (SepF/Cont/Sonc) SEPF Date Analyzed: 04/04/91

GPC Cleanup:(Y/N) N pH 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	ALPHA-BHC	0.050	U
319-85-7	BETA-BHC	0.050	U
319-86-8	DELTA-BHC	0.050	U
58-89-9	GAMMA-BHC	0.050	U
76-44-8	HEPTACHLOR	0.050	U
309-00-2	ALDRIN	0.050	U
1024-57-3	HEPTACHLOR EPOXIDE	0.050	U
959-98-8	ENDOSULFAN I	0.050	U
60-57-1	DIELDRIN	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	ENDRIN	0.10	U
33213-65-9	ENDOSULFAN II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	ENDOSULFAN SULFATE	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	METHOXYCHLOR	0.50	U
53494-70-5	ENDRIN KETONE	0.10	U
5103-71-9	ALPHA-CHLORDANE	0.50	U
5103-74-2	GAMMA-CHLORDANE	0.50	U
8001-35-2	TOXAPHENE	1.0	U
12674-11-2	AROCLOR-1016	0.50	U
11104-28-2	AROCLOR-1221	0.50	U
11141-16-5	AROCLOR-1232	0.50	U
53469-21-9	AROCLOR-1242	0.50	U
12672-29-6	AROCLOR-1248	0.50	U
11097-69-1	AROCLOR-1254	1.0	U
11096-82-5	AROCLOR-1260	1.0	U

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FIELDBLANK

Lab Name: TCT-ST. LOUIS

Contract: 3540

Lab Code: TCT

Case No.: 00011

SAS No.:

SDG No.: FIELDBLANK

Matrix (soil/water): WATER

Lab Sample ID: 91001119

Level (low/med): LOW

Date Received: 03/15/91

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	27.0	U		P
7440-36-0	Antimony	14.0	U	W	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	3.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	27.0	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	19.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	22.0	U		P
7439-92-1	Lead	2.0	B		F
7439-95-4	Magnesium	12.0	U		P
7439-96-5	Manganese	4.0	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	9.0	U		P
7440-09-7	Potassium	40.0	B		A
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	1.0	U	N	F
7440-23-5	Sodium	95.0	U		P
7440-28-0	Thallium	2.9	B		F
7440-62-2	Vanadium	6.0	U		P
7440-66-6	Zinc	11.0	U		P
	Cyanide	5.0	U		AS

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 5 (g/ml) G Lab File ID: >G0557

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/16/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	20	
67-64-1	Acetone	1200	B E
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	130	
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	400	E
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	140	B
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	250	E
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	870	E
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	4600	E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-1

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 5 (g/mL) G Lab File ID: >G0557

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 17 Date Analyzed: 03/16/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	18.86	1100	J
2.		UNKNOWN	19.25	2300	J
3.		UNKNOWN	19.76	1600	J
4.		UNKNOWN	20.28	2200	J
5.		UNKNOWN	21.07	1500	J
6.		UNKNOWN	21.36	710	J
7.		UNKNOWN	22.36	2100	J
8.		UNKNOWN	22.62	820	J
9.	95932	BENZENE,1,2,4,5-TETRAMETHYL	23.58	1100	J
10.	874351	1H-INDENE,2,3-DIHYDRO-5-METHY	24.42	660	J
11.					
12.					
13.					
14.					
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16.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1 RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 4 (g/ml) G Lab File ID: >G0574

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	750	U
67-64-1	Acetone	3300	B
75-15-0	Carbon Disulfide	750	U
75-35-4	1,1-Dichloroethene	750	U
75-34-3	1,1-Dichloroethane	750	U
540-59-0	1,2-Dichloroethene (total)	750	U
67-66-3	Chloroform	750	U
107-06-2	1,2-Dichloroethane	750	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	750	U
56-23-5	Carbon Tetrachloride	750	U
108-05-4	Vinyl Acetate	1500	U
75-27-4	Bromodichloromethane	750	U
78-87-5	1,2-Dichloropropane	750	U
10061-01-5	cis-1,3-Dichloropropene	750	U
79-01-6	Trichloroethene	750	U
124-48-1	Dibromochloromethane	750	U
79-00-5	1,1,2-Trichloroethane	390	J
71-43-2	Benzene	750	U
10061-02-6	trans-1,3-Dichloropropene	750	U
75-25-2	Bromoform	450	J
108-10-1	4-Methyl-2-pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	750	U
79-34-5	1,1,2,2-Tetrachloroethane	930	
108-88-3	Toluene	750	U
108-90-7	Chlorobenzene	750	U
100-41-4	Ethylbenzene	250	J
100-42-5	Styrene	750	U
1330-20-7	Xylene (total)	1900	

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-1RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 4 (g/mL) G Lab File ID: >G0574

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.65	2000	J
2.	C9H12 ISOMER	19.03	7900	J
3.	TRIMETHYL BENZENE ISOMER	19.21	4500	J
4.	C9H12 ISOMER	19.58	4200	J
5.	C9H12 ISOMER	20.01	14000	J
6.	ETHYL METHYL BENZENE ISOMER	20.89	2900	J
7.	C9H10 ISOMER	21.24	1200	J
8.	C10H24 ISOMER	22.30	~~1200~~ 2900	J
9.	C10H14 ISOMER	22.51	1800	J
10.	C10H14 ISOMER	23.49	2100	J
11.				
12.				
13.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5013

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)Ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
100-51-6	Benzyl alcohol	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	bis(2-Chloroisopropyl)ether	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	8900	E
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
65-85-0	Benzoic acid	1900	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	1300	
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	200	J
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5013

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenyl ether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-nitrosodiphenylamine	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	120	J
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
193-39-5	Dibenzo(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

SEMIVOLATILE ORGANICS ANALYSIS
TENTATIVELY IDENTIFIED COMPOUNDS

S-1

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5013

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/29/91

Cleanup: (Y/N) N pH 6 Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.27	730	J
2.		UNKNOWN	5.45	19000	J
3.		DIMETHYL BENZENE ISOMER	5.74	1500	J
4.		UNKNOWN	6.27	1300	J
5.		UNKNOWN	6.72	3700	J
6.		UNKNOWN	7.31	3000	J
7.	103651	BENZENE,PROPYL	7.52	1900	J
8.		METHYL BENZENE ISOMER,C9H12	7.68	3400	J
9.		METHYL BENZENE ISOMER,C9H12	7.74	1500	J
10.		TRI-METHYL BENZENE ISOMER	7.86	2300	J
11.		TRI-METHYL BENZENE ISOMER	8.37	4700	J
12.		ETHYL METHYL BENZENE ISOMER	8.88	1300	J
13.		UNKNOWN	8.99	740	J
14.		UNKNOWN C6H12O2 ACID	9.07	490	J
15.		UNKNOWN ALKENE, C9H10	9.13	690	J
16.		UNKNOWN	9.40	9500	J
17.		DIMETHYL-ETHYL BENZENE ISOMER	9.56	1500	J
18.	116029	CYCLOHEXANOL,3,3,5-TRIMETHYL	9.62	740	J
19.		UNKNOWN	10.56	230	J
20.		DIMETHYL ETHYL BENZENE ISOMER	11.25	250	J
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22.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-1 RE DL

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5078

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 04/10/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	bis(2-Chloroisopropyl)ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	15000	
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic acid	5800	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1300	
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	180	J
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	5800	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	5800	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-1 RE DL

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5078

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 04/10/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	5800	U
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	5800	U
100-02-7	4-Nitrophenol	5800	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenyl ether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	5800	U
534-52-1	4,6-Dinitro-2-methylphenol	5800	U
86-30-6	N-nitrosodiphenylamine	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	5800	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	120	J
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	2400	U
56-55-3	Benzo(a)anthracene	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo(b)fluoranthene	1200	U
207-08-9	Benzo(k)fluoranthene	1200	U
50-32-8	Benzo(a)pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200	U
193-39-5	Dibenzo(a,h)anthracene	1200	U
191-24-2	Benzo(g,h,i)perylene	1200	U

SEMIVOLATILE ORGANICS ANALYSIS DATA
TENTATIVELY IDENTIFIED COMPOUNDS

S-1 RE DL

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5078

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/10/91

Cleanup: (Y/N) N pH 5 Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.21	9800	J
2.		DIMETHYL BENZENE ISOMER	5.72	2200	J
3.		DIMETHYL BENZENE ISOMER	6.19	2300	J
4.		UNKNOWN	7.40	1900	J
5.	103651	BENZENE,PROPYL	7.48	2500	J
6.		TRIMETHYL BENZENE ISOMER	7.68	15000	J
7.		UNKNOWN	7.74	7800	J
8.		UNKNOWN	7.89	12000	J
9.		TRIMETHYL BENZENE ISOMER	8.40	18000	J
10.		TRIMETHYL BENZENE ISOMER	8.89	8400	J
11.		UNKNOWN ALKANE	9.11	2200	J
12.		BENZENE ISOMER	9.42	3100	J
13.		BENZENE ISOMER	9.56	7000	J
14.		BENZENE ISOMER	9.89	2600	J
15.		BENZENE ISOMER	9.95	2600	J
16.		UNKNOWN ALKANE	10.32	1800	J
17.		BENZENE ISOMER	10.65	2900	J
18.		BENZENE ISOMER	10.71	2900	J
19.		DIHYDRO-METHYL 1H-INDENE	11.05	1700	J
20.		BENZENE ISOMER	11.24	3300	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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EPA SAMPLE NO.

S-1

PESTICIDE ORGANICS DATA SHEET
1D

Lab Name: TCT-ST. LOUIS Contract:

Lab Code: TCT Case No.: 3540-11 Sas: SDG No.: Field Blank

Matrix: (soil/water) SOIL Lab Sample ID: 91001113

Sample wt/vol: 30 (g/ml) g Lab File ID:

Level: (low/med) LOW Date Received: 3/15/91

%Moisture: not dec.____ dec. 16.8 Date Extracted: 3/20/91

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/91

GPC Cleanup:(Y/N) N pH 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	ALPHA-BHC	9.6	U
319-85-7	BETA-BHC	9.6	U
319-86-8	DELTA-BHC	9.6	U
58-89-9	GAMMA-BHC	9.6	U
76-44-8	HEPTACHLOR	9.6	U
309-00-2	ALDRIN	9.6	U
1024-57-3	HEPTACHLOR EPOXIDE	9.6	U
959-98-8	ENDOSULFAN I	9.6	U
60-57-1	DIELDRIN	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	ENDRIN	19	U
33213-65-9	ENDOSULFAN II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	ENDOSULFAN SULFATE	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	METHOXYCHLOR	96	U
53494-70-5	ENDRIN KETONE	19	U
5103-71-9	ALPHA-CHLORDANE	96	U
5103-74-2	GAMMA-CHLORDANE	96	U
8001-35-2	TOXAPHENE	190	U
12674-11-2	AROCLOR-1016	96	U
11104-28-2	AROCLOR-1221	96	U
11141-16-5	AROCLOR-1232	96	U
53469-21-9	AROCLOR-1242	96	U
12672-29-6	AROCLOR-1248	96	U
11097-69-1	AROCLOR-1254	190	U
11096-82-5	AROCLOR-1260	190	U

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1

Lab Name: TCT-ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELDBLANK

Matrix (soil/water): SOIL Lab Sample ID: 91001113

Level (low/med): LOW Date Received: 03/15/91

% Solids: 83.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5890			P
7440-36-0	Antimony	3.4	U	N	F
7440-38-2	Arsenic	1.4	B	N	F
7440-39-3	Barium	23.6	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	0.72	U		P
7440-70-2	Calcium	1860		E	P
7440-47-3	Chromium	20.7			P
7440-48-4	Cobalt	4.6	U		P
7440-50-8	Copper	7.0			P
7439-89-6	Iron	15900			P
7439-92-1	Lead	25.1			F
7439-95-4	Magnesium	543	B	E	P
7439-96-5	Manganese	37.0			P
7439-97-6	Mercury	0.15			CV
7440-02-0	Nickel	2.6	B		P
7440-09-7	Potassium	748	B		A
7782-49-2	Selenium	0.24	U	N	F
7440-22-4	Silver	0.24	U	W	F
7440-23-5	Sodium	22.8	U		P
7440-28-0	Thallium	0.53	B		F
7440-62-2	Vanadium	36.8			P
7440-66-6	Zinc	95.9			P
	Cyanide	0.30	U		AS

Color Before: LT.BROWN Clarity Before: N/A Texture: MEDIUM

Color After: LT.YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-1MS/MSD

Lab Name: TCT-ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELDBLANK

Matrix (soil/water): SOIL Lab Sample ID: 91001114

Level (low/med): LOW Date Received: 03/15/91

% Solids: 78.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6740			P
7440-36-0	Antimony	3.5	U	N	F
7440-38-2	Arsenic	1.4	B	N	F
7440-39-3	Barium	24.8	B		P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	0.76	U		P
7440-70-2	Calcium	1390		E	P
7440-47-3	Chromium	25.1			P
7440-48-4	Cobalt	4.8	U		P
7440-50-8	Copper	9.1			P
7439-89-6	Iron	12400			P
7439-92-1	Lead	81.4			F
7439-95-4	Magnesium	654	B	E	P
7439-96-5	Manganese	43.1			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	2.8	B		P
7440-09-7	Potassium	1180	B		A
7782-49-2	Selenium	0.34	B	NW	F
7440-22-4	Silver	0.25	U		F
7440-23-5	Sodium	24.1	U		P
7440-28-0	Thallium	0.68	B		F
7440-62-2	Vanadium	48.2			P
7440-66-6	Zinc	104			P
	Cyanide	0.35	B		AS

Color Before: LT.BROWN Clarity Before: N/A Texture: MEDIUM

Color After: LT.YELLOW Clarity After: CLEAR Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 5 (g/ml) G Lab File ID: >B5924

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 14 Date Analyzed: 03/19/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
108-05-4	Vinyl Acetate	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	230	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	J

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-2

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 5 (g/mL) G Lab File ID: >B5924

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 Date Analyzed: 03/19/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/KG

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN BENZENE	23.46	7	J
2.	UNKNOWN	26.41	8	J
3.				
4.				
5.				
6.				
7.				
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9.				
10.				
11.				
12.				
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-2

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5015

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl alcohol	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	bis(2-Chloroisopropyl)ether	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	1900	U
65-85-0	Benzoic acid	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5015

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenyl ether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-nitrosodiphenylamine	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
84-74-2	Di-n-butylphthalate	330	J
206-44-0	Fluoranthene	380	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)anthracene	380	U
218-01-9	Chrysene	380	U
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	380	U
207-08-9	Benzo(k)fluoranthene	380	U
50-32-8	Benzo(a)pyrene	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	380	U
193-39-5	Dibenzo(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-2

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5015

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/29/91

Cleanup: (Y/N) N pH 5 Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 15

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.24	430	J
2.		UNKNOWN	4.64	210	J
3.		UNKNOWN	5.23	10000	J
4.		UNKNOWN ALKANE	5.42	1300	J
5.		UNKNOWN ALKANE C9H20	5.56	430	J
6.		UNKNOWN	5.70	180	J
7.		UNKNOWN ALKANE	5.74	360	J
8.		UNKNOWN	6.93	180	J
9.		UNKNOWN	7.03	2400	J
10.		UNKNOWN	7.33	1400	J
11.		UNKNOWN	8.23	1600	J
12.		UNKNOWN	8.56	170	J
13.		UNKNOWN	9.19	310	J
14.		UNKNOWN	9.50	3800	J
15.	128370	PHENOL,2,6-BIS(1,1-DIMETHYL-	16.55	190	J
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
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30.					

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EPA SAMPLE NO.

S-2 DL

PESTICIDE ORGANICS DATA SHEET
1D

Lab Name: TCT-ST. LOUIS Contract:

Lab Code: TCT Case No.: 3540-11 Sas: SDG No.: Field Blank

Matrix: (soil/water) SOIL Lab Sample ID: 91001115

Sample wt/vol: 30 (g/ml) g Lab File ID:

Level: (low/med) LOW Date Received: 3/15/91

%Moisture: not dec.____ dec. 13.6 Date Extracted: 3/20/91

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/91

GPC Cleanup:(Y/N) N pH 5 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	ALPHA-BHC	93	UD
319-85-7	BETA-BHC	93	UD
319-86-8	DELTA-BHC	93	UD
58-89-9	GAMMA-BHC	93	UD
76-44-8	HEPTACHLOR	93	UD
309-00-2	ALDRIN	93	UD
1024-57-3	HEPTACHLOR EPOXIDE	93	UD
959-98-8	ENDOSULFAN I	93	UD
60-57-1	DIELDRIN	190	UD
72-55-9	4,4'-DDE	220	D
72-20-8	ENDRIN	190	UD
33213-65-9	ENDOSULFAN II	190	UD
72-54-8	4,4'-DDD	190	UD
1031-07-8	ENDOSULFAN SULFATE	190	UD
50-29-3	4,4'-DDT	190	UD
72-43-5	METHOXYCHLOR	930	UD
53494-70-5	ENDRIN KETONE	190	UD
5103-71-9	ALPHA-CHLORDANE	930	UD
5103-74-2	GAMMA-CHLORDANE	930	UD
8001-35-2	TOXAPHENE	1900	UD
12674-11-2	AROCLOR-1016	930	UD
11104-28-2	AROCLOR-1221	930	UD
11141-16-5	AROCLOR-1232	930	UD
53469-21-9	AROCLOR-1242	930	UD
12672-29-6	AROCLOR-1248	930	UD
11097-69-1	AROCLOR-1254	1900	UD
11096-82-5	AROCLOR-1260	1900	UD

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-2

Lab Name: TCT-ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELDBLANK

Matrix (soil/water): SOIL Lab Sample ID: 91001115

Level (low/med): LOW Date Received: 03/15/91

% Solids: 86.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7780			P
7440-36-0	Antimony	3.8	B	N	F
7440-38-2	Arsenic	6.2		N	F
7440-39-3	Barium	32.4	B		P
7440-41-7	Beryllium	0.93	B		P
7440-43-9	Cadmium	0.69	U		P
7440-70-2	Calcium	1870		E	P
7440-47-3	Chromium	19.2			P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	32.4			P
7439-89-6	Iron	11900			P
7439-92-1	Lead	97.5			P
7439-95-4	Magnesium	755	B	E	P
7439-96-5	Manganese	132			P
7439-97-6	Mercury	0.17			CV
7440-02-0	Nickel	6.9	B		P
7440-09-7	Potassium	421	B		A
7782-49-2	Selenium	0.27	B	N	F
7440-22-4	Silver	0.23	U	W	F
7440-23-5	Sodium	22.0	U		P
7440-28-0	Thallium	0.56	B		F
7440-62-2	Vanadium	23.1			P
7440-66-6	Zinc	114			P
	Cyanide	0.40	B		AS

Color Before: BROWN Clarity Before: N/A Texture: MEDIUM

Color After: LT.YELLOW Clarity After: CLEAR Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3 ~~DL~~

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 1 (g/ml) G Lab File ID: >B5926

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 Date Analyzed: 03/19/91

Column: (pack/cap) CAP Dilution Factor: 5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	62	U
74-83-9	Bromomethane	62	U
75-01-4	Vinyl chloride	62	U
75-00-3	Chloroethane	62	U
75-09-2	Methylene Chloride	31	U
67-64-1	Acetone	21	BJ
75-15-0	Carbon Disulfide	31	U
75-35-4	1,1-Dichloroethene	31	U
75-34-3	1,1-Dichloroethane	31	U
540-59-0	1,2-Dichloroethene (total)	31	U
67-66-3	Chloroform	31	U
107-06-2	1,2-Dichloroethane	31	U
108-05-4	Vinyl Acetate	62	U
78-93-3	2-Butanone	62	U
71-55-6	1,1,1-Trichloroethane	31	U
56-23-5	Carbon Tetrachloride	31	U
75-27-4	Bromodichloromethane	31	U
78-87-5	1,2-Dichloropropane	31	U
10061-01-5	cis-1,3-Dichloropropene	31	U
79-01-6	Trichloroethene	31	U
124-48-1	Dibromochloromethane	31	U
79-00-5	1,1,2-Trichloroethane	31	U
71-43-2	Benzene	31	U
10061-02-6	trans-1,3-Dichloropropene	31	U
75-25-2	Bromoform	31	U
108-10-1	4-Methyl-2-pentanone	62	U
591-78-6	2-Hexanone	62	U
127-18-4	Tetrachloroethene	150	
79-34-5	1,1,2,2-Tetrachloroethane	31	U
108-88-3	Toluene	31	U
108-90-7	Chlorobenzene	31	U
100-41-4	Ethylbenzene	31	U
100-42-5	Styrene	31	U
1330-20-7	Xylene (total)	13	J

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-3 DL

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 1 (g/mL) G Lab File ID: >B5926

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 Date Analyzed: 03/19/91

Column: (pack/cap) CAP Dilution Factor: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/KG

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-3

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5016

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
100-51-6	Benzyl alcohol	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	bis(2-Chloroisopropyl)ether	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	130	J
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
65-85-0	Benzoic acid	2000	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	2000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	2000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5016

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	2000	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	2000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenyl ether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
86-30-6	N-nitrosodiphenylamine	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
84-74-2	Di-n-butylphthalate	380	J
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	820	U
56-55-3	Benzo(a)anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	310	J
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo(b)fluoranthene	410	U
207-08-9	Benzo(k)fluoranthene	410	U
50-32-8	Benzo(a)pyrene	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	410	U
193-39-5	Dibenzo(a,h)anthracene	410	U
191-24-2	Benzo(g,h,i)perylene	410	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-3

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5016

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/29/91

Cleanup: (Y/N) N pH 5 Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 14

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		METHYL PENTENE ISOMER	4.23	320	J
2.		UNKNOWN	4.64	260	J
3.		UNKNOWN	5.21	9600	J
4.		UNKNOWN ALKANE	5.39	780	J
5.		UNKNOWN ALKANE C9H20	5.55	510	J
6.		UNKNOWN ALKANE	5.60	280	J
7.		UNKNOWN	6.92	200	J
8.		UNKNOWN	7.00	1700	J
9.		UNKNOWN	7.33	1800	J
10.		UNKNOWN	8.25	2300	J
11.		UNKNOWN	9.16	240	J
12.		UNKNOWN	9.49	4300	J
13.		UNKNOWN	10.35	220	J
14.	128370	PHENOL,2,6-BIS(1,1-DIMETHYL-	16.54	250	J
15.					
16.					
17.					
18.					
19.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3 RE DL

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5076

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 04/10/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	bis(2-Chloroisopropyl)ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	14000	
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic acid	2500	J
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1500	
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	240	J
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	6000	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	6000	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-3 RE DL

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5076

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 04/10/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	6000	U
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	6000	U
100-02-7	4-Nitrophenol	6000	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenyl ether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	6000	U
534-52-1	4,6-Dinitro-2-methylphenol	6000	U
86-30-6	N-nitrosodiphenylamine	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	6000	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-butylphthalate	180	J
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	2500	U
56-55-3	Benzo(a)anthracene	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200	U
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo(b)fluoranthene	1200	U
207-08-9	Benzo(k)fluoranthene	1200	U
50-32-8	Benzo(a)pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200	U
193-39-5	Dibenzo(a,h)anthracene	1200	U
191-24-2	Benzo(g,h,i)perylene	1200	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-3 RE DL

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5076

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 20 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/10/91

Cleanup: (Y/N) N pH 5 Dilution Factor: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.09	2500	J
2.		UNKNOWN	4.86	3800	J
3.		UNKNOWN	5.08	77000	J
4.		UNKNOWN	5.33	8700	J
5.	111762	ETHANOL,2-BUTOXY	6.39	6700	J
6.		C9H12 BENZENE ISOMER	6.74	2100	J
7.	103651	BENZENE, PROPYL	7.35	3400	J
8.		C9H12 BENZENE ISOMER	7.51	11000	J
9.		C9H12 BENZENE ISOMER	7.57	4800	J
10.		C9H12 BENZENE ISOMER	7.69	8200	J
11.		C9H12 TRIMETHYL BENZENE ISOMER	8.20	22000	J
12.		UNKNOWN ALKANE	8.31	3000	J
13.		C9H12 BENZENE ISOMER	8.71	5800	J
14.		UNKNOWN ALKENE	8.98	2200	J
15.	873949	CYCLOHEXANONE,3,3,5-TRIMETHYL	9.16	22000	J
16.		METHYL-PROPYL BENZENE ISOMER	9.29	2000	J
17.		C10H14 ETHYL-DIMETHYL BENZENE	9.41	5700	J
18.		UNKNOWN ALKANE	10.18	1400	J
19.		C10H14 ETHYL-DIMETHYL BENZENE	10.49	850	J
20.		C10H14 BENZENE ISOMER	11.10	1000	J
21.					
22.					
23.					
24.					
25.					
26.					
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EPA SAMPLE NO.

S-3 DL

PESTICIDE ORGANICS DATA SHEET
1D

Lab Name: TCT-ST. LOUIS Contract:

Lab Code: TCT Case No.: 3540-11 Sas: SDG No.: Field Blank

Matrix: (soil/water) SOIL Lab Sample ID: 91001116

Sample wt/vol: 30 (g/ml) g Lab File ID:

Level: (low/med) LOW Date Received: 3/15/91

%Moisture: not dec.____ dec. 19.8 Date Extracted: 3/20/91

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/91

GPC Cleanup:(Y/N) N pH 5 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	ALPHA-BHC	100	UD
319-85-7	BETA-BHC	100	UD
319-86-8	DELTA-BHC	100	UD
58-89-9	GAMMA-BHC	100	UD
76-44-8	HEPTACHLOR	100	UD
309-00-2	ALDRIN	100	UD
1024-57-3	HEPTACHLOR EPOXIDE	100	UD
959-98-8	ENDOSULFAN I	100	UD
60-57-1	DIELDRIN	200	UD
72-55-9	4,4'-DDE	200	UD
72-20-8	ENDRIN	200	UD
33213-65-9	ENDOSULFAN II	200	UD
72-54-8	4,4'-DDD	200	UD
1031-07-8	ENDOSULFAN SULFATE	200	UD
50-29-3	4,4'-DDT	200	UD
72-43-5	METHOXYCHLOR	1000	UD
53494-70-5	ENDRIN KETONE	200	UD
5103-71-9	ALPHA-CHLORDANE	1000	UD
5103-74-2	GAMMA-CHLORDANE	1000	UD
8001-35-2	TOXAPHENE	2000	UD
12674-11-2	AROCLOR-1016	1000	UD
11104-28-2	AROCLOR-1221	1000	UD
11141-16-5	AROCLOR-1232	1000	UD
53469-21-9	AROCLOR-1242	1000	UD
12672-29-6	AROCLOR-1248	1000	UD
11097-69-1	AROCLOR-1254	2000	UD
11096-82-5	AROCLOR-1260	2000	UD

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-3

Lab Name: TCT-ST. LOUIS

Contract: 3540

Lab Code: TCT

Case No.: 00011

SAS No.:

SDG No.: FIELDBLANK

Lab Sample ID: 91001116

Matrix (soil/water): SOIL

Date Received: 03/15/91

Level (low/med): LOW

% Solids: 80.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5090			P
7440-36-0	Antimony	3.5	B	N	F
7440-38-2	Arsenic	6.7		NS	F
7440-39-3	Barium	33.2	B		P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	0.75	U		P
7440-70-2	Calcium	2010		E	P
7440-47-3	Chromium	12.0			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	26.9			P
7439-89-6	Iron	13100			P
7439-92-1	Lead	101			P
7439-95-4	Magnesium	693	B	E	P
7439-96-5	Manganese	142			P
7439-97-6	Mercury	0.24			CV
7440-02-0	Nickel	6.2	B		P
7440-09-7	Potassium	379	B		A
7782-49-2	Selenium	0.48	B	NW	F
7440-22-4	Silver	0.25	U	W	F
7440-23-5	Sodium	23.7	U		P
7440-28-0	Thallium	0.52	B		F
7440-62-2	Vanadium	22.2			P
7440-66-6	Zinc	92.8			P
	Cyanide	0.96			AS

Color Before: BROWN

Clarity Before: N/A

Texture: MEDIUM

Color After: LT.YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 5 (g/ml) G Lab File ID: >G0561

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 Date Analyzed: 03/16/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	58	U
74-83-9	Bromomethane	58	U
75-01-4	Vinyl chloride	58	U
75-00-3	Chloroetnane	58	U
75-09-2	Methylene Chloride	29	U
67-64-1	Acetone	56	BJ
75-15-0	Carbon Disulfide	29	U
75-35-4	1,1-Dichloroethene	29	U
75-34-3	1,1-Dichloroethane	29	U
540-59-0	1,2-Dichloroethene (total)	29	U
67-66-3	Chloroform	29	U
107-06-2	1,2-Dichloroethane	29	U
78-93-3	2-Butanone	58	U
71-55-6	1,1,1-Trichloroethane	29	U
56-23-5	Carbon Tetrachloride	29	U
108-05-4	Vinyl Acetate	58	U
75-27-4	Bromodichloromethane	29	U
78-87-5	1,2-Dichloropropane	29	U
10061-01-5	cis-1,3-Dichloropropene	29	U
79-01-6	Trichloroethene	29	U
124-48-1	Dibromochloromethane	29	U
79-00-5	1,1,2-Trichloroethane	29	U
71-43-2	Benzene	29	U
10061-02-6	trans-1,3-Dichloropropene	29	U
75-25-2	Bromoform	58	U
108-10-1	4-Methyl-2-pentanone	58	U
591-78-6	2-Hexanone	400	B
127-18-4	Tetrachloroethene	29	U
79-34-5	1,1,2,2-Tetrachloroethane	5200	E
108-88-3	Toluene	29	U
108-90-7	Chlorobenzene	29	U
100-41-4	Ethylbenzene	29	U
100-42-5	Styrene	76000	E
1330-20-7	Xylene (total)		

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-4

Contract: 3540

Lab Name: TCT-ST.LOUIS

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Lab Sample ID: 91001117

Matrix: (soil/water) SOIL

Lab File ID: >G0561

Sample wt/vol: 5 (g/mL) G

Date Received: 03/15/90

Level: (low/med) LOW

Date Analyzed: 03/16/91

% Moisture: not dec. 14

Dilution Factor: 1

Column: (pack/cap) CAP

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	18.93	2300	J
2.	UNKNOWN	20.36	3900	J
3.	UNKNOWN	21.49	1300	J
4.	UNKNOWN	22.49	3500	J
5.	C10H14 ISOMER	23.24	1000	J
6.	UNKNOWN	23.65	4400	J
7.	C10H12 ISOMER	24.08	2000	J
8.	C10H12 ISOMER	24.47	2900	J
9.	C11H16 ISOMER	25.51	640	J
10.	C10H8 ISOMER	25.69	1600	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4 RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 4 (g/ml) G Lab File ID: >G0575

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 14 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	5800	U
74-83-9	Bromomethane	5800	U
75-01-4	Vinyl chloride	5800	U
75-00-3	Chloroethane	5800	U
75-09-2	Methylene Chloride	2900	U
67-64-1	Acetone	6000	B
75-15-0	Carbon Disulfide	2900	U
75-35-4	1,1-Dichloroethene	2900	U
75-34-3	1,1-Dichloroethane	2900	U
540-59-0	1,2-Dichloroethene (total)	2900	U
67-66-3	Chloroform	2900	U
107-06-2	1,2-Dichloroethane	2900	U
78-93-3	2-Butanone	5800	U
71-55-6	1,1,1-Trichloroethane	2900	U
56-23-5	Carbon Tetrachloride	2900	U
108-05-4	Vinyl Acetate	5800	U
75-27-4	Bromodichloromethane	2900	U
78-87-5	1,2-Dichloropropane	2900	U
10061-01-5	cis-1,3-Dichloropropene	2900	U
79-01-6	Trichloroethene	2900	U
124-48-1	Dibromochloromethane	2900	U
79-00-5	1,1,2-Trichloroethane	2900	U
71-43-2	Benzene	2900	U
10061-02-6	trans-1,3-Dichloropropene	2900	U
75-25-2	Bromoform	2900	U
108-10-1	4-Methyl-2-pentanone	4800	J
591-78-6	2-Hexanone	5800	U
127-18-4	Tetrachloroethene	2900	U
79-34-5	1,1,2,2-Tetrachloroethane	2900	U
108-88-3	Toluene	2200	J
108-90-7	Chlorobenzene	2900	U
100-41-4	Ethylbenzene	15000	
100-42-5	Styrene	2900	U
1330-20-7	Xylene (total)	160000	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-4 RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 4 (g/mL) G Lab File ID: >G0575

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 14 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	103651	BENZENE, PROPYL	18.77	23000	J
2.		C9H12 ISOMER	19.02	140000	J
3.		C9H12 ISOMER	19.22	66000	J
4.		C9H12 ISOMER	19.59	58000	J
5.		C9H12 ISOMER	20.00	150000	J
6.		C9H12 ISOMER	20.88	33000	J
7.		UNKNOWN	21.53	17000	J
8.		C10H14 ISOMER	22.31	25000	J
9.		C10H14 ISOMER	22.50	20000	J
10.		C10H14 ISOMER	23.48	23000	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-4

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5017

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 6 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl alcohol	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	bis(2-Chloroisopropyl)ether	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	1900	U
65-85-0	Benzoic acid	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	7000	E
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	2000	
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-4

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5017

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 6 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenyl ether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-nitrosodiphenylamine	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
84-74-2	Di-n-butylphthalate	720	
206-44-0	Fluoranthene	380	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	770	U
56-55-3	Benzo(a)anthracene	380	U
218-01-9	Chrysene	380	U
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	380	U
207-08-9	Benzo(k)fluoranthene	380	U
50-32-8	Benzo(a)pyrene	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	380	U
193-39-5	Dibenzo(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-4

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 1000 (g/mL) G Lab File ID: >D5017

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 03/29/91

Cleanup: (Y/N) N pH 6 Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108883	BENZENE,METHYL	3.58	10000	J
2.		UNKNOWN	5.26	110000	J
3.	100414	BENZENE,ETHYL	5.54	170000	J
4.		DIMETHYL BENZENE ISOMER	5.81	680000	J
5.		DIMETHYL BENZENE ISOMER	6.32	230000	J
6.		UNKNOWN C9H20 ALKANE	6.40	64000	J
7.	98828	BENZENE,(1-METHYLETHYL)	6.89	50000	J
8.		UNKNOWN ALKANE	7.20	42000	J
9.	103651	BENZENE,PROPYL	7.52	110000	J
10.		BENZENE ISOMER	7.71	390000	J
11.		METHYL BENZENE ISOMER,C9H12	8.67	170000	J
12.		ETHYL METHYL BENZENE ISOMER	9.03	23000	J
13.		UNKNOWN ALKENE	9.28	16000	J
14.		BENZENE ISOMER	9.55	14000	J
15.		C10H14 BENZENE ISOMER	9.69	23000	J
16.		C10H14 BENZENE ISOMER	10.01	9800	J
17.		UNKNOWN ALKANE	10.40	1500	J
18.		C10H14 BENZENE ISOMER	10.73	1700	J
19.		C10H14 BENZENE ISOMER	10.83	1300	J
20.		BENZENE ISOMER	11.32	1800	J
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FORM I SV-TIC

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-4 RE DL

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5077

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 04/10/91

GPC Cleanup: (Y/N) N pH: 6 Dilution Factor: 2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	770	U
51-28-5	2,4-Dinitrophenol	3700	U
100-02-7	4-Nitrophenol	3700	U
132-64-9	Dibenzofuran	770	U
121-14-2	2,4-Dinitrotoluene	770	U
84-66-2	Diethylphthalate	770	U
7005-72-3	4-Chlorophenyl-phenyl ether	770	U
86-73-7	Fluorene	770	U
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	3700	U
86-30-6	N-nitrosodiphenylamine	770	U
101-55-3	4-Bromophenyl-phenylether	770	U
118-74-1	Hexachlorobenzene	770	U
87-86-5	Pentachlorophenol	3700	U
85-01-8	Phenanthrene	770	U
120-12-7	Anthracene	770	U
84-74-2	Di-n-butylphthalate	860	
206-44-0	Fluoranthene	770	U
129-00-0	Pyrene	770	U
85-68-7	Butylbenzylphthalate	770	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	770	U
218-01-9	Chrysene	770	U
117-81-7	bis(2-Ethylhexyl)phthalate	770	U
117-84-0	Di-n-octylphthalate	770	U
205-99-2	Benzo(b)fluoranthene	770	U
207-08-9	Benzo(k)fluoranthene	770	U
50-32-8	Benzo(a)pyrene	770	U
193-39-5	Indeno(1,2,3-cd)pyrene	770	U
193-39-5	Dibenzo(a,h)anthracene	770	U
191-24-2	Benzo(g,h,i)perylene	770	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-4 RE DL

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001117

Sample wt/vol: 30 (g/mL) G Lab File ID: >D5077

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/10/91

Cleanup: (Y/N) N pH 6 Dilution Factor: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.99	32000	J
2.	100414	BENZENE,ETHYL	5.40	68000	J
3.		DIMETHYL BENZENE ISOMER	5.62	70000	J
4.		DIMETHYL BENZENE ISOMER	6.15	120000	J
5.		UNKNOWN ALKANE	6.26	10000	J
6.	98828	BENZENE,(1-METHYLETHYL)	6.75	22000	J
7.		UNKNOWN ALKANE	6.95	16000	J
8.	103651	BENZENE,PROPYL	7.40	85000	J
9.		BENZENE ISOMER	7.62	190000	J
10.		METHYL BENZENE ISOMER,C9H12	8.36	150000	J
11.		C9H12 METHYL BENZENE ISOMER	8.81	35000	J
12.		UNKNOWN ALKENE	9.05	16000	J
13.		DIETHYL BENZENE ISOMER	9.26	7500	J
14.		METHYL-PROPYL BENZENE ISOMER	9.34	12000	J
15.		C10H14 BENZENE ISOMER	9.48	22000	J
16.		C10H14 BENZENE ISOMER	9.61	5800	J
17.		UNKNOWN ALKANE	10.24	12000	J
18.		C10H14 BENZENE ISOMER	10.54	13000	J
19.		C10H14 BENZENE ISOMER	10.61	13000	J
20.		C10H14 BENZENE ISOMER	11.14	14000	J
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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-4

Lab Name: TCT-ST. LOUIS

Contract: 3540

Lab Code: TCT

Case No.: 00011

SAS No.:

SDG No.: FIELDBLANK

Lab Sample ID: 91001117

Matrix (soil/water): SOIL

Date Received: 03/15/91

Level (low/med): LOW

% Solids: 85.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7020			P
7440-36-0	Antimony	3.4	B	N	F
7440-38-2	Arsenic	2.3		NS	F
7440-39-3	Barium	33.6	B		P
7440-41-7	Beryllium	0.93	B		P
7440-43-9	Cadmium	0.70	U		P
7440-70-2	Calcium	5200		E	P
7440-47-3	Chromium	44.8			P
7440-48-4	Cobalt	10.0	B		P
7440-50-8	Copper	39.9			P
7439-89-6	Iron	15900			P
7439-92-1	Lead	125			P
7439-95-4	Magnesium	5260	B	E	P
7439-96-5	Manganese	144			P
7439-97-6	Mercury	0.50			CV
7440-02-0	Nickel	15.9			P
7440-09-7	Potassium	681	B		A
7782-49-2	Selenium	0.23	U	N	F
7440-22-4	Silver	0.23	U	W	F
7440-23-5	Sodium	207	B		P
7440-28-0	Thallium	0.49	B		F
7440-62-2	Vanadium	34.3			P
7440-66-6	Zinc	178			P
	Cyanide	0.36	B		AS

Color Before: BROWN

Clarity Before: N/A

Texture: MEDIUM

Color After: LT.YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 5 (g/ml) G Lab File ID: >G0563

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/16/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	60	U
74-83-9	Bromomethane	60	U
75-01-4	Vinyl chloride	60	U
75-00-3	Chloroethane	60	U
75-09-2	Methylene Chloride	30	U
67-64-1	Acetone	32	BJ
75-15-0	Carbon Disulfide	30	U
75-35-4	1,1-Dichloroethene	30	U
75-34-3	1,1-Dichloroethane	30	U
540-59-0	1,2-Dichloroethene (total)	30	U
67-66-3	Chloroform	30	U
107-06-2	1,2-Dichloroethane	30	U
78-93-3	2-Butanone	60	U
71-55-6	1,1,1-Trichloroethane	30	U
56-23-5	Carbon Tetrachloride	30	U
108-05-4	Vinyl Acetate	60	U
75-27-4	Bromodichloromethane	30	U
78-87-5	1,2-Dichloropropane	30	U
10061-01-5	cis-1,3-Dichloropropene	30	U
79-01-6	Trichloroethene	30	U
124-48-1	Dibromochloromethane	30	U
79-00-5	1,1,2-Trichloroethane	30	U
71-43-2	Benzene	30	U
10061-02-6	trans-1,3-Dichloropropene	30	U
75-25-2	Bromoform	30	U
108-10-1	4-Methyl-2-pentanone	60	U
591-78-6	2-Hexanone	60	U
127-18-4	Tetrachloroethene	54	B
79-34-5	1,1,2,2-Tetrachloroethane	30	U
108-88-3	Toluene	66	
108-90-7	Chlorobenzene	30	U
100-41-4	Ethylbenzene	620	
100-42-5	Styrene	30	U
1330-20-7	Xylene (total)	10600	E

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-5

Contract: 3540

Lab Name: TCT-ST.LOUIS

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Lab Sample ID: 91001118

Matrix: (soil/water) SOIL

Lab File ID: >G0563

Sample wt/vol: 5 (g/mL) G

Date Received: 03/15/91

Level: (low/med) LOW

Date Analyzed: 03/16/91

% Moisture: not dec. 17

Dilution Factor: 1

Column: (pack/cap) CAP

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	19.20	10000	J
2.		UNKNOWN	19.75	5700	J
3.		C9H12 ISOMER	20.24	11000	J
4.		C9H12 ISOMER	21.02	4900	J
5.		C10H14 ISOMER	21.59	2200	J
6.		UNKNOWN	22.39	3600	J
7.		UNKNOWN	22.61	3100	J
8.	95932	BENZENE,1,2,4,5-TETRAMETHYL-	23.57	3900	J
9.		1H-INDENE,2,3-DIHYDRO ISOMER	24.04	1600	J
10.		C10H12 ISOMER	24.41	2200	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5 RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 4 (g/ml) G Lab File ID: >G0576

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	750	U
67-64-1	Acetone	1800	B
75-15-0	Carbon Disulfide	750	U
75-35-4	1,1-Dichloroethene	750	U
75-34-3	1,1-Dichloroethane	750	U
540-59-0	1,2-Dichloroethene (total)	750	U
67-66-3	Chloroform	750	U
107-06-2	1,2-Dichloroethane	750	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	750	U
56-23-5	Carbon Tetrachloride	750	U
108-05-4	Vinyl Acetate	1500	U
75-27-4	Bromodichloromethane	750	U
78-87-5	1,2-Dichloropropane	750	U
10061-01-5	cis-1,3-Dichloropropene	750	U
79-01-6	Trichloroethene	750	U
124-48-1	Dibromochloromethane	750	U
79-00-5	1,1,2-Trichloroethane	750	U
71-43-2	Benzene	750	U
10061-02-6	trans-1,3-Dichloropropene	750	U
75-25-2	Bromoform	750	U
108-10-1	4-Methyl-2-pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	460	J
79-34-5	1,1,2,2-Tetrachloroethane	750	U
108-88-3	Toluene	180	J
108-90-7	Chlorobenzene	750	U
100-41-4	Ethylbenzene	1200	
100-42-5	Styrene	750	U
1330-20-7	Xylene (total)	38000	E

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

S-5 RE

Lab Name: TCT-ST.LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 4 (g/mL) G Lab File ID: >G0576

Level: (low/med) MED Date Received: 03/15/91

% Moisture: not dec. 17 Date Analyzed: 03/18/91

Column: (pack/cap) CAP Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 10

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	41898899	2,3-HEPTADIEN-5-YNE,2,4-DIME	19.07	120000	J
2.		TRIMETHYL BENZENE ISOMER	19.24	90000	J
3.		C9H12 ISOMER	19.61	70000	J
4.	95636	BENZENE,1,2,4-TRIMETHYL	20.04	130000	J
5.		C9H10 ISOMER	20.91	48000	J
6.		UNKNOWN	21.53	23000	J
7.		C10H14 ISOMER	21.73	31000	J
8.		C10H14 ISOMER	22.32	41000	J
9.		C10H14 ISOMER	22.53	30000	J
10.		C10H14 ISOMER	23.49	36000	J
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
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28.					
29.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-5

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5018

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)Ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
100-51-6	Benzyl alcohol	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	bis(2-Chloroisopropyl)ether	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
65-85-0	Benzoic acid	1900	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	3500	
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	560	
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

S-5

Lab Name: TCT - ST. LOUIS Contract: 3540

Lab Code: TCT Case No.: 00011 SAS No.: SDG No.: FIELD BLANK

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 30 (g/ml) G Lab File ID: >D5018

Level: (low/med) LOW Date Received: 03/15/91

% Moisture: not dec. 14 dec. Date Extracted: 03/20/91

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 03/29/91

GPC Cleanup: (Y/N) N pH: 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenyl ether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-nitrosodiphenylamine	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	190	J
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
193-39-5	Dibenzo(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

SEMIVOLATILE ORGANICS ANALYSIS DATA -
TENTATIVELY IDENTIFIED COMPOUNDS

S-5

Contract: 3540

Lab Name: TCT-ST.LOUIS

SDG No.: FIELD BLANK

Lab Code: TCT Case No.: 00011 SAS No.:

Lab Sample ID: 91001118

Matrix: (soil/water) SOIL

Lab File ID: >D5018

Sample wt/vol: 30 (g/mL) G

Date Received: 03/15/91

Level: (low/med) LOW

Date Extracted: 03/20/91

% Moisture: not dec. 14 dec.

Date Analyzed: 03/29/91

Extraction: (SepF/Cont/Sonc) SEPF

Dilution Factor: 1

Cleanup: (Y/N) N pH 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 20

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.21	9800	J
2.		DIMETHYL BENZENE ISOMER	5.72	2200	J
3.		DIMETHYL BENZENE ISOMER	6.19	2300	J
4.		UNKNOWN	7.40	1900	J
5.	103651	BENZENE,PROPYL	7.48	2500	J
6.		TRI-METHYL BENZENE ISOMER	7.68	15000	J
7.		UNKNOWN	7.74	7800	J
8.		UNKNOWN	7.89	12000	J
9.		TRI-METHYL BENZENE ISOMER	8.40	18000	J
10.		TRI-METHYL BENZENE ISOMER	8.89	8400	J
11.		UNKNOWN ALKENE	9.11	2200	J
12.		BENZENE ISOMER	9.42	3100	J
13.		BENZENE ISOMER	9.56	7000	J
14.		BENZENE ISOMER	9.89	2600	J
15.		BENZENE ISOMER	9.95	2600	J
16.		UNKNOWN ALKANE	10.32	1800	J
17.		BENZENE ISOMER	10.65	2900	J
18.		BENZENE ISOMER	10.71	2900	J
19.		DIHYDRO-METHYL 1H-INDENE	11.05	1700	J
20.		BENZENE ISOMER	11.24	3300	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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EPA SAMPLE NO.

S-5

PESTICIDE ORGANICS DATA SHEET
1D

Lab Name: TCT-ST. LOUIS Contract:

Lab Code: TCT Case No.: 3540-11 Sas: SDG No.: Field Blank

Matrix: (soil/water) SOIL Lab Sample ID: 91001118

Sample wt/vol: 30 (g/ml) g Lab File ID:

Level: (low/med) LOW Date Received: 3/15/91

%Moisture: not dec.____ dec. 17.2 Date Extracted: 3/20/91

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/91

GPC Cleanup:(Y/N) N pH 5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	ALPHA-BHC	9.7	U
319-85-7	BETA-BHC	9.7	U
319-86-8	DELTA-BHC	9.7	U
58-89-9	GAMMA-BHC	9.7	U
76-44-8	HEPTACHLOR	9.7	U
309-00-2	ALDRIN	9.7	U
1024-57-3	HEPTACHLOR EPOXIDE	9.7	U
959-98-8	ENDOSULFAN I	9.7	U
60-57-1	DIELDRIN	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	ENDRIN	19	U
33213-65-9	ENDOSULFAN II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	ENDOSULFAN SULFATE	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	METHOXYCHLOR	97	U
53494-70-5	ENDRIN KETONE	19	U
5103-71-9	ALPHA-CHLORDANE	97	U
5103-74-2	GAMMA-CHLORDANE	97	U
8001-35-2	TOXAPHENE	190	U
12674-11-2	AROCLOR-1016	97	U
11104-28-2	AROCLOR-1221	97	U
11141-16-5	AROCLOR-1232	97	U
53469-21-9	AROCLOR-1242	97	U
12672-29-6	AROCLOR-1248	97	U
11097-69-1	AROCLOR-1254	190	U
11096-82-5	AROCLOR-1260	190	U

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

S-5

Lab Name: TCT-ST. LOUIS

Contract: 3540

Lab Code: TCT

Case No.: 00011

SAS No.:

SDG No.: FIELDBLANK

Matrix (soil/water): SOIL

Lab Sample ID: 91001118

Level (low/med): LOW

Date Received: 03/15/91

% Solids: 82.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4900			P
7440-36-0	Antimony	3.4	U	N	F
7440-38-2	Arsenic	0.56	B	NW	F
7440-39-3	Barium	19.1	B		P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.72	U		P
7440-70-2	Calcium	1780		E	P
7440-47-3	Chromium	20.8			P
7440-48-4	Cobalt	4.6	U		P
7440-50-8	Copper	8.9			P
7439-89-6	Iron	23800			P
7439-92-1	Lead	9.1			F
7439-95-4	Magnesium	406	B	E	P
7439-96-5	Manganese	26.6			P
7439-97-6	Mercury	0.32			CV
7440-02-0	Nickel	2.9	B		P
7440-09-7	Potassium	1110	B		A
7782-49-2	Selenium	0.26	B	N	F
7440-22-4	Silver	0.24	U	W	F
7440-23-5	Sodium	22.9	U		P
7440-28-0	Thallium	0.53	B		F
7440-62-2	Vanadium	18.8			P
7440-66-6	Zinc	45.2			P
	Cyanide	0.30	U		AS

Color Before: BROWN

Clarity Before: N/A

Texture: MEDIUM

Color After: LT.YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

Ref. No. 2, p. 311 (last page)

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REFERENCE NO. 3

START-02-3B

RECORD

DESOTO ;INC.

PENNSAUKEN, N.J.

Ref. No. 3

Desoto, Incorporated (Inc.)
CERCLIS ID No.: NJD005440342
8600 River Road
Pennsauken Township
Camden County, New Jersey

Off-site Reconnaissance performed on June 1, 1999

START Members: Kiersten Dorneman
Joanne D'Onofrio

Weather: Sunny, partly cloudy 86°F

1130 Departed Weston START office for the Desoto, Inc. site.

1330 Arrived at the site. Sign at the entrance to the facility read:
Delair Group, Inc.
8600 River Road
Delgard Aluminum Ornamental Fence
Esther Williams Swimming Pools
Johnny Weissmuller Swimming Pools
Patriot Pool Products

Description: Security gate at entrance. Fence with ornamental hedge along River Road. Front of facility is well kept. Weigh scale for trucks in entrance of facility. Parking lot to the left of the facility (north). Entire lot is paved. Estimated # of cars in lot is more than 100.

Desoto, Inc. June 1, 1999

Description continued:

Site surrounded by a well maintained fence. Area on the west side of the facility, adjacent to River Road is used as a storage area. The following observations were made in this storage area:

- asphalt throughout entire area
- storage of unknown containers with unknown contents
- unmarked drums stored on pallets (8 pallets × 4 drums/pallet = approx. 32 drums) contents possibly raw materials
- pallets covered with plastic sheeting approx. 16 pallets
- 6 metal bins covered with plastic
- 5 unknown square containers covered with plastic
- metal stacked trays covered with plastic
- metal frames

JD

Desoto, Inc. June 1, 1999.

Nearest residences located along John Tipton Blvd. approx. 75 feet south of the property fence.

There are no schools, or day-care centers on, or within 200 feet of the site.

Penn Central railroad tracks south of the facility parallel to John Tipton Blvd. RR tracks also on the eastern portion of the site.

Pennsauken Sanitary landfill located northeast of the site. Landfill is active.

Site topography is relatively flat.

Drainage/runoff from landfill restricted by Penn Central Railroad tracks.

Drainage ditch south of facility runs along railroad embankment and discharges to storm sewer on River Road.

Desoto, Inc. June 1, 199c

Area surrounding Desoto facility
industrial / residential
(residences bordering southern edg
of property along John Tipton Blvd

Aluminum Shapes, Inc. 9000 River
borders to the north.

Pennsauken Landfill borders to th
northeast.

River Road borders to the west.

Corner of River Road and John
Tipton Blvd. is Rcccc's Steak

Other facilities along River Road
include:

- STECH Group 8501 River Road
  Standard Warehouse
  F+W Transportation
  STECH Transportation
  Mid-Atlantic Logistics
- Cetylite Industries, Inc.
- Kenrich Company, Inc. 9101 River R
- MPC Industries 9111 River Road
- North Star Shipping Company
  9600 River Road

Desoto, Inc. June 1, 1999

Southeast of facility were 2 aboveground storage tanks (elevated) within a concrete dike area.

Approximate dimensions of diked area 40 ft. in length
20 ft. in width

Hard to tell integrity of concrete dike, however, did observe weeds growing up from within dike.

Tanks no longer in use.

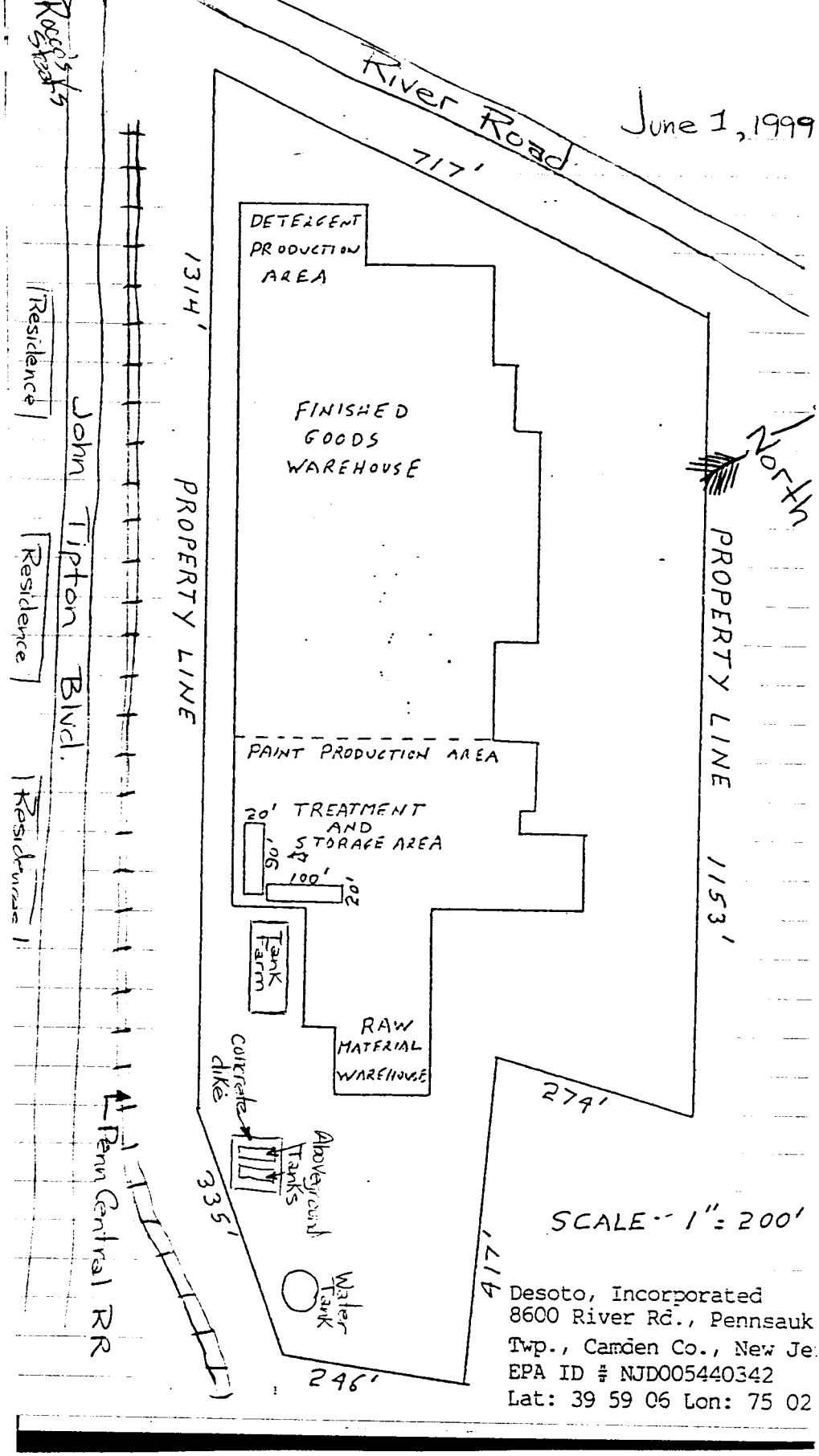
1 tank labeled with yellow sticker marked "Empty".

Outside of concrete dike appears to be in good shape (no apparent cracks in concrete).

1 large water tank in the eastern portion of the site.

Background file information indicated a monitoring well installed in the northeast portion of the site.

This monitoring well was not observed during the site reconnaissance.


June 1, 1999
River Road
717'
DETERGENT PRODUCTION AREA
FINISHED GOODS WAREHOUSE
1314'
PROPERTY LINE
PROPERTY LINE
1153'
North
PAINT PRODUCTION AREA
20'
TREATMENT AND STORAGE AREA
90'
100'
20'
Tank Farm
RAW MATERIAL WAREHOUSE
Concrete dike
Aboveground Tanks
Water Tank
274'
335'
417'
246'
SCALE -- 1" = 200'
Residence
Residence
Residence
John Tipton Blvd.
Penn Central RR
Desoto, Incorporated
8600 River Rd., Pennsauk
Twp., Camden Co., New Je
EPA ID # NJD005440342
Lat: 39 59 06 Lon: 75 02

Desoto, Inc. June 1, 1999

Photo #	Negative #	Time	Description
1	25	1341	View southeast of entrance to the facility.
2	23	1344	View northeast of parking lot.
3	24	1343	View north along River Road.
4	26	1340	View south along River Road.
5	21	1346	View east of covered pallets next to building.
6	22	1345	View southeast of storage area next to building.
7	14	1356	View southeast of property fence and ornamental hedge.
8	13	1358	View east of Penn Central railroad tracks and residences along John Tipton Blvd.
9	19	1348	View northwest of south side of the facility, Penn Central RR tracks and John Tipton Blvd.
10	20	1347	View northeast of storage area on the south side of the facility.
11	16	1352	View north of property fence adjacent to railroad tracks. Storage area in the background
12	15	1354	View north of aboveground storage tank area.
13	18	1349	View northwest of above-ground storage tank area.
14	17	1350	View northeast of water tank located in the eastern portion of the site.

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Desoto, Inc. June 1, 1999

1400 Completed off-site reconnaissance

1415 Departed site

1420 Arrived at Pennsauken Sewerage Authority to obtain information on sewer system.
Asked receptionist who directed us to the Highway Dept. on Clement Avenue in Pennsauken.

1456 Departed Pennsauken Sewerage Authority for Highway Dept. to inquire about storm sewers located on River Road.
Question: Where do the storm sewers discharge to ?

Pennsauken Public Works Dept.
6725 Wayne Ave.

1510 Departed Pennsauken Public Works Office for START office.

1630 Arrived at START office.

DESOTO Property 6-22-00

WEATHER: CLOUDY SKIES, Possible rain, Temp 70-90°F, HUMID.

0730- J. ALFANO, J. ANDERSON, J. MOORE, + F. FENDLER MEET ON-SITE. H&S PLAN is reviewed + signed.

0745- JMOORE (JM) MEET w/ Mr. YORK OF DELAIR GROUP AND UPDATED HIM ON OUR ACTIVITIES AND LOCATIONS OF WORK. WESTON PERSONNEL ARE CALIBRATING EQUIPMENT AND PREPARING SAMPLE BOTTLE SETS.

0810- TERRAPROBE RIG SETS UP ON SB-1 LOCATION. J. ANDERSON (JS) WILL LOG/SUPERVISE THIS SAMPLING EFFORT.

0815- BILL ROMAINE OF TERRA PROBE ARRIVES ON-SITE TO SUPPORT FRANK. FENDLER.

0830- SB-1 LOCATION DRILLING COMMENCES

0915- J. MOORE meets Steffi Pharno Aluminum Shapes Consultant.

- LIGHT RAIN COMMENCES -

0930- GROUNDWATER SAMPLING COMMENCES @ MW-15 UNDER THE DIRECTION OF GERRY ALFANO (GA).

- J.A leaves site to get supplies.

0935- GEOPROBE CONTRACTOR INDICATES THAT THE SUBSURFACE SOILS IS GETTING VERY HARD. HE HAS CONCERNS ABOUT BEING ABLE TO REACH THE GW TABLE. F. FENDLER STATES THAT A MORE HEAVY DUTY RIG MAY BE NEEDED TO REACH THE GW TABLE. J.M ASKED HIM TO DRILL AS DEEP AS POSSIBLE

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6-22-00 DESOTO Property

0940 - RAIN stops, very humid
1005 - TERRAPROBE DRILLERS ARE COMPLETED W/ SB-1 + MOVE TO SB-2 LOCATION.
1030 - FIRST ATTEMPT AT SB-2 IS STOPPED @ 8' BGS NEAR THE FORMER CLARIFIER (SUBSURFACE OBSTRUCTION).
- BORE HOLE IS OFFSET 5' EAST OF ORIGINAL LOCATION.
11:30 - WELLS MW-15, MW-7 ARE SAMPLED WITH RINSATE BLANK 6755-RB-1 COLLECTED. TRIP BLANKS ARE PLACED AS WELL.
SB SUBSURFACE OBSTRUCTION AT 24' (+ OR -) HALTS TERRAPROBES ABILITY TO SAMPLE SOIL. A soil sample is collected at THAT DEPTH + TERRAprobe drillers drill deeper to obtain A water sample.

1200 - LUNCH BREAK FOR TERRAPROBE. STEFFI PHAND LEAVES SITE.

1400 - MW-8 IS SAMPLED. ALL PURGE WATER IS HAND CARRIED TO PORTABLE BUBBLE STORAGE TANKS. GROUNDWATER SAMPLING EQUIPMENT IS DECONED + MISC. EQUIPMENT IS PACKED UP

6-22-00 17

14:30 - SET UP ON SB-3.

15:00 - PURGING COMMENCES @ MW-14. J. MOORE CALLS J. D'ONFRIO AND GIVES HER A STATUS UPDATE.

16:00 - WELL SAMPLING COMPLETED AT THE ~~ALUM~~ ALUM. SHAPES FACILITY.

- SOIL boring SB-3 is completed to a depth of 24 ft AND drilling is suspended.

17:00 - WESTON PERSONNEL drop off COOLERS AT FEDEX.

1740 - WESTON PERSONNEL complete SAMPLE MANAGEMENT and packing of COOLERS AND J. MOORE / J. Anderson leave site.

Desoto Property 6/23/00

Weather: Sunny, Hot, light Breeze

700 J. Anderson, G. Alfano (RFW) F. Fendler (Terra Probe) arrive on site JA Holds Morning safety Mtg

730 FF sets up Geoprobe rig on SB-3 to finish hole That was started on 6/22/00 JA and GA Sort equipment and organize sample Jars. GA Calibrates HNU. JA to finish SB-3 GA will start SB-4 when Terraprobe 2nd rig arrives

820 Terra probes 2nd rig Arrives GA will oversee SB-4.

830 FF tells JA Soil sampler has been advanced as deep as possible 26 ft hole continues to collapse JA will collect soil sample at deepest depth 26 ft Terraprobe will advance water discrete sampler as far as possible before opening.

920 Discrete water sampler pushed to 50 ft no water encountered. GA on SB-4 has collected 2 upper samples and continues to sample until water is encountered

1045 GA able to push soil sampler to 36 ft but no water encountered took soil sample at deepest point will push Discrete water sampler as far as possible to attempt to reach water

for a

6/23/00

1130 Discrete water sampler advanced to 42 ft Terraprobe tells us they cannot push further. Sampler is opened and no water encountered

1200 JA + GA will organize samples and send offsite while terraprobe back fills holes and cleans up to leave site.

1250 JA + GA + Terraprobe ready to leave site JA + GA will stop to get supplies for coolers and cool coolers from fedex in Mount Laurel

1340 JA Drops off coolers w/ COC at fedex for overnight delivery / Saturday to lab for analysis GA heads back to office

REFERENCE NO. 4

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM **PROJECT NOTE**

TO:
Desoto, Inc. File

DATE:
08/30/99

FROM:
Joanne D'Onofrio

SUBJECT:
Notice of Violations

REFERENCE:
The attached Notice of Violation letters from the New Jersey Department of Environmental Protection, Division of Waste Management were sent to Desoto to notify them of failure to comply with the State's hazardous waste regulation requirements. The following violations were cited against Desoto:

October 29, 1982 - Failure to submit a Hazardous Waste Generator Annual Report for calendar year 1981.

August 22, 1983 - Failure to submit a Hazardous Waste Generator Annual Report for calendar year 1982.

August 31, 1983 - Failure to establish financial assurance for closure and post-closure and to demonstrate financial responsibility for claims.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
120 Rt. 156, CN 402, Yardville, N.J. 08625

JACK STANTON
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

Desota Inc.
Irving P. Schwerd
8600 River Road
Pennsauken, NJ 08110

Re: NOTICE OF VIOLATION
FAILURE TO SUBMIT ANNUAL REPORT

Dear Mr. Schwerd:

Pursuant to the provisions of the New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1, et seq., the Department of Environmental Protection has determined by examination of our files that you violated N.J.A.C. 7:26-7.6(f)2 in that you failed to submit an annual report by March 1, 1982.

NOW, THEREFORE, YOU ARE HEREBY NOTIFIED that your facility shall submit the required annual report within fifteen (15) days of receipt of this Notice to: Frank Coolick, Bureau of Engineering Review, 32 East Hanover Street, Trenton, New Jersey 08625.

BE ON NOTICE that the Solid Waste Management Act establishes penalties of up to $25,000 per day for violation of the Department's hazardous waste management regulations. Your failure to correct the above violation, or any future violation, may result in a penalty action by this Department. Failure to submit the required report by the specified date will result in daily fines as follows:

i.	During the first week after the deadline:	$100/day
ii.	During the second week after the deadline:	$200/day
iii.	During the third week after the deadline:	$500/day
iv.	During the fourth week after the deadline and subsequently: a maximum of	$25,000/day

If you have any questions regarding this Notice, please call the Bureau of Engineering Review at (609) 292-9880.

DATE Oct 29, 1982

David J. Shotwell, Chief
Bureau of Compliance and Enforcement

rh

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT
32 E. Hanover St., CN 028, Trenton, N.J. 08625

JACK STANTON
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

18 AUG 1983 *RESENT 8/22/83

Ken A. Walanski
DeSoto, Inc.
1700 South Mt. Prospect Road
Des Plaines, IL 60018

RE: TSD ANNUAL REPORT - DeSoto, Inc.
EPA ID NO. NJD005440342

Dear Sir:

As a result of the information included in your company's RCRA Part A submittal to the USEPA, Region II, or New Jersey Part A Hazardous Waste Permit Application, your hazardous waste activities have been classified as a TSD (Treatment, Storage or Disposal) facility. Pursuant to N.J.A.C. 7:26-7.6(f)2, the owner or operator of each TSD facility must prepare and submit two copies of an annual report to the Department by March 1 of each year. As of the date of this letter, the Bureau of Hazardous Waste Engineering has not received the aforementioned report from your facility. Therefore your company is required to submit a TSD Annual Report, within thirty (30) days of the date of this letter,* covering the calendar year 1982, for the above-referenced facility. If you need additional time to complete this report, please contact this office as soon as possible.

The minimum requirements for the TSD Annual Report are attached along with instructions on how to complete it. Also enclosed are instructions on how to be delisted from the TSD status. Please note that this report is different and separate from the Generator's Annual Report referred to in N.J.A.C. 7:26-7.4(g).

TSD Annual Reports should be submitted to:

Frank Coolick, Chief
Bureau of Hazardous Waste Engineering
32 East Hanover Street
Trenton, NJ 08625

If you have any questions, please call the Bureau of Hazardous Waste Engineering at (609) 292-9880.

Very truly yours,

Frank Coolick

Frank Coolick, Chief
Bureau of Hazardous Waste Engineering

FC:EK:jb

3

Attachments

New Jersey Is An Equal Opportunity Employer

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
120 Rt. 156, Yardville, N.J. 08620

JACK STANTON
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

Desoto, Inc.
Irving P. Schwerd
8600 River Road
Pennsauken, NJ 08110

RE: NOTICE OF VIOLATION
FAILURE TO ESTABLISH FINANCIAL ASSURANCE FOR CLOSURE AND POST-CLOSURE AND TO DEMONSTRATE FINANCIAL RESPONSIBILITY FOR CLAIMS - EPA ID #NJD005440342

Dear Mr. Schwerd:

Pursuant to the provisions of New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1, et seq., the Department of Environmental Protection has determined by examination of our files that you violated N.J.A.C. 7:26-9.10(e) and 9.11(c) in that you have failed to establish, and/or submit to the Department, financial assurance for closure and post-closure of the facility, and N.J.A.C. 7:26-9.13 in that you have failed to demonstrate financial responsibility for claims arising from the operations of your facility for sudden or non-sudden and accidental occurrences that cause injury to persons or property.

NOW, THEREFORE, YOU ARE HEREBY NOTIFIED that you facility shall submit the required documents within thirty (30) days of receipt of this Notice to: Frank Coolick, Bureau of Hazardous Waste Engineering, 32 East Hanover Street, Trenton, New Jersey 08625.

BE ON NOTICE that the Solid Waste Management Act establishes penalties of up to $25,000 per day for violation of the Department's hazardous waste management regulations. Your failure to correct the above violation may result in a penalty action by this Department up to the maximum allowed pursuant to law.

If you have any questions regarding this Notice, please call the Bureau of Compliance and Enforcement at (609) 292-0967. If you have any questions regarding the document to be submitted, please call the Bureau of Hazardous Waste Engineering at (609) 292-9880.

DATE: AUG 31 1983

David J. Shotwell, Chief
Bureau of Compliance and
Enforcement

lmc

REFERENCE NO. 5

DeSoto, Inc.
ADMINISTRATIVE AND RESEARCH CENTER
1700 SOUTH MOUNT PROSPECT ROAD, DES PLAINES, ILLINOIS 60018 TELEPHONE 312-391-8000

March 21, 1984

Division of Waste Management
New Jersey Department of Environmental Protection
32 East Hanover St.
Trenton, New Jersey 08625

Re: Closure
DeSoto, Inc.
8600 River Road
Pennsauken, N. J. 08110
EPA #NJD005440342

Dear Sir/Madam:

Pursuant to New Jersey Solid and Hazardous Waste Management Regulations 7:26-9.8 et seq., DeSoto, Inc. is submitting the instruments of closure for the subject facility. These are (1) a certification by a registered professional engineer that the site has been closed in accordance with the Closure Plan and (2) a Certification of Closure by Mr. R. R. Missar, the representative of the owner/operator of the site.

By closing the site in accordance with the Closure Plan and by submitting the instruments of closure, DeSoto, Inc. believes that all of the hazardous waste regulatory requirements have been met and that the site is formally closed.

Please contact us if any questions arise with respect to the submittal.

Yours very truly,

Ken Walanski

K. A. Walanski, P.E.
Corporate Environmental Engineer

SP
enc
bcc: R. McQueen - w/att
W. Lynch - w/att

Ref. No. 5, p. 1

CERTIFICATION OF CLOSURE

I, Richard R. Missar, represent the owner/operator of the DeSoto, Inc. facility at 8600 River Road, Pennsauken, New Jersey, 08110, EPA #NJD005440342.

I hereby certify that, as of the date below, the hazardous waste storage site located at this facility has been closed in accordance with the requirements of the Closure Plan.

Signature Richard R. Missar

Richard R. Missar
Chairman of the Board,
President & Chief Executive Officer
DeSoto, Inc.
1700 S. Mt. Prospect Road
Des Plaines, Illinois 60018

Date March 21 1984

Ref. No. 5, p. 2

PROFESSIONAL ENGINEER CERTIFICATION OF CLOSURE

I, Kenneth A Walanski, hereby certify the following:

1. I am a licensed Professional Engineer.

2. On October 31, 1983 I inspected the DeSoto, Inc. facility EPA #NJD005440342, located at 8600 River Road, Pennsauken, New Jersey, 08110, to determine if the hazardous waste storage site had been closed in accordance with the requirements of the facility's Closure Plan.

3. On the date of my inspection, I found that (1) all hazardous wastes had been removed from the site (2) all facility equipment and structures have been decontaminated by removing all hazardous wastes and residues.

4. To the best of my knowledge, the hazardous waste storage site has been closed in accordance with the requirements of the Closure Plan.

5. To the best of my knowledge, the facility's hazardous waste storage site was closed in such a way as to eliminate the need for further maintenance and controls to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to groundwater, surface water or the atmosphere.

Signature K A Walanski date 3-21-84

Kenneth A. Walanski
Registered Professional Engineer
422 N. Ardmore Road
Des Plaines, IL 60016
License #062-041415

Ref. No. 5, P. 3

REFERENCE NO. 6

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM **PROJECT NOTE**

TO:
Desoto, Inc. File

DATE:
08/30/99

FROM:
Joanne D'Onofrio

SUBJECT:
Hazardous Waste Manifests

REFERENCE:
The attached are New Jersey Department of Environmental Protection Hazardous Waste Manifests, which document the shipment and disposal of hazardous waste from the site between August 8 and 22, 1984. Manifest No. NJ0226811 specifically documents the removal of approximately 800 gallons of organic solvents from the underground storage tanks (former tank farm). This material was sent for disposal to S&W Waste, Inc. in Kearny, New Jersey on August 8, 1984.

Ref. No. 6, p. 1

(5/82)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE MANIFEST

Please TYPE all information.
TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE
DELIVERY AND NON-TAMPERING WITH SHIPMENT - ALSO PRINT SIGNATURE

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0226811

GENERATOR NAME OF SIGNATURE AND CERTIFICATION	PHONE (INCLUDE AREA CODE)	EPA ID NO.
De Soto Inc.	609-665-6700	NJD005440342

ADDRESS (STREET - CITY - STATE): 8600 River Road Pennsauken N.J. — ZIP CODE: 08110

TRANSPORTER NO. 1	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ABC Waste Oil Removal Service Co. Inc.	609-881-6546	NJD980526455

ADDRESS (STREET - CITY - STATE): 580 E. Clayton Ave. Clayton N.J. — ZIP CODE: 08312

TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.

ADDRESS (STREET - CITY - STATE): — ZIP CODE:

TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY NAME	PHONE (INCLUDE AREA CODE)	EPA ID NO.
STW Waste Inc.	201-344-4004	NJD096865837

TSD ADDRESS (STREET - CITY - STATE): 53 Pennsylvania Ave. S. Kearny N.J. — ZIP CODE: 07032

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE
THIS FORM IS NO. ___ OF A TOTAL OF ___. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1.	Waste Flammable Liquid, NOS	Flammable Liquid	UN 1993	1	800	1	001	02	I	D001
2.										
3.										
4.										
5.										
6.										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

1102

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
[signature] Anthony C. Padella	Maint Mgr.	08 08 84	08 08 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Rand Campbell Rand Campbell	NJSWAS 8155AA	08 08 84

TEAR AT THIS PERFORATION

Ref. No. 6, p. 2

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE MANIFEST

Please TYPE all information

PART A - GENERATOR'S COPY

DOCUMENT NO. NJ 0226499

GENERATOR NAME: DESOTO INC	PHONE (INCLUDE AREA CODE): 609-665-6700	EPA ID NO.: NJD005440344
ADDRESS (STREET - CITY - STATE): 9600 RIVER Rd PENNSAUKEN N.J.		ZIP CODE: 08110
TRANSPORTER NO. 1: ABC WASTE OIL Removal/Service	PHONE (INCLUDE AREA CODE): 609-881-6586	EPA ID NO.: NJD981052645
ADDRESS (STREET - CITY - STATE): 500 E. CLAYTON AVE CLAYTON N.J.		ZIP CODE: 08312
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: Chem Clear INC.	PHONE (INCLUDE AREA CODE): 215-687-8990	EPA ID NO.: PAD000731020
SITE ADDRESS (STREET - CITY - STATE): Jeffery St Chester Pa.		ZIP CODE: 19087

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE
THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1.	WASTE WATER	NON HAZARDOUS	NA-NA		06200	NA	NA	NA	NA	NA
2.										
3.										
4.										
5.										
6.										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE: H Montgomery - H. Montgomery	TITLE: PLANT CONTROLLER	DATE SHIPPED: 08 08 84 (MO. DAY YR.)	EXPECTED ARRIVAL DATE: 08 09 84 (MO. DAY YR.)
TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE: [illegible] STANLY WILLIAMS	TRANSPORTER NO. 1 VEHICLE ID NO.: NJSWAS8159AB	DATE RECEIVED: 08 09 84 (MO. DAY YR.)	

TEAR AT PERFORATION

RHN Lp 3

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Please TYPE all information COPY

HAZARDOUS WASTE MANIFEST

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF WITH SHIPMENT - ALSO PRINT SIGNATURE

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0226500

GENERATOR NAME: DESOTO INC.	PHONE (INCLUDE AREA CODE): 609-665-6700	EPA ID NO.: NJD 005440342
ADDRESS (STREET - CITY - STATE): 8600 RIVER Rd PENNSAUKEN, N.J.		ZIP CODE: 08110
TRANSPORTER NO. 1: A.B.C. WASTE OIL Removal Service	PHONE (INCLUDE AREA CODE): 609-881-6586	EPA ID NO.: NJD 980526453
ADDRESS (STREET - CITY - STATE): 580 E CLAYTON AVE CLAYTON N.J.		ZIP CODE: 08312
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: Chem Clear INC.	PHONE (INCLUDE AREA CODE): 215-687-8990	EPA ID NO.: PAD000731026
ADDRESS (STREET - CITY - STATE): Jeffery St Chester PA		ZIP CODE: 19087

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE
THIS FORM IS NO. ____ OF A TOTAL OF ____ THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1.	WASTE WATER	NON HAZARDOUS	NA	NA	06000	NA	NA	NA	NA	NA
2.										
3.										
4.										
5.										
6.										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
H Montgomery - H. Montgomery	Plant Controller	08 08 84	08 08 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Douglas Durham - Douglas Durham	NJSWAS 8159 AD	08 08 84

TEAR AT THIS PERFORATION

Ref. No. 6, p. 4

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Please TYPE all information

HAZARDOUS WASTE MANIFEST

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0223324

GENERATOR NAME: De Soto Inc.	PHONE (INCLUDE AREA CODE): (609)665-6700	EPA ID NO.: NJD005A40342
ADDRESS (STREET - CITY - STATE): 8600 River Road	Pennsauken, New Jersey	ZIP CODE: 08110
TRANSPORTER NO. 1: S. & W. Waste, Inc.	PHONE (INCLUDE AREA CODE): (201)344-4004	EPA ID NO.: NJD096865837
ADDRESS (STREET - CITY - STATE): 53 Pennsylvania Avenue	South Kearny New Jersey	ZIP CODE: 07032
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: S. & W. Waste, Inc.	PHONE (INCLUDE AREA CODE): (201)344-4004	EPA ID NO.: NJD096865837
SITE ADDRESS (STREET - CITY - STATE): 53 Pennsylvania Avenue	South Kearny New Jersey	ZIP CODE: 07032

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE

THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1. Hazardous Waste Liquid NOS	ORM-E	NA9189	1	20	2	01	06	T	X900
2.									
3.									
4.									
5.									
6.									

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

1) Latex Paint

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
[signature] Anthony [signature]	[signature]	08 10 84	08 10 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
[signature]	NJSWAS3002DS	08 10 84

TEAR AT THIS PERFORATION

Ret N 6,1 5

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE MANIFEST

Please TYPE all information.

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0223429

GENERATOR NAME: DE SOTO INC	PHONE (INCLUDE AREA CODE): 609-665-6700	EPA ID NO.: NJD005440342
ADDRESS (STREET - CITY - STATE): 8600 RIVER ROAD PENNSAUKEN N.J.		ZIP CODE: 08110
TRANSPORTER NO. 1: S&W WASTE INC.	PHONE (INCLUDE AREA CODE): 201-344-4004	EPA ID NO.: NJD0~~05440342~~ 96865837
ADDRESS (STREET - CITY - STATE): 53 PENNSYLVANNIA AVE S. KEARNY N.J.		ZIP CODE: 07032
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: S&W WASTE INC.	PHONE (INCLUDE AREA CODE): 201-344-4004	EPA ID NO.: NJD0~~05440342~~ 96865837
SITE ADDRESS (STREET - CITY - STATE): 53 PENNSYLVANNIA AVE S. KEARNY N.J.		ZIP CODE: 07032

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE
THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1. WASTE FLAMMABLE SOLIDS, NOS	FLAMMABLE SOLID	UN 1325	2	00800	3	002	01	I	D001
2. WASTE CORROSIVE SOLIDS NOS	CORROSIVE MATERIAL	UN 1759	2	00040	3	002	07	C	D002
3. WASTE FLAMMABLE LIQUID, NOS	FLAMMABLE LIQUID	UN 1993	1	00180	1	004	01	I	D001
~~4. WASTE FLAMMABLE LIQUID, NOS~~	~~FLAMMABLE LIQUID~~	~~UN 1993~~	~~1~~		~~1~~		~~07~~	~~I~~	~~D001~~
5. HAZARDOUS WASTE LIQUID, NOS	OEM-E	NA 9189	1	00005	1	001	07	T	X900
6. HAZARDOUS WASTE SOLIDS, NOS	OEM-E	NA 9189	2	08500	3	017	01	T	X910

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)
7 - 5 GAL PAILS

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
Anthony C. Dotoli Anthony C. Dotoli	Maint Supt	08 20 84	08 20 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Freddie McCeary FREDDIE MCCEARY	NJSWAS 3002BG	08 20 84

TEAR AT THIS PERFORATION

6

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

HAZARDOUS WASTE MANIFEST

Please TYPE all information.

GENERATOR'S COPY

DE SOTO

ART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0223430

GENERATOR NAME	PHONE (INCLUDE AREA CODE)	EPA ID NO.
De Soto Inc.	609-665-6700	NJD005440342
ADDRESS (STREET - CITY - STATE)		ZIP CODE
8600 River Road Pennsauken NJ		08110
TRANSPORTER NO. 1	PHONE (INCLUDE AREA CODE)	EPA ID NO.
S&W Waste Inc.	201-344-4004	NJD096865837
ADDRESS (STREET - CITY - STATE)		ZIP CODE
53 Pennsylvania Ave S. Kearny NJ.		07032
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY	PHONE (INCLUDE AREA CODE)	EPA ID NO.
S&W Waste Inc.	201-344-4004	NJD096865837
SITE ADDRESS (STREET - CITY - STATE)		ZIP CODE
53 Pennsylvania Ave S. Kearny NJ.		07032

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE

THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
~~Waste Liquid NOS~~	~~Orm-E~~	~~NA 9989~~	~~1~~	~~[illegible]~~	~~1~~	~~[illegible]~~	~~01~~	~~T~~	~~X900~~
2. Waste Oil NOS	Combustible Liquid	NA 1270	1	001150	1	003	01	T	X726
3. Non Regulated Material	N/A	N/A	1	00385	1	07	01	N/A	N/A
4. Waste Corrosive liquid NOS	Corrosive material	UN 1760	1	00385	1	07	1		CD002
5. Waste oil NOS	Combustible liquid	NA 1270	1	99650	1	05	01		TX900
6.									

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

ITEM 3. SILICATE

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
Anthony Pantella	Maint Supe	08 20 84	08 20 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Freddie McCeary FREDDIE MCCEARY	NJSWAS3002BG	08 20 84

TEAR AT THIS PERFORATION

Ref. No. Cp 7

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE MAN[illegible]ST

Please TYPE all information.

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 021355[illegible]

GENERATOR NAME: De Soto Inc	PHONE (INCLUDE AREA CODE): 609-665-6700	EPA ID NO.: NJD005440
ADDRESS (STREET - CITY - STATE): 8600 River Road Pennsauken N.J.		ZIP CO[illegible]: 08
TRANSPORTER NO. 1: S&W Waste Inc	PHONE (INCLUDE AREA CODE): 201-344-4004	EPA ID NO.: NJD096865
ADDRESS (STREET - CITY - STATE): 53 Pennsylvannia Ave S. Kearny N.J.		ZIP CO[illegible]: 07
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CO[illegible]
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: S&W Waste Inc	PHONE (INCLUDE AREA CODE): 201-344-4004	EPA ID NO.: NJD096865
SITE ADDRESS (STREET - CITY - STATE): 53 Pennsylvannia Ave S. Kearny N.J.		ZIP CO[illegible]: 07

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE
THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	WA[illegible]
1.	Waste Flammable Liquid NOS	Flammable Liquid	UN 1993	1	00015	1	001	01	I	X
2.	Waste Flammable Solid, NOS	Flammable Solid	UN 1325	2	00100	3	001	01	I	X
3.	Waste Corrosive Liquid NOS	Corrosive Material	UN 1760	1	00010	1	001	01	C	X
4.	Waste Perchloric Acid ①	Oxidizer	UN 1873	1	00008	1	001	07	C	D
5.	Waste Corrosive Liquid, NOS	Corrosive Material	UN 1760	1	00004	1	001	07	C	X
6.	Waste Hydrogen Peroxide Solution ②	Oxidizer	UN 2014	1	00001	1	001	07	C	D

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCL[illegible] SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

① Over 50% but not exceeding 72%
07-15A Box
② (8%-40%) Peroxide

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, marked and labelled and ar[illegible] condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes descr[illegible] were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of hazardous waste, and permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIV[illegible] (MO. DAY)
[signature] Anthony C Pintella	Maint Supt	08 20 84	08 20

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY)
Freddie McCearn Freddie McCearn	NJSWAS 3002BG	08 20

TEAR AT THIS PERFORATION

Ref No. 6 p.8

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE MANIFEST

Please TYPE all information.

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0213560

GENERATOR NAME	PHONE (INCLUDE AREA CODE)	EPA ID NO.
DeSoto Inc	609-665-6700	NJD054403470
ADDRESS (STREET · CITY · STATE)		ZIP CODE
8600 River Rd. Pennsauken NJ.		08110
TRANSPORTER NO. 1	PHONE (INCLUDE AREA CODE)	EPA ID NO.
S&W Waste Inc	201-344-4004	NJD096865830
ADDRESS (STREET · CITY · STATE)		ZIP CODE
53 Pennsylvania Ave S. Kearny NJ.		07032
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET · CITY (STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY	PHONE (INCLUDE AREA CODE)	EPA ID NO.
S&W Waste Inc	201-344-4004	NJD096865830
SITE ADDRESS (STREET · CITY · STATE)		ZIP CODE
53 Pennsylvania Ave S. Kearny NJ		07032

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE

THIS FORM IS NO. ____ OF A TOTAL OF ____ THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPERLY DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1.	Waste Hydrochloric Solution ①	ORM-B	NA 1791	1	00004	1	001	DT ②	T	X900
2.	Waste Corrosive Liquid NOS	Corrosive Material	UN 1760	1	00003	1	001	01	C	D002
3.	Waste Corrosive Liquid NOS	Corrosive Material	UN 1760	1	00005	1	001	07 ③	C	D002
4.	~~Waste Sulfuric~~ Paint	~~Corrosive~~ Material	~~UN~~ 1830	1	~~00090~~	1	~~003~~	~~01~~	~~C~~	~~D002~~
5.	Waste ④ Hydrochloric Acid Hazardous	Corrosive Material	UN 1789	1	~~00060~~	1	~~008~~	~~01~~	~~C~~	D002
6.	Waste Solids NOS	ORM-E	NA 9189	2		3		01	T	X910

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

① Containing not more than 7% chlorine by weight (RQ100/46A)

07 - 1 Box

② - 07 - 5 Gal Pail ④ - (RQ-5000/2670)

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GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
Anthony C Portella	Maint Super.	08 20 84	08 20 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Freddie McCann Freddie McCann	NJSWAS3002BG	08 20 84

TEAR AT THIS PERFORATION

Ref. No. 6.p/9

Form VHW-001 (5/82)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

HAZARDOUS WASTE MANIFEST

PART A: GENERATOR'S COPY

DOCUMENT NO. NJ 0226820

GENERATOR NAME: DESOTO, INC	PHONE (INCLUDE AREA CODE): 609-665-6700	EPA ID NO.: NJD005440372
ADDRESS (STREET - CITY - STATE): 8600 River Rd. Pennsauken N.J.		ZIP CODE: 08110
TRANSPORTER NO. 1: St J Transportation	PHONE (INCLUDE AREA CODE): 609-769-2741	EPA ID NO.: NJD071629976
ADDRESS (STREET - CITY - STATE): East Millbrooke Ave Woodstown N.J.		ZIP CODE: 08098
TRANSPORTER NO. 2	PHONE (INCLUDE AREA CODE)	EPA ID NO.
ADDRESS (STREET - CITY - STATE)		ZIP CODE
TREATMENT, STORAGE OR DISPOSAL (TSD) FACILITY: E.I. Dupont Co.	PHONE (INCLUDE AREA CODE): 609-299-5000	EPA ID NO.: NJD002385730
SITE ADDRESS (STREET - CITY - STATE): Chambers Works Deepwater N.J.		ZIP CODE: 08023

IF MORE THAN TWO TRANSPORTERS ARE TO BE UTILIZED, FILL OUT THE FOLLOWING AS APPROPRIATE

THIS FORM IS NO. ____ OF A TOTAL OF ____. THE FIRST MANIFEST DOCUMENT NO. IS NJ →

	PROPER US DOT SHIPPING NAME	US DOT HAZARD CLASS	UN NUMBER	FORM	NET QUANTITY	UNITS	CONTAINERS NO.	CONTAINERS TYPE	EPA HAZ CODE	EPA WASTE TYPE
1.	Hazardous Waste Liquids NOS	ORM-E	NA 9189	1	6200	1	001	02	T	X900
2.										
3.										
4.										
5.										
6.										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION (i.e. IDENTIFICATION OF ADDITIONAL WASTES INCLUDED IN SHIPMENT OF A NONHAZARDOUS NATURE WHICH DO NOT HAVE TO BE MANIFESTED)

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GENERATOR'S SIGNATURE - ALSO PRINT SIGNATURE	TITLE	DATE SHIPPED (MO. DAY YR.)	EXPECTED ARRIVAL DATE (MO. DAY YR.)
Anthony Portella	Main Expr.	08 22 84	08 22 84

TRANSPORTER NO. 1 SIGNATURE AND CERTIFICATION OF RECEIPT OF SHIPMENT - ALSO PRINT SIGNATURE	TRANSPORTER NO. 1 VEHICLE ID NO.	DATE RECEIVED (MO. DAY YR.)
Douglas Duchain	NJSWAS 32[illegible]7	08 22 84

TEAR AT THIS PERFORATION

Ref. No 6, p.10

REFERENCE NO. 7

Bureau of Industrial Site Evaluation
Environmental Cleanup Responsibility Act

Report of Inspection

ECRA CASE # 84-147 Date of Inspection 11-2-84

Inspection Category: Preliminary _____ Final X

Inspector Maria Petix-Kent

Industrial Establishment DeSoto, Inc.

Location 8600 River Road

Pennsauken, Camden County

Individuals Involved: Kenneth Walanski, Corp. Environmental Engineer

Anthony Portello, Maintenance Manager

NARRATIVE DESCRIPTION: With the exception of the remaining alleged soda ash residual, all areas outlined as deficient during the Preliminary Inspection were adequately addressed.

DEFICIENCIES NOTED:
Alleged soda ash remain in the conveyor pit on the railroad siding.

ACTIONS REQUIRED ON THE PART OF THE APPLICANT:
Remove alleged soda ash from the property and supply documentation illustrating clean-up.

Inspector/Case Manager Signature Maria Petix Kent

Approved: _____, Assistant Chief
Bureau of Industrial Site Evaluation

Ref. No. 7, p. 1

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

November 8, 1984

MEMORANDUM

TO: Anthony J. McMahon, Chief
Bureau of Industrial Site Evaluation

FROM: Maria C. Kent, Case Manager
Bureau of Industrial Site Evaluation

SUBJECT: Final Inspection
[redacted] Inc.
8600 River Road
Pennsauken, Camden County
ECRA Case #84-147

On Friday, November 2, 1984, the writer conducted a final inspection at the DeSoto, Inc. facility. Messrs. Ken Wolanski, Authorized Agent, and Anthony Portella, Maintenance Manager, accompanied the writer throughout the tour of the facility.

We inspected the areas found deficient in the preliminary inspection. With the exception of the existing residuals of "alleged" soda ash on the railroad siding, the facility was acceptable (see attached inspection report).

Conclusion

Based on the final inspection, the only area requiring remedial action is the soda ash residuals on the railroad siding. Mr. Wolanski stated that DeSoto will remove all residuals, even through it was not a hazardous waste or substance.

I explained that if they contend to identify this as a non-hazardous waste or substance , DeSoto must provide proper sample analysis illustrating same. Initially he felt this was an arguable issue, but agreed to remove the substance. He will send me a letter outlining the cleanup.

Recommendation

Pending BEERA's review of the Sampling Plan, and removal of the soda ash residual, the site is eligible for a Negative Declaration approval.

HS94/sje
attachment

New Jersey Is An Equal Opportunity Employer

Ref. No. 7, p. 2

REFERENCE NO. 8

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: D005440342
	CERCLIS Discovery Date: 01-23-86	

1. General Site Information

Name: DESOTO, INC.			Street Address: 8600 RIVER ROAD	
City: PENNSAUKEN	State: NJ	Zip Code: 08110	County: CAMDEN	Cong.Dist: 06
Latitude: 39° 59' 6.0" Longitude: 75° 2' 44.0"		Approx. Area of Site: 19 acres	Status of Site: Active	

2. Owner/Operator Information

Owner: ALUMINUM SHAPES, INC.			Operator: ESTER WILLIAMS/JOHNNY WEISMULLER PR		
Street Address: 9000 RIVER ROAD			Street Address: 8600 RIVER ROAD		
City: PENNSAUKEN			City: PENNSAUKEN		
State: NJ	Zip Code: 08110	Telephone: 662-5000	State: NJ	Zip Code: 08110	Telephone: 662-5000
Type of Ownership: Private			How initially identified: RCRA/CERCLA Notification		

Ref. No. 8, p. 1

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: D005440342
	CERCLIS Discovery Date: 01-23-86	

3. Site Evaluator Information

Name of Evaluator: FRANK SORCE		Date Prepared: 9-20-91
Agency / Organization: NJDEP/DRPSR/BSA	EPA or State Agency Contact: KENNETH J. KLOO	
Street Address: 300 HORIZON CENTER CN407		
City: TRENTON	State: NJ	Telephone: 584-4280
Emergency Removal Recommendation: No Date:	Recommendation: RCRC Date:	Signature: Name: FRANK SORCE Position: HSMSIII

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: DOO5440342
	CERCLIS Discovery Date: 01-23-86	

4. General Site Characteristics

Predominate Land Uses within 1 mile of Site:	Site Setting:	Years of Operation:
Industrial Residential	Urban	Beginning Year: 1963 Ending Year: 1991 Unknown

Type of Site Operations:	
Manufacturing Paints, Varnishes	Waste Generated: Onsite
	Waste Deposition Authorized by Former Owner
	Waste Accessible to Public No
	Distance to Nearest Dwelling, School, or Workplace: 50 Feet

5. Waste Characteristics Information

Source Type:	Quantity	units	General Types of Waste:
Non-drum containers	1.400e+04	gals	Organics Solvents Paints/Pigments
			Physical State of Waste Deposited Liquid

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: D005440342
	CERCLIS Discovery Date: 01-23-86	

6. Ground Water Pathway

Is Ground Water Used for Drinking Water Within 4 Miles: No	Is There a Suspected Release to Ground Water: No	List Secondary Target Population Served by Ground Water Withdrawn From:
Type of Ground Water Wells Within 4 Miles: Municipal	Have Primary Target Wells Been Identified: No	0 - 1/4 Mile 0 >1/4 - 1/2 Mile 10000 >1/2 - 1 Miles 25571 >1 - 2 Miles 36211 >2 - 3 Miles 29926 >3 - 4 Miles 35084 Total 136792
Depth to Shallowest Aquifer: 100 Feet		
Karst Terrain/Aquifer Present: No	Nearest Designated Wellhead Protection Area: None within 4 Miles	

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: D005440342
	CERCLIS Discovery Date: 01-23-86	

7. Surface Water Pathway — Page 1

Type of Surface Water Draining Site and 15 Miles Downstream:	Shortest Overland Distance from any Source to Surface Water:
Stream River	2000 Feet 0.4 Miles
Is there a Suspected Release to Surface Water: No	Site is Located in: > 500 yr floodplain

7. Surface Water Pathway — Page 2

Drinking Water Intakes along the Surface Water Migration Path: No

Have Primary Target Drinking Water Inlets been Identified: No

Secondary Target Drinking Water Intakes:
None

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: D005440342
	CERCLIS Discovery Date: 01-23-86	

7. Surface Water Pathway — Page 3

Fisheries Located along the Surface Water Migration Path: Yes

Have Primary Target Fisheries Been Identified: No

Secondary Target Fisheries:

Fishery Name	Water Body/Flow(cfs)
PENNSAUKEN CREEK	small-moderate stream/ 10-100

7. Surface Water Pathway — Page 4

Wetlands Located along the Surface Water Migration Path: Yes

Have Primary Target Wetlands Been Identified: No

Secondary Target Wetlands:

Water Body/Flow(cfs)	Frontage(mi)
small-moderate stream/ 10-100	>1 to 2

Other Sensitive Environments along the Surface Water Migration Path: No

Have Primary Target Sensitive Environments Been Identified: No

Secondary Target Sensitive Environments:

None

PRELIMINARY ASSESSMENT DATA AND SITE CHARACTERISTICS FORM	IDENTIFICATION	
	State: NJ	CERCLIS Number: DOO5440342
	CERCLIS Discovery Date: 01-23-86	

8. Soil Exposure Pathway

Are People Occupying Residences or Attending School or Day Care on or within 200 feet of the Site: Yes Total Resident Population: 25	Number of Workers Onsite: 1 - 100

Have Terrestrial Sensitive Environments Been Identified on or within 200 feet of the site: No

Terrestrial Sensitive Environments:
~~Critical habitat for Federally designated endang/threat species~~

9. Air Pathway

Total Population on/within:		Is there a Suspected Release to Air: No
Onsite	50	
0 - 1/4 Mile	800	Are there Wetlands within 4 Miles of the Site: No
>1/4 - 1/2 Mile	21	
>1/2 - 1 Mile	3636	
>1 - 2 Miles	21947	Are there Other Sensitive Environments within 4 miles of the Site: No
>2 - 3 Miles	88265	
>3 - 4 Miles	194211	
Total	308930	

Sensitive Environments within 1/2 Mile of the Site:
None

REFERENCE NO. 9

Volume 2

New Jersey - Wyoming,
American Samoa, Guam, Puerto Rico,
and Virgin Islands of the United States

Congressional District Atlas

103rd Congress of the United States

Issued February 1993

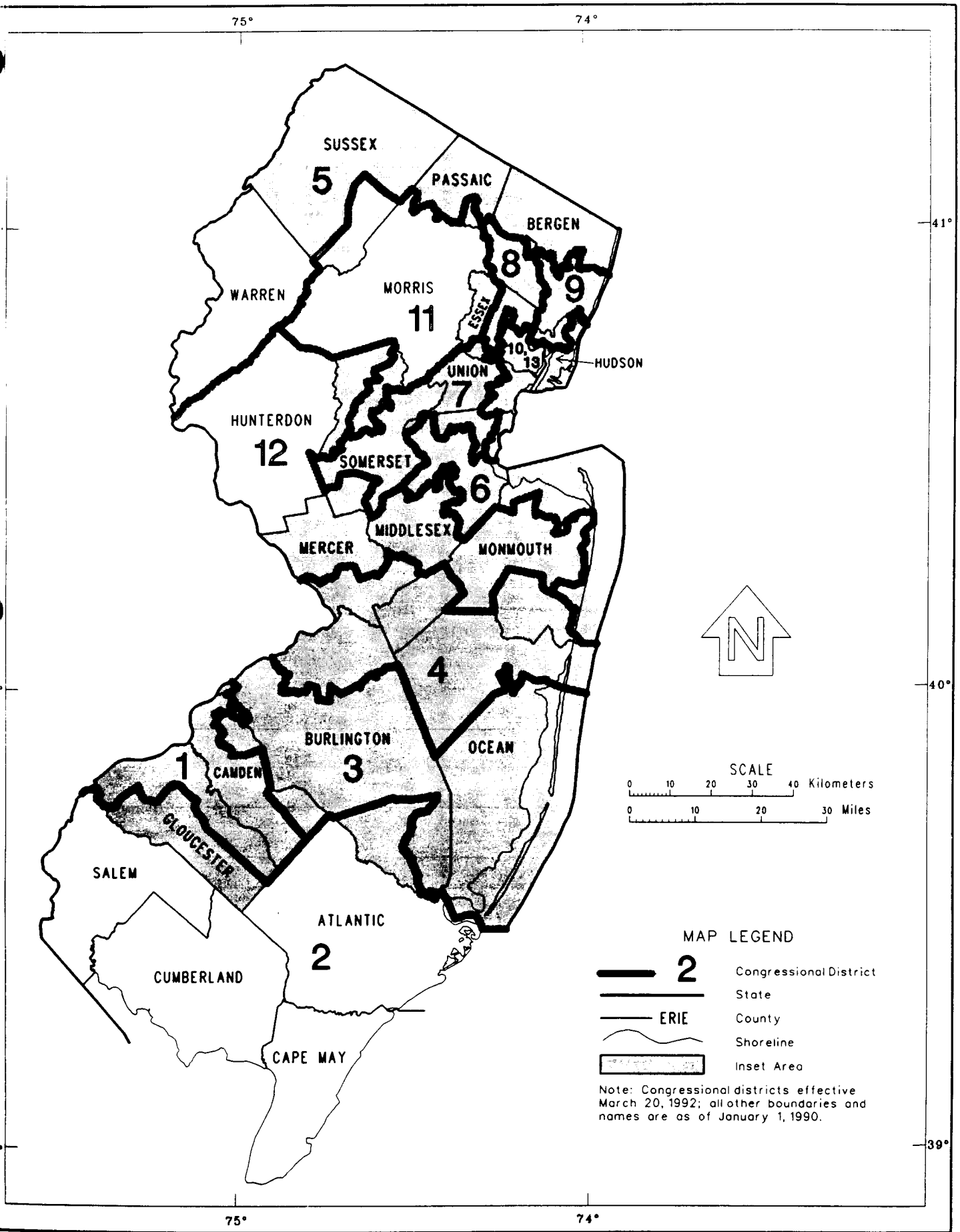
U.S. Department of Commerce
Ronald H. Brown, Secretary
John Rollwagen, Deputy Secretary

Economics and Statistics Administration
Jeffrey Mayer, Acting Under Secretary

BUREAU OF THE CENSUS
Harry A. Scarr, Acting Director

Ref. No. 9, p. 1

Congressional Districts (13 Districts)



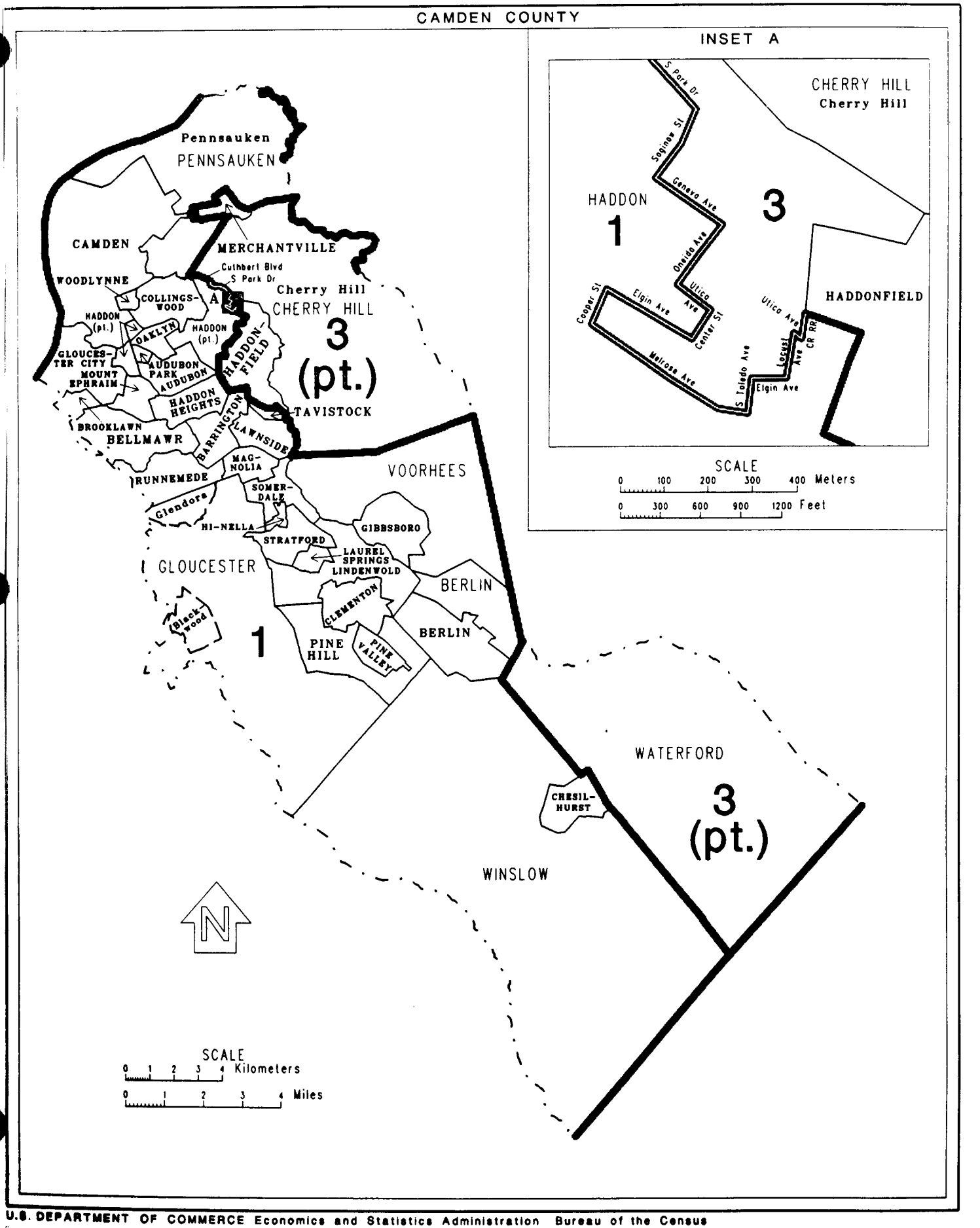

CAMDEN COUNTY
INSET A
CHERRY HILL
Cherry Hill
HADDON
1
3
HADDONFIELD
S Park Dr
Saginaw St
Geneva Ave
Oneida Ave
Utica Ave
Cooper St
Elgin Ave
Center St
Melrose Ave
S Toledo Ave
Locust Ave
CR RR
SCALE
0 100 200 300 400 Meters
0 300 600 900 1200 Feet
Pennsauken
PENNSAUKEN
CAMDEN
MERCHANTVILLE
Cuthbert Blvd
S Park Dr
Cherry Hill
CHERRY HILL
3
(pt.)
WOODLYNNE
COLLINGS-WOOD
HADDON (pt.)
OAKLYN
HADDON (pt.)
GLOUCES-TER CITY
MOUNT EPHRAIM
AUDUBON PARK
AUDUBON
HADDON-FIELD
HADDON HEIGHTS
TAVISTOCK
BROOKLAWN
BELLMAWR
BARRINGTON
LAWNSIDE
MAG-NOLIA
RUNNEMEDE
SOMER-DALE
Glendora
HI-NELLA
STRATFORD
GIBBSBORO
LAUREL SPRINGS
LINDENWOLD
VOORHEES
GLOUCESTER
1
BERLIN
CLEMENTON
Black-wood
PINE HILL
PINE VALLEY
BERLIN
WATERFORD
CRESIL-HURST
3
(pt.)
WINSLOW
N
SCALE
0 1 2 3 4 Kilometers
0 1 2 3 4 Miles

Table 1A. **County Subdivisions**

County subdivision	County	Congressional district
Aberdeen township	Monmouth	6
Alexandria township	Hunterdon	12
Allamuchy township	Warren	5
Alloway township	Salem	2
Andover township	Sussex	5
Barnegat township	Ocean	3
Bass River township	Burlington	3
Bedminster township	Somerset	12
Belleville township	Essex	8
Berkeley township	Ocean	3
Berkeley Heights township	Union	7
Berlin township	Camden	1
Bernards township	Somerset	11
Bethlehem township	Hunterdon	12
Blairstown township	Warren	5
Bloomfield township	Essex	8
Boonton township	Morris	11
Bordentown township	Burlington	4
Branchburg township	Somerset	12
Brick township	Ocean	4
Bridgewater township	Somerset	7,11
Buena Vista township	Atlantic	2
Burlington township	Burlington	4
Byram township	Sussex	11
Caldwell Borough township	Essex	11
Carneys Point township	Salem	2
Cedar Grove township	Essex	8
Chatham township	Morris	11
Cherry Hill township	Camden	3
Chester township	Morris	11
Chesterfield township	Burlington	4
Cinnaminson township	Burlington	3
City of Orange township	Essex	10
Clark township	Union	7
Clinton township	Hunterdon	12
Colts Neck township	Monmouth	12
Commercial township	Cumberland	2
Cranbury township	Middlesex	12
Cranford township	Union	7
Deerfield township	Cumberland	2
Delanco township	Burlington	3
Delaware township	Hunterdon	12
Delran township	Burlington	3
Dennis township	Cape May	2
Denville township	Morris	11
Deptford township	Gloucester	1
Dover township	Ocean	3,4
Downe township	Cumberland	2
Eagleswood township	Ocean	3
Eastampton township	Burlington	4
East Amwell township	Hunterdon	12
East Brunswick township	Middlesex	12
East Greenwich township	Gloucester	1
East Hanover township	Morris	11
East Windsor township	Mercer	4
Edgewater Park township	Burlington	3
Edison township	Middlesex	6,7
Egg Harbor township	Atlantic	2
Elk township	Gloucester	2
Elsinboro township	Salem	2
Essex Fells township	Essex	11
Evesham township	Burlington	3
Ewing township	Mercer	12
Fairfield township	Cumberland	2
Fairfield township	Essex	11
Florence township	Burlington	4
Franklord township	Sussex	5
Franklin township	Gloucester	2
Franklin township	Hunterdon	12
Franklin township	Somerset	7
Franklin township	Warren	5
Fredon township	Sussex	5
Freehold township	Monmouth	12
Frelinghuysen township	Warren	5
Galloway township	Atlantic	2
Glen Ridge Borough township	Essex	8
Gloucester township	Camden	1
Green township	Sussex	5
Green Brook township	Somerset	7
Greenwich township	Cumberland	2
Greenwich township	Gloucester	1
Greenwich township	Warren	5
Haddon township	Camden	1,3
Hainesport township	Burlington	3
Hamilton township	Atlantic	2
Hamilton township	Mercer	4
Hampton township	Sussex	5
Hanover township	Morris	11
Harding township	Morris	11
Hardwick township	Warren	5
Hardyston township	Sussex	5
Harmony township	Warren	5
Harrison township	Gloucester	2
Hazlet township	Monmouth	6
Hillsborough township	Somerset	7
Hillside township	Union	10
Holland township	Hunterdon	12
Holmdel township	Monmouth	12
Hope township	Warren	5
Hopewell township	Cumberland	2
Hopewell township	Mercer	12
Howell township	Monmouth	4
Independence township	Warren	5
Irvington township	Essex	10
Jackson township	Ocean	4
Jefferson township	Morris	11
Kingwood township	Hunterdon	12
Knowlton township	Warren	5
Lacey township	Ocean	3
Lafayette township	Sussex	5
Lakewood township	Ocean	4
Lawrence township	Cumberland	2
Lawrence township	Mercer	12
Lebanon township	Hunterdon	12
Liberty township	Warren	5
Little Egg Harbor township	Ocean	3
Little Falls township	Passaic	8
Livingston township	Essex	11
Logan township	Gloucester	1
Long Beach township	Ocean	3
Lopatcong township	Warren	5
Lower township	Cape May	2
Lower Alloways Creek township	Salem	2
Lumberton township	Burlington	3
Lyndhurst township	Bergen	9
Mahwah township	Bergen	5
Manalapan township	Monmouth	12
Manchester township	Ocean	4
Mannington township	Salem	2
Mansfield township	Burlington	4
Mansfield township	Warren	5
Mantua township	Gloucester	1,2
Maple Shade township	Burlington	1
Maplewood township	Essex	7,8,10
Marlboro township	Monmouth	12
Maurice River township	Cumberland	2
Medford township	Burlington	3
Mendham township	Morris	11
Middle township	Cape May	2
Middletown township	Monmouth	6,12
Millburn township	Essex	7,11
Millstone township	Monmouth	4
Mine Hill township	Morris	11
Monroe township	Gloucester	1
Monroe township	Middlesex	12
Montague township	Sussex	5
Montclair township	Essex	8,10
Montgomery township	Somerset	12
Montville township	Morris	11
Moorestown township	Burlington	3
Morris township	Morris	11
Mount Holly township	Burlington	3
Mount Laurel township	Burlington	3
Mount Olive township	Morris	11
Mullica township	Atlantic	2
Neptune township	Monmouth	6
New Hanover township	Burlington	3
North Bergen township	Hudson	9,13
North Brunswick township	Middlesex	6
North Caldwell township	Essex	11
North Hanover township	Burlington	4
Nutley township	Essex	8
Ocean township	Monmouth	12
Ocean township	Ocean	3
Old Bridge township	Middlesex	6
Oldmans township	Salem	2
Oxford township	Warren	5
Pahaquarry township	Warren	5
Parsippany-Troy Hills township	Morris	11
Passaic township	Morris	11
Pemberton township	Burlington	3
Pennsauken township	Camden	1
Penneville township	Salem	2
Pequannock township	Morris	11
Pilesgrove township	Salem	2
Piscataway township	Middlesex	6
Pittsgrove township	Salem	2
Plainsboro township	Middlesex	12
Plumsted township	Ocean	4
Pohatcong township	Warren	5
Princeton township	Mercer	12
Quinton township	Salem	2
Randolph township	Morris	11
Raritan township	Hunterdon	12
Readington township	Hunterdon	12
Riverside township	Burlington	3
River Vale township	Bergen	5
Rochelle Park township	Bergen	5
Rockaway township	Morris	11
Roxbury township	Morris	11
Saddle Brook township	Bergen	9
Sandyston township	Sussex	5
Scotch Plains township	Union	7
Shamong township	Burlington	3
Shrewsbury township	Monmouth	12
Southampton township	Burlington	3
South Brunswick township	Middlesex	12
South Hackensack township	Bergen	9
South Harrison township	Gloucester	2
South Orange Village township	Essex	8,10

Table 1A. **County Subdivisions**—Con.

County subdivision	County	Congressional district
Sparta township	Sussex	11
Springfield township	Burlington	4
Springfield township	Union	7
Stafford township	Ocean	3
Stillwater township	Sussex	5
Stow Creek township	Cumberland	2
Tabernacle township	Burlington	3
Teaneck township	Bergen	9
Tewksbury township	Hunterdon	12
Union township	Hunterdon	12
Union township	Union	7,10
Upper township	Cape May	2
Upper Deerfield township	Cumberland	2
Upper Freehold township	Monmouth	4
Upper Pittsgrove township	Salem	2
Vernon township	Sussex	5
Verona township	Essex	8
Voorhees township	Camden	1
Wall township	Monmouth	4
Walpack township	Sussex	5
Wantage township	Sussex	5
Warren township	Somerset	7
Washington township	Burlington	2
Washington township	Gloucester	1
Washington township	Mercer	4
Washington township	Morris	11
Washington township	Warren	5
Washington township	Bergen	5
Washington township	Camden	3
Waterford township	Passaic	8
Wayne township	Hudson	13
Weehawken township	Burlington	4
Westampton township	Hunterdon	12
West Amwell township	Essex	11
West Caldwell township		
West Deptford township	Gloucester	1
West Milford township	Passaic	5
West Orange township	Essex	8,10
West Windsor township	Mercer	12
Weymouth township	Atlantic	2
White township	Warren	5
Willingboro township	Burlington	3
Winfield township	Union	7
Winslow township	Camden	1
Woodbridge township	Middlesex	7,13
Woodland township	Burlington	3
Woolwich township	Gloucester	2
Wyckoff township	Bergen	5

Table 2. **Counties**

County	Congressional district
Atlantic	2
Bergen	5,9
Burlington	1-4
Camden	1,3
Cape May	2
Cumberland	2
Essex	7,8,10,11,13
Gloucester	1,2
Hudson	9,10,13
Hunterdon	12
Mercer	4,12
Middlesex	6,7,12,13
Monmouth	4,6,12
Morris	11
Ocean	3,4
Passaic	5,8,11
Salem	2
Somerset	7,11,12
Sussex	5,11
Union	7,10,13
Warren	5

Table 3. **Districts and Counties**

CONGRESSIONAL DISTRICT 1

Burlington (pt.)
Camden (pt.)
Gloucester (pt.)

CONGRESSIONAL DISTRICT 2

Atlantic
Burlington (pt.)
Cape May
Cumberland
Gloucester (pt.)
Salem

CONGRESSIONAL DISTRICT 3

Burlington (pt.)
Camden (pt.)
Ocean (pt.)

CONGRESSIONAL DISTRICT 4

Burlington (pt.)
Mercer (pt.)
Monmouth (pt.)
Ocean (pt.)

CONGRESSIONAL DISTRICT 5

Bergen (pt.)
Passaic (pt.)
Sussex (pt.)
Warren

CONGRESSIONAL DISTRICT 6

Middlesex (pt.)
Monmouth (pt.)

CONGRESSIONAL DISTRICT 7

Essex (pt.)
Middlesex (pt.)
Somerset (pt.)
Union (pt.)

CONGRESSIONAL DISTRICT 8

Essex (pt.)
Passaic (pt.)

CONGRESSIONAL DISTRICT 9

Bergen (pt.)
Hudson (pt.)

CONGRESSIONAL DISTRICT 10

Essex (pt.)
Hudson (pt.)
Union (pt.)

CONGRESSIONAL DISTRICT 11

Essex (pt.)
Morris
Passaic (pt.)
Somerset (pt.)
Sussex (pt.)

CONGRESSIONAL DISTRICT 12

Hunterdon
Mercer (pt.)
Middlesex (pt.)
Monmouth (pt.)
Somerset (pt.)

CONGRESSIONAL DISTRICT 13

Essex (pt.)
Hudson (pt.)
Middlesex (pt.)
Union (pt.)

REFERENCE NO. 10

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL MEASUREMENTS AND SITE ASSESSMENT
300 HORIZON CENTER, P.O. BOX 407
TRENTON, NEW JERSEY 08625-0407

FAX COVER SHEET

TO: JOANNE D'ONOFRIO PHONE:

FAX:

FROM: FRANK SORCE PHONE: 584-4287

FAX: 609-584-4298

SUBJECT: DESOTO

MESSAGE:

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET 3

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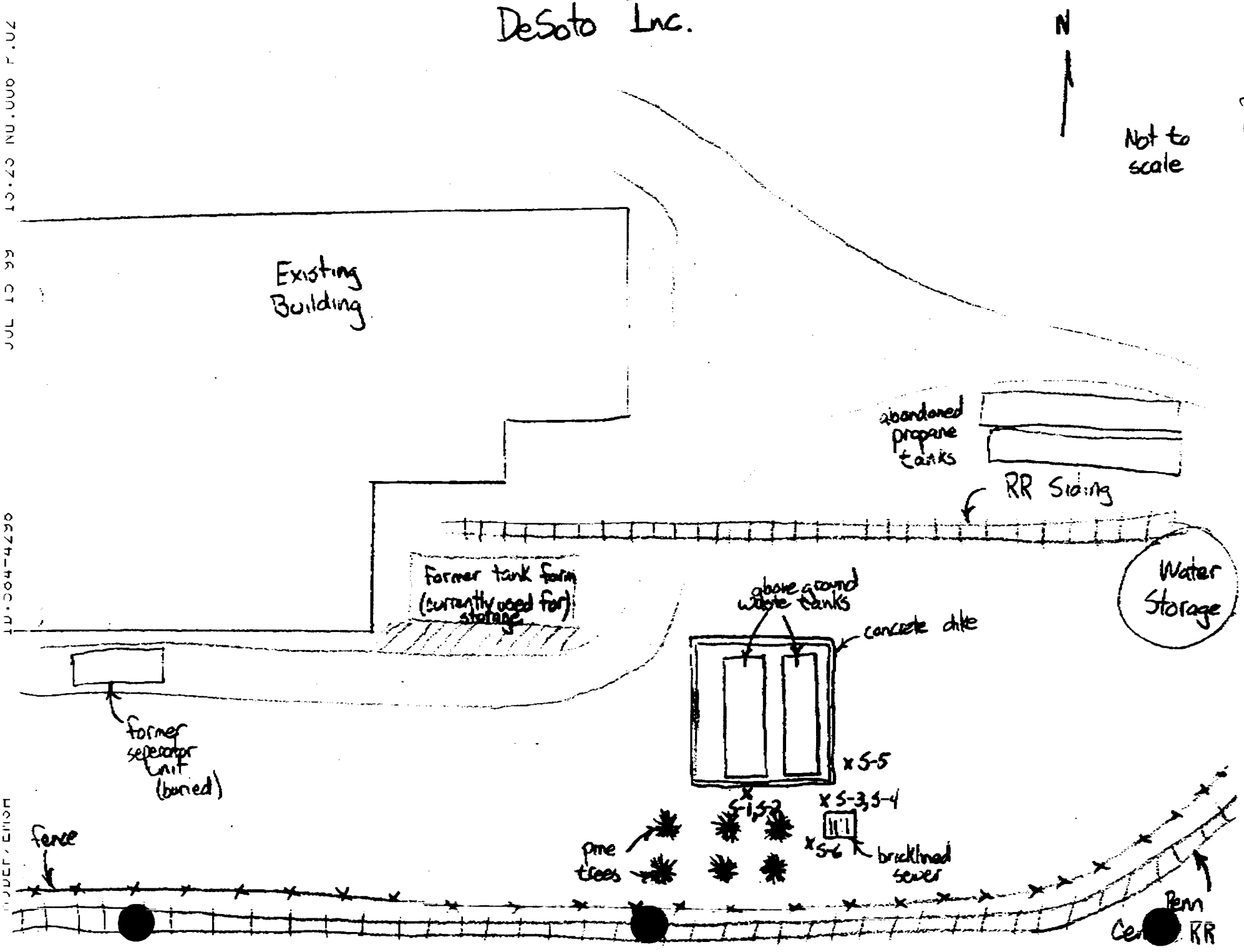
Ref. No. 10, p. 1

JUL 15 99 15:25 NO.006 P.02

DeSoto Inc.



SAMPLE ID	BSA NUMBER	COLLECTION TIME START	FINISH	SAMPLERS	DESCRIPTION/DEPTH/LOCATION
S-1	03141292	09:30	1005	Frank Sorce Nate Byrd	1.5 - 3.0 ft under tank outlet
S-2	03141293	0920	0925	"	0-6 inches " " "
S-3	03141294	1005	1015	"	0-6 inches on the corners of grate + dike
S-4	03141295	1015	1025	"	1.5 ft " " " " "
S-5	03141296	1035	1045	"	1.5 ft ~2ft beside the dike
Field Blank	03141298	09:15	0920	"	

* Note: S-6 was anticipated but never collected or analyzed

REFERENCE NO. 11

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM	PROJECT NOTE
TO: Desoto, Inc. File	DATE: 08/30/99 (revised 09/15/99)
FROM: Joanne D'Onofrio	
SUBJECT: Pennsauken Landfill Monitoring Well Data	

REFERENCE:

The attached documents were provided by JCA Associates, Inc. Consulting Engineers of Moorestown, New Jersey and include April 1998 laboratory analyses for the Pennsauken Sanitary Landfill groundwater monitoring wells, and site plans showing the location of these wells. The Pennsauken Sanitary Landfill borders the Desoto site to the northeast and has had a number of groundwater monitoring wells installed around the landfill since 1987. Quarterly New Jersey Pollution Discharge Elimination System (NJPDES) sampling and analysis has occurred on these wells since 1988. One monitoring well (MW-6) was installed on the northeast portion of the Desoto property. On September 9, 1982, Desoto granted a 10 foot by 10 foot easement to the Township of Pennsauken for the construction, operation and maintainance of monitoring well MW-6. This monitoring well was designed to provide data on potential subsurface migration of contaminants from the landfill. START used the analytical results for on-site monitoring well MW-6 to document an observed release of tetrachloroethene (PCE) to groundwater. The analytical results indicated that PCE was detected in monitoring well MW-6 at a concentration three times higher than at the background location MW-5. Monitoring well MW-5 was selected as background because it is located on the landfill property, southeast and topographically upgradient of MW-6. PCE was detected at 17.7 micrograms per liter (ug/L) in monitoring well MW-6, compared to 1.27 ug/L in monitoring well MW-5.

In addition, the attached analytical data report package provided by JCA Associates, Inc. has been reviewed by a Region II START certified organic data validator on September 15, 1999. The analytical data has been determined to be of Contract Laboratory Program (CLP) quality. The EPA standard operating procedure (SOP HW-6, Rev. 11, June 1996) checklist is included as pages 38 through 55 of this Project Note.

Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

ANALYTICAL DATA REPORT PACKAGE

FOR

JAMES C. ANDERSON ASSOCIATES

Field Sample ID	Laboratory Sample ID	Date of Collection
PENNSAUKEN SANITARY LANDFILL MW-11	L310157-1	04/21/98
MW-11D	L310157-2	04/21/98
MW-5	L310157-3	04/21/98
MW-5D	L310157-4	04/21/98

Certification No. PADEP No. 09-131
NJDEP No. 77166

Laboratory Director Signature

Printed Name Ian C. Lambert

Date 5/22/98

Inc.

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L310157

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05/22/98 11:59am

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
1256 NORTH CHURCH STREET
SUITE 3
MOORESTOWN, NJ 08057

Regarding:

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
RE: PENNSAUKEN LANDFILL
1256 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

Account No: R00071, JAMES C. ANDERSON ASSOCIATES
Project No: R00071, JAMES C. ANDERSON ASSOCIATES

P.O. No:
PWSID No:

Inv. No: 160780

Sample Number L310157-3
Sample Description MW-5
Samp. Date/Time/Temp 04/21/98 03:20pm NA°F
Sampled by Customer Sampled

Parameter	Method	Result	PQL	Test Date, Time, Analyst
DEPTH TO WATER TABLE (TOP OF CASING)	QC Field Method	88.48 feet	0.01 feet	04/21/98 03:20PM CU
CHROMIUM DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.0100 mg/l	05/05/98 08:35AM GJH
COPPER DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.00300 mg/l	05/05/98 08:35AM GJH
IRON DISSOLVED	EPA 600 Method 200.7	6.07 mg/l	0.0250 mg/l	05/05/98 08:35AM GJH
SODIUM DISSOLVED	EPA 600 Method 200.7	6.28 mg/l	0.500 mg/l	05/05/98 08:35AM GJH
LEAD DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.00500 mg/l	05/05/98 08:35AM GJH
ZINC DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.00500 mg/l	05/05/98 08:35AM GJH
CHLOROMETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/05/98 05:25PM DSV
VINYL CHLORIDE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
BROMOMETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/05/98 05:25PM DSV
CHLOROETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/05/98 05:25PM DSV
TRICHLOROFLUOROMETHANE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
1,1-DICHLOROETHENE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
METHYLENE CHLORIDE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
TRANS-1,2-DICHLOROETHENE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
ACROLEIN	EPA Method 624	ND ug/l	10.0 ug/l	05/05/98 05:25PM DSV
ACRYLONITRILE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
1,1-DICHLOROETHANE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
CIS-1,2-DICHLOROETHENE	EPA Method 624	28.3 ug/l	2.00 ug/l	05/05/98 05:25PM DSV
CHLOROFORM	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
1,1,1-TRICHLOROETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
CARBON TETRACHLORIDE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
BENZENE	EPA Method 624	5.59 ug/l	1.00 ug/l	05/05/98 05:25PM DSV
1,2-DICHLOROETHANE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
TRICHLOROETHENE	EPA Method 624	2.55 ug/l	1.00 ug/l	05/05/98 05:25PM DSV
1,2-DICHLOROPROPANE	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
BROMODICHLOROMETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
2-CHLOROETHYL VINYL ETHER	EPA Method 624	ND ug/l	10.0 ug/l	05/05/98 05:25PM DSV
CIS-1,3-DICHLOROPROPENE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
TOLUENE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
TRANS-1,3-DICHLOROPROPENE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
1,1,2-TRICHLOROETHANE	EPA Method 624	ND ug/l	2.00 ug/l	05/05/98 05:25PM DSV
TETRACHLOROETHENE	EPA Method 624	1.27 ug/l	1.00 ug/l	05/05/98 05:25PM DSV
DIBROMOCHLOROMETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
CHLOROBENZENE	EPA Method 624	10.8 ug/l	2.00 ug/l	05/05/98 05:25PM DSV

result of "ND" indicates the concentration of the analyte tested was either not detected or below the PQL.
QC Inc's laboratory certification numbers are: PADER 09-131; NJDEP 77166, NC 488, NY,CT,DE,and MD upon request.
Definitions: ND=not detected; NEG=negative; POS=positive; COL=colonies; PQL=practical quanitation level; L/A=laboratory accident; TNTC=too numerous to count.
A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.

05/22/98 11:59am

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
1256 NORTH CHURCH STREET
SUITE 3
MOORESTOWN, NJ 08057

Regarding:

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
RE: PENNSAUKEN LANDFILL
1256 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

Account No: R00071, JAMES C. ANDERSON ASSOCIATES
Project No: R00071, JAMES C. ANDERSON ASSOCIATES

P.O. No:
PWSID No:

Inv. No: 160780

Sample Number L310157-3
Sample Description MW-5
Samp. Date/Time/Temp 04/21/98 03:20pm NA°F
Sampled by Customer Sampled

Parameter	Method	Result	PQL	Test Date, Time, Analyst
ETHYL BENZENE	EPA Method 624	19.6 ug/l	5.00 ug/l	05/05/98 05:25PM DSV
M&P-XYLENES	EPA Method 624	8.10 ug/l	2.00 ug/l	05/05/98 05:25PM DSV
O-XYLENE	EPA Method 624	5.33 ug/l	1.00 ug/l	05/05/98 05:25PM DSV
BROMOFORM	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
1,1,2,2-TETRACHLOROETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/05/98 05:25PM DSV
1,3-DICHLOROBENZENE	EPA Method 624	ND ug/l	5.00 ug/l	05/05/98 05:25PM DSV
1,4-DICHLOROBENZENE	EPA Method 624	19.3 ug/l	5.00 ug/l	05/05/98 05:25PM DSV
1,2-DICHLOROBENZENE	EPA Method 624	5.68 ug/l	5.00 ug/l	05/05/98 05:25PM DSV
UNKNOWN-1	EPA 624 Library Search	6.87 J ug/l		05/05/98 05:25PM DSV
UNKNOWN-2	EPA 624 Library Search	4.11 J ug/l		05/05/98 05:25PM DSV
UNKNOWN-3	EPA 624 Library Search	4.63 J ug/l		05/05/98 05:25PM DSV
UNKNOWN-4	EPA 624 Library Search	4.97 J ug/l		05/05/98 05:25PM DSV
ETHYLMETHYLBENZENE ISOMER-1	EPA 624 Library Search	3.44 J ug/l		05/05/98 05:25PM DSV
ETHYLMETHYLBENZENE ISOMER-2	EPA 624 Library Search	3.09 J ug/l		05/05/98 05:25PM DSV
TRIMETHYLBENZENE ISOMER	EPA 624 Library Search	4.45 J ug/l		05/05/98 05:25PM DSV
PROPENYLBENZENE ISOMER	EPA 624 Library Search	3.31 J ug/l		05/05/98 05:25PM DSV
ETHYLDIMETHYLBENZENE ISOMER	EPA 624 Library Search	3.94 J ug/l		05/05/98 05:25PM DSV
NAPHTHALENE	EPA 624 Library Search	12.3 NJ ug/l		05/05/98 05:25PM DSV
CHROMIUM HEXAVALENT	STD Methods 18th Ed. 3500	ND mg/l	0.0100 mg/l	04/21/98 10:00PM VP
DETERGENTS MBAS	EPA 600 Method 425.1	ND mg/l	0.100 mg/l	04/22/98 08:00PM RP
NITRATE AS N	EPA 600 Method 353.2	ND mg/l	0.400 mg/l	04/27/98 10:00AM MVT
CONDUCTIVITY	EPA 600 Method 120.1	184. umhos	0.100 umhos	04/27/98 03:00PM LS
BIOCHEMICAL OXYGEN DEMAND	STD Methods 18th Ed. 5210	4.20 mg/l	2.00 mg/l	04/22/98 11:00AM LS
TOTAL ORGANIC CARBON	EPA 600 Method 415.1	1.90 mg/l	1.00 mg/l	04/27/98 03:00PM BRS
CHLORIDE	EPA 600 Method 325.3	14.8 mg/l	2.00 mg/l	04/24/98 12:00PM EV
TOTAL DISSOLVED SOLIDS	STD Methods 18th Ed. 2540	86.0 mg/l	10.0 mg/l	04/27/98 02:30PM DJB
TOTAL ORGANIC HALIDE	SW846 Method 9020	56.2 ug/l	10.0 ug/l	04/27/98 05:11PM XJY
CHEMICAL OXYGEN DEMAND	EPA 600 Method 410.2	12.9 mg/l	2.00 mg/l	04/30/98 09:00AM TFW
SULFATE	EPA 600 Method 375.4	26.8 mg/l	2.00 mg/l	05/02/98 11:00AM TFW
AMMONIA NITROGEN AS N	EPA 600 Method 350.3	0.600 mg/l	0.100 mg/l	05/01/98 03:00PM BRS
PHENOL	EPA 600 Method 420.1	ND mg/l	0.00500 mg/l	05/04/98 09:45PM VP
COLIFORM-MPN	STD Methods 18th Ed. 9221	170 col/100ml	2. col/100ml	04/21/98 06:00PM ASW
FECAL COLIFORM-MPN	STD Methods 18th Ed. 9221	4. mpn/100ml	2. mpn/100ml	04/21/98 06:00PM ASW
PH FIELD	EPA 600 Method 150.1	5.51 units	0.10 units	04/21/98 03:20PM

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5

05/22/98 11:59am

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JAMES C. ANDERSON ASSOCIATES
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MOORESTOWN, NJ 08057

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Project No: R00071, JAMES C. ANDERSON ASSOCIATES

P.O. No:
PWSID No:

Inv. No: 160780

**** NOTES CONCERNING THE ABOVE SAMPLE ****

. QUALIFIERS: "B" is used when the compound is found in the blank as well as in the sample; "J" indicates an estimated value; "E" identifies compounds whose concentrations exceed the range of calibration of the instrument; "N" indicates presumptive evidence of a compound; "D" indicates result is calculated from dilution.

result of "ND" indicates the concentration of the analyte tested was either not detected or below the PQL.
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A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.

6

VOLATILE GC/MS CONFORMANCE/NON-CONFORMANCE SUMMARY

Project Login Number: L310157

	N	Y
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2. BFB Tune Specifications Met		X
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series		X
4. GC/MS Calibration Requirements - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series		X
5. GC/MS Calibration Requirements		
Calibration Check Compounds		X
System Preformance Check Compounds		X
6. Blank Contamination - If yes, list blank identification number(s) where contamination appears.	X	
7. Surrogate Recoveries Meet Criteria		X
8. Matrix SpikeMatrix Spike Duplicate Recoveries Meet Criteria	X	
Matrix Spike does not meet criteria.QC Check std.was run and all recoveries are within the limits.		
9. Internal Standards/Retention TIme Shift Areas Meet Criteria		X
11. Analysis Holding Times Met		X
If not met, list each sample and the number of days exceeded.		

12. Additional Comments Including Method Modifications:

Package Prepared By: [signature] Date 5/17/98

Printed Name: DATTU S.VAIDYA

QC, Inc.

METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY

Project Login Number: L310157

	N	Y
1. Calibration Summary Meet Criteria		X
2. ICP Interference Check Sample Results Summary Submitted (if applicable) / Meet Criteria		X
3. Serial Dilution Summary Submitted (if applicable) / Meet Criteria		X
4. Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5. Blank Contamination - If yes, list blank identification number(s) where contamination appears. The following blanks were more than the MDL, but less than equal to the PQL: Fe in CCB3 and the prep blank; Pb in CCB2, CCB3; Zn in CCB2.		X
6. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria If not met, list the MS/MSD Summary page reference.		X
7. Analysis Holding Time Met If not met, list each sample and the number of days exceeded.		X

Additional Comments Including Method Modifications:

Laboratory Supervisor [signature] Date 5/21/98

GENERAL CHEMISTRY AND PHC ANALYSIS CONFORMANCE / NON-CONFORMANCE SUMMARY

Project Login Number: L310157

	N	Y
1. Blank Contamination	✓	

If Yes, list analyte where contamination appears.

	N	Y
2. Matrix Spike / Matrix Spike Duplicate Recoveries meet criteria		✓

If Not, list MS / MSD Recovery Summary page reference.

	N	Y
3. IR Spectra submitted for all standards, blanks and samples		

	N	Y
4. Analysis Holding Time Met		✓

If Not, list each sample and the number of days exceeded.

Additional Comments Including Method Modifications.

Prepared By: Lucie F. Wood Date: 5/15/98

Reviewed By: [illegible] Date: 5/21/98

QC Inc.
1205 Industrial Blvd.
Southampton, PA 18966-0514
Voice: (215) 355-3900
Fax: (215) 355-7231

CHAIN OF CUSTODY

Page 1 of 1

Lab LIMS No. 310157

Client/Acct. No. ROOOTI JCA

Address

City/State/Zip

Phone/Fax 609 722-6700

Client Contact Kurt Martin

Bill to/Report to: (if different) JCA

Sampling Site Address: (if different) Pennsauken Sanitary Landfill

P.O. No.

QC Contact J. Niemi

PROJECT Groundwater

LAB USE ONLY:

- # ___ Ascorbic/HCl Vials
- # 12 HCl Vials
- # ___ $Na_2S_2O_3$
- # ___ Na OH/Zn acetate pH
- # 4 HNO_3 pH <2 4 pt
- # 12 H_2SO_4 pH <2 4 pt 4-15ml amber 4 pt
- # ___ NaOH pH
- # 4 Unpreserved 4 1/2 gal pt

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers: Total	H_2SO_4	HCl	$Na_2S_2O_3$	HNO_3	NaOH	ZnAc	Unpres	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
MW-11	4/21/98	1350			GW	9	2		3	1			1	1	BOD, COD, chloride, T. coliform,	
MW-11-D		1420													Fecal Coliform, MDAS, NH_3, ~~NO_2~~ NO_3	
MW-5		1520													Cond., sulfate, TOC, TDX, TDS,	
MW-5-D		1600													Cr, Crb, Cu, Fe, Pb, Na, Zn,	
															Phenol, VOA-624 + List Ac/Ac,	
															For All wells.	

SAMPLED BY: (Name/Company) Ed Zalesk, PCFA

Verbal/fax data due: ___/___/___

Hardcopy due: 28 days

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☒ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By: Sig: Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

	RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME
1	Edward Zalesk	4/21/98	1615	Ray Hall/QC	4-21-98	1620
2	Ray Hall	4-21-98	1800	Della Gallis	4/21/98	1800
3	Della Gallis	4-21-98	1800	[illegible]	4-21-98	1800
4	Della Gallis	4/21/98	2000	MP [illegible]	4/21/98	2000
5	Della Gallis	4-22-98	08:30	[illegible]	4-22-98	08:30

DELIVERY METHOD: ☒ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER

Custody Seal Number

COMMENTS:

000015

10

FOR EXAMPLE TO AID COMPLETION, SEE REVERSE SIDE.

Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

Terminology Summary For Organic Analysis

Qualifiers (Q) - Present on Sample Analysis Data Sheet

B - This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible laboratory contamination.

E - This flag identifies compounds whose concentrations exceed the range of calibration of the instrument.

J - Indicates an estimated value. This flag is used either when estimating concentrations for tentatively identified compounds, or when quantitative data indicates the presence of a compound at a level below the usual sample reporting level, but above the method detection level.

U - Indicates that compound was analyzed for but not detected; i.e. undetected.

N - Indicates presumptive evidence of a tentatively identified compound.

Definitions

Internal Standards - Pure analytes added to every sample (sample extract for semivolatile analysis), blank, and standard at known concentrations prior to analysis for the purpose of measuring relative responses of the method target compounds.

Method Detection Limit (MDL) - The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

Method Blank - An analytical control containing all the reagents in the same amounts as used in processing samples. The method blank is carried through the complete sample preparation and analytical process. The method blank is used to define the level of laboratory background.

Surrogate Standards - A pure analyte that is added to a sample, blank, and standard in known amounts before sample preparation / analysis and is measured with the same procedure used to measure other sample components. The purpose of a surrogate analyte is to monitor method performance with each sample.

GC/MS VOLATILE ORGANICS RESULTS AND DATA PACKAGE

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-5

Lab Name: QC INC. Contract:

Matrix: (soil/water) WATER Lab Sample ID: L310157-3

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K0663.D

Level: (low/med) Date Received: 4/21/98

% Moisture: not dec. Date Analyzed: 5/5/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	PQL	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.0		U
75-01-4	Vinyl Chloride	5.00		U
74-83-9	Bromomethane	10.0		U
75-00-3	Chloroethane	10.0		U
75-69-4	Trichlorofluoromethane	5.00		U
107-13-1	Acrylonitrile	5.00		U
107-02-8	Acrolein	10.0		U
75-35-4	1,1-Dichloroethene	2.00		U
75-09-2	Methylene Chloride	2.00		U
156-60-5	trans-1,2-Dichloroethene	2.00		U
156-59-2	cis-1,2-Dichloroethene	2.00	28.3	
75-34-3	1,1-Dichloroethane	5.00		U
67-66-3	Chloroform	1.00		U
71-55-6	1,1,1-Trichloroethane	1.00		U
56-23-5	Carbon tetrachloride	2.00		U
71-43-2	Benzene	1.00	5.59	
107-06-3	1,2-Dichloroethane	2.00		U
79-01-6	Trichloroethene	1.00	2.55	
78-87-5	1,2-Dichloropropane	1.00		U
75-27-4	Bromodichloromethane	1.00		U
110-75-8	2-Chloroethyl Vinyl Ether	10.0		U
10061-01-5	cis-1,3-Dichloropropene	5.00		U
108-88-3	Toluene	5.00		U
10061-02-6	trans-1,3-Dichloropropene	5.00		U
79-00-5	1,1,2-Trichloroethane	2.00		U
127-18-4	Tetrachloroethene	1.00	1.27	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 000029

MW-5

Lab Name: QC INC. Contract:

Matrix: (soil/water) WATER Lab Sample ID: L310157-3

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K0663.D

Level: (low/med) Date Received: 4/21/98

% Moisture: not dec. Date Analyzed: 5/5/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	PQL		Q
124-48-1	Dibromochloromethane	1.00		U
108-90-7	Chlorobenzene	2.00	10.8	
100-41-4	Ethylbenzene	5.00	19.6	
1330-20-7	m&p-Xylenes	2.00	8.10	
95-47-6	o-Xylene	1.00	5.33	
75-25-2	Bromoform	1.00		U
79-34-5	1,1,2,2-Tetrachloroethane	1.00		U
541-73-1	1,3-Dichlorobenzene	5.00		U
106-46-7	1,4-Dichlorobenzene	5.00	19.3	
95-50-1	1,2-Dichlorobenzene	5.00	5.68	

U - Indicates Compound is not Detected
B - Indicates Compound is Present in the Blank
J - Indicates Compound is Detected Below the PQL
E - Indicates that the Result is Estimated because it is Above Calibration Range
D - Indicates the Result is from Dilution

Quantitation Report

Data File : C:\HPCHEM\1\DATA\050598K\K0663.D
Acq On : 5 May 98 5:25 pm
Sample : L310157-3 JCA
Misc : 5ML MW-5
Quant Time: May 5 18:50 1998

Vial: 4
Operator: DSV
Inst : Instrumen
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\6240420.M
Title : Method 624 VOA Calibration
Last Update : Mon Apr 20 15:28:10 1998
Response via : Multiple Level Calibration

Dathy S. Vaidya
5/5/98

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	7.90	168	377382	30.00 ug/L	-0.01
35) 1,4-Difluorobenzene	9.30	114	597966	30.00 ug/L	-0.01
53) Chlorobenzene-d5	13.74	117	543977	30.00 ug/L	-0.01
61) 1,4-Dichlorobenzene-d4	17.55	152	276874	30.00 ug/L	-0.01
System Monitoring Compounds					%Recovery
28) Dibromofluoromethane	8.12	113	179819	29.00 ug/L	96.68%
44) Toluene-d8	11.47	98	633957	31.09 ug/L	103.62%
63) Bromoflurobenzene	15.63	95	238086	30.18 ug/L	100.58%
Target Compounds					Qvalue
19) cis-1,2-Dichloroethene	7.61	61	262164	28.25 ug/L	85
33) Benzene	8.95	78	144499	5.59 ug/L #	1
37) Trichloroethene	9.78	130	17614	2.55 ug/L #	1
49) Tetrachloroethene	12.56	166	7780	1.27 ug/L #	100
54) Chlorobenzene	13.80	112	181507	10.82 ug/L #	77
55) Ethylbenzene	13.86	91	489400	19.61 ug/L #	100
56) m&p-Xylenes	13.98	91	152041	8.10 ug/L #	56
57) o-Xylene	14.67	91	103375	5.33 ug/L	97
76) 1,4-Dichlorobenzene	17.60	146	273528	19.32 ug/L #	100
77) 1,2-Dichlorobenzene	18.21	146	72367	5.68 ug/L	96

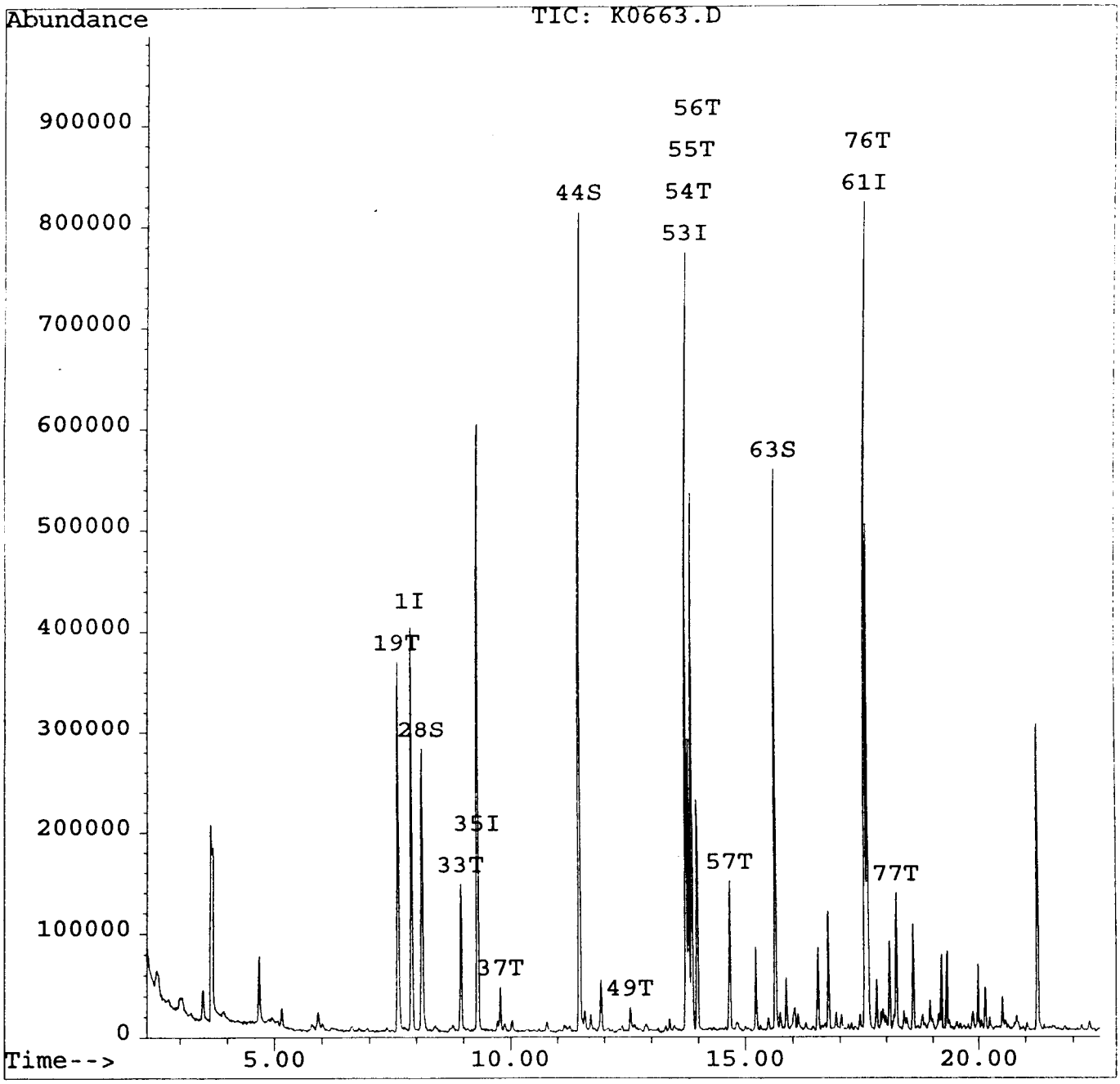
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\050598K\K0663.D
Acq On : 5 May 98 5:25 pm
Sample : L310157-3 JCA
Misc : 5ML MW-5
Quant Time: May 5 18:50 1998

Vial: 4
Operator: DSV
Inst : Instrumen
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\6240420.M
Title : Method 624 VOA Calibration
Last Update : Mon Apr 20 15:28:10 1998
Response via : Multiple Level Calibration



1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
MW-5

000032

Lab Name: QC INC. Contract:

Matrix: (soil/water) WATER Lab Sample ID: L310157-3

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: K0663.D

Level: (low/med) Date Received: 4/21/98

% Moisture: not dec. Date Analyzed: 5/5/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Number TICs found: 10 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Conc.	Q
1.	Unknown	3.63	6.87	J
2.	Unknown	3.65	4.11	J
3.	Unknown	3.66	4.63	J
4.	Unknown	4.67	4.97	J
5.	Ethylmethylbenzene Isomer	15.22	3.44	J
6.	Ethylmethylbenzene Isomer	16.53	3.09	J
7.	Trimethylbenzene Isomer	16.75	4.45	J
8.	Propenylbenzene Isomer	18.07	3.31	J
9.	Ethyldimethylbenzene Isomer	18.58	3.94	J
10. 91-20-3	Naphthalene	21.25	12.3	NJ
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

QC LABORATORIES

GENERAL CHEMISTRY DATA REPORT

Test Report No.: L310157 Sample Number : L310157-3

Client Name : JAMES C. ANDERSON ASSOCIATES Client Sample Description: MW-5

Sample Date : 04/21/98

Receive Date : 04/21/98

Matrix : Liquid

Parameter	Date Analyzed	Sample Concentration/ Units	Dilution Factor	Practical Quantitation Limit/Units
AMMONIA NITROGEN AS N	05/01/98	0.600 mg/l	1	0.100 mg/l
BIOCHEMICAL OXYGEN DEMAND	04/22/98	4.20 mg/l	1.5	2.00 mg/l
CHEMICAL OXYGEN DEMAND	04/30/98	12.9 mg/l	1	2.00 mg/l
CHLORIDE	04/24/98	14.8 mg/l	1	2.00 mg/l
CHROMIUM HEXAVALENT	04/21/98	ND mg/l	1	0.0100 mg/l
CONDUCTIVITY	04/27/98	184. umhos	1	0.100 umhos
DETERGENTS MBAS	04/22/98	ND mg/l	2	0.100 mg/l
NITRATE AS N	04/27/98	ND mg/l	1	0.400 mg/l
PHENOL	05/04/98	ND mg/l	1	0.00500 mg/l
SULFATE	05/02/98	26.8 mg/l	1	2.00 mg/l
TOTAL DISSOLVED SOLIDS	04/27/98	86.0 mg/l	1	10.0 mg/l
TOTAL ORGANIC CARBON	04/27/98	1.90 mg/l	1	1.00 mg/l
TOTAL ORGANIC HALIDE	04/27/98	56.2 ug/l	2	10.0 ug/l

Form No. WC1

Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

ANALYTICAL DATA REPORT PACKAGE

FOR

JAMES C. ANDERSON ASSOCIATES

Field Sample ID	Laboratory Sample ID	Date of Collection
PENNSAUKEN SANITARY LANDFILL MW-21	L310915-1	04/22/98
MW-6	L310915-2	04/22/98
MW-4	L310915-3	04/22/98
MW-6D	L310915-4	04/22/98

Certification No. PADEP No. 09-131
NJDEP No. 77166

Laboratory Director Signature

Printed Name Ian C. Lambert

Date 5/22/98

Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

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L310915

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Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

Laboratory Deliverables Checklist

		Check if Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report	x
2.	Table of Contents	x
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds	x
4.	Summary Table cross-referencing field ID#'s vs Lab ID#'s	x
5.	Document bound, paginated and legible	x
6.	Chain of Custody	x
7.	Methodology Summary	x
8.	Laboratory Chronicle and Holding Time Check	x
9.	Results submitted on a dry weight basis (if applicable)	n/a
10.	Method Detection Limits	x
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEPA CLP	x
12.	Non-Conformance Summary	x

QA Review: Linda M Arnold **Date** 6/22/98
Linda M. Arnold

05/22/98 03:51pm

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
1256 NORTH CHURCH STREET
SUITE 3
MOORESTOWN, NJ 08057

Regarding:

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
RE: PENNSAUKEN LANDFILL
1256 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

Account No: R00071, JAMES C. ANDERSON ASSOCIATES
Project No: R00071, JAMES C. ANDERSON ASSOCIATES

P.O. No:
PWSID No:

Inv. No: 160898

Sample Number L310915-2
Sample Description MW-6
Samp. Date/Time/Temp 04/22/98 02:10pm NA°F
Sampled by Customer Sampled

Parameter	Method	Result	PQL	Test Date, Time, Analyst
DEPTH TO WATER TABLE (TOP OF CASING)	QC Field Method	56.54 feet	0.01 feet	04/22/98 02:10PM CU
CHROMIUM DISSOLVED	EPA 600 Method 200.7	0.119 mg/l	0.0100 mg/l	05/05/98 08:47AM GJH
COPPER DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.00300 mg/l	05/05/98 08:47AM GJH
IRON DISSOLVED	EPA 600 Method 200.7	0.408 mg/l	0.0250 mg/l	05/05/98 08:47AM GJH
SODIUM DISSOLVED	EPA 600 Method 200.7	21.7 mg/l	0.500 mg/l	05/05/98 08:47AM GJH
LEAD DISSOLVED	EPA 600 Method 200.7	ND mg/l	0.00500 mg/l	05/05/98 08:47AM GJH
ZINC DISSOLVED	EPA 600 Method 200.7	0.0199 mg/l	0.00500 mg/l	05/05/98 08:47AM GJH
CHLOROMETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/06/98 09:25AM DSV
VINYL CHLORIDE	EPA Method 624	3.18 J ug/l	5.00 ug/l	05/06/98 09:25AM DSV
BROMOMETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/06/98 09:25AM DSV
CHLOROETHANE	EPA Method 624	ND ug/l	10.0 ug/l	05/06/98 09:25AM DSV
TRICHLOROFLUOROMETHANE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
1,1-DICHLOROETHENE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
METHYLENE CHLORIDE	EPA Method 624	7.27 ug/l	2.00 ug/l	05/06/98 09:25AM DSV
TRANS-1,2-DICHLOROETHENE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
ACROLEIN	EPA Method 624	ND ug/l	10.0 ug/l	05/06/98 09:25AM DSV
ACRYLONITRILE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
1,1-DICHLOROETHANE	EPA Method 624	11.6 ug/l	5.00 ug/l	05/06/98 09:25AM DSV
CIS-1,2-DICHLOROETHENE	EPA Method 624	25.6 ug/l	2.00 ug/l	05/06/98 09:25AM DSV
CHLOROFORM	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
1,1,1-TRICHLOROETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
CARBON TETRACHLORIDE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
BENZENE	EPA Method 624	1.14 ug/l	1.00 ug/l	05/06/98 09:25AM DSV
1,2-DICHLOROETHANE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
TRICHLOROETHENE	EPA Method 624	18.6 ug/l	1.00 ug/l	05/06/98 09:25AM DSV
1,2-DICHLOROPROPANE	EPA Method 624	1.73 ug/l	1.00 ug/l	05/06/98 09:25AM DSV
BROMODICHLOROMETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
2-CHLOROETHYL VINYL ETHER	EPA Method 624	ND ug/l	10.0 ug/l	05/06/98 09:25AM DSV
CIS-1,3-DICHLOROPROPENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
TOLUENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
TRANS-1,3-DICHLOROPROPENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
1,1,2-TRICHLOROETHANE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
TETRACHLOROETHENE	EPA Method 624	17.7 ug/l	1.00 ug/l	05/06/98 09:25AM DSV
DIBROMOCHLOROMETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
CHLOROBENZENE	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the PQL.
QC Inc's laboratory certification numbers are: PADER 09-131; NJDEP 77166, NC 488, NY,CT,DE,and MD upon request.
Definitions: ND=not detected; NEG=negative; POS=positive; COL=colonies; PQL=practical quanitation level; L/A=laboratory accident; TNTC=too numerous to count.
A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.

05/22/98 03:51pm

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
1256 NORTH CHURCH STREET
SUITE 3
MOORESTOWN, NJ 08057

Regarding:

KURT MARTIN
JAMES C. ANDERSON ASSOCIATES
RE: PENNSAUKEN LANDFILL
1256 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

Account No: R00071, JAMES C. ANDERSON ASSOCIATES
Project No: R00071, JAMES C. ANDERSON ASSOCIATES

P.O. No:
PWSID No:

Inv. No: 160898

Sample Number L310915-2
Sample Description MW-6
Samp. Date/Time/Temp 04/22/98 02:10pm NA°F
Sampled by Customer Sampled

Parameter	Method	Result	PQL	Test Date, Time, Analyst
ETHYL BENZENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
M&P-XYLENES	EPA Method 624	ND ug/l	2.00 ug/l	05/06/98 09:25AM DSV
O-XYLENE	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
BROMOFORM	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
1,1,2,2-TETRACHLOROETHANE	EPA Method 624	ND ug/l	1.00 ug/l	05/06/98 09:25AM DSV
1,3-DICHLOROBENZENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
1,4-DICHLOROBENZENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
1,2-DICHLOROBENZENE	EPA Method 624	ND ug/l	5.00 ug/l	05/06/98 09:25AM DSV
METHANE, DICHLOROFLUORO-	EPA 624 Library Search	7.49 NJ ug/l		05/06/98 09:25AM DSV
CHROMIUM HEXAVALENT	STD Methods 18th Ed. 3500	0.0840 mg/l	0.0100 mg/l	04/22/98 10:00PM VP
DETERGENTS MBAS	EPA 600 Method 425.1	ND mg/l	0.100 mg/l	04/23/98 06:00PM RP
NITRATE AS N	EPA 600 Method 353.2	4.10 mg/l	1.00 mg/l	04/27/98 10:00AM MVT
CONDUCTIVITY	EPA 600 Method 120.1	278. umhos	0.100 umhos	04/27/98 03:00PM LS
CHLORIDE	EPA 600 Method 325.3	29.8 mg/l	10.0 mg/l	04/28/98 09:00AM EV
BIOCHEMICAL OXYGEN DEMAND	STD Methods 18th Ed. 5210	ND mg/l	2.10 mg/l	04/23/98 11:00AM LS
TOTAL ORGANIC CARBON	EPA 600 Method 415.1	1.30 mg/l	1.00 mg/l	05/01/98 11:30AM BRS
SULFATE	EPA 600 Method 375.4	28.9 mg/l	2.00 mg/l	05/02/98 11:00AM TFW
TOTAL ORGANIC HALIDE	SW846 Method 9020	88.4 ug/l	5.00 ug/l	04/30/98 08:00AM LC
CHEMICAL OXYGEN DEMAND	EPA 600 Method 410.2	7.85 mg/l	2.00 mg/l	05/04/98 09:00AM TFW
AMMONIA NITROGEN AS N	EPA 600 Method 350.3	0.200 mg/l	0.100 mg/l	05/04/98 02:00PM BRS
PHENOL	EPA 600 Method 420.1	ND mg/l	0.00500 mg/l	05/04/98 10:00PM VP
TOTAL DISSOLVED SOLIDS	STD Methods 18th Ed. 2540	146. mg/l	10.0 mg/l	04/28/98 02:30PM DJB
COLIFORM-MPN	STD Methods 18th Ed. 9221	NEG col/100ml	2. col/100ml	04/22/98 06:15PM ASW
FECAL COLIFORM-MPN	STD Methods 18th Ed. 9221	NEG mpn/100ml	2. mpn/100ml	04/22/98 06:15PM ASW
PH FIELD	EPA 600 Method 150.1	5.52 units	0.10 units	04/22/98 02:10PM

*** NOTES CONCERNING THE ABOVE SAMPLE ****

QUALIFIERS: "B" is used when the compound is found in the blank as well as in the sample; "J" indicates an estimated value; "E" identifies compounds whose concentrations exceed the range of calibration of the instrument; "N" indicates presumptive evidence of a compound; "D" indicates result is calculated from dilution.

Result of "ND" indicates the concentration of the analyte tested was either not detected or below the PQL.
Inc's laboratory certification numbers are: PADER 09-131; NJDEP 77166, NC 488, NY,CT,DE,and MD upon request.
Definitions: ND=not detected; NEG=negative; POS=positive; COL=colonies; PQL=practical quanitation level; L/A=laboratory accident; TNTC=too numerous to count.
A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.

VOLATILE GC/MS CONFORMANCE/NON-CONFORMANCE SUMMARY

Project Login Number: L310915

	N	Y
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		X
2. BFB Tune Specifications Met		X
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series		X
4. GC/MS Calibration Requirements - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series		X
5. GC/MS Calibration Requirements		
Calibration Check Compounds		X
System Preformance Check Compounds		X
6. Blank Contamination - If yes, list blank identification number(s) where contamination appears.	X	
7. Surrogate Recoveries Meet Criteria		X
8. Matrix SpikeMatrix Spike Duplicate Recoveries Meet Criteria	X	
Matrix Spike does not meet criteria.QC Check std.was run and all recoveries are within the limits.		
9. Internal Standards/Retention TIme Shift Areas Meet Criteria		X
11. Analysis Holding Times Met		X
If not met, list each sample and the number of days exceeded.		

12. Additional Comments Including Method Modifications:

Package Prepared By: DVaidya Date 5117198

Printed Name: DATTU S.VAIDYA

QC, Inc.

METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY

Project Login Number: L310915

	N	Y
1. Calibration Summary Meet Criteria		X
2. ICP Interference Check Sample Results Summary Submitted (if applicable) / Meet Criteria		X
3. Serial Dilution Summary Submitted (if applicable) / Meet Criteria Na did not meet criteria. Analysis was performed using an internal standard.	X	
4. Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria		X
5. Blank Contamination - If yes, list blank identification number(s) where contamination appears. The following blanks were more than the MDL, but less than equal to the PQL: Fe in CCB3; Pb in CCB2-CCB5; Zn in CCB2.		X
6. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria If not met, list the MS/MSD Summary page reference. The MS recovery was outside the control limits for Na, but lab control sample recovery met criteria. The poor Na spike recovery was due to high analyte concentration. Analysis was performed using an internal standard.	X	
7. Analysis Holding Time Met If not met, list each sample and the number of days exceeded.		X

Additional Comments Including Method Modifications:

Laboratory Supervisor [signature] Date 5/20/98

GENERAL CHEMISTRY AND PHC ANALYSIS CONFORMANCE / NON-CONFORMANCE SUMMARY

Project Login Number: 310915

	N	Y
1. Blank Contamination		✓

If Yes, list analyte where contamination appears.

	N	Y
2. Matrix Spike / Matrix Spike Duplicate Recoveries meet criteria		✓

If Not, list MS / MSD Recovery Summary page reference.

	N	Y
3. IR Spectra submitted for all standards, blanks and samples		
4. Analysis Holding Time Met		✓

If Not, list each sample and the number of days exceeded.

Additional Comments Including Method Modifications.

Prepared By: Lucia F. Wood Date: 5/15/96

Reviewed By: [illegible] Date: 5/20/98

QC Inc.
1205 Industrial Blvd.
Southampton, PA 18966-0514
Voice: (215) 355-3900
Fax: (215) 355-7231

CHAIN OF CUSTODY

Page 1 of 1

Lab LIMS No. L 310915

Client/Acct. No. R00071 JCA

Address

City/State/Zip

Phone/Fax 609 722-6700

Client Contact Kurt Martin

Bill to/Report to: (if different) JCA

Sampling Site Address: (if different)

P.O. No.

QC Contact J. Niemi

LAB USE ONLY:

- # ___ Ascorbic/HCl Vials
- # 2 HCl Vials
- # ___ $Na_2S_2O_3$
- # ___ NaOH/Zn acetate pH
- # 4 HNO_3 pH <2
- # 12 H_2SO_4 pH <2
- # ___ NaOH pH
- # 4 Unpreserved 4 1/2 gal/pt

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

PROJECT Groundwater

FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Total	H_2SO_4	HCl	HNO_3	NaOH	ZnAc	Unpres	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
MW-21	4/22/98	1310	✓		GW	9	2		3	1		1	1	BOD, COD, chloride, T. Coliform,	
MW-6		1410	✓											Fecal coliform, MBAS, NH3, NO2, NO3	
MW-4		1500	✓											Cond. Sulfate, TOC, TOX, TDS,	
MW-6-D		1555	✓											Cr, Cr6, Cu, Fe, Pb, Na, Zn,	
														Phenol, VOA-624+LST+ACIAC	
														For All wells	

SAMPLED BY: (Name/Company) Ed Zolesky, PCFA

Verbal/fax data due: ___/___/___

Hardcopy due: 28 days

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☒ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By:

Sig: Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
1 [signature]	4/22/98	1607	1 Gary Holt/QC	4-22-98	1607
2 Gary Holt	4-22-98	1815	2 Kelly Angelis		
3 Kelly Angelis	4-22-98	1800	3 [signature]	4-22-98	1800
4 Kelly Angelis	4-22-98	23:00	4 [signature]	4-22-98	23:00
5 Kelly Angelis	4-23-98	08:45	5 [signature]	4-23-98	08:45

DELIVERY METHOD: ☒ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER

Custody Seal Number

COMMENTS:

FOR EXAMPLE TO AID COMPLETION, SEE REVERSE SIDE.

000014

FINAL REPORT

24

Inc.

1205 INDUSTRIAL HIGHWAY • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900

Terminology Summary For Organic Analysis

Qualifiers (Q) - Present on Sample Analysis Data Sheet

B - This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible laboratory contamination.

E - This flag identifies compounds whose concentrations exceed the range of calibration of the instrument.

J - Indicates an estimated value. This flag is used either when estimating concentrations for tentatively identified compounds, or when quantitative data indicates the presence of a compound at a level below the usual sample reporting level, but above the method detection level.

U - Indicates that compound was analyzed for but not detected; i.e. undetected.

N - Indicates presumptive evidence of a tentatively identified compound.

Definitions

Internal Standards - Pure analytes added to every sample (sample extract for semivolatile analysis), blank, and standard at known concentrations prior to analysis for the purpose of measuring relative responses of the method target compounds.

Method Detection Limit (MDL) - The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

Method Blank - An analytical control containing all the reagents in the same amounts as used in processing samples. The method blank is carried through the complete sample preparation and analytical process. The method blank is used to define the level of laboratory background.

Surrogate Standards - A pure analyte that is added to a sample, blank, and standard in known amounts before sample preparation / analysis and is measured with the same procedure used to measure other sample components. The purpose of a surrogate analyte is to monitor method performance with each sample.

GC/MS VOLATILE ORGANICS RESULTS AND DATA PACKAGE

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-6

Lab Name: QC INC. Contract: _____

Matrix: (soil/water) WATER Lab Sample ID: L310915-2

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K0685.D

Level: (low/med) _____ Date Received: 4/22/98

% Moisture: not dec. 0 Date Analyzed: 5/6/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	PQL		Q
74-87-3	Chloromethane	10.0		U
75-01-4	Vinyl Chloride	5.00	3.18	J
74-83-9	Bromomethane	10.0		U
75-00-3	Chloroethane	10.0		U
75-69-4	Trichlorofluoromethane	5.00		U
107-13-1	Acrylonitrile	5.00		U
107-02-8	Acrolein	10.0		U
75-35-4	1,1-Dichloroethene	2.00		U
75-09-2	Methylene Chloride	2.00	7.27	
156-60-5	trans-1,2-Dichloroethene	2.00		U
156-59-2	cis-1,2-Dichloroethene	2.00	25.6	
75-34-3	1,1-Dichloroethane	5.00	11.6	
67-66-3	Chloroform	1.00		U
71-55-6	1,1,1-Trichloroethane	1.00		U
56-23-5	Carbon tetrachloride	2.00		U
71-43-2	Benzene	1.00	1.14	
107-06-3	1,2-Dichloroethane	2.00		U
79-01-6	Trichloroethene	1.00	18.6	
78-87-5	1,2-Dichloropropane	1.00	1.73	
75-27-4	Bromodichloromethane	1.00		U
110-75-8	2-Chloroethyl Vinyl Ether	10.0		U
10061-01-5	cis-1,3-Dichloropropene	5.00		U
108-88-3	Toluene	5.00		U
10061-02-6	trans-1,3-Dichloropropene	5.00		U
79-00-5	1,1,2-Trichloroethane	2.00		U
127-18-4	Tetrachloroethene	1.00	17.7	

Page 1 of 2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-6

Lab Name: QC INC. Contract: _____

Matrix: (soil/water) WATER Lab Sample ID: L310915-2

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K0685.D

Level: (low/med) _____ Date Received: 4/22/98

% Moisture: not dec. 0 Date Analyzed: 5/6/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	PQL		Q
124-48-1	Dibromochloromethane	1.00		U
108-90-7	Chlorobenzene	2.00		U
100-41-4	Ethylbenzene	5.00		U
1330-20-7	m&p-Xylenes	2.00		U
95-47-6	o-Xylene	1.00		U
75-25-2	Bromoform	1.00		U
79-34-5	1,1,2,2-Tetrachloroethane	1.00		U
541-73-1	1,3-Dichlorobenzene	5.00		U
106-46-7	1,4-Dichlorobenzene	5.00		U
95-50-1	1,2-Dichlorobenzene	5.00		U

U - Indicates Compound is not Detected
B - Indicates Compound is Present in the Blank
J - Indicates Compound is Detected Below the PQL
E - Indicates that the Result is Estimated because it is Above Calibration Range
D - Indicates the Result is from Dilution

Quantitation Report

Data File : C:\HPCHEM\1\DATA\050598K\K0685.D
Acq On : 6 May 98 9:25 am
Sample : L310915-2 JCA
Misc : 5ML MW-6
Quant Time: May 6 13:59 1998

Vial: 26
Operator: DSV
Inst : Instrumen
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\6240420.M
Title : Method 624 VOA Calibration
Last Update : Mon Apr 20 15:28:10 1998
Response via : Multiple Level Calibration

Dattu S. Vaidya
5/6/98

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	7.88	168	364694	30.00 ug/L	-0.03
35) 1,4-Difluorobenzene	9.29	114	590083	30.00 ug/L	-0.02
53) Chlorobenzene-d5	13.74	117	513934	30.00 ug/L	-0.02
61) 1,4-Dichlorobenzene-d4	17.54	152	269617	30.00 ug/L	-0.01
System Monitoring Compounds					%Recovery
28) Dibromofluoromethane	8.11	113	170636	28.48 ug/L	94.93%
44) Toluene-d8	11.47	98	609815	30.30 ug/L	101.01%
63) Bromoflurobenzene	15.62	95	225157	29.30 ug/L	97.68%
Target Compounds					Qvalue
5) Vinyl Chloride	3.04	62	23464	3.18 ug/L	87
17) Methylene Chloride	5.78	84	47846	7.27 ug/L	92
19) cis-1,2-Dichloroethene	7.59	61	229227	25.56 ug/L #	81
24) 1,1-Dichloroethane	6.77	63	126540	11.58 ug/L	97
33) Benzene	8.94	78	28413	1.14 ug/L #	1
37) Trichloroethene	9.77	130	127020	18.61 ug/L #	1
38) 1,2-Dichloropropane	10.01	63	12055	1.73 ug/L #	1
49) Tetrachloroethene	12.56	166	107091	17.71 ug/L #	100

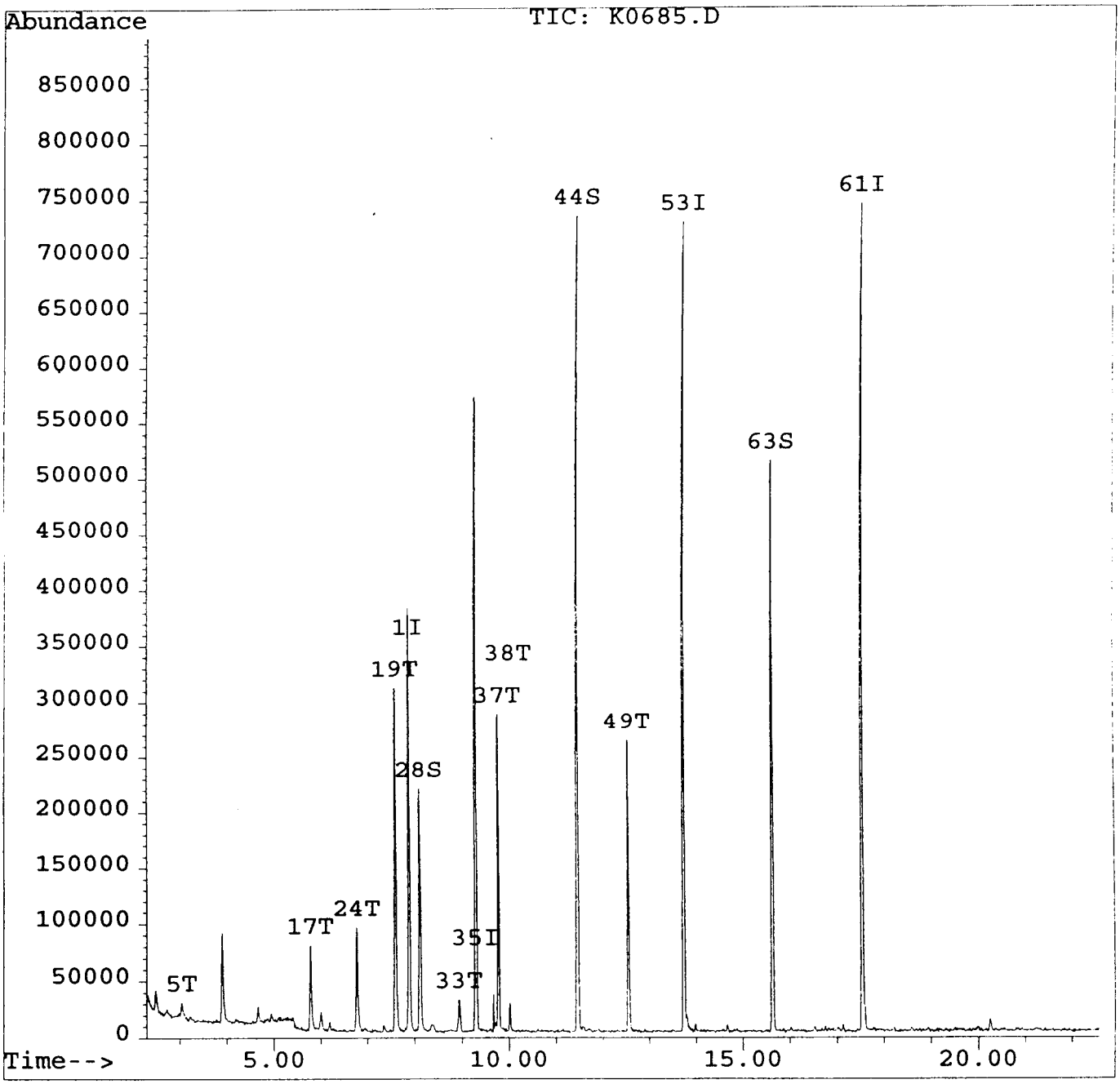
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\050598K\K0685.D
Acq On : 6 May 98 9:25 am
Sample : L310915-2 JCA
Misc : 5ML MW-6
Quant Time: May 6 13:59 1998

Vial: 26
Operator: DSV
Inst : Instrumen
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\6240420.M
Title : Method 624 VOA Calibration
Last Update : Mon Apr 20 15:28:10 1998
Response via : Multiple Level Calibration



1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

MW-6

Lab Name: QC INC. Contract: 000026

Matrix: (soil/water) WATER Lab Sample ID: L310915-2

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: K0685.D

Level: (low/med) Date Received: 4/22/98

% Moisture: not dec. 0 Date Analyzed: 5/6/98

GC Column: RTX-624 ID: 0.18 (mm) Dilution Factor: 1.0

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Conc.	Q
1. 75-43-4	Methane, dichlorofluoro-	3.90	7.49	NJ
2.				
3.				
4.				
5.				
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29.				
30.				

FORM I VOA-TIC

QC LABORATORIES

GENERAL CHEMISTRY DATA REPORT

Test Report No.: L310915 Sample Number : L310915-2

Client Name : JAMES C. ANDERSON ASSOCIATES Client Sample Description: MW-6

Sample Date : 04/22/98

Receive Date : 04/22/98

Matrix : Liquid

Parameter	Date Analyzed	Sample Concentration/ Units	Dilution Factor	Practical Quantitation Limit/Units
AMMONIA NITROGEN AS N	05/04/98	0.200 mg/l	1	0.100 mg/l
BIOCHEMICAL OXYGEN DEMAND	04/23/98	ND mg/l	1.5	2.10 mg/l
CHEMICAL OXYGEN DEMAND	05/04/98	7.85 mg/l	1	2.00 mg/l
CHLORIDE	04/28/98	29.8 mg/l	5	10.0 mg/l
CHROMIUM HEXAVALENT	04/22/98	0.0840 mg/l	1	0.0100 mg/l
CONDUCTIVITY	04/27/98	278. umhos	1	0.100 umhos
DETERGENTS MBAS	04/23/98	ND mg/l	2	0.100 mg/l
NITRATE AS N	04/27/98	4.10 mg/l	10	1.00 mg/l
PHENOL	05/04/98	ND mg/l	1	0.00500 mg/l
SULFATE	05/02/98	28.9 mg/l	1	2.00 mg/l
TOTAL DISSOLVED SOLIDS	04/28/98	146. mg/l	1	10.0 mg/l
TOTAL ORGANIC CARBON	05/01/98	1.30 mg/l	1	1.00 mg/l
TOTAL ORGANIC HALIDE	04/30/98	88.4 ug/l	1	5.00 ug/l

Form No. WC1

WELL LOCATION SCHEDULE

WELL No.	PERMIT No.	N	E	T.C. ELEV.
MW-1	51-00047-4	421,279.871	1,896,019.171	29.76
MW-2	31-17781-6	420,437.992	1,896,746.244	72.93
MW-2D	31-34411-9	420,421.19	1,896,735.53	72.29
MW-3	51-00048-2	419,304.660	1,895,709.063	64.47
MW-3D	31-26142-6	419,297.800	1,895,757.686	62.81
MW-4	51-00049-1	420,293.578	1,893,579.692	23.65
MW-5	31-18183-0	419,426.135	1,895,117.145	73.52
MW-5D	31-26143-4	419,410.335	1,895,178.383	74.33
MW-6	31-19602-1	419,785.928	1,894,520.001	40.42
MW-6D	31-26141-8	419,794.898	1,894,548.928	40.92
MW-7	31-19603-9	419,044.712	1,896,428.337	71.11
MW-8	31-19604-7	419,221.187	1,895,947.250	67.42
MW-9	31-24597-8	421,029.890	1,895,201.583	30.24
MW-10	31-24600-1	422,025.714	1,895,871.228	23.18
MW-11	31-24601-1	422,782.886	1,897,201.488	20.56
MW-11D	31-26140-0	422,756.225	1,897,207.186	21.44
MW-12	31-26580-4	422,610.256	1,898,205.906	20.15
MW-13	31-29056-6	422,252.812	1,896,227.158	19.06
MW-14	31-29057-4	421,743.563	1,896,383.415	21.97
MW-15	31-29058-2	421,497.662	1,895,998.083	26.13
MW-16	31-29059-1	421,629.390	1,895,739.434	26.77
MW-17	31-14414-3	422,297.777	1,897,080.565	22.12
MW-18	31-34415-1	421,654.530	1,898,315.557	37.00
MW-19	31-34419-4	421,280.907	1,897,632.660	59.49
MW-19D	31-34412-7	421,287.390	1,897,644.731	58.82
MW-20	31-34420-8	421,096.124	1,897,355.150	65.66
MW-20D	31-34413-5	421,100.948	1,897,367.222	65.07
MW-21	31-34421-6	419,483.134	1,896,064.950	65.40

LEGEND

MW-13 — MONITORING WELL

-10 — WATER TABLE CONTOUR (DASHED WHERE INFERRED)

CONTOUR INTERVAL 2 FT.

500 FOOT GRID BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.

VERTICAL DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929.

WATER TABLE CONTOURS DEVELOPED USING DATA TAKEN FROM MW-11D.

WATER TABLE CONTOUR MAP
UNDIFFERENTIATED UNIT-RPM AQUIFER
2nd QUARTER 1999
OF
PENNSAUKEN
SANITARY LANDFILL
NJPDES #0102172
POLLUTION CONTROL
FINANCE AUTHORITY
OF CAMDEN COUNTY
PENNSAUKEN SANITARY LANDFILL DIVISION
9000 RIVER ROAD
PENNSAUKEN, CAMDEN COUNTY, N.J.

JCA Associates, Inc.
CONSULTING ENGINEERS, SCIENTISTS, PLANNERS, SURVEYORS AND LICENSED DRILLERS
1256 NORTH CHURCH STREET, SUITE 3
MOORESTOWN, NJ 08057 (609)722-6700

revisions	
no.	date

David W. Munion
N.J. PROFESSIONAL ENGINEER No. 32490

DATE _____

drawn	designed	checked	approved
JDH			

date	job no.	dwg no.
6/1/99	E95PCFA051	
scale 1"=200'	file no.	

ADR AERIAL DATA REDUCTION ASSOCIATES INC.
PENNSAUKEN, N.J. BOLTON, CT. PITTSBURGH, PA.

WELL LOCATION SCHEDULE

WELL No.	PERMIT No.	N	E	T.C. ELEV.
MW-1	51-00047-4	421,279.871	1,896,019.171	29.76
MW-2	31-17781-6	420,437.992	1,896,746.244	72.93
MW-2D	31-34411-9	420,421.19	1,896,735.53	72.29
MW-3	51-00048-2	419,304.660	1,895,709.063	64.47
MW-3D	31-26142-6	419,297.800	1,895,757.686	62.81
MW-4	51-00049-1	420,293.578	1,893,579.692	23.65
MW-5	31-18183-0	419,426.135	1,895,117.145	73.52
MW-5D	31-26143-4	419,410.335	1,895,178.383	74.33
MW-6	31-19602-1	419,785.928	1,894,520.001	40.42
MW-6D	31-26141-8	419,794.898	1,894,548.928	40.92
MW-7	31-19603-9	419,044.712	1,896,428.337	71.11
MW-8	31-19604-7	419,221.187	1,895,947.250	67.42
MW-9	31-24597-8	421,029.890	1,895,201.583	30.24
MW-10	31-24600-1	422,025.714	1,895,871.228	23.18
MW-11	31-24601-1	422,782.886	1,897,201.488	20.56
MW-11D	31-26140-0	422,756.225	1,897,207.186	21.44
MW-12	31-26580-4	422,610.256	1,898,205.906	20.15
MW-13	31-29056-6	422,252.812	1,896,227.158	19.06
MW-14	31-29057-4	421,743.563	1,896,383.415	21.97
MW-15	31-29058-2	421,497.662	1,895,998.083	26.13
MW-16	31-29059-1	421,629.390	1,895,739.434	26.77
MW-17	31-14414-3	422,297.777	1,897,080.565	22.12
MW-18	31-34415-1	421,654.530	1,898,315.557	37.00
MW-19	31-34419-4	421,280.907	1,897,632.660	59.49
MW-19D	31-34412-7	421,287.390	1,897,644.731	58.82
MW-20	31-34420-8	421,096.124	1,897,355.150	65.66
MW-20D	31-34413-5	421,100.948	1,897,367.222	65.07
MW-21	31-34421-6	419,483.134	1,896,064.950	65.40

LEGEND

MW-13 — MONITORING WELL

—18— POTENTIOMETRIC SURFACE MAP LOWERMOST UNIT-PRM AQUIFER

CONTOUR INTERVAL 1 FT.

500 FOOT GRID BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM.

VERTICAL DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929.

POTENTIOMETRIC SURFACE MAP
LOWERMOST UNIT-PRM AQUIFER
2nd QUARTER 1999
OF
PENNSAUKEN
SANITARY LANDFILL
NJPDES #0102172
POLLUTION CONTROL
FINANCE AUTHORITY
OF CAMDEN COUNTY
PENNSAUKEN SANITARY LANDFILL DIVISION
9000 RIVER ROAD
PENNSAUKEN, CAMDEN COUNTY, N.J.

JCA Associates, Inc.
CONSULTING ENGINEERS, SCIENTISTS, PLANNERS, SURVEYORS AND LICENSED DRILLERS
1256 NORTH CHURCH STREET, SUITE 3
MOORESTOWN, NJ 08057 (609)722-6700

revisions	
no.	date

David W. Munion
N.J. PROFESSIONAL ENGINEER No. 32490
DATE

drawn	designed	checked	approved
JDH			

date	job no.	dwg no.
6/1/99	E97PCFA051	
scale 1"=200'	file no.	

1 of 1

ADR AERIAL DATA REDUCTION ASSOCIATES INC.
PENNSAUKEN, N.J. BOLTON, CT. PITTSBURGH, PA.

YES NO N/A

DESOTO PCS# 6094 = OK

PART A: VOA ANALYSES

1.0 Sample Conditions/Problems

1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data? ___ [✓] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50% - 90% water, all data should be flagged as estimated (J). If a soil sample other than TCLP contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the cooler temperature was elevated (> 10° C), then flag all positive results with a "J" and all non-detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

ACTION: The smallest soil size permitted is 0.5g. If any soil sample is smaller than 0.5g, document in the Data Assessment under Contract Problems/Non-Compliance.

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded? ___ [✓] ___

water 4-21 to 5-5 = 14 days

Technical Holding Times: If unpreserved, aqueous samples, maintained at 4° C for aromatic hydrocarbons analysis must be analyzed within 7 days of collection. If preserved with HCl (pH < 2) and stored at 4° C, then aqueous samples must be analyzed within 14 days of collection. If uncertain about preservation, contact sampler to determine whether or not samples were preserved. The holding time for soils is 10 days from date of collection.

Table of Holding Time Violations

Ref. No. 11, p. 38

YES NO N/A

(See Chain-of-Custody Records)

Sample ID	Sample Matrix	Was Sample Preserved?	Date Sampled	Date Lab Received	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated "J" and sample quantitation limits as estimated "UJ", and document in the Data Assessment that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results must be qualified "J", but the reviewer may determine that non-detect data are unusable "R". If holding times are exceeded by more than 28 days, all non detect data are unusable "R".

NOTE: Contractual Holding Times: Analysis of water and soil/sediment samples must be completed within 10 days of Validated Time of Sample Receipt (VTSR). This requirement does not apply to Performance Evaluation (PE) samples.

ACTION: If contractual holding times are exceeded, document in the Data Assessment and on the Organic Regional Data Assessment Summary form.

NOTE: The data reviewer must note in the Data Assessment whether or not technical and contractual holding times were met.

	YES	NO	N/A
0 System Monitoring Compound (SMC) Recovery (Form II)			
3.1 Are the VOA SMC Recovery Summaries (Form II) present for each of the following matrices:			
a. Low Water?	[✓]	—	✓
b. Low Soil?	[ ]	—	✓
c. Med Soil?	[ ]	—	—
3.2 Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
a. Low Water?	[✓]	—	✓
b. Low Soil?	[ ]	—	✓
c. Med Soil?	[ ]	—	—
ACTION: Contact the lab to obtain an explanation or resubmittal of any missing deliverables. If missing deliverables are unavailable, document the effect in the Data Assessment.			
3.3 Were outliers marked correctly with an asterisk?	[ ]	—	✓
ACTION: Circle all outliers with red pencil.			
3.4 Was one or more VOA system monitoring compound recovery outside of contract specifications for any sample or method blank?	—	[✓]	—
If yes, were samples re-analyzed?	[ ]	—	—
Were method blanks re-analyzed?	[ ]	—	—

ACTION: If recoveries are ≥ 10%, but 1 or more compounds fail to meet SOW specifications:

1. All positive results are qualified as estimated "J".

2. Flag all non-detects as estimated detection limits "UJ" where recovery is less than the lower acceptance limit.

YES NO N/A

3. If SMC recoveries are above allowable levels, do not qualify non-detects.

If any system monitoring compound recovery is < 10%:

1. Flag all positive results as estimated "J".

2. Flag all non-detects as unusable "R".

Professional judgement should be used to qualify data that only have method blank SMC recoveries out of specification in both original and re-analyses. Check the internal standard areas.

NOTE: Contractual requirements state that if any SMC fails the acceptance criteria, the sample must be re-analyzed. If the affected sample was not re-analyzed, document in the Data Assessment under Contract Problems/Non-Compliance and in the Organic Regional Data Assessment Summary.

NOTE: The laboratory must submit the following data:

1. If SMC recoveries and internal standard responses meet the acceptance criteria in the re-analyzed sample, then the laboratory must submit only the re-analysis.

2. If an SMC recovery and/or internal standard response fails to meet the acceptance criteria upon re-analysis, then submit data from both analyses.

(Refer to section 11.4.3.2, page D-46/VOA of the SOW for more information.)

3.5 Are there any transcription/calculation errors between raw data and Form II? ___ [✓] ___

ACTION: If large errors exist, contact the lab to obtain an explanation or resubmittal of corrected deliverables. Make any necessary corrections and note the effect in the Data Assessment.

	YES	NO	N/A
4.0 Matrix Spikes (Form III)			
4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	[✓]	___	___
4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:			
a. Low Water?	[✓]	___	___
b. Low Soil?	[ ]	___	✓
c. Med Soil?	[ ]	___	✓

ACTION: If any matrix spike data are missing, take the action specified in section 3.2 above.

4.3 How many VOA spike recoveries are outside QC limits?

Water	Soils
0 out of 10	_____ out of 10

4.4 How many RPDs for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water	Soils
0 out of 5	_____ out of 5

ACTION: No action is taken based upon MS/MSD data alone. However, using informed professional judgement, the MS/MSD results may be used in conjunction with other QC criteria to determine the need for qualification of the data.

ACTION: Circle all outliers with red pencil.

	YES	NO	N/A
5.0 Blanks (Form IV)			
5.1 Is the Method Blank Summary (Form IV) present?	[✓]	___	___
5.2 Frequency of Analysis: for the analysis of VOA TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix (low water, low soil or medium soil), whichever is more frequent?	[✓]	___	___

		YES	NO	N/A
5.3	Has a VOA method blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	✓ [ ]	___	___
5.4	Was a VOA instrument blank analyzed after each sample/dilution which contained a target compound that exceeded the initial calibration range?	[ ]	___	✓
5.5	Was a VOA storage blank analyzed at the end of all samples for each SDG in a case?	[ ]	___	✓

ACTION: If any method/instrument blank data are missing, contact the lab to obtain any missing deliverables. If method blank data are not available, reject "R" all associated positive data. However, using professional judgement, the data reviewer may substitute field blank or trip blank data for missing method blank data.

If any instrument blank analyzed after a sample with high concentration is missing, contact the lab to obtain any missing deliverables. If the instrument blank was not analyzed or not available, inspect the chromatogram of the sample analyzed immediately after this analysis for possible carryover. Use professional judgement to determine if any contamination occurred and qualify analyte(s) accordingly.

If storage blank data is missing, contact the lab to obtain any missing deliverables. If unavailable, note in the Contract Problems/Non-Compliance section of the Data Assessment.

5.6 The validator should verify that the correct identification scheme for the EPA Blank samples were used. See page B-33, section 3.3.7.3 of the SOW for further information.

	Was the correct identification scheme used for all VOA blanks?	[ ]	___	✓

ACTION: Contact the lab to obtain missing deliverables, or make the required corrections on the forms. Document in the Data Assessment under Contract Problems/Non-compliance if corrections were made by the validator.

5.7 Chromatography: review the blank raw data-

	YES	NO	N/A
chromatograms (RICs), quant. reports or data system printouts and spectra. Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	[✓]	___	___

ACTION: Use professional judgement to determine the effect on the data.

	YES	NO	N/A
5.8 Are all detected hits for target compounds in method, instrument and storage blanks less than the CRQL for that analyte?	[ ]	___	✓

Exception: Acetone and 2-butanone must be less than 5 times the CRQL, and methylene chloride must be less than 2.5 times its CRQL.

ACTION: If no, an explanation and laboratory's corrective actions must be addressed in the case narrative. If the narrative contains no explanation, then make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and "distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

	YES	NO	N/A
6.1 Do any method/instrument/reagent/storage blanks have positive results (TCL and/or TIC) for VOAs?	___	[✓]	___

NOTE: When applied as directed in the table below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for %moisture when necessary.

NOTE: A contaminated instrument blank is not allowable under this SOW. See page D-48/VOA, section 12.1.2.4 for additional information. Document in the Data Assessment under Contract Problems/Non-Compliance if contaminated instrument blank was submitted.

	YES	NO	N/A
6.2 Do any field/trip/rinse blanks have positive VOA results (TCL and/or TIC)?	___	[ ]	✓

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a

YES NO N/A

separate sheet.)

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped and are not required for non-aqueous matrices. Blanks may not be qualified because of contamination in another blank. Field Blanks & Trip Blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated data should be qualified as unusable "R".

	Flag sample result with a "U" when:	Report CRQL & qualify "U" when:	No qualification is needed when:
ylene ride one ene tanone	Sample conc. is > CRQL, but ≤ 10× blank value.	Sample conc. is < CRQL and ≤ 10× blank value.	Sample conc. is > CRQL and > 10× blank value.
er ta- ants	Sample conc. is > CRQL, but ≤ 5× blank value.	Sample conc. is < CRQL and ≤ 5× blank value.	Sample conc. is > CRQL and > 5× blank value.

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

ACTION: For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R".

Are there field/rinse/equipment blanks associated with every sample?

	YES	NO	N/A
ACTION: For low level samples, note in the Data Assessment that there is no associated field/rinse/equipment blank. For samples with high concentrations of suspected blank contaminants, use professional judgement to qualify these values and make a note in the Data Assessment. Exception: samples taken from a drinking water tap do not have associated field blanks.	[ ]		✓

GC/MS Instrument Performance Check (Form V)

7.1	Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	✓		
7.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	✓		
7.3	Has an instrument performance check been analyzed for every analytical sequence on each instrument?	✓		

ACTION: List date, time, instrument ID, and sample numbers for which associated GC/MS tuning data are unavailable.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: Notify the lab to obtain missing data, if possible. If the lab cannot provide the missing data, reject, "R", all data generated outside an acceptable twelve hour calibration interval.

7.4	Have the ion abundances been normalized to m/z 95 as specified in Exhibit D, page D-56/VOA?	✓		

NOTE: All ion abundance ratios must be normalized to m/z 96, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that

	YES	NO	N/A
of m/z 95.			
ACTION: If mass assignment is in error, qualify all associated data as unusable "R".			
7.5 Have the ion abundance criteria been met for each instrument used?	[✓]	___	___
ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).			
ACTION: If ion abundance criteria are not met, the Region II TPO must be notified.			
7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values, but if errors are found check more.)	___	[✓]	___
7.7 Is the number of significant figures for the reported relative abundances consistent with the number given for each ion in the ion abundance criteria column?	[✓]	___	___
ACTION: If large errors exist, take action as specified in section 3.5 above.			
7.8 Are the spectra of the mass calibration compound acceptable?	[✓]	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			
8.0 Target Compound List (TCL) Analytes (FORM I VOA)			
8.1 Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate?	[✓]	___	___
b. Matrix spikes and matrix spike duplicates?	[✓]	___	___
c. Blanks?	[✓]	___	___
8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (quant. reports) included in the sample package for each of the following:			

	YES	NO	N/A
a. Samples and/or fractions as appropriate?	[✓]		
b. Matrix spikes and matrix spike duplicates (mass spectra not required)?	[✓]		
c. Blanks?	[✓]		

ACTION: If any data are missing, take action specified in 3.2 above.

8.3 Are the response factors shown in the quant. report?	[ ]	✓	
8.4 Is chromatographic performance acceptable with respect to:			
a. Baseline stability?	[✓]		
b. Resolution?	[✓]		
c. Peak shape?	[✓]		
d. Full-scale graph (attenuation)?	[✓]		
e. Other: _____?	[ ]		

ACTION: Use professional judgement to determine the acceptability of the data.

8.5 Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	[ ]	✓	

ACTION: If any mass spectra are missing, take action as specified in 3.2 above. If the lab does not generate its own standard spectra, document in the Contract Problems/Non-compliance section of the Data Assessment and the Organic Regional Data Assessment Summary.

8.6 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	[✓]		
8.7 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]		
8.8 Do sample and standard relative ion intensities			

	YES	NO	N/A
agree within ±20%?	[✓]		

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected "R", flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected "U" at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 8.6, 8.7, and 8.8.

ACTION: When sample carry-over is suspected, use professional judgement determine if instrument cross-contamination has affected positive compound identifications.

9.0 Tentatively Identified Compounds (TIC)

	YES	NO	N/A
9.1 Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	[✓]		
9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
a. Samples and/or fractions as appropriate?	[ ]	✓	
b. Blanks?	[ ]	✓	
c. Alkanes listed for each sample?	[ ]	✓	

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier to all chemically named TICs, if missing.

	YES	NO	N/A
9.3 Are any TCL compounds (from any fraction) listed as TIC compounds? (Example: 1,2- dimethylbenzene is xylene, a VOA TCL analyte, and should not be reported as a TIC.)		[✓]	

ACTION: Flag with "R" any TCL compound listed as a TIC.

9.4 Are all ions present in the reference mass

	YES	NO	N/A
spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	[ ]		✓
9.5 Do TIC and "best match" standard relative ion intensities agree within ±20%?	[ ]		✓

ACTION: Use professional judgement to determine the acceptability of TIC identifications. If it is determined an incorrect identification was made, change the identification to "unknown," or to some less specific identification as appropriate. (Example: "C3 substituted benzene.")

Also, when a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable "R". (E.g., Common Lab Contaminants: CO_2 (M/E 44), siloxanes (M/E 73) hexane, aldol condensation products, solvent preservatives, and related by-products - see the National Functional Guidelines for further guidance.)

	YES	NO	N/A
9.6 Are TICs with responses < 10% of the internal standard (as determined by inspection of the peak areas or height) reported?		[✓]	

ACTION: If yes, cross out questionable TIC(s).

10.0 Compound Quantitation and Reported Detection Limits

	YES	NO	N/A
10.1 Are there any transcription/calculation errors in Form I results? (Check at least two positive values. Verify that the correct internal standards, quantitation ions, and RRF were used to calculate Form I results.)		[✓]	
10.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	[ ]		✓

ACTION: If errors are large, take action as specified in section 3.5 above.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample). Replace concentrations that exceeded the calibration range in the original analysis by crossing out

YES NO N/A

the "E" and its corresponding value on the original Form I and substituting the data from the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form Is not to be used, including any in the data summary package.

11.0 Standards Data (GC/MS)

11.1 Are the Reconstructed Ion Chromatograms, and data system printouts (quant. reports) present for each initial and continuing calibration? [✓] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI) present and complete at concentrations of 10, 20, 50, 100, 200ng for separate calibrations of low water/med soils (unheated purge) and low soils (heated purge)? [✓] ___ ___

ACTION: If any calibration standard forms are missing, take action specified in 3.2 above. missing 20ng

12.2 Were all low level soil standards, blanks and samples analyzed by heated purge? [ ] ___ ✓

ACTION: If low level soil samples were not heated during purge, qualify positive hits "J" (estimated) and non-detects "R".

12.3 Are the % relative standard deviation (%RSD) values for VOAs ≤ 30% over the concentration range of the calibration? t-butyl alcohol = 34% [ ] ✓ ___

NOTE: Although 11 VOA compounds have a contractual minimum RRF and no maximum %RSD, the technical acceptance criteria are the same for all analytes.

ACTION: Circle all outliers with red pencil.

ACTION: If %RSD is > 30.0%, qualify associated positive results for that analyte "J" (estimated) and non-detects using professional judgement. When %RSD is > 90%, flag all non-detects for that analyte "R" (unusable) and positive hits "J".

YES NO N/A

NOTE: Analytes previously qualified "U" for blank contamination are still considered as "hits" when qualifying for initial calibration criteria.

12.4 Are any average RRFs < 0.05? ___ [✓] ___

ACTION: Circle all outliers with red pencil.

ACTION: If the average RRF is < 0.05, then qualify associated non-detects with an "R" and flag associated positive data as estimated "J".

NOTE: Contract Requirement: The SOW allows up to two of the required analytes to fail contractual %RSD or RRF criteria, provided the %RSD is ≤ 40% and RRF is ≥ 0.010. (See Table 5, page D-59/VOA and analytes marked with a "*" on Form VI for required analytes and contractual criteria.) Technical criteria, however, are the same for all analytes.

ACTION: If more than two analytes failed %RSD or RRF criteria, document in the Data Assessment under Contract Problems/Non-Compliance and the Organic Regional Data Assessment Summary.

12.5 Are there any transcription/calculation errors in the reporting of average relative response factors (RRF) or %RSD? (Check at least 2 values, but if errors are found, check more.) ___ [ ] ___

ACTION: Circle errors with red pencil.

ACTION: If errors are large, contact the lab to obtain an explanation/resubmittal, document in the Data Assessment under Contract Problems/Non-Compliance and in the Organic Regional Data Assessment Summary.

13.0 GC/MS Continuing Calibration (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for separate calibration of low water/med soil and low soil samples? [✓] ___ ___

13.2 Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument? [✓] ___ ___

YES NO N/A

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, contact the lab to request an explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable "R".

ACTION: List below all sample(s) that were not analyzed within twelve hours of the previous continuing calibration.

_____

_____

_____

13.3 Do any volatile compounds have a percent difference (%D) between the initial and continuing RRF which exceeds the ±25% criteria? ___ [✓] ___

NOTE: Although 11 VOA compounds have a contractual minimum RRF and no maximum %D, the technical acceptance criteria are the same for all analytes.

ACTION: Circle all outliers with red pencil.

ACTION: Qualify both positive results and non-detects for the outlier compound(s) as estimated. When %D is > 90%, qualify all non-detects for that analyte unusable (R) and positive results estimated (J).

13.4 Are any continuing calibration RRFs < 0.05? ___ [ ] ✓

ACTION: Circle all outliers with red pencil.

ACTION: If the RRF is < 0.05, qualify the associated non-detects as unusable "R" and the associated positive values "J".

NOTE: Contract Requirement: The SOW allows up to two of the required analytes to fail contractual %D and RRF criteria, provided that the %D is ≤ 40% and the RRF is ≥ 0.010. (See Table 5 pg. D-59/VOA or analytes marked with a "*" on Form VI for required analytes.) Technical criteria, however, are the same for all analytes.

YES NO N/A

ACTION: If more than two analytes failed %D and RRF, criteria document in the Data Assessment under contract Problems/Non-Compliance and on the Organic Regional Data Assessment Summary form.

13.5 Are there any transcription/calculation errors in the reporting of RRF or %D between initial and continuing RRFs? (Check at least two values, but if errors are found, check more.)

ACTION: Circle errors with red pencil. ___ [ ] ___

ACTION: If errors are large, contact the lab to obtain an explanation/resubmittal, document in the Data Assessment under Contract Problems/Non-Compliance.

14.0 Internal Standard (Form VIII)

14.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to +100%) for each continuing calibration?

If no, was the sample re-analyzed? [✓] ___ ___

ACTION: 1. Circle all outliers with red pencil. [ ] ___ ___

2. List all the outliers below.

Sample #	Internal Std.	Area	Lower/Upper Limit
			/
			/
			/
			/

(Attach additional sheets if necessary, or attach copies of Form VIIIs.)

ACTION: If any sample was not re-analyzed, document in the Data Assessment under Contract Problems/Non-Compliance.

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J"

YES NO N/A

all positive results quantitated with this internal standard.

2. Do not qualify non-detects when associated IS area counts are > 100%.

3. If the IS area in the sample is below the "lower limit," < 50%, qualify all analytes associated with that IS estimated, "J". If the area counts are extremely low, < 25% of the area in the 12 hour standard, or if performance exhibits a major abrupt drop- off, flag all associated non-detects as unusable, "R", and positive hits estimated, "J".

14.2 Are the retention times of the internal standards within 30 seconds of the associated calibration standard? [ ] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

NOTE: Contractual requirements state that if any internal standard fails the acceptance criteria, the sample must be re-analyzed. If the affected sample was not re-analyzed, document in the Data Assessment under Contract Problems/Non-Compliance.

NOTE: See Notes in section 3.4, page 7 for a description of sample data the laboratory must submit.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for VOA analysis? [ ] ✓ ___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Ref. No. 11, p. 55
(last page)

REFERENCE NO. 12

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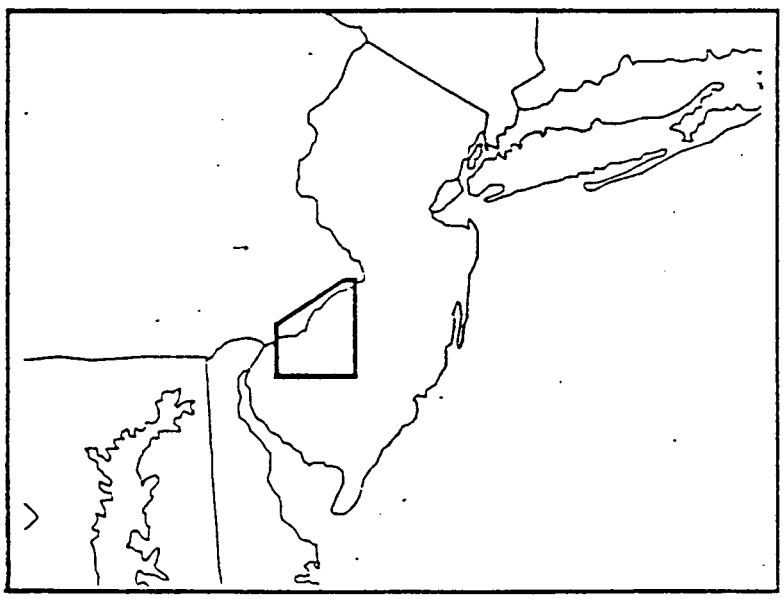
THE POTOMAC-RARITAN-MAGOTHY AQUIFER SYSTEM IN THE CAMDEN METROPOLITAN AREA: CULTURAL IMPACT ON AN OUTCROP AREA

by

Anthony S. Navoy



New Jersey District Office
Water Resources Division
U.S. Geological Survey

Ref. 12, p. 1

The Potomac-Raritan-Magothy Aquifer System in the Camden New Jersey Metropolitan Area: Cultural Impact on an Outcrop Area

Anthony S. Navoy
U.S. Geological Survey
West Trenton, N.J.

In the Proceedings from the Second Annual Meeting of the Geologic Association of New Jersey

Ref. 12, p. 2

THE POTOMAC-RARITAN-MAGOTHY AQUIFER SYSTEM IN THE CAMDEN, NEW JERSEY METROPOLITAN AREA: CULTURAL IMPACT ON AN OUTCROP AREA

Anthony S. Navoy

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ABSTRACT

The Potomac-Raritan-Magothy aquifer system forms the lower part of a southeast-dipping wedge of Cretaceous to Holocene Coastal Plain sediments. The aquifer system is the major source of water supply for Camden, New Jersey, and its surrounding metropolitan area in southwestern New Jersey. Prior to the development of ground-water supply in the area, the aquifer system was recharged chiefly by precipitation on the outcrop area to the northeast of Camden and was depleted by ground-water discharge to the Delaware River in the vicinity of Camden.

The development of ground-water supplies has affected the ground-water flow system. Withdrawal by wells began in 1898, and presently approaches 100 million gallons per day. These withdrawals have created a large regional cone of depression in the potentiometric surface of the aquifer system, and have caused hydrologic conditions in the outcrop area near Camden to change from a discharge area to a recharge area. This change threatens potable ground-water supplies by: (1) increasing the potential for movement of saline water towards the metropolitan area, (2) inducing contaminated recharge water from the outcrop, and (3) inducing recharge of saline Delaware River water during extreme drought conditions.

INTRODUCTION

The Camden metropolitan area, in southwestern New Jersey, incorporates parts of Burlington, Camden, and Gloucester Counties. The Potomac-Raritan-Magothy aquifer system is the principal source of water supply for the area. The Camden area has the coincidental situation of high ground-water use and proximity to saline ground water, as well as being the location of industrial and commercial land-use. These and associated contamination problems in the outcrop area have affected the quality of the area's major source of water supply, and has resulted in a complex situation of water-supply and water-quality problems. This paper briefly describes the hydrogeology and impact of water-supply development on the Potomac-Raritan-Magothy aquifer system in the Camden, New Jersey Metropolitain area.

Ref. 12, p. 3

HYDROSTRATIGRAPHY

The greater Camden metropolitan area is situated on the outcrop area of a southeast-dipping wedge of Coastal Plain sediments that range in age from Cretaceous to Holocene. The oldest sediments of the Coastal Plain belong to the Potomac Group and the Raritan and Magothy Formations, and are fluvial-marginal marine in origin, overlying pre-Cretaceous crystalline rocks. Table 1 shows the geologic relationships and properties of these units as well as their hydrologic characteristics. These units comprise the highest-yielding aquifers in the Coastal Plain. The outcrop area of the undifferentiated sediment mass formed by the Potomac Group and the Raritan and Magothy Formations trends from the southwest to the northeast and extends from the Fall Line in Pennsylvania, southeastward through the Camden area to approximately 1 to 4 miles southeast of the Delaware River (figure 1). Situated on this outcrop area are the major urban areas of metropolitan Camden and southeastern Philadelphia, and the Delaware River. In some places, a veneer of Quaternary sediments is present at the land surface (U.S. Geological Survey, 1967).

The stratigraphy of the Potomac Group and the Raritan and Magothy Formations in New Jersey has been examined in detail in the Raritan embayment, located in the northeastern part of the New Jersey Coastal Plain. The subdivisions of the Raritan and Magothy Formations as represented in the Raritan embayment are not evident in the stratigraphy of the Camden area (Owens and Sohl, 1969). Therefore, in the Camden area, these formations have generally been considered as stratigraphically undifferentiated. Contained within the Potomac Group and the Raritan and Magothy Formations is the Potomac-Raritan-Magothy aquifer system, the most productive source of ground water in the Camden metropolitan area. This aquifer system has been subdivided on a hydraulic basis into three aquifers, designated as lower, middle, and upper, through the use of geologic and borehole geophysical logs (Zapecza, 1984). Cross-sections of these aquifer units are shown along the traces in figure 2. The various units dip towards the southeast and thicken in that direction (figure 3), and are fairly consistent along strike (figure 4), except for the lower aquifer, which thins out and terminates against bedrock in central Burlington County. The units also show a regional trend of decreasing sediment size downdip.

The hydrostratigraphy of the aquifer units becomes rather complex in the outcrop area. The lower aquifer extends beneath the bed of the Delaware River and crops out in Philadelphia. The middle aquifer extends under, but in places contacts the river. The upper aquifer crops out only in New Jersey. The confining beds, which are composed predominantly of clay, are fairly continuous in the downdip, but become discontinuous in the outcrop area where they provide only local confinement.

Ref. 12, p. 4

Table 1.-- Geologic and Hydrogeologic Units of the

Potomac-Raritan-Magothy Aquifer System in New Jersey.

SYSTEM	SERIES	GEOLOGIC UNIT	LITHOLOGY	HYDROGEOLOGIC UNIT		HYDROLOGIC CHARACTERISTICS
Cretaceous	Upper Cretaceous	Woodbury Clay	Clayey, gray and black, micaceous silt.	Merchantville-Woodbury confining bed		A major confining bed. Locally the Merchantville fm. may contain a thin water-bearing sand.
		Merchantville Formation	Glauconitic, gray and black, micaceous clays and clayey silts; locally very fine-grained quartz and glauconitic sand.			
		Magothy Formation	Sand, quartz, light-gray, fine- to coarse-grained; local beds of dark-gray lignitic clay.	Potomac-Raritan Magothy aquifer system	upper aquifer	A major aquifer system. In the northern Coastal Plain the upper aquifer is equivalent to the Old Bridge aquifer and the middle aquifer is the equivalent of the Farrington aquifer. In the Dela. River Valley three aquifers are recognized. In the deeper subsurface, units below the upper aquifer are undifferentiated.
					conf bd	
		Raritan Formation	Sand, quartz, light-gray, fine- to coarse-grained, pebbly, arkosic, red, white, and variegated clay.		middle aquifer	
					conf bd	
	Lower Cretaceous	Potomac Group	Alternating clay, silt, sand, and gravel.		Lower aquifer	
Pre- Cretaceous		Bedrock	Precambrian and lower Paleozoic crystalline rocks, metamorphic schist and gneiss; locally Triassic basalt, sandstone and shale.	Bedrock confining bed		Except along Fall Line, no wells obtain water from these consolidated rocks.

Modified from Zapecza, 1984, Table 2.

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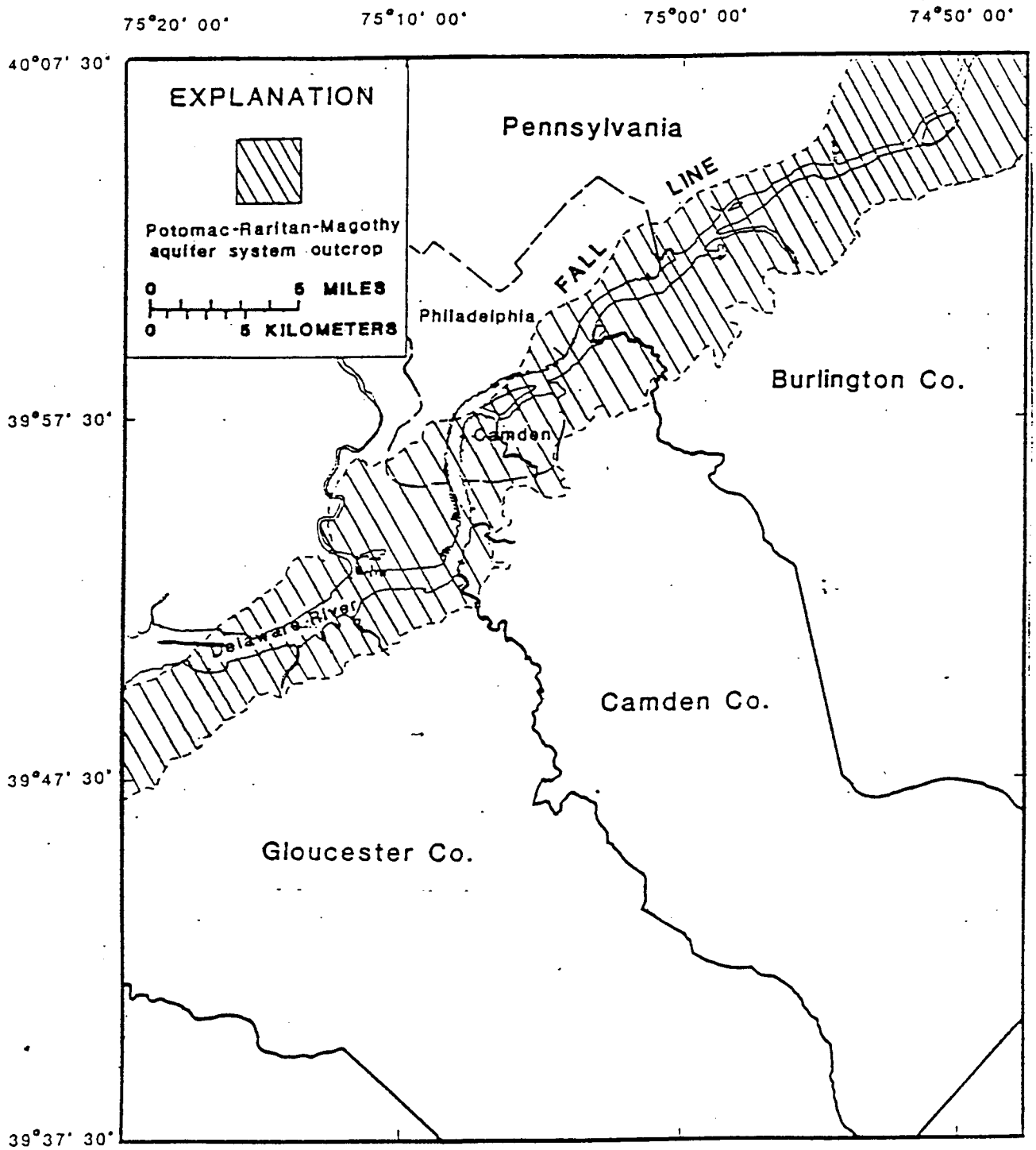

Figure 1. -- The outcrop of the Potomac-Raritan-Magothy aquifer system in the Camden metropolitan area.

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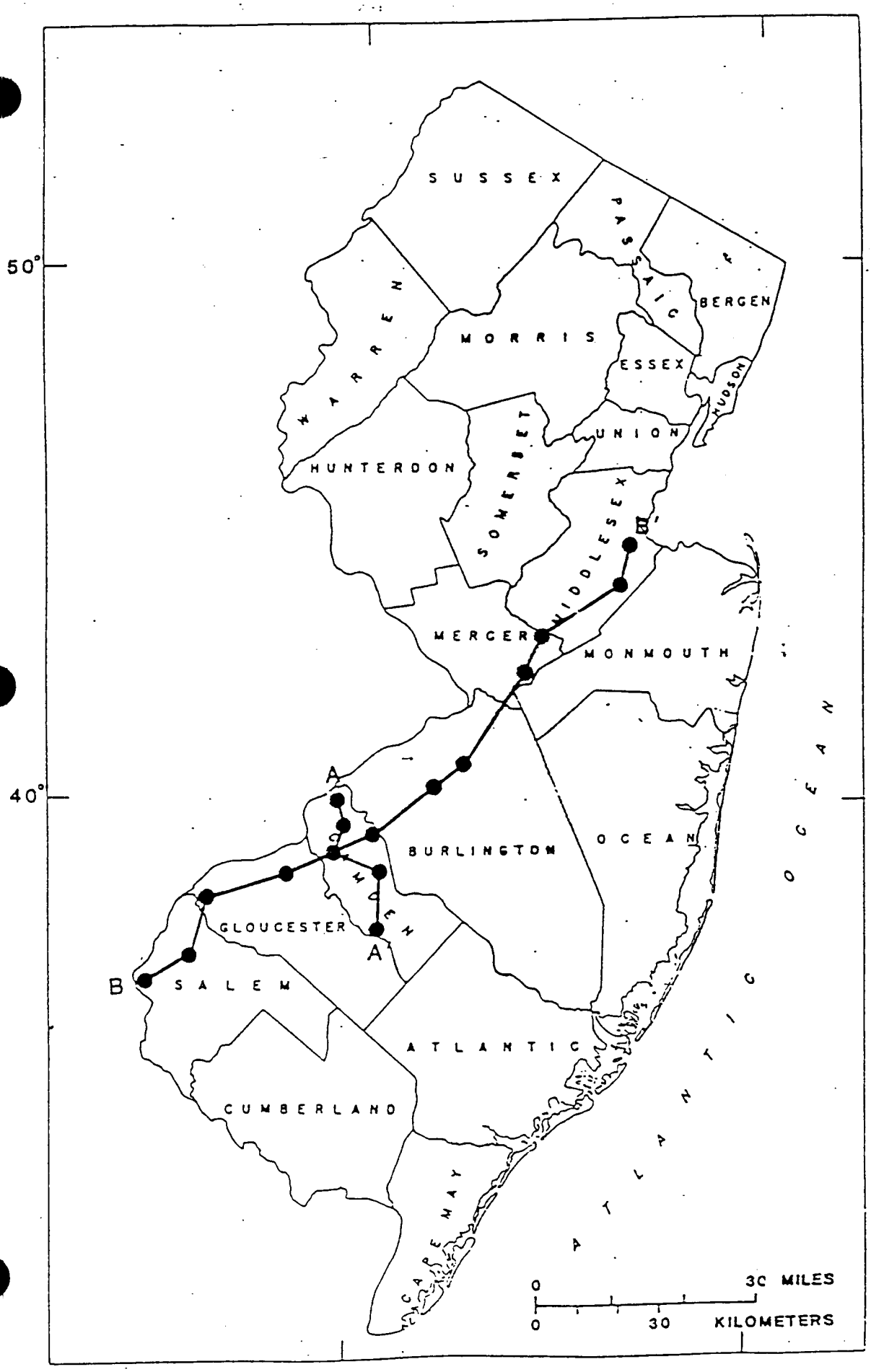

Figure 2. -- Location of hydrostratagraphic cross-sections.

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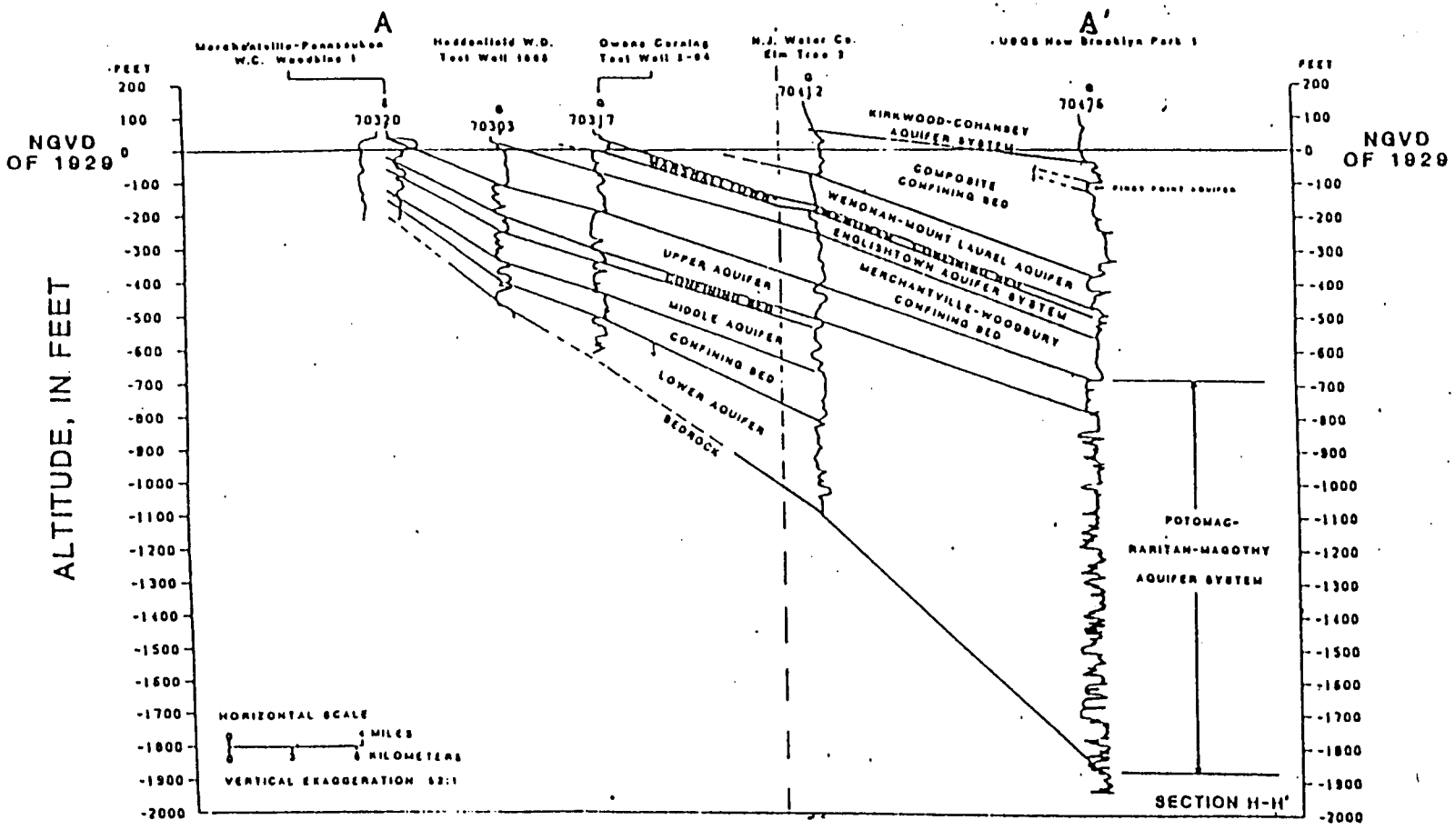

Figure 3.--Downdip cross section A-A' of hydrostratigraphic units. See figure 2 for location of section. (modified from Zapecza, 1984).

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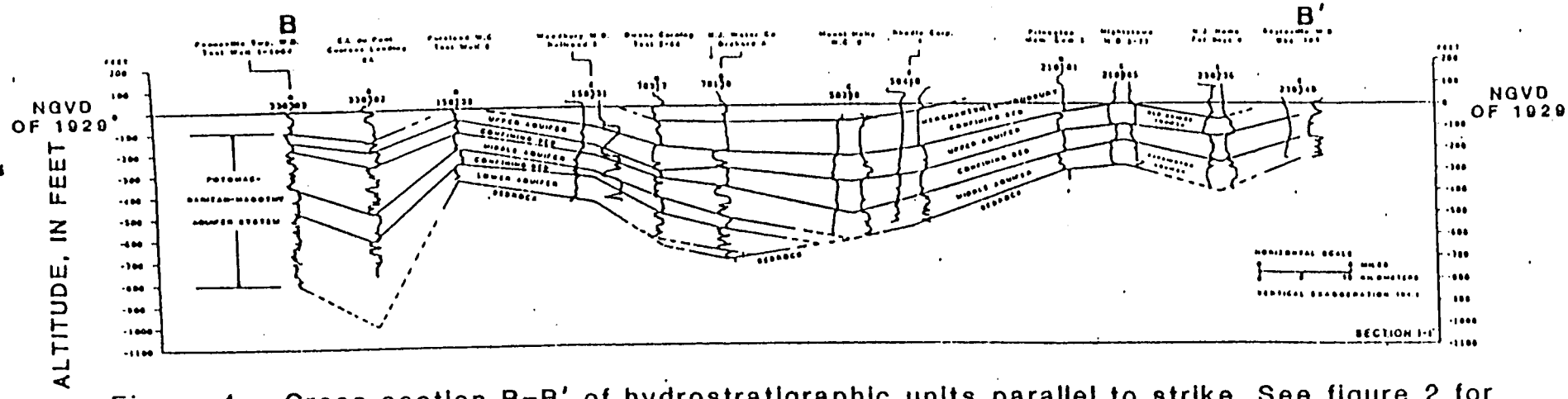

Figure 4.--Cross section B-B' of hydrostratigraphic units parallel to strike. See figure 2 for location of section. (modified from Zapecza, 1984).

Ref. 12, p. 9

PREDEVELOPMENT GROUND-WATER FLOW SYSTEM

During predevelopment times (prior to 1900), the outcrop along the Delaware River near Camden was a discharge area for the regional ground-water flow system. Recharge, chiefly as precipitation, entered the system in the outcrop to the northeast in Burlington, Mercer, and Middlesex Counties (figure 5). To a lesser extent, recharge occured locally as vertical leakage from overlying aquifers. Figure 5 shows the potentiometric surface of the undifferentiated confined aquifer system prior to its development for water supply. In a simplistic sense, both discharge and recharge occur in the outcrop area of the aquifer system. Because of this orientation, ground-water-flow velocities decrease downdip, resulting eventually in negligible rates of flow.

The flow regime in the vicinity of Camden appears to be controlled chiefly by the location and rate of ground-water discharge to the Delaware River. The amount of ground-water discharge as leakage to the river, under predevelopment conditions, will be controlled by river-bottom permeability, to some extent by the proximity of crystalline bedrock beneath the riverbed, and by the head gradient in the area. The river bottom downstream (approximately 10 miles) from Philadelphia and Camden becomes predominantly clayey and silty, and coincidentally, the crystalline bedrock is present at shallow depths (approx. 10 feet) in the same river reach (Duran, 1986). Just downstream of this reach, the saline-water interface in the aquifer is nearest the river (see the hatchured line in figure 5), perhaps indicating a low-flow velocity zone. This change to less-permeable river-bottom material and shallowness of bedrock may preclude relatively high rates of discharge to the river, and thus limit the extent of vigorous ground-water flow. Furthermore, such conditions may have fixed the location of the downdip saline-water interface under predevelopment conditions.

The occurence of saline ground water in the downdip areas may be a manifestation of lower flow velocities downdip, as noted earlier. The saline water, most likely introduced into the aquifer during an earlier, higher stand of sea level, may not have been flushed completely by freshwater. The chemical character of the saline water shows evidence of ion-exchange reactions that are indicative of freshwater flushing the saline water from the aquifer (Fusillo and others, 1984). Chapelle and Knobel (1983) studied a similar ion-exchange phenomenon in glauconitic sediments in Maryland. With montmorillonite acting as the exchange medium within the Potomac-Raritan-Magothy aquifer system (L. L. Knobel, 1985, U.S. Geological Survey, written commun.), calcium would replace sodium on the exchange sites as freshwater flushes saltwater from the aquifer. This process enriches the fresh ground water with sodium as chemical equilibrium between ground water and exchange media is maintained during the flushing.

Ref. 12, p. 10

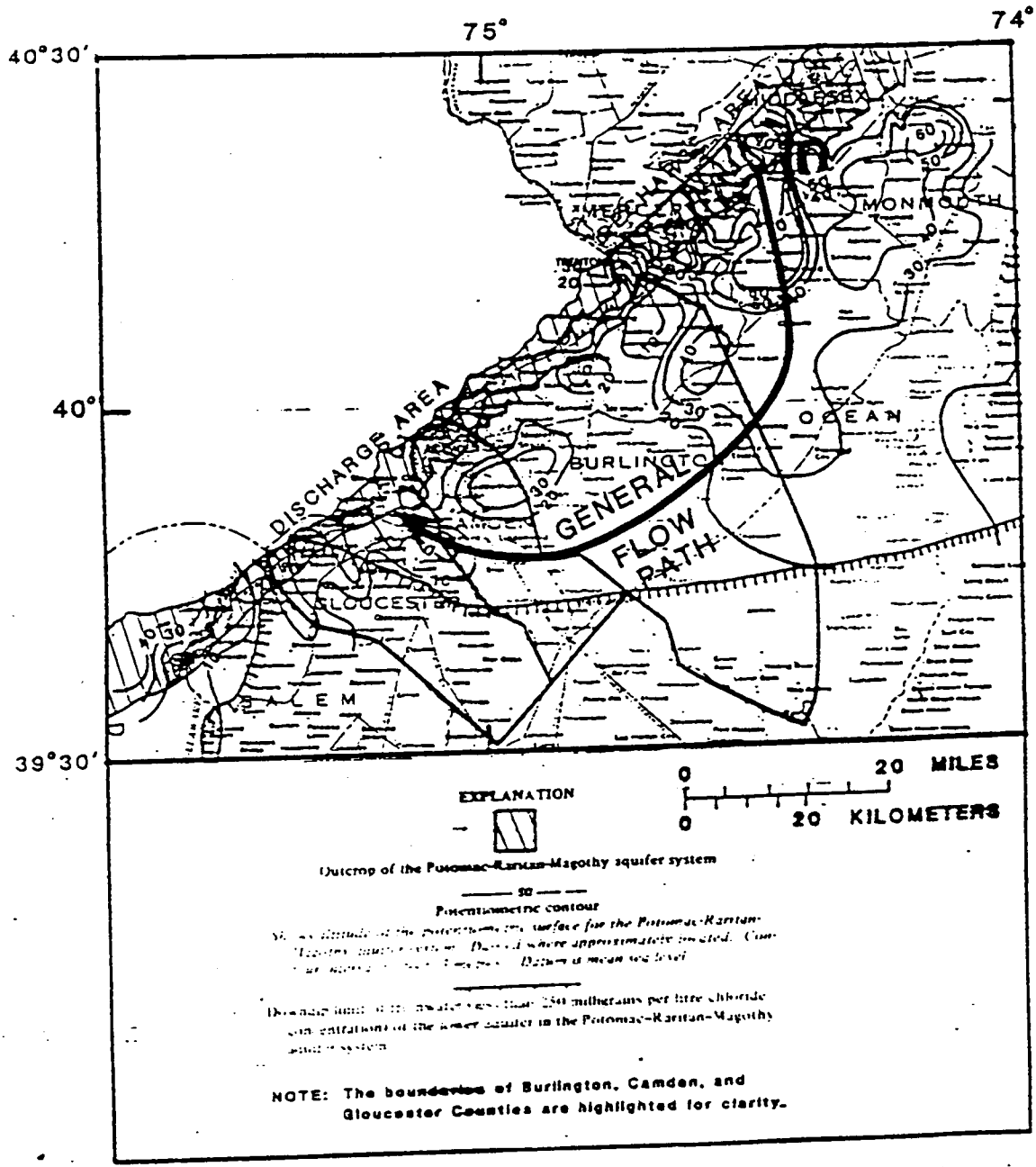

Figure 5 -- Predevelopment (1900) potentiometric surface of the Potomac-Raritan-Magothy aquifer system (modified from Gill and Farlekas, 1976).

Ref. 12, p. 11

IMPACT OF CULTURAL DEVELOPMENT ON GROUND-WATER RESOURCES

Flow in the Potomac-Raritan-Magothy aquifer system has undergone significant local changes since the advent of ground-water-supply development in the Camden area. Significant ground-water use in the metropolitan Camden area began in 1898 and is presently approaching an average rate of 100 million gallons per day (Camp Dresser & McKee, Inc., 1984). Figure 6 shows the continuously increasing trend of water use in Camden County.

Water-supply development has produced large cones of depression in the potentiometric surface of the aquifer system, resulting in heads in excess of 80 feet below sea level. The main regional cone of depression as measured in 1978 is depicted on the potentiometric surface map in figure 7. The decline of the potentiometric surface from predevelopment times to 1968 exceeded 100 feet in places, as shown in figure 8.

The decline in potentiometric surface of the aquifer system, in response to pumping, has locally changed the hydrologic significance of the outcrop area along the river from that of a discharge area to a recharge area. Results of ground-water-flow modeling by Luzier (1980) indicated that, in 1978, approximately 68 million gallons per day of recharge flowed from the Delaware River into the aquifer system in the Camden metropolitan area. Because of this induced infiltration, extreme decline of the potentiometric surface near the river has not occurred. Figure 9 shows the distribution of ground-water pumpage in 1980, by township. The greatest pumpage is from wells located near the river, but these pumping centers do not coincide with the main regional cone of depression (figure 7). This is additional evidence that the majority of the ground water pumped from wells near the river is actually induced river-water recharge.

A cone of depression forms in response to pumping stress. The formation of a regional cone of depression centered around Camden threatens ground-water quality in several ways. First, the regional cone of depression has produced a potentiometric gradient toward the center of the cone that is conducive to the movement of the deep, downdip saline-water interface toward the Camden metropolitan area. Figure 10 shows the location of the saline-water interface in relation to the regional cone of depression. Water-quality samples from production wells near the interface have shown slight increases in dissolved solids (Fusillo and others, 1984), suggesting that there has been some updip movement of the interface. This threat would have its greatest effect on ground-water supplies in Gloucester County.

Ref. 12, p. 12

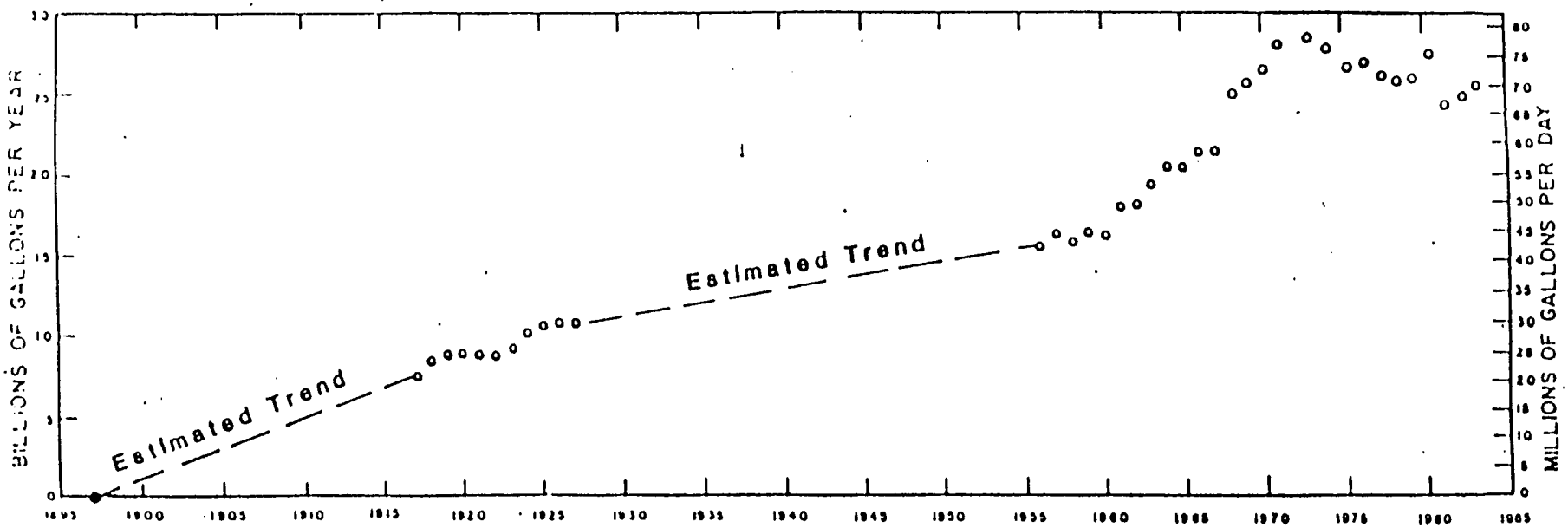

Figure 6.--Pumpage from the Potomac-Raritan-Magothy aquifer system in Camden County, 1897-1983 (modified from Farlekas and others, 1976).

Ref. 12, p. 13

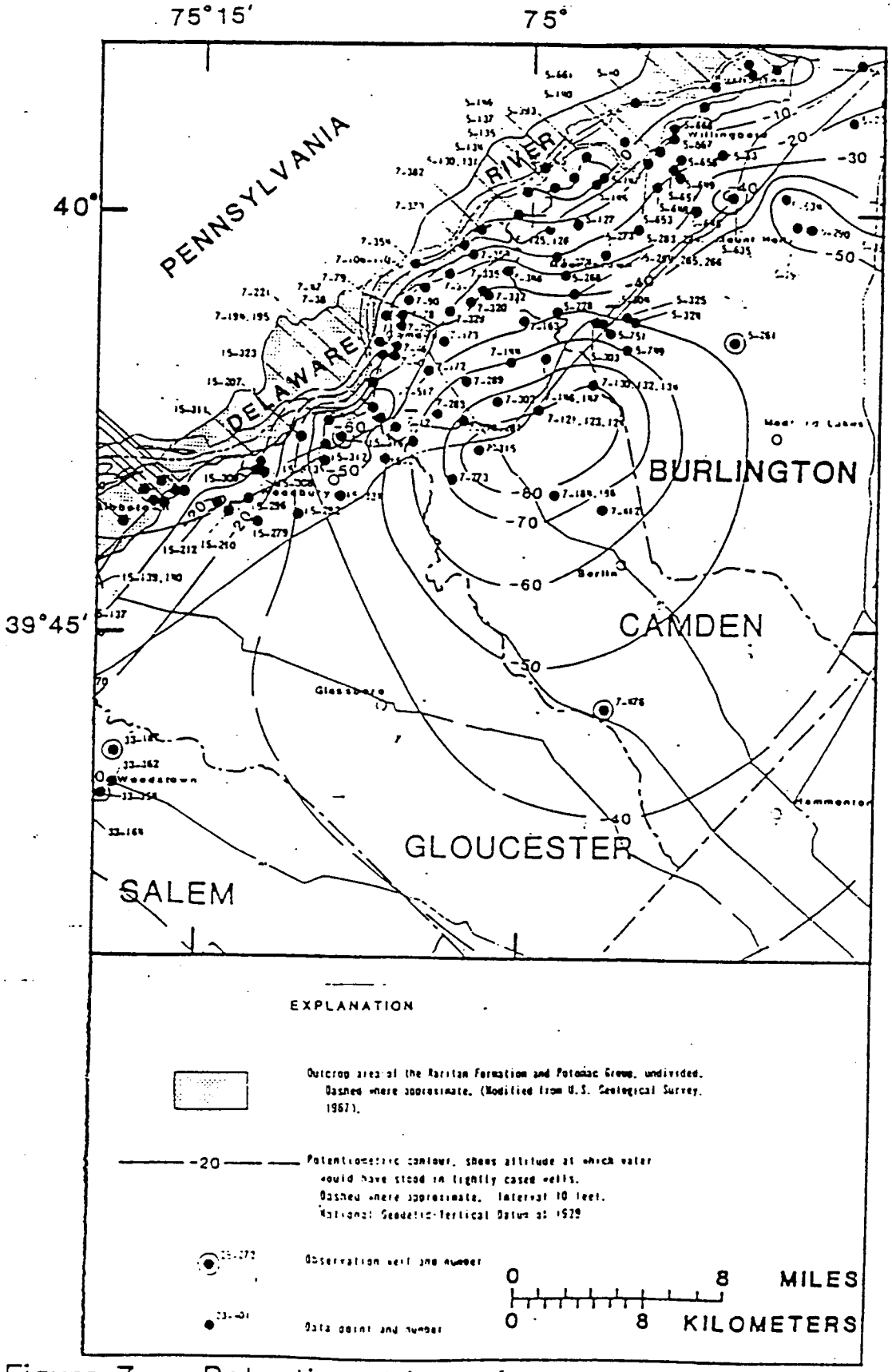

Figure 7 -- Potentiometric surface map of the lower aquifer of the Potomac-Raritan-Magothy aquifer system, 1978 (modified from Walker, 1982).

Ref. 12, p. 14

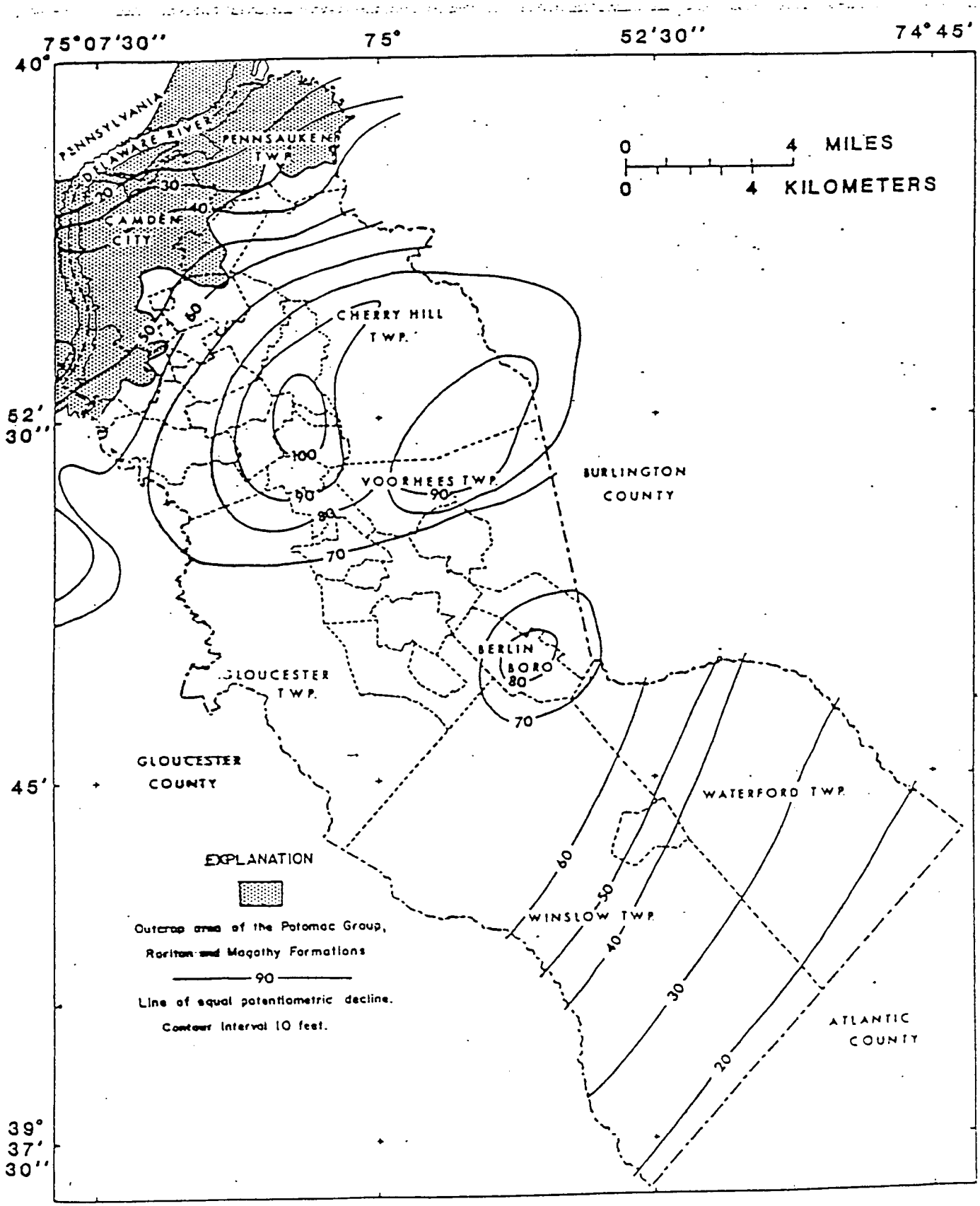

Figure 8. -- Potentiometric decline of the Potomac-Raritan-Magothy aquifer system in Camden County, 1900-68 (from Farlekas and others, 1976).

Ref. 12, p. 15

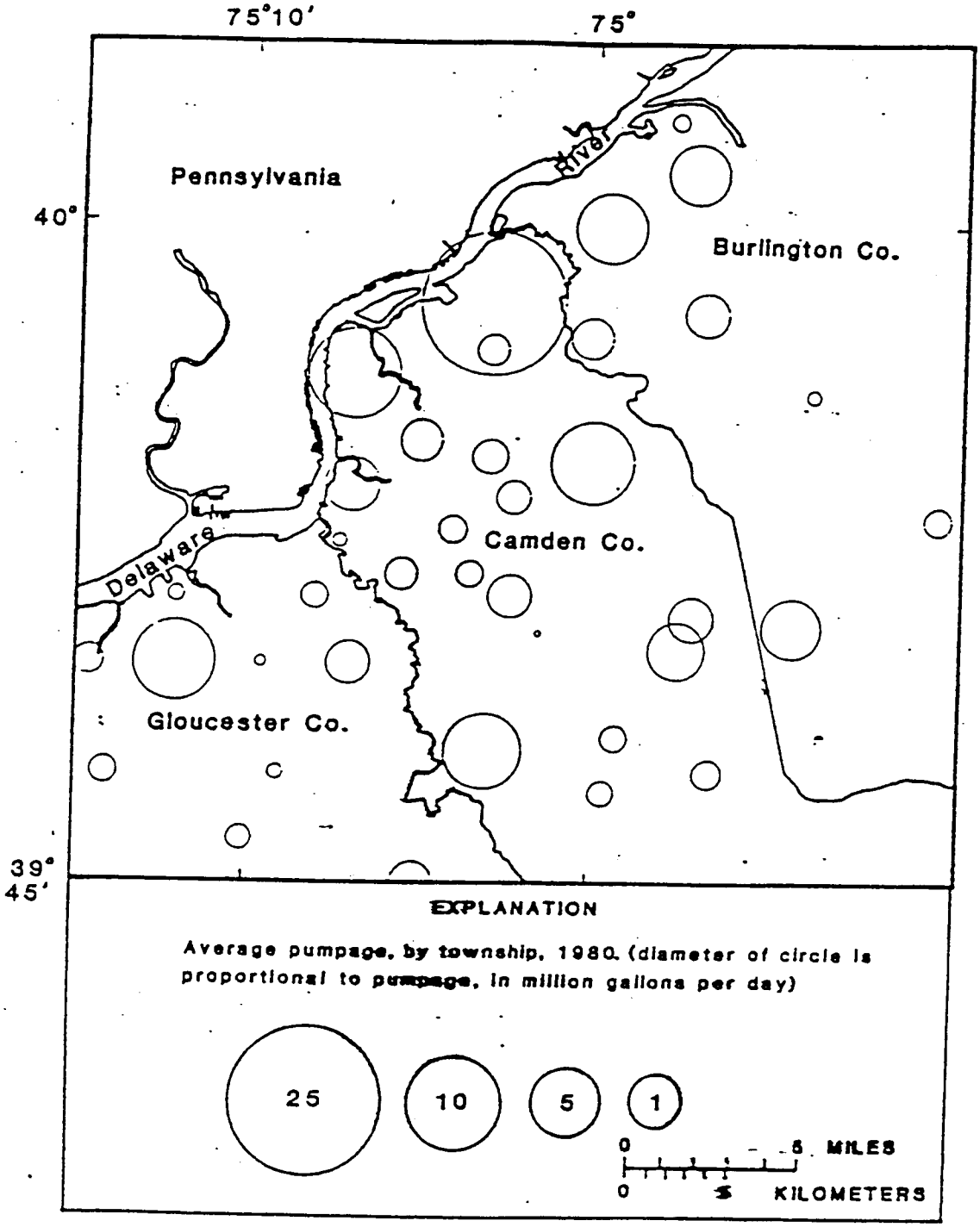

Figure 9. -- Ground-water use in the Camden metropolitan area, 1980, by township.

Ref. 12, p. 16

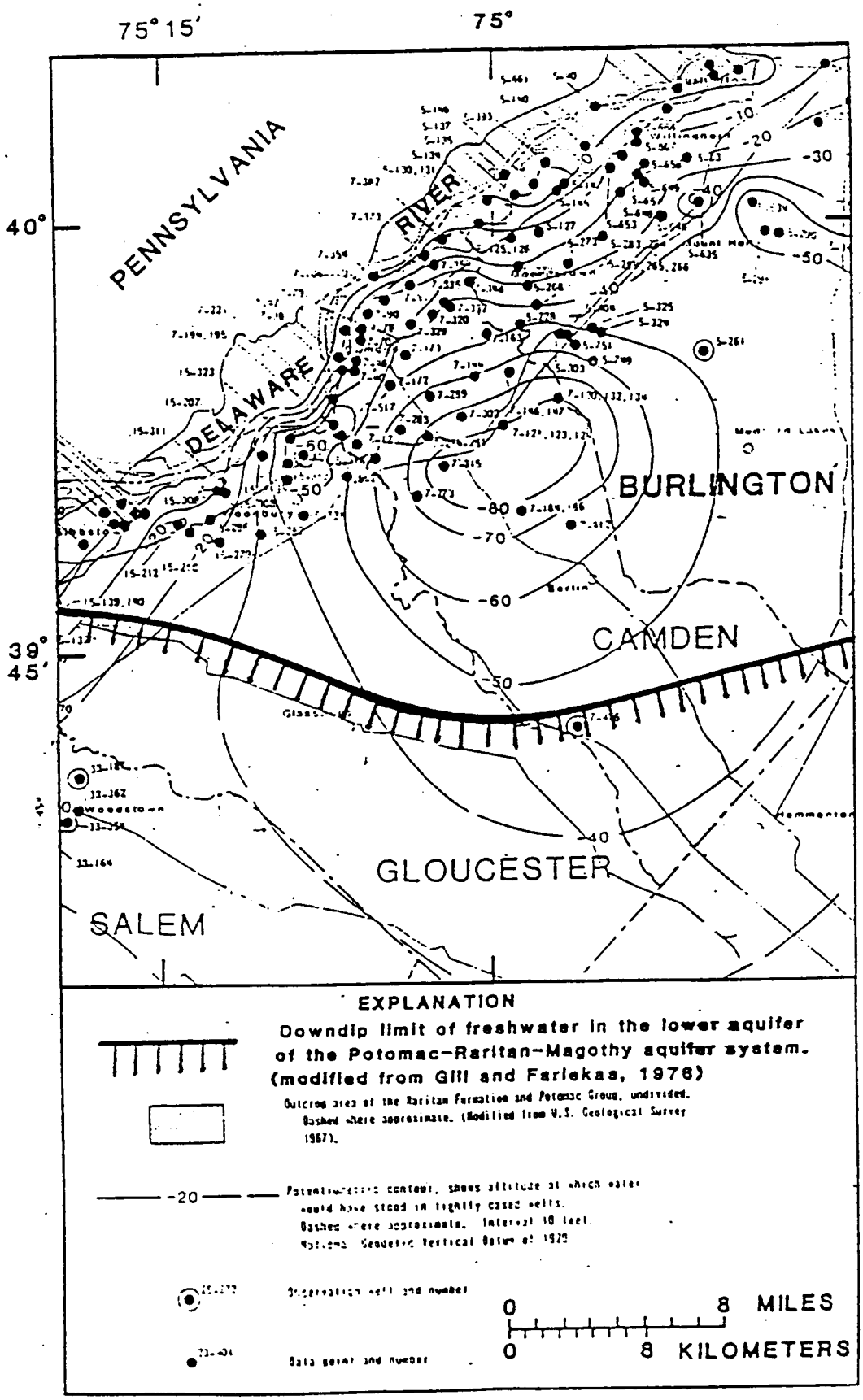

Figure 10. -- Relative location of downdip saline water to regional potentiometric cone of depression in the lower aquifer of Potomac-Raritan-Magothy aquifer system, 1978 (modified from Walker, 1982).

Ref. 12, p.17

Second, the reversal in the hydrologic function of the aquifer system outcrop in the metropolitan area from a discharge area to a recharge area has increased the likelihood of induced infiltration of contaminated water from surface sources. Concomitant with the development of ground-water supplies in the area has been the development of heavy industry and commerce. The location of industrial and commercial wastes on the recharge area has degraded water quality in some parts of the aquifer system. This is evidenced by the prevalence of organic chemicals and heavy metals found in water-quality samples (Fusillo and others, 1984). The Camden metropolitan area has 10 "Superfund" sites (U.S. Environmental Protection Agency National Priorities List, 1984) and 96 other known environmentally hazardous sites (figure 11). The potential effect of the hazardous sites is not limited to areas on the outcrop of the aquifer system, for any contaminated effluent that discharges to a stream system that flows across the outcrop of the aquifer system can contribute contaminants (although probably diluted) to ground water through natural or induced infiltration.

Third, the reversal in the hydrologic function of the outcrop area has also allowed induced infiltration of water from the Delaware river. Under conditions of normal streamflow, this recharge is beneficial. Under conditions of low streamflow it could result in recharge of saline river water. The saltwater interface in the estuary is normally located approximately 20 miles downstream from Camden. However, during a drought, the interface in the estuary may move far enough upstream to be adjacent to the aquifer system outcrop in the Camden area, creating the possibility that this saltwater could enter into the aquifer system and contaminate near-river wells. The Delaware River Basin Commission maintains and operates reservoirs for augmenting low flow in the river to prevent the upstream migration of saltwater. Therefore, this threat would affect the ground-water system only if the drought was severe enough to exhaust the augmentation capacity.

SUMMARY

The flow regime in the Potomac-Raritan-Magothy aquifer system has been altered by pumpage for water supply in the Camden metropolitan area. The cones of depression that have developed have resulted in several potential threats to the potability of the water supply of the area including: (1) movement of the downdip saline-water interface toward pumping centers, (2) induced infiltration of contaminated water from the outcrop area, and (3) induced infiltration of salty water from the Delaware estuary during conditions of low streamflow. Continuing development and increasing demand for water will require sound management policies that minimize the deleterious effects on the ground-water supplies of the Camden metropolitan area.

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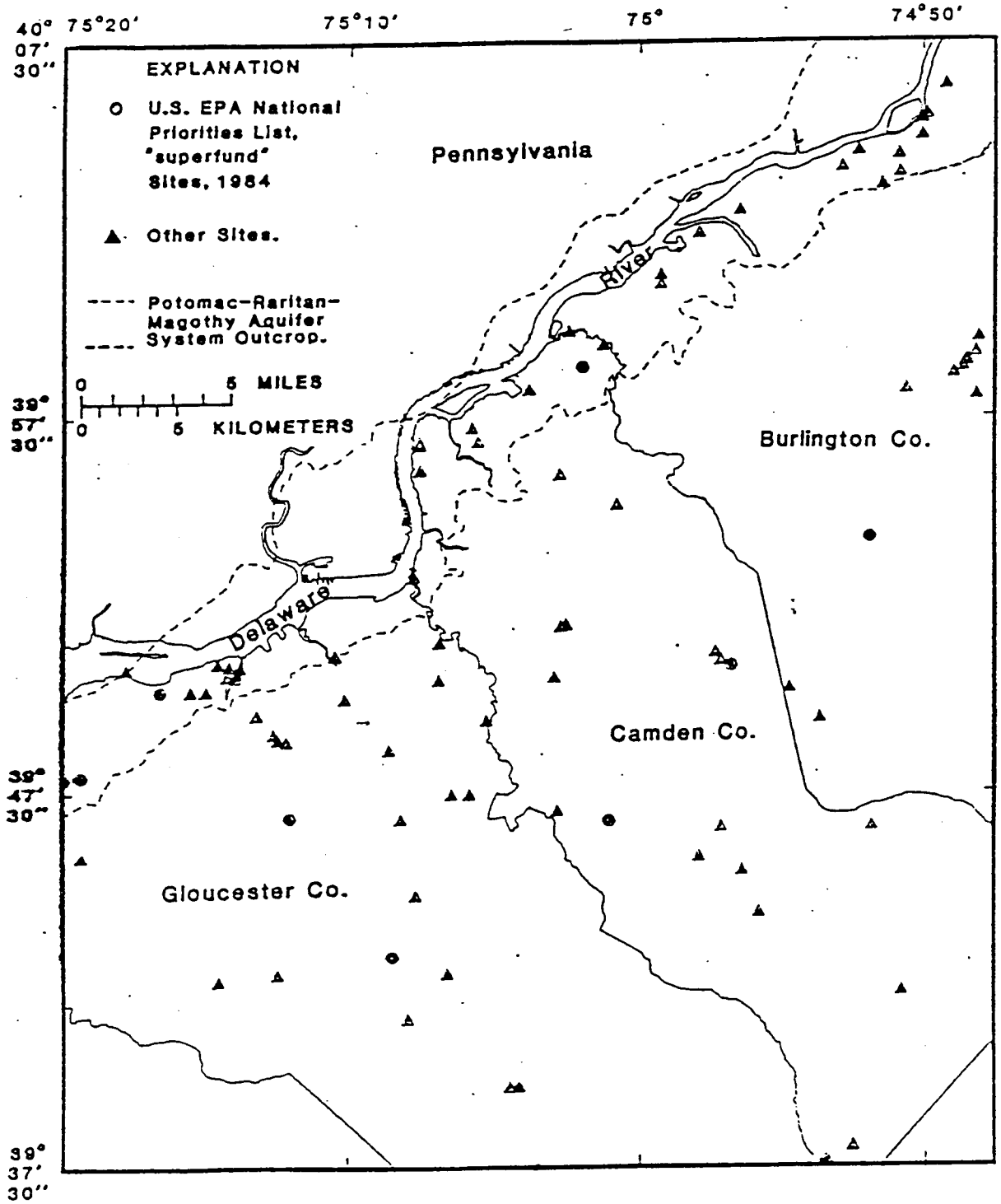

Figure 11. -- Environmentally hazardous sites in the Camden metropolitan area.

Ref. 12, p. 19

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Ref. 12, p. 21
last page

REFERENCE NO. 13

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
Trenton, N.J. 08625-0029

Eric J. Evenson
Acting Director

(609) 292-1637
Fax # (609) 984-7938

M E M O R A N D U M

FEB 28 1990

TO: Edward Post, Chief
Southern Bureau of Regional Enforcement

Barker Hamill, Chief
Bureau of Safe Drinking Water

THROUGH: RAG for TFS Thomas F. Seckler, and Steven Spayd, Chief S. Spayd
Bureau of Ground-Water Pollution Assessment

FROM: RAG Robert A. Gallagher, Hydrogeologist
Bureau of Ground-Water Pollution Assessment

SUBJECT: Puchack, Morris, and Delair Well Fields
Pennsauken Township, Camden County
Ground-Water Pollution Assessment Audit

Attached is the Ground-Water Pollution Assessment Audit Report for the Puchack, Morris, and Delair Well Fields A-280 investigation. Formal Responsible Party determinations are in preparation. Please call me at 2-0668 if you have any questions.

GWQM329

c: Arnold Schiffman, Assistant Director, GWQME
Steven Nieswand, Assistant Director, WSE
John Preczewski, Chief, Bureau of Water Supply
Richard Kropp, Chief, Bureau of Water Allocation
Stephen Johnson, Chief, BGWDC
Karen Fell, Section Chief, BGWDC
Mary Anne Kuserk, Section Chief, BGWDC
Nasir Butt, Bureau of Safe Drinking Water
Jeff Fehr, Bureau of Ground-Water Discharge Control
Cheryl Boharsik, Southern Bureau of Regional Enforcement
Gary Smarsh, Bureau of Ground-Water Pollution Assessment

Ref. 13

PUCHACK, MORRIS AND DELAIR WELL FIELDS
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY
GROUND-WATER POLLUTION ASSESSMENT AUDIT

BUREAU OF GROUND-WATER POLLUTION ASSESSMENT
GROUND-WATER QUALITY MANAGEMENT ELEMENT
DIVISION OF WATER RESOURCES
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

FEBRUARY 1990

Ref. 13

Summary

The Morris, Delair, and Puchack Well Fields are maintained by and supply water to the City of Camden. The well fields are located in Pennsauken Township, Camden County. This audit was conducted in order to assess the degree and extent of known ground-water pollution affecting public supply wells in these well fields, to determine if the concentrations of pollutants are increasing or decreasing, and to make a preliminary appraisal of potential sources of pollution, remedial actions taken, pollutant migration, and any threat to other nearby potable wells.

Analyses of ground-water samples from 18 public supply wells were examined. The analytical results showed that 9 of the 18 public supply wells (50 percent) yielded samples which contained levels of pollutants exceeding maximum contaminant levels on at least one occasion. The major pollutants affecting the wells are chromium and volatile organics. All of the wells in the Puchack Well Field consistently yield ground water containing levels of pollutants which exceed maximum contaminant levels (MCLs). Ground-water from wells in the Morris and Delair Well Fields only sporadically exceeds MCLs. The highest concentration of chromium detected in a public supply well in the study area was 4,180 parts per billion (ppb) in Puchack Well 3 in October 1989. Chromium pollution in public supply wells in the study area is restricted to the Puchack Well Field. The highest concentration of chromium detected in a monitor well was 5,500 ppb at SGL/Modern Hard Chrome in August 1982. The highest concentration of total volatile organics detected in a public supply well in this study was 183 ppb in Puchack Well 3 in December 1985. The highest concentration of total volatile organics detected in a monitor well in the study area was 111,100 ppb at the Supertire Engineering site in August 1988.

The results of the audit indicate that concentrations of volatile organic pollutants and chromium at levels exceeding MCLs are widespread in the area. There is a trend of increasing chromium concentration and volatile organic concentrations and variety in ground-water samples from the Puchack Well Field over time. These trends are not apparent in the Morris or Delair Well Fields. The audit also indicates that pollutants are continuing to migrate from a number of sources, and that additional public supply wells are threatened by the migration of these pollutants. To date, remedial actions have been limited to the removal of polluted wells from service. Studies are currently underway to design interim treatment for chromium.

Background

There are a total of seven well fields and over 26 public wells in and immediately adjacent to the study area. Data from 1980 indicate that ground-water withdrawals from Pennsauken Township were over 31 million gallons per day, the largest withdrawal from any municipality in the state.

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Drinking water for a majority of residents in the City of Camden is furnished by the municipal water company; the remaining portion of the city is served by the New Jersey American Water Company. Currently four well fields are maintained by the city to supply the municipal system. Three of these, the Morris, Delair, and Puchack Well Fields, are located in Pennsauken Township. Ground-Water pollution at these three well fields is the focus of this report. Figure 1 shows the general location of the study area. Figure 2 shows the locations of these and other public-supply wells (maintained by the Merchantville-Pennsauken Water Commission) in the area.

Reported ground-water pollution in the area dates back to 1962 when Morris Wells 2 and 5 were removed from service. The discovery of chromium pollution in ground water from wells in the Puchack Well Field in 1975 also resulted in the removal of affected wells from service. No treatment has been installed for any of the affected wells. Pumping continues at the Puchack Well Field, but production has decreased sharply. Ground-water withdrawals averaged 6.55 million gallons per day (mgd) at the Puchack Well Field in 1975 and 2.34 mgd in 1988. Water withdrawn from the Puchack Well Field is blended with water from the Morris Field in the distribution system.

Fifteen separate investigations have been initiated at nearby sites where discharges of hazardous substances to the ground or waters of the State have been identified (fig.4). As of February 1990, none of these sites have been formally named as an actual or potential responsible party for pollution of any well. No Spill Fund claims have been filed by the city. No Spill Fund Directives regarding the polluted wells have been issued by the Department to date. Federal legislation has recently provided a grant to the City of Camden to provide interim treatment for chromium removal from ground water at the Puchack Well Field.

HYDROGEOLOGIC SETTING

The study area is located in the Coastal Plain physiographic province, in northwestern Camden County near the Delaware River. The New Jersey Coastal Plain may be characterized as a sequence of layered unconsolidated sediments which dip and thicken to the southeast. The sediments overlie a bedrock surface which also dips to the southeast. In the study area bedrock is present at depths ranging from about 125 to 250 feet. The area is drained by the Delaware River.

The well fields are situated in the outcrop area of the Potomac-Raritan-Magothy aquifer system (PRM). The PRM is the most heavily used aquifer in the Coastal Plain of New Jersey. Pumpage from the PRM accounted for approximately 68.5 percent of all ground-water withdrawals in the Coastal Plain in 1980 for which data are available (Volwinkel, 1984, Ground-Water Withdrawals from the Coastal Plain of New Jersey, USGS OFR 84-226.). The PRM has been divided into three aquifers composed mainly of sand and gravel, termed upper, middle, and lower, which are separated by

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two confining units composed mainly of silt and clay (Zapecza, 1984, "Hydrogeologic Framework of the New Jersey Coastal Plain", U.S. Geological Survey OFR 84-730). In the study area, generally only the lower and middle aquifers are saturated. The lower aquifer directly overlies the bedrock surface. Zapecza (1984) reports a thickness of 78 feet for the lower aquifer at Puchack Well 2, and the overlying confining unit as 18 feet thick. However, Navoy (1986, "The Potomac-Raritan-Magothy Aquifer System in the Camden Metropolitan Area: Cultural Impact on an Outcrop Area", in Geological Investigations of the Coastal Plain of Southern New Jersey, Geological Association of New Jersey) reports that the confining units in the PRM become discontinuous in the outcrop area. The depth to the water table is about 70 to 80 feet in the vicinity of the well fields. Zapecza (1984) reports a thickness of 29 feet for the middle aquifer of the PRM at Puchak Well 2. All of the wells in the Morris, Delair, and Puchack Well Fields are screened in and withdraw ground-water from the lower aquifer of the PRM or areas where the lower and middle aquifers may not be differentiated. The bedrock is not used as a source of ground water in the area.

Locally, perched ground water may be encountered at shallow depths in fill or Quaternary deposits overlying the PRM.

GROUND-WATER FLOW

No monitor wells have been installed at the well fields. Therefore, data regarding ground-water flow were obtained from published sources as well as unpublished documents in New Jersey Department of Environmental Protection (NJDEP) files.

The U.S. Geological Survey has prepared regional ground-water contour maps for aquifers within the PRM for the years 1978 and 1983 (U.S. Geological Survey, Water Resources Investigations Reports 82-4077 and 86-4028). The contour maps depict ground-water flow under static (non-pumping) conditions. In general, these maps show regional ground-water flow to the south or south-southeast in both the lower (fig. 3) and middle aquifers of the PRM, controlled by a large cone of depression formed by pumping under confined conditions in central Camden County approximately eight miles southeast of the study area. The data shown also suggest that the Delaware River does not act as a hydraulic barrier to ground-water flow in the lower aquifer. The non-pumping hydraulic gradients in the study area range from about 0.002 to 0.0025. Water level elevations are higher in the middle aquifer than the lower aquifer. This indicates that a downward component of flow exists in the middle aquifer, and that leakage from the middle aquifer serves to recharge the lower aquifer. In addition, significant recharge to the PRM is derived from leakage from the Delaware River. The percentage of water which a well derives from leakage from the Delaware River generally increases as distance to the river decreases.

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Data obtained from the hydrogeologic investigation at the Pennsauken Landfill indicates ground water in the lower aquifer flows to the south-southwest under a hydraulic gradient of 0.002. Ground-water flow directions in the middle aquifer range from southwest to southeast, depending on location at the site. Ground-water elevations given are higher in the middle aquifer than the lower aquifer.

Ground-water flow directions obtained from the hydrogeologic investigation at the Aluminum Shapes facility generally agreed with those obtained at the Pennsauken Landfill. However, at the Aluminum Shapes facility a reversal in the ground-water flow direction in the middle aquifer was noted, with the flow direction changing from southeast to west over a three day period. Consultants for Aluminum Shapes ruled out tidal effects and recharge as causes of the reversal and attributed it to pumping effects at the Morris Well Field. The nearest wells in the Morris Field are approximately 2,000 feet away.

A hydrogeologic investigation conducted at the Swope Oil site examined the effects of pumping in the lower aquifer on ground-water flow in the middle aquifer of the PRM. A production well in the lower aquifer (Merchantville-Pennsauken Water Commission National Highway Well 1) was pumped for a 24-hour period at a rate of 1,000 gpm. Ground-water elevations were measured in monitor wells screened in the middle aquifer prior to and during the period of pumping. The monitor wells were located approximately 300 to 550 feet away from the pumping well. As a result of pumping approximately 0.5 feet of drawdown was noted in the monitor wells. The hydraulic gradient in the monitor wells increased from 0.001 to 0.0015, and the flow direction shifted from southwest to south-southwest.

Available ground-water elevations in monitor wells screened in the middle aquifer of the PRM at the SGL/Modern Hard Chrome site indicate that ground water at the site flows to the southeast.

Monitor wells have been installed at the King Arthur, Inc. facility and are in the process of being installed at the Advance Process Supply facility. No data is yet available from the hydrogeologic investigations at these sites. In addition, monitor wells have been completed in zones of perched water at a number of sites. Information on ground-water flow obtained at these sites does not reflect conditions in aquifers of the PRM and consequently is not discussed further in this section.

Pumping at individual supply wells results in the creation of a cone of depression in the water table or potentiometric surface around the well. Consequently, ground water flows toward the pumping well from all directions. The area contributing water to the pumping well is known as the zone of capture, and its size will vary depending on a number of factors. The extent of the capture zone at each of the well fields in question is under investigation. However, it is important to note that pumping at the well fields will result in reversals of the regional ground-

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water flow directions in some areas. Based on review of the data from individual site investigations, pumping in the lower aquifer has a significant effect on flow in the middle aquifer and may result in reversals of ground-water flow direction in the middle aquifer. This indicates substantial hydraulic connection between the two aquifers and that leakage from the middle aquifer is an important source of recharge to the lower aquifer.

GROUND-WATER QUALITY

Ground-water quality data from 18 public supply wells, effluent from two (drinking) water treatment plants, and approximately 85 monitor wells were used to assess water quality in the area. In addition, surface-water quality data from Pennsauken Creek and the Delaware River and finished water quality data from the Camden distribution system were examined. Data from the public supply wells and treatment plants are tabulated in Tables 1 and 2. A total of 186 samples collected from public supply wells and the treatment plants were analyzed for volatile organic pollutants while 94 were analyzed for chromium or chromium and other metals.

Examination of the analytical results showed that 9 of the 18 public supply wells considered (50 percent) produced ground water containing levels of pollutants at or exceeding MCLs on at least one occasion (fig. 5-13). All of the wells for which data were available in the Puchack Well Field have yielded ground-water samples which contained levels of pollutants at or exceeding MCLs in the last five years. In the Morris Well Field three of ten wells for which data were available have yielded samples which contained levels of pollutants at or exceeding MCLs in the last five years. In the Delair Well Field only methylene chloride has been detected at levels exceeding MCLs within the last five years. In both the Morris and Delair Well Fields in general, the detection of pollutant levels exceeding MCLs occurs much less frequently than at the Puchack Well Field.

Pollutants detected in concentrations at or exceeding MCLs in ground-water at the Puchack Well Field in the last five years are chromium, (fig. 5) cadmium, selenium, mercury, trichloroethene (TCE) as shown on figure 6, tetrachloroethene (PCE) figure 7, trans-1,2-dichloroethene (1,2-DCE) figure 8, vinyl chloride (VC) figure 9, 1,2-dichloroethane (1,2 DCA) Figure 10, 1,1-dichloroethene (1,1 - DCE) figure 11, and benzene (BEN) figure 12. Chromium, TCE, and PCE are the pollutants most commonly found. Total volatile organic concentrations range up to 186 ppb. Chromium concentrations range up to 4,180 ppb, cadmium up to 10 ppb, and selenium up to 25 ppb. Mercury was reported in a sample from Puchack Well 3 at 2,000 ppb, however, it is believed that this value represents a typographical error and that the true value is 2 ppb.

Pollutants detected at levels exceeding MCLs in the Morris Well Field in the last five years are TCE, PCE, 1,2-DCE, 1,2-DCA, and chlorobenzene (CB) figure 13. Total volatile organic

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concentrations range up to 67 ppb. TCE, PCE, and chlorobenzene are the pollutants most frequently detected in the ground water.

Methylene chloride is the only pollutant detected at levels exceeding MCLs in ground-water samples from the Delair Well Field in the last five years. The maximum concentration detected was 2.6 ppb. This compound frequently occurs as a laboratory artifact and was detected only one time each in Delair Wells 1 and 3.

The laboratories which conducted analysis of these samples are given at the end of Tables 1 and 2. With the exception of CSAS, Camden Water Department, and the USGS all of the laboratories which performed the analyses are certified for those procedures by the State of New Jersey.

It has been reported that chromium was first detected in the Puchack Well Field in the mid 1970's in well 6 and subsequently spread to wells 5, 7, 3, 2, and 1 ("Summary of Conclusions and Recommendations of Chromium Contamination Analyses at Puchack Well Field, Camden, N.J.", prepared by CDM, Inc., 1986). Malcolm Pirnie, Inc. reported that Puchack Well 6 was removed from service in 1975 due to chromium pollution. No analytical results of samples from Puchack Well 6 were available during the preparation of this report.

Malcolm Pirnie, Inc. reported ("Engineering Report :- Water System Improvements", prepared for City of Camden, 1981) that concentrations of mercury exceeding MCLs were detected in Puchack Wells 3 and 5. CDM (1986) also reported that mercury exceeded MCLs in samples of ground-water from Puchack Wells 2, 3, and 5. These analyses were not available during preparation of this report. Available results showed only one sample for mercury and one sample for cadmium (in Puchack Wells 1 and 3 respectively) which exceeded MCLs. Selenium exceeded MCLs in Puchack Wells 1 and 2 in one round of sampling only. The Puchack Well Field has shown a trend of increasing concentration and number of volatile organic pollutants detected over time (see table 2).

No distinct trends concerning water quality variability with depth, time, or area in the Delair Well Field were noted. In the Morris Well Field, the detection of pollutant levels exceeding MCLs occurred most frequently in Morris Wells 3 and 9. These two wells are located approximately 4,000 feet apart with other wells located between them. Well 3 is screened at a depth of 103 to 107 feet while Well 9 is screened from 118 to 143 feet. PCE is the only pollutant detected above MCLs in Well 9, while chlorobenzene, TCE, and PCE have been detected above MCLs in Well 3. Malcolm Pirnie, Inc. (1981) reported that Morris Wells 2 and 5 were removed from service in 1962 due to pollution by phenols. None of the other wells in the Morris Well Field have consistently shown pollutant levels exceeding MCLs.

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Examination of analytical data from nearby ground-water pollution investigations shows that those pollutants present at concentrations above MCLs in ground-water samples from public supply wells in the area are also present in the ground water or soils at nearby facilities.

POTENTIAL RESPONSIBLE PARTIES

No potential responsible parties have been formally identified as of February 1990 for pollution occurring at any of the well fields. CDM, Inc. (1986) used a three-dimensional ground-water flow model coupled with a mass transport model to evaluate several sites as potential sources of chromium pollution affecting Puchack Well Field. CDM, Inc. (1986) concluded that the "...cone of depression around Puchack Well Field is significant enough so that it could capture soluble contaminants introduced at the ground-water table at Swope Oil, SGL Chrome, and the high leakage area of the Pennsauken Sewage Authority's sewer system." Ground-water pollution investigations are being conducted at the Swope Oil and SGL Chrome sites and a number of others in the area. Evaluation and formal identification of potential responsible parties is in progress and is expected to be completed by the Enforcement Element of the Division of Water Resources and the Bureau of Ground-Water Pollution Assessment, in the near future. The following section summarizes investigations at each site. The location of each site is shown in figure 4.

Nearby Pollution Investigations

Pennsauken Landfill is located adjacent to River Road in Pennsauken Township. The southern boundary of the landfill is located approximately 4,000 feet northeast of Puchack Well 3. The western boundary of the landfill is located less than 2,000 feet from a number of wells in the Morris Well Field. This site is being investigated under the New Jersey Pollutant Discharge Elimination System (NJPDES) program. In addition, the operators have executed an Administrative Consent Order with the Department which requires evaluation and remediation of ground-water pollution emanating from the site. A variety of organic and inorganic pollutants have been detected in soils or leachate, and ground-water at the site, including chromium, CB, TCE, 1,2-DCE, VC, and methylene chloride. A portion of the site is lined with a leachate collection system; however, other (older) parts of the site are unlined and lack leachate collection systems. No source or ground-water remediation has occurred at the site, and the investigation is continuing.

The Aluminum Shapes facility is located at 9000 River Road, Pennsauken Township, adjacent to the southeast section of the Pennsauken Landfill. The site is located approximately 3,800 feet northeast of Puchack Well 1, and within 2,000 feet of several wells in the Morris Well Field. This site is being investigated under the NJPDES program. Pollutants detected in discharges to a sump system or soils and ground water at the site

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include chromium, 1,1,1-TCA, methylene chloride, and 1,1-DCA. A leaking underground storage tank and some contaminated soil associated with the tank were removed. Investigation at the site is continuing.

The Penler Anodizing, Inc. facility is located at 1400 Suckle Highway in Pennsauken Township, approximately 2,800 feet northeast of Puchack Well 7. The site is currently being investigated by the Enforcement Element of the Division of Water Resources, and the owners have been directed to apply for a (NJPDES) Discharge to Ground Water (DGW) Permit. Wastewater containing elevated levels of chromium and other metals and volatile organic pollutants was discharged to a pit prior to entering a sanitary sewer at the site. In addition, spills and discharges to ground water were reported. Soils at the site contained elevated levels of chromium and volatile organics. Ground-water samples from a production well at the site contained volatile organic pollutants including TCE, PCE, 1,2-DCE, and benzene. No remedial actions have been conducted to date. Investigation at the site is continuing.

The Garden State Motors, Inc. facility is located at 1435 Melrose Highway in Pennsauken Township, approximately 2,200 feet northeast of Puchack Well 7. The site is being investigated under the Environmental Cleanup Responsibility Act (ECRA) program. Surface spills resulted in soil contamination and additionally, four underground storage tanks were removed. Pollutants detected in ground-water include TCE and 1,1,1-TCA. Soils contaminated by petroleum hydrocarbons have been excavated from the site. Investigation at the site is continuing.

The Swope Oil Co. site is located at 8281 National Highway, approximately 4,900 feet northeast of Puchack Well 7, and 300 feet northeast of the Merchantville Pennsauken Water Commission's National Highway Well 1. This site is being investigated under the Superfund program. A number of organic and inorganic pollutants were identified in soils, sludge, and wastewater on-site including chromium and PCE. Discharges to a septic system, waste lagoons, and through surface spills have been identified at the site. Soils and sludge have been removed from the site, however no ground-water remediation has been conducted. The ground-water investigation at the site is continuing.

The Supertire Engineering facility is located at 7255 Crescent Boulevard in Pennsauken Township, about 2,500 feet southeast of Puchack Well 6. This site is being investigated under the NJPDES program. Volatile organic pollutants detected in ground water at the site include 1,1,1-TCA, 1,1-DCE, and benzene. No ground-water remediation has been conducted at the site. Leaking underground storage tanks and contaminated soil were removed from the site. Investigations at the site are continuing.

The Bohem Manufacturing (formerly Mercon Industries) site is located at 7200 Westfield Avenue in Pennsauken Township, approximately 2,000 feet southeast of Puchack Well 6. This site

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is being investigated by the Enforcement Element of the Division of Water Resources and was previously investigated by the ECRA program. Soil contamination by chromium, lead, copper, and mercury has been confirmed in a former lagoon on site. Soils contaminated by petroleum hydrocarbons and metals were removed from the site. A perched ground-water sample obtained at the site showed elevated levels of chromium and other metals. Investigations at the site are continuing.

The King Arthur, Inc. facility is located at 961 Bethel Road in Pennsauken Township, approximately 2,800 feet southwest of Puchack Well 6. This site is being investigated under the ECRA program. Wastewater was discharged to the ground, and chromium and volatile organics were detected in soils at the site. Ground-water samples from shallow monitor wells at the site contained volatile organic pollutants, including TCE and 1,1,1-TCA. Ground-water samples from a deep monitor well showed elevated concentrations of chromium; however, chromium was absent in the shallow monitor wells. No remediation has yet been conducted at the site. Investigations at the facility are continuing.

The Advanced Process Supply Company facility is located at 6900 River Road in Pennsauken Township about 2,100 feet south-southwest of Puchack Well 6. This site is being investigated under the ECRA program. Discharges to a subsurface disposal system, surface spills, and leaking underground storage tanks were identified at the facility. Pollutants identified in soils at the site include chromium and TCE. Leaking underground storage tanks, the subsurface disposal system, and contaminated soils were removed from the site. Monitor wells were recently installed; however, no data are yet available from these wells. Investigation at the site is continuing.

The SGL/Modern Hard Chrome facility is located at Cove and River Roads in Pennsauken Township approximately 3,700 feet southwest of Puchack Well 6. The site is being investigated under the NJPDES program. Surface spills and discharges to a septic system were identified at the site. Chromium was detected in soils, and chromium and volatile organic pollutants were detected in ground-water samples from on-site monitor wells. No remedial actions have been conducted. Investigation is continuing.

The Georgia Pacific Corp. facility in Pennsauken Township is located on Derousse Avenue, about 700 feet southwest of Delair Well 1. The site is being investigated under the NJPDES program. Base/neutral extractable organics were identified in ground-water at the site. Investigation is continuing.

The Amerada Hess Corp. Pennsauken Terminal is located at 1 Derousse Avenue in Pennsauken Township, about 750 feet southwest of Delair Well 2. The facility maintains a number of above-ground tanks for oil distribution and is being investigated under the NJPDES program. No further information concerning soil or ground-water pollution was available at this time.

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The C.J. Osborn Chemical Company is located at 820 Sherman Avenue in Pennsauken Township, approximately 1,600 feet southwest of Puchack Well 6. The site is being investigated by the Enforcement Element of the Division of Water Resources for surface spills and other unpermitted discharges to a ditch. Volatile organic pollutants have been detected in soils where these discharges occurred. No information on ground-water quality at the site is available. Investigations at the site are continuing.

The Devoe Marine Coatings, Inc. facility at 9155 River Road, Pennsauken Township is located approximately 800 feet southeast of Morris Well 4 and about 4,500 feet northeast of Puchack Well 1. The site is being investigated under the Resource Conservation and Recovery Act (RCRA) program. Inspections at the facility revealed that surface spills had occurred. No information concerning pollutants in soil or ground-water at the site was available. Investigations at the site are continuing.

The Alpha Tool Co. facility is located at 6950 River Road in Pennsauken Township. The site is approximately 2,500 feet southwest of Puchack Well 6. The facility is being investigated by the Enforcement Element of the Division of Water Resources. Wastewater was discharged to the ground at the site. Elevated levels of chromium were detected in a soil sample collected near the point of discharge. Investigations at the site are continuing.

Three other known potential sources of ground-water pollution are present in the area. CDM (1986) reported an area of high leakage in the Pennsauken sewage system adjacent to Rt. 130 approximately 2,500 feet southeast of the Puchack Well Field; the USGS detected volatile organic pollutants in surface water samples from Pennsauken Creek; and dredged sediments were used as fill in the vicinity of the Morris Well Field. At this time, no active investigations are being conducted at these sites.

CONCLUSIONS

1. Chromium pollution in public supply wells at levels exceeding MCLs is currently restricted to the Puchack Well Field. Current data do not show any wells exceeding MCLs for mercury.

2. Levels of chromium detected in ground-water samples from the Puchack Well Field appear to be increasing. However, current data are inadequate for a definitive determination.

3. Chromium pollution is widespread in ground water throughout the area, but has yet to affect the Morris and Delair Well Fields.

4. Current data are not adequate to show whether or not the level of withdrawals presently maintained at the Puchack Well

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Field will control the migration of chromium pollution. The potential exists for continued migration of chromium, currently in ground water at the Puchack Well Field, to the Morris or Delair Well Fields, or to the south in the direction of the regional hydraulic gradient.

5. Chromium pollution in ground water in the vicinity of the Aluminum Shapes and Pennsauken Landfill may constitute a threat to drinking water supplies derived from wells in the Morris Well Field. Chromium pollution may be continuing to migrate from these and other sources.

6. Volatile organic pollutants are consistently present at levels exceeding MCLs in wells in the Puchack Well Field, but only sporadically in wells in the Morris and Delair Well Fields. Finished water from the Morris-Delair Treatment Plant does not exceed MCLs for volatile organic pollutants, while finished water from the Puchack Treatment Plant does exceed MCLs.

7. A trend of increasing concentration and varieties of volatile organic pollutants in ground-water samples at Puchack Well Field is present. This trend is not apparent at either the Morris or Delair Well Fields. However, current data are not adequate for a definitive determination.

8. Ground water polluted by volatile organics continues to migrate from a number of sources in the area. Individual wells within the Morris Well Field have already been impacted by volatile organics. Additional wells in the Morris and Delair Fields are threatened.

9. Other well fields in and adjacent to this study area are also threatened by the continued migration of the detected pollutants.

10. All of the pollutants consistently present at concentrations exceeding MCLs in ground water from the Puchack Well Field have also been identified in soil or ground-water samples from nearby ground-water pollution investigations.

Recommendations

1. Additional investigation is needed to determine if chromium-polluted ground water is migrating toward the Morris and/or Delair Well Fields from the vicinity of the Puchack Well field, the Aluminum Shapes/Pennsauken Landfill area, or other source areas.

2. Additional sampling/analysis of raw water at individual wells in necessary at all the well fields. Individual wells in the Morris and Delair Well Fields should be sampled monthly for metals and volatile organics for the period June through September each year and quarterly for the remainder of the

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year. Individual wells in the Puchack Well field should be sampled quarterly for metals, and volatile organics. Monitoring requirements should be reevaluated after one year.

3. Additional investigation of Pennsauken Creek, the dredged sediments and leakage from the Pennsauken sewage system as possible sources of ground-water pollution is necessary.

4. Hydrogeologic investigations and remedial actions should be conducted at all sites in the area where discharges of pollutants or hazardous substances have been identified.

5. Ground-Water withdrawals at the Puchack Well Field should continue at the maximum rate at which there are no negative impacts on drinking water quality, in order to help prevent pollutant migration to other well fields.

6. Responsible Party investigations and determinations should be completed as soon as possible.

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