SDMS Document
92088

NEWARK BAY STUDY AREA

ADDITIONAL SITES AND CANDIDATE PRPS FOR THE NEWARK BAY STUDY AREA

VOLUME I OF IV

EVIDENCE CONCERNING

ALLIED SIGNAL

PREPARED FOR:
TIERRA SOLUTIONS, INC.

SUBMITTED TO:
USEPA REGION II

OCTOBER 6, 2005

920880001

Allied Signal

920880002

920880003

WP-12
June 68

S-II

NEW JERSEY STATE DEPARTMENT OF HEALTH
P. O. Box 1540, Trenton, New Jersey 08625

Water Pollution Control Program
SURVEILLANCE REPORT

Municipality: Elizabeth County: Union Watershed: Raritan

Plant Name: ~~Allied Chemicals Elizabeth Works~~ Plant Classification: S-In

Location: 100 NORTH Ave. East

Owner: Allied Chemicals

Licensed Operator: Anthony Forestano

Person Interviewed: Ken Sendelsky Signature: [signature]

Nature of Wastewater: Industrial Waste Ditch w/ neutralization.

Unit Type Remarks

Industrial waste ditch around facility with caustic neutralization approx. 1000 F. From discharge point.

Evaluation of Plant Maintenance: Satisfactory.

Average Daily Flow, MGD: 500 GPM Peak Flow, MGD:

Receiving Stream: Tidal Ditch → Newark Bay Surface Water Classification: TW-3

Visual Observation of Receiving Stream: Upstream: scum, deposits Downstream: Clarity - O.K. RUST co ~~Fe~~ dep along bank and on

Special Remarks:

Heavy deposits of scap and ~~Fe~~ iron mixture directly before discharge point

BAA000001

Inspected By: Robert J Kotch Date: 5-26-70

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GENERAL CHEMICAL DIVISION
Allied Chemical Corporation
P. O. BOX 70 • MORRISTOWN, NEW JERSEY • JEFFERSON 8-8000

July 9, 1962

Mr. R. S. Shaw, Assistant Director
Division of Environmental Sanitation
Department of Health
State of New Jersey
Trenton 25, New Jersey

Attention: Mr. E. R. Segesser, Supervising Engineer
Stream Pollution Control Program

Dear Mr. Segesser:

Confirming our recent telephone conversations, this Company plans to install and operate facilities for the manufacture of PTFE (Polytetrafluoroethylene) at its existing plant location in Elizabeth, New Jersey. General Chemical presently operates a sulfuric acid plant and "Genetron" (halogenated hydrocarbons) manufacturing facilities at this location (situated in the meadow at the east end of North Avenue in Elizabeth).

The process for the manufacture of PTFE will involve pyrolysis (using as raw material one of our Genetron plant's products) to form tetrafluoroethylene monomer, followed by polymerization of the monomer to PTFE. In the pyrolysis, some hydrochloric acid results as a by-product, together with minor amounts of long-chain halogenated hydrocarbons. The hydrochloric acid will be accumulated and disposed of at sea as is done with the hydrochloric acid by-product from our Genetron plant. The treated long-chain halogenated hydrocarbon by-products (liquid with specific gravity of 1.6) will be stored for possible sales or periodic discharge to sea. These compounds are useful as inert solvents and dielectric media, and it is expected that sales outlet will be eventually developed. In the interim, however, it is planned that this by-product will be drummed and the drums dumped at sea periodically from the same barge which hauls the hydrochloric acid out to sea. Necessary clearances will, of course, be obtained from the U. S. Corps of Engineers before any such disposal is made.

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The only effluent waters from this process, at ultimate plant production rate, to be discharged in Newark Bay will

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consist of approximately 120,000 gallons per day of uncontaminated cooling water including water from a water cooling rack system to be installed, and approximately 80,000 gallons per day of deionized water containing about 40 pounds of a mixture of ammonium and sodium sulfates and about 2 pounds of ferrous sulfate. Approximately 8000 gallons per day of this deionized water will contain .05% Cu ion and .012% fluoride ion, but this water will either be used as diluent to the by-product muriatic acid system in our existing Genetron plant or be treated by ion-exchange to remove these ions, so that all effluent waters discharging to the Bay will be essentially free of these contaminants.

Septic tank treatment will be provided for the sanitary facilities installed and approval of the sanitary treatment facilities will be obtained from the City of Elizabeth.

In view of the small quantities of contaminants, all inorganic, contained in the effluent waters to be discharged to Newark Bay, we would appreciate your advice as to whether a formal permit is required covering these effluent water discharges, or whether this letter will suffice to enable your consideration of this project and your granting informal clearance of the proposed facilities.

Very truly yours,

C. R. Walbridge
Industrial Relations

CRW:jf

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920880008

VIA FEDERAL EXPRESS

Allied Signal

Allied-Signal Inc.
Engineered Materials Sector
10 North Avenue East
Elizabeth, NJ 07201
Telephone (201) 354-3215

March 20, 1990

APR 2 0 1990

Mr. Michael Ferry, Case Manager
SDECRA
Division of Hazardous Waste Management
New Jersey DEP
CN-028
401 East State Street- 5th Floor
Trenton, NJ 08625

Re: Allied-Signal Inc., Elizabeth, NJ
ECRA Case # 86103

In reference to Mr. Kenneth T. Hart's letter of March 14, 1990, received by Leon Mattioli, Allied, March 16, 1990, and the NJDEP Sampling Plan Approval, dated April 10, 1989, we submit the following response:

I. Part A. Item by item responses to Sampling Plan Approval, dated April 10, 1989.

4 outfall 001, was the discharge from the "old ditch", which circumnavigated all of the Plant process areas, prior to the construction of the waste treatment plant in 1974. This ditch received all of the process and sanitary wastes and storm runoff from the Plant, as well as waste materials from a number of offsite entities. The ditch and outfall 001 are shown on Figure 8, attached. Also included as Attachment 1 is a summary of NPDES analyses of outfall 001, compiled for the design of the treatment plant and included in the original design package submitted to EPA in 1975. We feel the sampling and analyses included in Geraghty & Miller's Multimedia Study For Compliance With ECRA, November, 1989, (The Study) very well characterize the "old ditch" and outfall 001.

4a. "Dredge" material is defined in the Sampling Plan, dated 11/29/88, page 5 and The Study, dated 11/89, page 6 et seq. Acceptance of this definition was also noted in Kenneth Hart's letter of 3/14/90.

4b-/ 1985 Oil Spill Area- As a result of an NJDEP hazardous waste compliance inspection in 1985, a Directive Letter was issued for its cleanup. A remedial cleanup plan was submitted, approved (Attachment 1), and executed to the satisfaction of NJDEP. In the cleanup, soil and gravel were excavated until no evidence of staining was visible. Therefore, the incident does not require further investigation.

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4b-3 TCAC release- this question was addressed in Geraghty & Miller's letter of 11/28/88, to Lois Arbegast. TCAC quickly hydrolyses in water to acetic acid. The polyethylene piping to the treatment plant is compatible with both TCAC and acetic acid, acidic substances. Also, with the small quantity of TCAC involved and the large volume of dilution water present in the sewer system at that time, it is highly improbable that any damage was done to the system. These substances were then conducted to the Plant waste treatment system, where the resultant acetic acid was neutralized with sodium hydroxide to form sodium acetate and water, and eventually discharged in accordance with our NJPDES permit.

5. MSDS Materials- the large number of MSDS sheets at the site, cover not only the products manufactured, packaged blended or used as raw materials, but also many other substances which are used in small quantities and would have no impact on the Plant environment. Generic families, are listed in Table I of The Study. However, Table I does not include pesticides, and extractable compounds, because they are not diagnostic of Plant operations. Selection of the generic analyses was based on the expertise and experience of personnel, thoroughly familiar with plant operations, from its outset, and Geraghty & Miller.

6. Dredge Spoil Documentation- attached as Attachment III, is certification by our Plant Manager of Maintenance & Engineering, that the dredge spoil banks are not related to site activities. Supportive documentation from the American Dredging Company, Philadelphia, PA, acting on behalf of the New York District Corps of Engineers is also included as Attachment IV. We do not believe that due to the interval of time that occurred, that we could get certification from persons presently at the Corps of Engineers, however, if NJDEP wishes us to pursue this matter, we will do so.

7. All underground sewer pipes, floor drains and septic tank overflows have always been tied into the Plant sewer system, which originally tied into the "old ditch" and discharged at outfall 001. (See para. 4 above.)
The Plant sewer system was then diverted to the Elizabeth Plant waste treatment facility in 1976, with the exception of the sanitary system. At that time, all of the septic tanks were removed from service and the sanitary lines were tied into a new lift station system leading to the City of Elizabeth sewer system, conveying the waste to the Joint Meeting POTW. (See Attachment V)

10a. See paragraphs 4 and 7 above.

10d. As indicated, prior to the operation of the Plant waste treatment plant, the sanitary waste joined the process wastes in the "old ditch" (not leach fields) and was discharged at outfall 001. With the installation of the Plant waste treatment facility, the sanitary lines were separated from the process wastes and storm runoff. Thus, the sanitary system did not receive any industrial wastes and no further sampling should be required.

14. PCB Analyses- Substations "D" and "E", are the newest of the Plant electrical substations. They never contained any PCB's. Actual analyses of the these substation oils show non-detectable for PCB's, Attachment VI. Accordingly, the sampling and analyses presented in The Study, November 1989, only included PHC's. The areas around substations A, B, and C were analysed for PHC's and PCB's and were reported to NJDEP.

I.B.8.

Drum Storage Areas- (Refer to Table I, The Study)

Following substances are stored in areas noted:

		Stored	Analysed
Area 3-	B-11A, B-11B	VOC's;eg,methanol MEK,isohexane	VOC's,BN's metals
Area 3-	B-21A, B-21B	acidic/basic matl's paint, oil NaOH sludge MeCl2, MeOH	VOC's,BN's metals,PHC's
Area 4-	B-22B, B-23B	VOC's,a-pinene(turpentine), oil	VOC's

IV.A.2. Sample Results

Enclosed collectively as Attachment VII, are revised Figures 3, 5, 6, 7, 8, and 9, showing soil samples and parameters, that exceed ECRA Cleanup Guidelines, along with their concentraions, as requested by NJDEP.

We would like to meet with you at your earliest convenience, to discuss this matter. Please call me at (201)354-3215, to arrange a date.

Sincerely,

J.T. Eck
Manager Environmental Affairs

attachments

920880012

ATTACHMENT I

DESIGN DATA 0.0 - DESCRIPTION OF PROJECT

I. The Problem (Cont.)

D. Current Permit levels vs. Permit levels after construction of Waste Facilities (Per NPDS Permit Effective Jan. 31, 1975).(4)

OUTFALL 001

	Current-Permit Now to 6/30/77 (#/day)		After Construction-Permit (Gross Loadings) 6/30/77 to end of permit (#/day)			Current Typical Actual	
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Max. Other Limits(1)	Daily(3) Mean (PPD)	Daily Maximum (PPD)
Temperature		95°F			95°F		
COD	1220	5460	850	1700	340 mg/1	649	2648
TOC	630	1810	290	580	116 mg/1	261	866
TSS	5220	29,328	250	500	100 mg/1	2510	11340
Oil & Grease	130	500	50	75	15 mg/1	35	257
Fluoride	590	2434	30	60	15 mg/1	324	1390
Iron-Total	1020	4243	25	50	10 mg/1	442	1291
Lead-Total	3.3	15.1	1.8	3.5	0.7 mg/1	1.2	7.4
Chromium-Total	16	32	--	5.0	1 mg/1	1.0	8.2
Copper-Total	4.1	10.3	2.5	5.0	1 mg/1	1.6	10.2
pH	--	--	--	--	6-9	** SEE FOOTNOTE #3**	

Notes

1) All weather flow limitations not to be exceeded.

2) The treated plant effluent must also meet the following state of New Jersey criteria. (after 6/30/77)
   a) No separable oil film or sheen
   b) No floating solids
   c) No foam

OUTFALL 001 from "OLD DITCH"

3) Mean PPD is the mean of 12 monthly averages for all parameters except TOC which consists of 11 monthly averages. These are all weather data and include plant process wastes, sanitary septic tank overflow, storm water run off, and off-site contributions.

4) Required sampling per permit - (See permit p. 8-9)
   Schedule II - to start-up of treatment facilities
   Schedule III - during start-up
   Schedule IV-after EPA notification and effluent values reaching satisfactory steady state conditions.

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ATTACHMENT III

DREDGE SPOIL BANKS CERTIFICATION

Basis a search of the Elizabeth Plant Maintenance and Engineering files, and my personal knowledge of the Elizabeth Plant activities, dating back to
I certify that to the best of my knowledge and understanding, that these dredge soil banks are not related to any site activities.

H.E. Luczak

3/30/90

H.E. Luczak, Manager Maintenance & Engineering, Elizabeth Plant

Date

920880014

ATTACHMENT IV

AMERICAN DREDGING COMPANY

INCORPORATED 1867

12 SOUTH TWELFTH STREET
PHILADELPHIA, PA. 19107

Telephone: 215-WA5-9400

Cable Address: ADCO PHA

Telex: 84-5189

March 25, 1970

Mr. J. A. Simpson, Manager of Purchases
Industrial Chemical Division
Allied Chemicals Corporation
P.O. Box 70
Morristown, New Jersey 07960

Dear Mr. Simpson:

Under date of April 2, 1970, this Company will submit a bid with the New York District, Corps of Engineers for New Work Dredging, Newark Bay, New Jersey.

Should we be the successful bidder for this work we request permission to deposit the material to be dredged (Approximately 765,600 cubic yards) under this Contract on your property situated in the City of Elizabeth, County of Union and State of New Jersey, in accordance with agreement between American Dredging Company and Allied Chemical Corporation.

We would appreciate your forwarding us a letter granting this permission prior to the bid date.

Sincerely yours,

Maylin H. Greaser

Maylin H. Greaser
President

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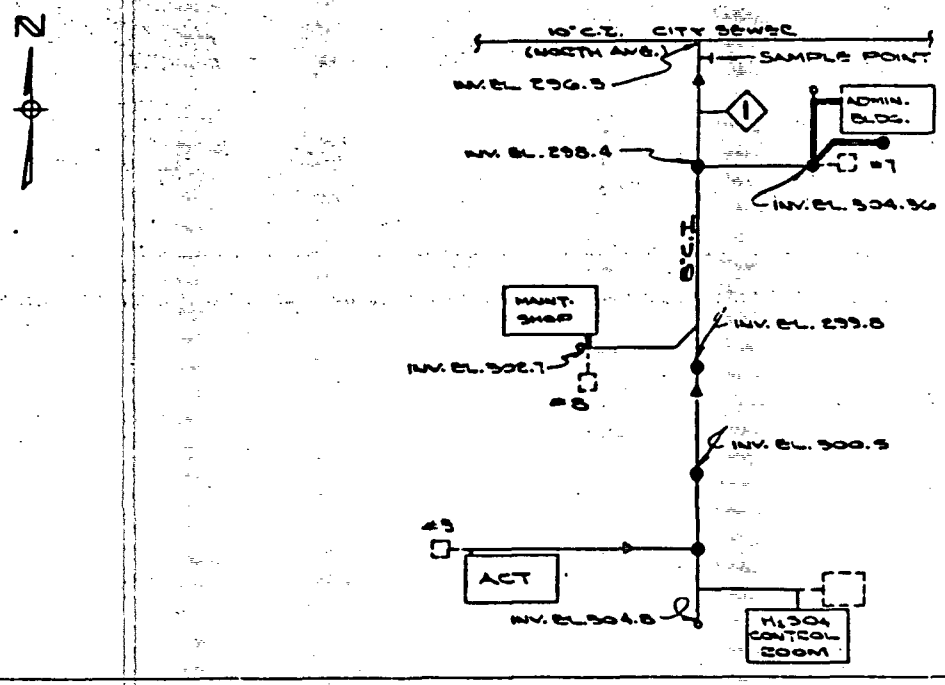
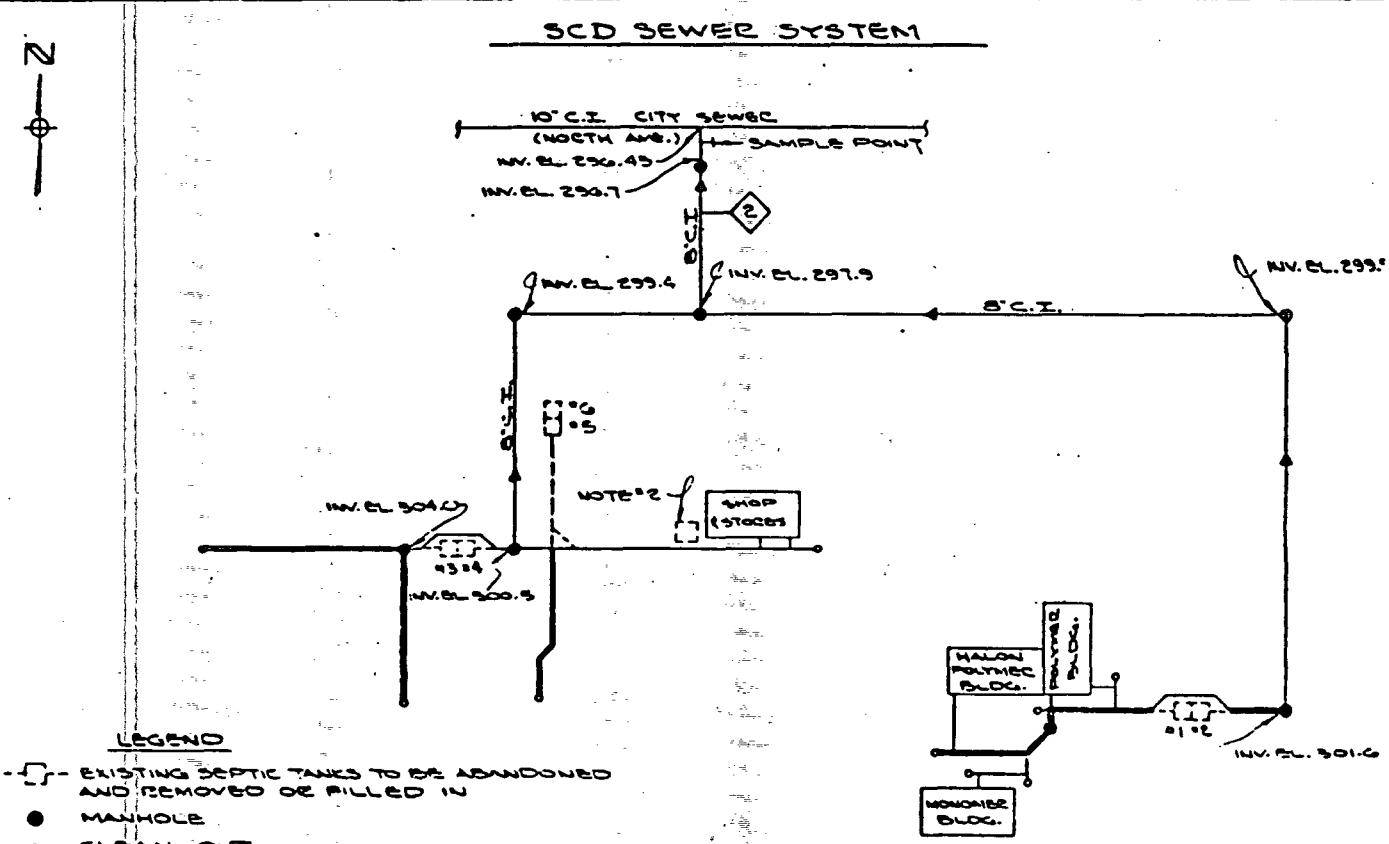
ATTACHMENT V

ICD SEWER SYSTEM (E4)



SCD SEWER SYSTEM



ITEM	UNIT	STREAM NO. 1	2			
FLOW (AVG.)	GPM	3.5	3.5			
(NOTE #1) FLOW DRY WEATHER (POSSIBLE PEAK)	GPM	45	35			

NOTES:

1. INSTANTANEOUS FLOWS ESTIMATED ON THE BASIS OF A MAXIMUM OF 50% THE AVAILABLE SEATS, SINKS & SHOWERS BEING USED AT ANY GIVEN TIME.
2. RECENT ADDITION PER T. ECK 8-11-75

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ATTACHMENT VI

ELIZABETH PLANT — TRANSFORMER & OCB OIL TESTING — IFT Dy/cm* / PCB ppm

		5/6/77	4/11/78	6/13/79	11/7/79 Resamples	12/18/80	6/16/81	5/28/82	4/26/83	4/4/84	5/10/85 4/25/85	8/86
Main Sub	West. Transf.	35	35	35	37	40	27	33	29	30	31	
							<5			168	[illegible]	
	West. OCB	35	35	28	29	40	26	29	30	26	29	
							<5			0	<1	
	G.E. Transf.	35	35	34	34	36	28	39	31	27	30	
							120			145	[illegible]	
	G.E. OCB	35	35	33	35	42	29	21	31	31	30	
							<5			113	5	
Sub A	North Transf.	35	32.3	22	21		22	22	21	25	16	[illegible]
							60			14	<1	17
	South Transf.	35	35	24	25		19	33	20	22	16	
							7			94	<1	[illegible]
Sub B	McGraw-Ed. Transf.	35	35	25	26	31	21	27	22	23	22	
							<5			3	<1	
Sub C	Allis Chal. Transf.	35	35	33	36		28	35	28	31	27	
							<5			7	<1	
Sub D	ITE Transf.	35	35	21	23		15*	33	30	36	29	
						→	<5			0	<1	
Sub E	West. Transf.		30	38	37		27	34	27	29	21	
						→	<5			0	<1	
		Dielectric Strengths (KV) Shown IFT's & PCB's not analyzed. G.E.	Dielectrics G.E.	IFT's G.E.	G.E.	Westinghouse	* Retested then oil changed on 10/28/81 EHV	EHV	EHV	EHV	EHV	

[redacted] PCB contam. Equip.

*IFT = interfacial tension

FORM ICD-3364

DREW & ROGERS, INC. WEST ORANGE, NJ 07052

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920880018

Allied Chemical Co.

State of New Jersey
Department of Environmental Protection
Wastewater Facilities Regulation Element
401 East State Street, CN-029
Trenton, New Jersey 08625

FACT SHEET FOR DRAFT NJPDES PERMIT MODIFICATION TO DISCHARGE INTO WATERS OF THE STATE OF NEW JERSEY

Permit No. NJ0003166 Date: AUG 26 1991

Name and Address of Applicant: Allied Signal Incorporated
10 North Avenue East
Elizabeth, New Jersey 07201

Name and Address of Facility where Discharge Occurs: Allied Signal Incorporated
10 North Avenue East
Elizabeth, New Jersey 07201

Receiving Water: Newark Bay

Classification: SE-3

I. DESCRIPTION OF FACILITY

The applicant produces flouropolymers and is also engaged in the blending and packaging of flourocarbons manufactured at other Allied locations. The Standard Industrial Classification (SIC) Code for the facility is 2821 and 2869. Non-contact cooling water and process wastewater consisting of boiler feed, equipment washdown and deionization backflushes are treated along with collected stormwater and discharged via outfall DSN 002 to a public ditch which discharges into Newark Bay.

II. DESCRIPTION OF DRAFT PERMIT CONDITIONS

See III below.

III. VARIANCE OR MODIFICATION (if applicable)

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The following modification to this permit is proposed:

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute

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1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS con't

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
	Minimum	Average	Maximum	Frequency	Sample type
Antimony (kg/d)	N/A	0.70	3.0	Twice Mtly	Composite
Chloroform (ug/l)	N/A	NL	200	"	Grab
pH Standard Units	6.0	N/A	9.0	Weekly	Grab
Temperature (°C)	N/A	NL	35 °C	Daily	Grab
Acute Toxicity	*LC50 ≥ 50%	N/A	N/A	See Part IV-B/C	
Chronic Toxicity	N/L	N/A	N/A	See Part IV-B/C	

* This Limitation is Equivalent to 2 TUa's (Acute Toxic Units)
N/A - Not Applicable
NL - No Limit, But Monitoring & Reporting Required

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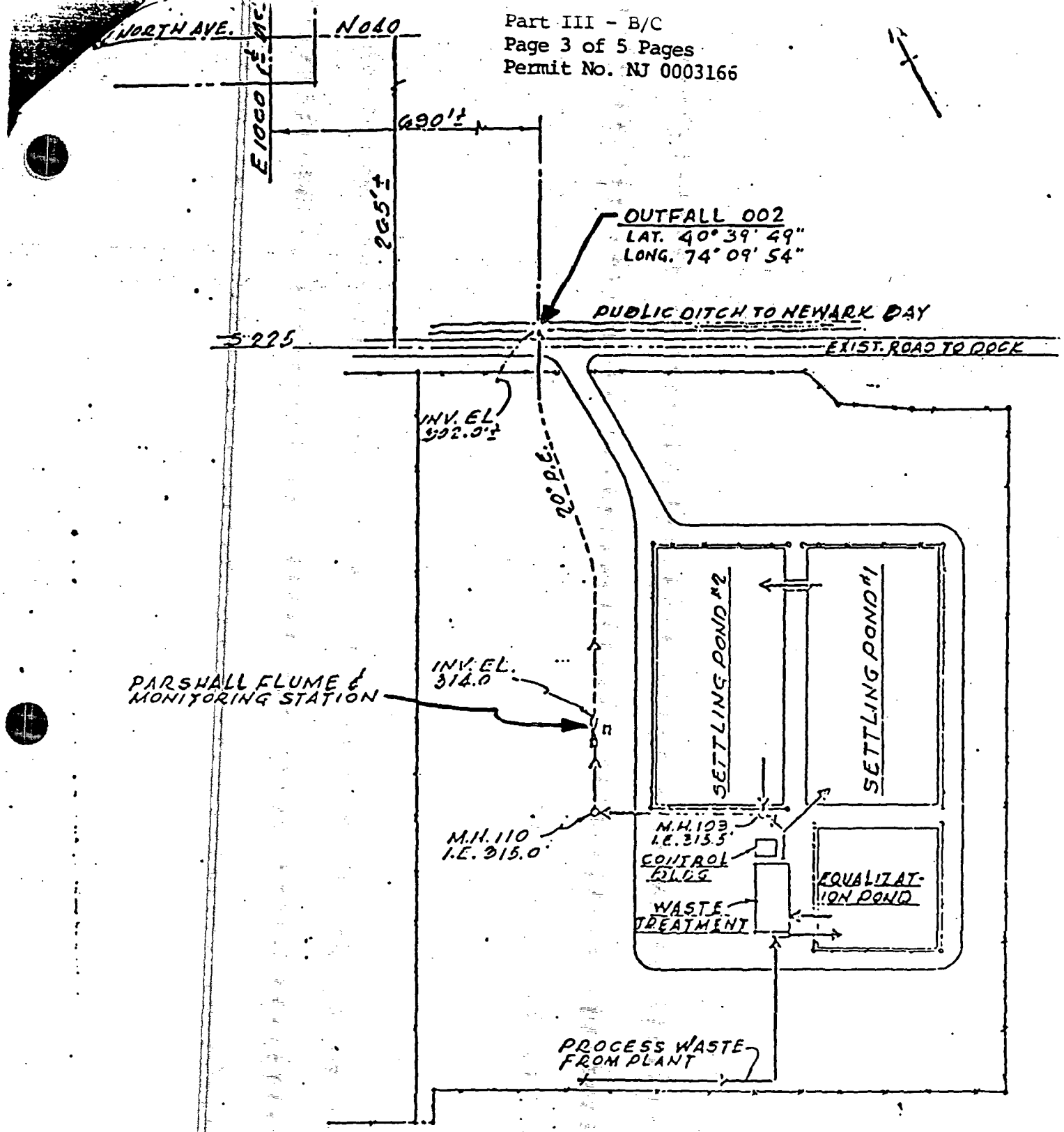


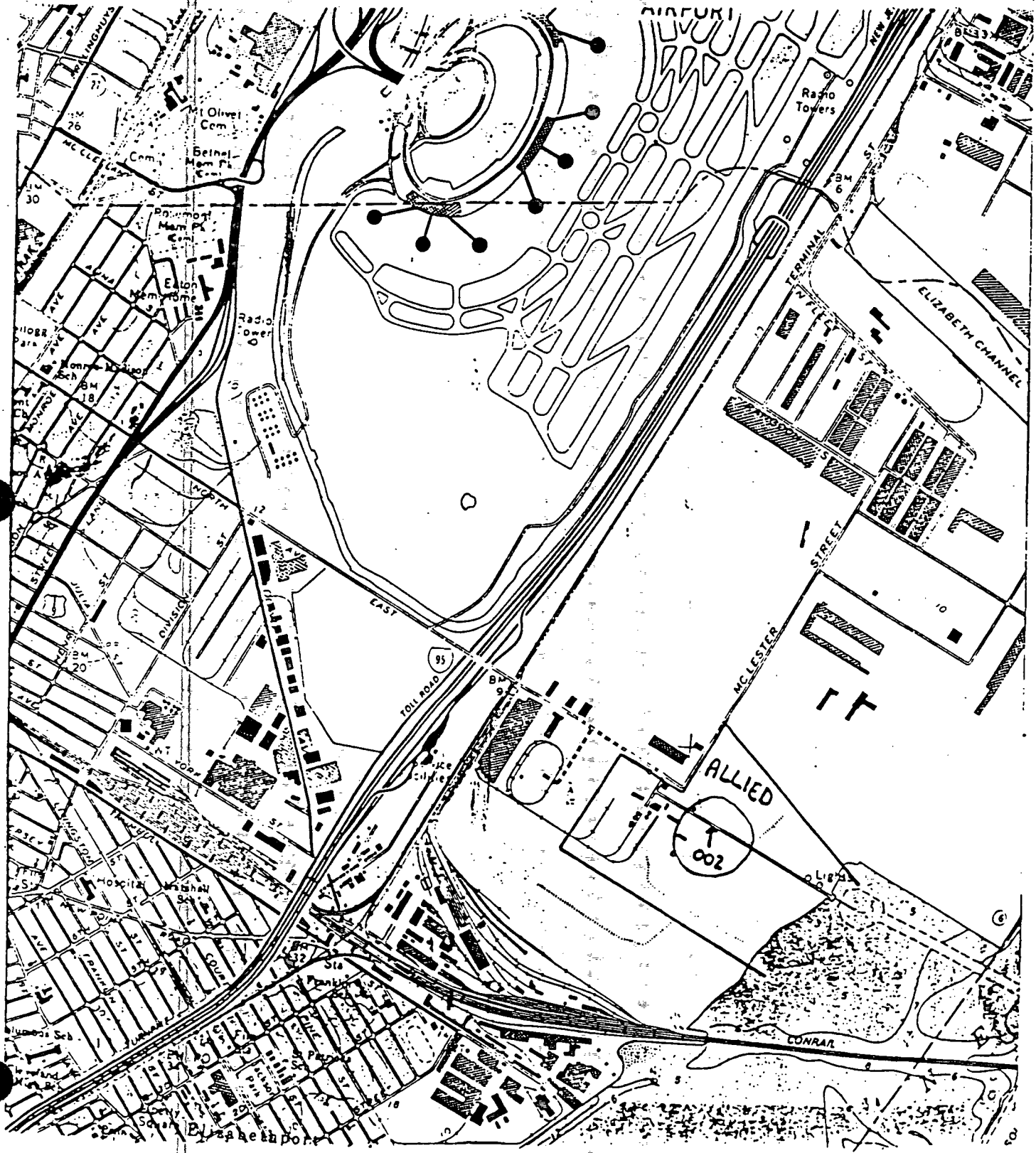
NOTE:
ELEVATIONS ARE PORT AUTHORITY DATUM

PLANT WASTE TREATMENT AREA AND OUTFALL 002

ALLIED-SIGNAL INC.
ELIZABETH, N.J. (UNION COUNTY)

920880021

LOCATION OF FACILITY AND DISCHARGE



920880023

Joint Meeting of Essex & Union Counties
Industrial Pretreatment Program
500 South First Street • Elizabeth • NJ 07202
908-353-1313 • FAX: 908-354-4287

RECEIVED
FEB 17 1999
O'B & G
EDISON

February 16, 1999

Mr. Gary A. Angyal
O'Brien & Gere Engineers, Inc.
Raritan Plaza 1
Edison, NJ 08837

Re: Allied Signal, Elizabeth - Request to Discharge Ground Water

Dear Mr. Angyal:

We are in receipt of your letter dated February 2, 1999 requesting preliminary review of a potential long-term ground water discharge from the Allied Signal facility in Elizabeth. Your letter indicated that the proposed flow rate would be 36,000-72,000 gpd for a 3-5 year period.

A review of the submitted data indicates that the groundwater far exceeds the total toxic organics (TTO) limit of 2.13 mg/l. However, if the treated groundwater does indeed meet the Joint Meeting limitations, then the discharge would be allowed. As we discussed, there are several requirements for groundwater dischargers, including the 2:1 offset policy and a permit application.

A. 2:1 Offset Policy
Enclosed is a copy of the Joint Meeting Rules & Regulations; please review the section entitled "Ground Water Acceptance Regulation" (Article III, Section 1) which addresses the 2:1 offset policy for groundwater discharges.

B. Permit Application
Enclosed please find a Permit Application with instructions. The application requires that information be supplied pertaining to your facility's operations, in addition to the wastewater characteristics.

Please note that two items may require "outside" work. These items require (1) sampling and analysis of the discharge locations and (2) two drawings that must be certified by a State Registered Professional Engineer.

1) Sampling and Analysis
Each of the discharge locations are required to be sampled and analyzed for the parameters listed in Tables 1 & 2 (refer to Appendix A of the Application). This work must be performed by a laboratory certified by the State of NJ to perform these analyses on wastewater. Several local laboratories (Garden State Labs, Killam Associates and Townley Research) have

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indicated that the laboratory work involved would require a turn-around time of no more than 30 days. Please note that this in no way is an endorsement of these laboratories...they are mentioned only to give you an idea of the turn-around time involved. It is suggested that you contact a laboratory of your choice as soon as possible since they will have to schedule your sampling. Should you choose to perform your own sampling, please pay careful attention to the instructions noted herein, and contact the laboratory in advance for their particular requirements (i.e. they will require that their bottles be used since certain analyses require special bottle preparation, etc). In lieu of limitations for individual organic pollutants, groundwater discharges have a Total Toxic Organic (TTO) limitation of 2.13 mg/l. A list of the TTO parameters is attached (see application, Appendix B, Table 3).

2) State Registered Professional Engineer

Two drawings are required to be certified by a State Registered Professional Engineer. The drawings are a schematic flow diagram (Section E of the Application) and a diagram of the building layout (Section H of the Application).

Various sections of the Application require information that you may already have in tabulated format, or available on computer printouts. Please feel free to submit that data in lieu of completing those sections. Please indicate in those sections that the information is attached.

After reviewing the instructions and Application, should you have any questions, please do not hesitate to contact us. In addition, please feel free to have the laboratory contact us should they wish to verify sampling locations, analytical requirements, etc.

Once again, it is suggested that a laboratory be contacted as soon as possible to set up the required sampling. In addition, please do not delay in reviewing your facility's flow schematic and building layouts as these must be certified by a PE.

It is suggested that your Application be submitted via Certified Mail Return Receipt, or any postage or delivery service by which you receive a receipt of delivery.

C. Permit Application Fee

There is a permit application fee of $2,000. Please submit a check, payable to Joint Meeting of Essex & Union Counties, with the completed permit application.

D. Draft Permit

You will be sent a copy of the draft Permit for your review and comments. In addition, we are required by law to have a 30-day public comment period prior to issuance of the Permit.

Should you have any questions, please do not hesitate to contact us. Our office hours are 7:30 am - 4:00 pm.

Sincerely,

Cathy L. Martinson

Cathy L. Martinson
Pretreatment Coordinator

att. (Joint Meeting Rules & Regulations, Permit Application, Application Instructions)

cc: Bryan J. Christiansen, Executive Director, JM
Ralph LaMendola, Chief Engineer, JM
Joe Bonaccorso, Superintendent, JM

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O'BRIEN & GERE
ENGINEERS, INC.

October 6, 1999

Mr. Blaise E. Lapolla
Director Public Works
CITY OF ELIZABETH
50 Winfield Scott Plaza
Elizabeth, NJ 07201

VIA TELECOPIER & MAIL

Re: Continental Airlines, Inc.
Ground water Remediation Project
2:1 Offset Policy Evaluation
Meeting Request

File: 9035 #2

Dear Mr. Lapolla:

Continental Airlines, Inc. recently purchased property from AlliedSignal, Inc. located at 10 North Avenue East in Elizabeth, New Jersey. A portion of the property is pending soils and ground water remediation in accordance with New Jersey Department of Environmental Protection requirements. Earlier this year, O'Brien & Gere was retained by AlliedSignal to assist in developing the overall remedial plan for NJDEP approval. The plan included ground water recovery and treatment at a proposed flow rate of 36,000 - 72,000 gpd for a period of 3-5 yrs. One of the options that was being explored by AlliedSignal involved the discharge of treated ground water to the Joint Meeting of Essex & Union Counties (Joint Meeting).

On behalf of AlliedSignal, O'Brien & Gere initiated communication with the Joint Meeting in February 1999, at which time it as indicated that a 2:1 offset policy was one of the requirements for allowing discharges of treated ground water to the Joint Meeting. A copy of the letter from Joint Meeting is attached for your reference. In July 1999, O'Brien & Gere discussed the 2:1 offset program further with Mr. Albert T. Boyer of Killam Associates. He provided more background to the requirements and indicated that the next step would be to hold a meeting with the City of Elizabeth to more specifically discuss the 2:1 offset program as it may apply to this remedial program.

Since that time, Continental has purchased the property and will be implementing the soils and ground water remedial activities. Continental has retained O'Brien & Gere to finalize the remedial approach, including on-site treatment and disposal of recovered ground water. Continental is interested in further

O'Brien & Gere Engineers, Inc., an O'Brien & Gere company
Raritan Plaza I / Edison, NJ 08837
(732) 225-7340 / FAX (732) 225-7091 • http://www.obg.com
...and offices in major U.S. cities

evaluating 2:1 offset options for discharge to the Joint Meeting. To this end, we are requesting a meeting with you to further discuss these issues. Please call me at 732-225-7380 at your convenience to confirm you willingness to hold this meeting and to discuss possible meeting dates.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Gary A. Angyal, P.E.
Senior Project Associate

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cc: Mr. Vernon C. Burrows, O'Brien & Gere Engineers, Inc.
Mr. Albert T. Bowyer, Killam Associates
Mr. James Tiefenthaler, Continental Airlines, Inc.

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Leah G. Raney
Director, Environmental Affairs
Continental Airlines, Inc.
PO Box 4607 HQSEN
Houston, TX 77210-4607

FEB - 7 2001

Re: REMEDIATION AGREEMENT IN THE MATTER OF THE ELIZABETH SITE AND ALLIED CORP, CHEMICAL DIVISION OF ALLIEDSIGNAL, INC. AND ALLIEDSIGNAL INC. AND CONTINENTAL AIRLINES, INC. SIGNED SEPTEMBER 24, 1999
100 North East Avenue
Elizabeth City, Union County
ISRA Case #E86103
Response to NJDEP's August 31, 2000 Letter dated November 16, 2000

Dear Ms. Raney:

The New Jersey Department of Environmental Protection (NJDEP) has completed their review of the above referenced document. The above referenced document contains Continental's responses to the NJDEP's August 31, 2000 letter. In the above referenced document Continental proposes to address four of the 26 conditions of the NJDEP's August 31, 2000 letter at this time (Nos. 2, 3, 4 and 6.) Continental indicates that these four conditions concern ground water and believes that they can be addressed in advance of soil remediation. Continental indicates that the rest of the 26 conditions do not require action before soil remediation and to a certain extent will be addressed during the soil remediation. Continental proposes to complete the tasks described below in accordance with the Technical Requirements for Site Remediation.

Task 1 - Activities in Response to Condition No. 2

Continental proposes to complete Task 1 in response to Condition No.2 of the NJDEP's August 31, 2000 letter.

For horizontal delineation within the lower aquifer, Continental will install up to nine temporary piezometers in concentric circles successively inward from existing wells W1D, W15D and W17D. Each will be screened within the lower aquifer to a depth of approximately 20 to 25 feet, or to another depth if appropriate. Continental believes that vertical delineation within the lower aquifer is not warranted because the lower aquifer is only about 10 to 15 feet thick, and is bounded by the peat layer above and by a low permeability, silty clay unit below, that is in turn underlain by bedrock.

Each of the piezometers will be constructed of ¾-inch PVC, with a sand pack placed around its screen to minimize turbidity. Continental will survey the piezometers and measure ground water elevations.

Continental will develop the wells using a low flow method to further reduce sedimentation. Continental will allow the piezometers to equilibrate for 24 hours after development and will then sample them. Samples will be analyzed for VOs+10 using Method 624.

BAA000006 121

Upon completion of the sampling, Continental will remove the piezometers in accordance with standard NJDEP methodology.

Task 2 - Activities in Response to Condition No. 3

Continental proposes to complete Task 2 in response to Condition No.3 of the NJDEP's August 31, 2000 letter.

To further investigate the presence of source material and dissolved contamination within the lower aquifer in the area of the former lagoon, Continental will install two temporary piezometers near existing wells W28S and W31S, respectively. Each will be screened within the lower aquifer to a depth of approximately 20 to 25 feet, or to another depth if appropriate. Each piezometer will be constructed, surveyed, sampled and removed in the same manner as the piezometers proposed under Task 1.

Task 3 - Activities in Response to Condition No. 4

Continental proposes to complete Task 3 in response to Condition No. 4 of the NJDEP's August 31, 2000 letter.

Continental will install the remaining two of the three wells that the NJDEP required on the opposite side of the drainage ditch from the former lagoon. Continental will install the wells as temporary piezometers because of concerns about mobilizing larger drilling equipment to the other side of the drainage ditch. Continental will actually install two shallow/deep piezometer pairs, for a total of four piezometers, in order to evaluate conditions within the lower aquifer as well as within the upper aquifer.

Continental will install the two pairs across the drainage ditch from wells 31S and 38S, respectively, provided the locations are accessible. The shallow piezometers will be installed to depths that are sufficient to evaluate whether VOs are migrating under the drainage ditch. The deep piezometers will be installed to depths similar to the piezometers proposed under Task 1.

Each piezometer will be constructed, surveyed, sampled and removed in the same manner as the piezometers proposed under Task 1. Continental will also survey surface water elevation at up to five locations in the drainage ditch at the time Continental measures water levels in the piezometers.

Task 4 - Activities in Response to Condition No. 6

Continental proposes to complete Task 4 in response to Condition No.6 of the NJDEP's August 31, 2000 letter. Continental will install a temporary piezometer in the upper aquifer across the drainage from W37S, provided the location is accessible. The piezometer will be constructed, surveyed, sampled and removed in the same manner as the piezometers proposed under Task 1.

Task 5 - Surveying of Lower Aquifer Wells (Condition No. 4)

Continental proposes to complete Task 5 in response to Condition No.3 of the NJDEP's August 31, 2000 letter. Continental will survey all existing lower aquifer wells and will construct a lower aquifer ground water flow map.

Task 6 - Letter Report

Upon completion of the actions proposed above and receipt of the analytical results, Continental will

prepare a draft letter report that summarizes the results of the investigation and Continental's corresponding conclusions. Within the report, Continental will provide a figure of the piezometer locations in GIS coordinates, the analytical results of detected compounds, a potentiometric map that shows upper and lower ground water flow direction, a reduced deliverable package, and an electronic data deliverable package in GIS format.

Schedule

Continental will submit the draft letter report approximately 24 weeks from the start of the actions proposed above. Continental will implement the soil remedial action workplan after finalizing the ground water investigation and the corresponding reporting.

NJDEP's Response Comments

Continental's proposal is acceptable with the conditions below.

1. Continental has not indicated the reason for proposing temporary piezometers rather than conventionally constructed monitoring wells. Therefore, the NJDEP emphasizes that installation of temporary sampling points is acceptable provided the temporary sampling points are used to site permanent, conventionally constructed monitoring wells for long-term monitoring (under either an active remediation program or a natural attenuation program). As suggested in Condition No. 4 of the August 31, 2000 letter, the NJDEP would entertain a proposal to allow data collected from temporary sampling points to be used as stand-alone data but only in those areas that are inaccessible for installation of permanent, conventionally constructed wells (i.e. in areas on the far side of the drainage ditch).

2. To enable the NJDEP to evaluate the acceptability of the temporary piezometer design that Continental proposes to use, Continental shall provide the following information:

a. Continental shall indicate whether the piezometers will be driven or boreholes will be advanced first. If boreholes will be advanced first, Continental shall indicate the method by which they will be advanced.

b. Continental shall indicate whether grout will be placed above the filter pack. If Continental proposes not to grout the piezometers, Continental shall justify the proposal.

c. Continental shall indicate the proposed lengths of the piezometers' screens.

d. Continental shall clarify whether the piezometers will be developed or not. Continental indicates that the piezometers will be developed using the low-flow method, but the low-flow method is more of a purging and sampling method than a development method. If the piezometers will be developed, Continental must select and indicate an appropriate development method. If Continental proposes not to develop the piezometers, Continental shall justify the proposal.

e. The Field Sampling Procedures Manual requires that wells be allowed a minimum of two weeks to stabilize between development and sampling. Continental shall either allow the piezometers to stabilize for two weeks before sampling or justify bypassing this step.

f. The Field Sampling Procedures Manual requires that wells be purged of three to five well volumes before sampling or that purge water be monitored for indicator parameters using a flow-through cell.

Continental shall either purge piezometers in accordance with the Field Sampling Procedures Manual or shall present and justify an alternate proposal.

g. The Field Sampling Procedures Manual requires that wells be sampled within two hours of purging. Continental shall either sample the piezometers within two hours of purging or shall justify the proposed 24-hour waiting period.

h. Continental shall indicate the device(s) that will be used to purge and sample the piezometers.

2. Continental indicates each of the lower aquifer piezometers proposed under Tasks 1, 2 and 3 will be installed to an appropriate depth, likely 20 to 25. Continental shall indicate where this would place the piezometer screens with respect to the bottom of the overlying meadow mat and with respect to the top of the underlying low-permeability material that Continental discovered during its geo-technical investigation. Continental shall clarify whether its intention is to screen the piezometers directly below the meadow mat or directly above the lower permeability material, if either.

3. Continental shall modify the locations of the piezometers proposed under Task 1. Continental has proposed to start at known clean wells W1D, W15D and W17D and to delineate inward as if to define the perimeter of the contaminated region of the lower aquifer. However, the NJDEP believes that Continental's approach should be to start at the known contaminated wells and to work outward from each. This approach would not only enable Continental to define the perimeter of the contaminated region but would allow Continental to characterize the contamination within this region (the constituents present, their concentration distribution, the presence of DNAPL) with enough precision to plan an effective remedial program.

Therefore, Continental shall install ground water sampling points in the locations shown on the enclosed map. Continental shall then advance additional sampling points horizontally to the extent necessary to delineate and characterize the contamination. With respect to the required sampling locations, note that because W43D was relatively clean when last sampled the piezometers proposed for installation west of W43D appear unnecessary. *Also note that the NJDEP's earlier requirement that Continental vertically* delineate the contamination detected in upper aquifer well W16S, which Continental has not addressed, has been accounted for in the required sampling locations.

4. As required in the NJDEP's May 1, 2000 letter and again in the NJDEP's August 31, 2000 letter, Continental shall vertically delineate the contamination found in wells W39D, W42D, W44D and W45D. Chlorinated solvents, largely trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane and chloroform, have been detected at high concentrations in these wells, in excess of 1% solubility in several cases. The evident decrease in lower aquifer permeability with depth may have prevented further vertical migration of this contamination but Continental must prove this through installation of ground water sampling points. Continental shall either initiate the vertical delineation as part of the Task 1 actions, or shall use the results of the Task 1 delineation to plan a vertical delineation approach.

5. In the August 31, 2000 letter, the NJDEP required Continental to install the remaining two of the three upper aquifer wells that had been required down-gradient of the former lagoon on the opposite side of the drainage ditch. Under Task 3, Continental proposes to satisfy this requirement by installing two piezometer pairs. One of the two piezometer pairs, however, is located close to W40S, the original well installed to address this requirement. Continental shall move this piezometer pair to a position that is still on the far side of the drainage ditch, but that is located roughly midway between the other proposed pair location and W40S. Continental shall also submit the drilling log and construction specifications for well

W40S or, if applicable, direct the NJDEP to the document in which these were previously submitted.

6. The upper aquifer piezometer proposed under Task 4, as well as the upper aquifer piezometers proposed under Task 3, shall be installed to depths that are sufficient to evaluate whether VOs are migrating under the drainage ditch and away from the Continental site. As required in the NJDEP's August 31, 2000 letter, with the analytical results Continental shall justify the screened intervals of these piezometers by using information on the depth of the contamination in wells located on the site-side of the ditch, the local depth of the drainage ditch, and the local depth of the meadow mat.

7. Continental shall target trichlorofluoromethane and 1,1,2-trichloro-1,2,2-trifluoroethane as part of the PPVO+10 analysis of each ground water sample.

8. Continental shall check each piezometer for DNAPL before purging.

9. Continental shall prepare and submit a field log for the collection of each ground water sample. Continental shall refer to the Technical Requirements for Site Remediation at N.J.A.C. 7:26E-3.13(c)7 for the information that must be collected and recorded in each field log.

10. The rest of the requirements of the August 31, 2000 letter remain applicable. Continental shall address these requirements in due course after completing this phase of ground water investigation.

11. Continental shall submit a more aggressive project schedule with respect to mobilization.

General Requirements

1. Pursuant to the referenced Remediation Agreement, Continental shall perform all actions as outlined in the RIW, and conditioned in this approval. If any change in methods outlined in the RIW is necessary, Continental shall inform BEECRA in writing prior to implementation.

2. Continental shall notify the Case Manager at least 14 calendar days prior to implementation of all field activities included in the RIW. If Continental fails to initiate sampling in accordance with the approved schedule, any request for an extension may be denied.

3. Continental shall collect and analyze all samples in accordance with the sampling protocol outlined in the most current edition of the NJDEP's "Field Sampling Procedures Manual" and Technical Requirements for Site Remediation (TRSR), N.J.A.C. 7:26E.

4. Continental shall submit all reports or additional workplans, in triplicate. **Continental shall submit a revised project schedule to the NJDEP within 30 days of receipt of this letter, as required by item I.2. of the AGREEMENT section of the above referenced Remediation Agreement. The schedule shall include the start/finish date of all field activities, and the submission date of the next document.** Please note that only one copy of the Quality Assurance/Quality Control deliverables is needed. All reports shall follow the requirements of the TRSR, N.J.A.C. 7:26E. Technically and administratively incomplete submissions not prepared pursuant to N.J.A.C. 7:26E may be rejected.

5. If contamination is determined to exist above a level found acceptable by NJDEP, Continental may prepare and submit either a Remedial Investigation Workplan or a Remedial Action Workplan pursuant to N.J.A.C. 7:26E. However, in accordance with N.J.S.A. 13:1K-9(f), Continental may elect to remediate the site without prior submission or approval from the NJDEP, except in cases involving a remedial action of

ground water or surface water, or for the closure of an underground storage tank subject to N.J.S.A. 58:10A. If contamination exists on-site, but has not been fully delineated pursuant to N.J.A.C. 7:26E-4, then such delineation shall be completed as a Remedial Investigation which meets the criteria of N.J.A.C. 7:26E.

6. Any remedial action performed, or proposed in a Remedial Action Workplan, shall be in accordance with N.J.S.A. 58:10B-12(g).

7. Any proposal to leave contaminant concentrations on-site exceeding the NJDEP's current residential cleanup criteria, shall be in accordance with the Technical Requirements for Site Remediation N.J.A.C. 7:26E-5.1 and 5.2. Continental shall also submit proof of acceptance of the non-residential cleanup criteria by the current property owner.

8. Pursuant to N.J.S.A. 58:10B-3, a remediation funding source is to be established in an amount equal or greater than the cost estimate of the implementation of the remediation and shall be in effect for a term not less than the actual time necessary to perform the remediation at the site. N.J.S.A. 58:10B-3 allows for a change of the amount in the remediation funding source as the cost estimate changes. Please provide the current estimated cost of the remaining remediation required at the site.

Any increases in the estimated cost estimate will require an increase in the amount in the remediation funding source to an amount at least equal to the new estimate. Any requests to decrease the amount in the remediation funding source will be reviewed and approved by the NJDEP upon a finding that the current remediation cost estimate will be sufficient to fund all necessary remediation.

9. Pursuant to the TRSR, N.J.A.C. 7:26E-3.13(c)3v, all analytical data shall be presented both as a hard copy and an electronic deliverable using the database format outlined in detail in the current HAZSITE application or appropriate spreadsheet format specified in the NJDEP's electronic data interchange manual.

For further information related to electronic data submissions, please refer to the Site Remediation Program's (SRP's) home page at the following Internet address: http://www.state.nj.us/dep/srp. The **Regulations and Guidance** page of this web site has a section dedicated to HazSite which includes downloadable files, an explanation of how to use these files to comply with the NJDEP's requirements, the SRP's Electronic Data Interchange (EDI) manual, and **Guidance for the Submission and Use of Data In GIS Compatible Formats Pursuant to "Technical Requirements for Site Remediation"**.

If you have any questions, please contact the Case Manager, Stephen Myers, at (609) 633-1392.

Sincerely,

Bryan Moore

Bryan Moore, Supervisor
Bureau of Environmental Evaluation,
Cleanup and Responsibility Assessment

c: Health Officer, Elizabeth Division of Health
Beverly Phillips, NJDEP/BGWPA, 4th floor
Neil Wilkinson, O'Brien & Gere
Clifford Ng, USEPA Region II

920880036

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

SECTION A

REVISED PART A PERMIT APPLICATION

Allied-Signal Inc. (Allied) submitted a Notification of Hazardous Waste Activity to U.S. EPA II on 8 August 1980, and received EPA ID No. NJD002451490. A Part A permit application was submitted to the Agency on 14 November 1980. This Part A was revised with the original Part B submittal, 11/8/87, reflecting the sale of fluoropolymers to Ausimont. The Revised Part A permit application included herein reflects updated waste figures for the Elizabeth, New Jersey plant. The following significant decreases in waste generation from operations since 1980 are reflected in the updated figures.

1) First, sulfuric acid operations were terminated in April 1981 with the subsequent removal of production equipment involved in this activity. Allied then successfully petitioned the NJDEP Bureau of Hazardous Waste Planning and Classification to have the fluoropolymer resin plant discharge classified as nonhazardous (ID No. 72). Given this waste stream classification, the TO1 (treatment in tanks) and TO2 (treatment in surface impoundments) processes have been deleted along with the corresponding waste stream quantity entries. A chronology of correspondence concerning the surface impoundment (equalization basin) and associated waste stream classification is given in Appendix B.3.

2) Secondly, the transfer of the fluoropolymer resin production facilities to Ausimont-Compo (Ausimont) also involved the transfer of two associated hazardous waste management units. These are the Halar® effluent storage tank unit and the drum storage area for alpha-pinene still bottoms. Process design capacity and hazardous waste quantities for these areas have been deleted in establishing Allied's revised Part A permit application (Revision 1, November 8, 1987)

3) G-22 fluorocarbon manufacture, together with coproduct hydrochloric acid production, was terminated in September 1988. As a result, the barging of this acid also ceased.

4) Figures associated with the proposed spent solvent pad and the existing drum storage pad are included in this second revision of the Part A Application.

5) The purpose of this revision is to delete the six hazardous waste storage tanks that were associated with the G-22 operations and which were included in the original submittal.

FORM 1 GENERAL

EPA

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

F N J D 0 0 2 4 5 1 4 9 0

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

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	
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	
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		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	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		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	
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	
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	
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	
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

1 SKIP ALLIED-SIGNAL INC.

IV. FACILITY CONTACT

A. NAME & TITLE (*last, first, & title*)	B. PHONE (*area code & no.*)
2 ECK J. T. MANAGER ENVIR. AFFAIRS	201 354 3215

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 10 NORTH AVENUE EAST

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 ELIZABETH	NJ	07201

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 10 NORTH AVENUE EAST

B. COUNTY NAME

UNION

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 ELIZABETH	NJ	07201	

*See Appendix B.2.

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C. THIRD (specify)

D. FOURTH (specify) 7

I. OPERATOR INFORMATION

A. NAME: ALLIED-SIGNAL INC.

B. Is the name in Item VIII A the owner? X YES

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 201 354 321

E. STREET OR P.O. BOX: 10 NORTH AVENUE EAST

F. CITY OR TOWN: B ELIZABETH

G. STATE: NJ

H. ZIP CODE: 07201

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N NJ 0003166

D. PSD (Air Emissions from Proposed Sources): 9 P

Air Permits - See attached

B. UIC (Underground Injection of Fluids): 9 U

E. OTHER (specify): 9 (specify)

C. RCRA (Hazardous Wastes): R NJD002451490

E. OTHER (specify): 9 (specify): Other permits - see attache

MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. 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.

XII. NATURE OF BUSINESS (provide a brief description)

1) Manufacture of fluoropolymer resins.

2) Blending of chlorofluorocarbon solvents.

3) Proposed drum storage of spent solvents (F001) received from off-site generators with subsequent transport to reclamation facilities.

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)
F. M. Poses, President
Engineered Materials Sector

B. SIGNATURE: X M Poses

C. DATE SIGNED: 10/3/89

COMMENTS FOR OFFICIAL USE ONLY

920880039

Item X. Existing Environmental Permits - Continuation List

1. NJDEP Air Certificate Numbers

031777	049187	080041
036082	078117	089161
038217	078118	081715
042135	016260	034503
042136	016261	
073067	071942	
076561	071943	
076566	016262	

2. New Jersey permit to operate waste treatment plant number R751216, and NJPDES 0003166.

3. U.S. Nuclear Regulatory Commission Permit 29-19552-01; NJDEP Bureau of Radiation Protection Permit NJSL-10166.

Notes:

1. NJPDES Permit contained in Appendix B.2.

RCRA EPA

Consolidated Permits Program
(This information is required under Section 3005 of RCRA.)

F N J D 0 0 2 4 5 1 4 9 0 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

ST 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)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

☐ 2. NEW FACILITY (Complete item below.)

C	YR	MO	DAY
8	61	03	27

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

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	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

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)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	33,000	G		7				
2	S01	26,400* (proposed)	G		8		* solvent storage pad		
					9				
4					10				

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USE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (Item IV-D). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

V. DESCRIPTION OF HAZARDOUS WASTES

EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

ESTIMATED ANNUAL QUANTITY – For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are.

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above, (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

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))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

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Continued from page 2

NOTE Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
NJD 002451490	DUP	DUP

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	D001	50,000	P	S01	
2	F001	50,000	P	S01	
3	F001	4,000	T	S01	
4	X726	50,000	P	S01	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

920880043

EPA I.D. NO. (enter from page 1)

T N J D 0 0 2 4 5 1 4 9 0

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a sketch 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)
40 39 48 N	074 10 10 W

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	- -

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

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

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
F. M. Poses, President Engineered Materials Sector	M. Poses	10/3/89

920880044

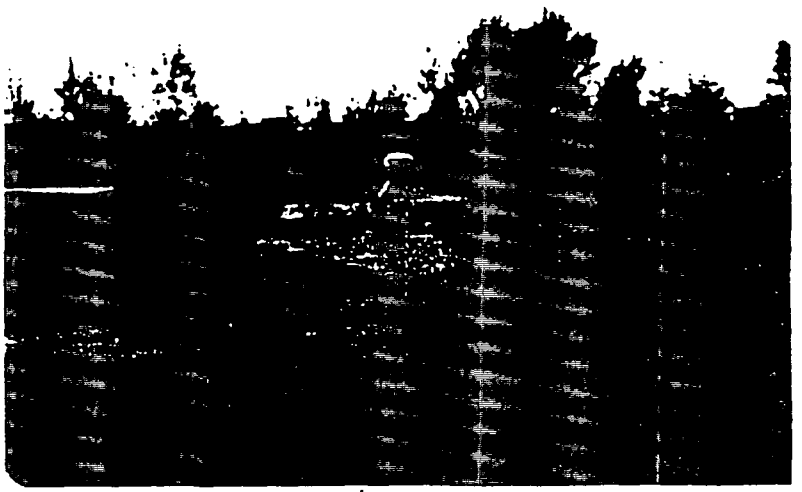
Item V. Facility Drawings

Drawings #101 and 102 show all required features

Item VI. Photographs

Photographs are included as Figures A-10

920880045



A-6
Drum Storage Area

REVISED PART B APPLICATION

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PART B PERMIT APPLICATION
REVISION NUMBER 1

REVISED BY ALLIED-SIGNAL INCORPORATED
ELIZABETH, NEW JERSEY

OCTOBER 1, 1989

SUBMITTED TO

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HAZARDOUS WASTE MANAGEMENT

REVISION PREPARED BY: _____

J.T. ECK
MANAGER ENVIRONMENTAL AFFAIRS
ELIZABETH PLANT

920880048

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

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REVISED PART B APPLICATION

SECTION B

FACILITY DESCRIPTION AND APPENDICES

920880057

SECTION B

FACILITY DESCRIPTION

B-1 GENERAL DESCRIPTION NJAC 7:26-12.2 (e)(1) and 40 CFR 270.14 (b)(1)

Allied-Signal Inc. (Allied) Elizabeth Works facility is located in the City of Elizabeth, Union County, New Jersey (see Figure B-1). The site and mailing address is:

10 North Avenue East
Elizabeth, New Jersey 07201

The plant occupies 177.3 acres with 39.2 acres used for manufacturing facilities. A general facility plot plan is presented in Figure B-2.

The plant fronts on North Avenue and is bounded on the south by an abandoned city dumping area, on the east by Newark Bay, and on the west by a concrete block manufacturer. The entire area is reclaimed marshland. The exact location of the facility is at latitude 40° 39' 48" and longitude 74° 10' 10". Allied has operated the facility since its establishment in 1957.

Current manufacturing capabilities at the Elizabeth plant include:

- Manufacture of fluoropolymer resins.
- Blending of chlorofluorocarbon solvents.

Agreement in principle was reached (January 1986) with regard to the sale of fluoropolymer resin manufacturing facilities to Ausimont. Figure B-2 indicates the facilities and land at the Elizabeth site that were sold to Ausimont. From this sale, two hazardous waste management units (the Halar® process effluent tank and the drum storage area for alpha-pinene still bottoms from TFE monomer production operations) were transferred from Allied to Ausimont.

The fluoropolymer manufacturing facilities were re-purchased from Ausimont, USA in February, 1989.The two HW mangement units are being closed in accordance with plans submitted to NJDEP by Ausimont.

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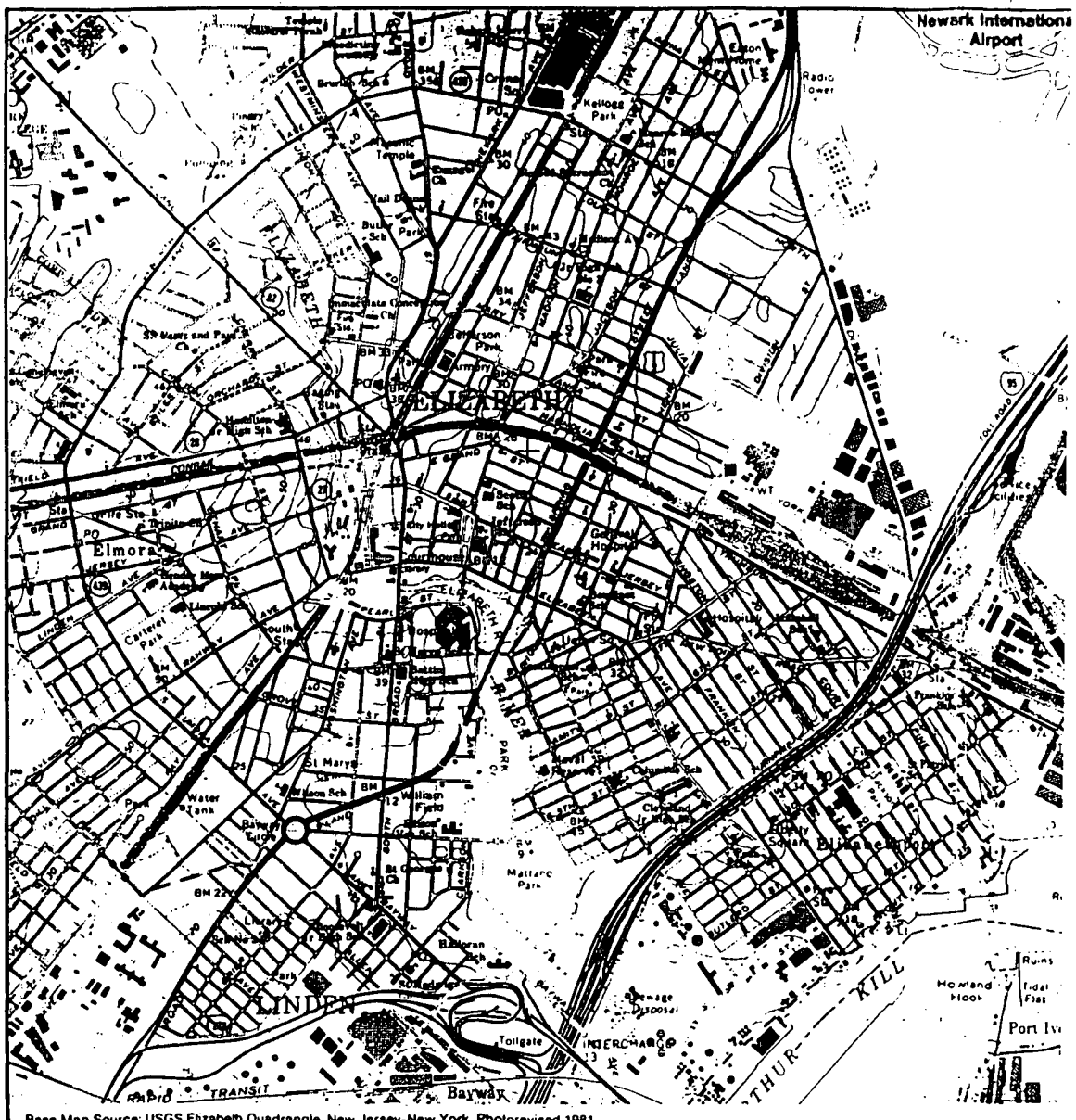

Base Map Source: USGS Elizabeth Quadrangle, New Jersey-New York, Photorevised 1981.

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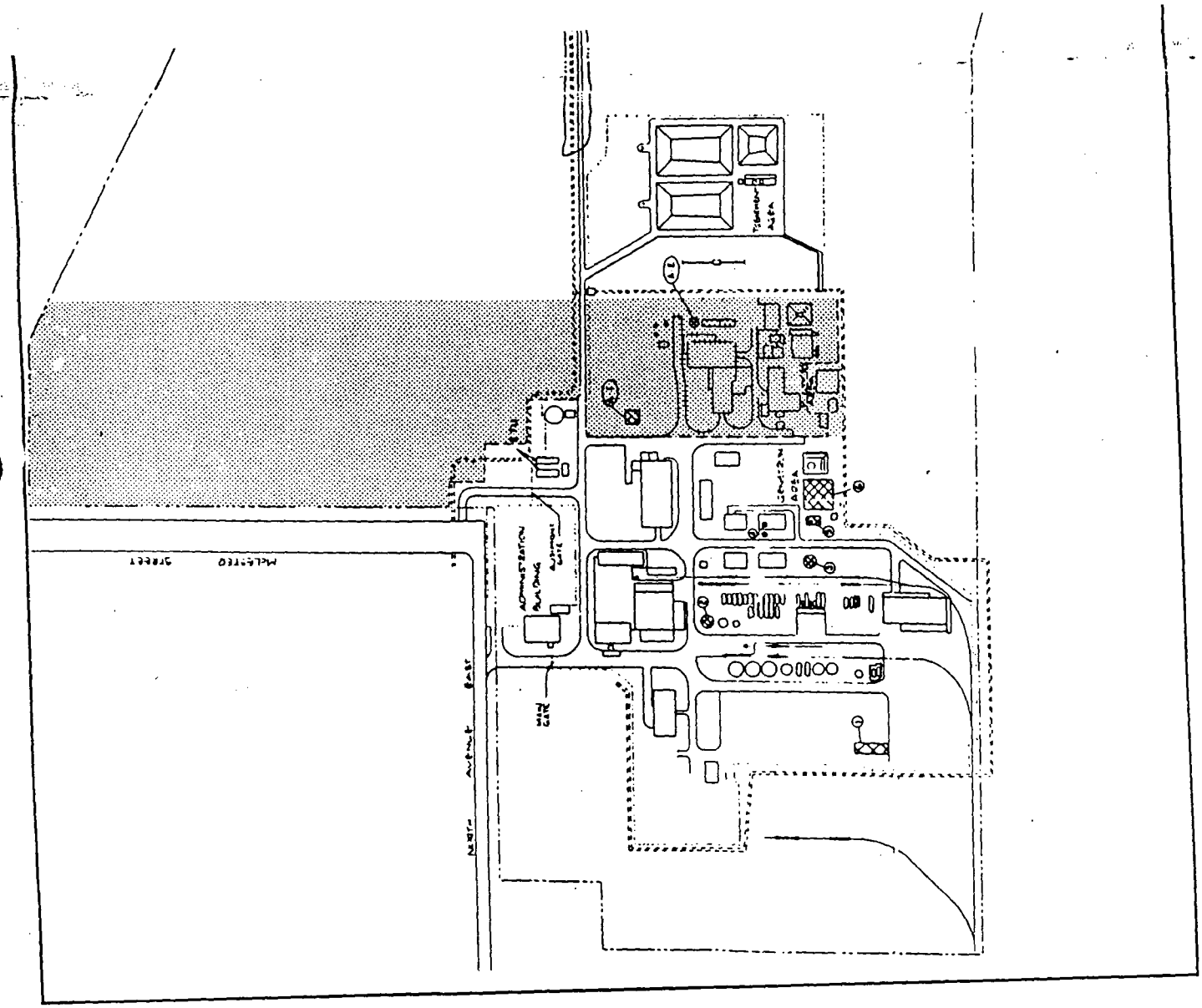
MILLSTED STREET
NORTH AVENUE EAST
ADMINISTRATION BUILDING
AUTHORITY GATE
MAIN GATE
GENERATION AREA
TERMINAL AREA

920880060

The hazardous waste management units that remained within Allied control consisted of:

1. Bulk storage of spent antimony catalyst in two designated tanks with subsequent shipment off-site to an approved reclamation or disposal facility.

2. Bulk storage of spent caustic (sodium hydroxide) in two designated tanks with subsequent shipment off-site to an approved disposal facility.

3. Bulk storage of hydrochloric acid in two designated tanks. This acid, produced during manufacturing operations, is offered for sale as a co-product. Any excess acid which cannot be sold is ocean-disposed of under U.S. EPA permit II-NJ-004. See Subsection B-2b(4) for details on the regulatory status and handling procedures for this acid.

NOTE: The above 3 units are shutdown and are being deleted from this revised application. Revised closure plans are concurrently being submitted to DEP.

4. Drum storage of various wastes (spent activated carbon, paint residuals, and waste oil) with subsequent shipment off-site to an approved disposal facility.

Future operations involve the construction of a spent solvent storage pad for storage of drummed chlorinated and fluorinated solvents provided by outside customers for subsequent transport to approved recovery facilities. Current plans are for the spent solvent storage pad to accept approximately 800,000 gallons of solvent in 55-gallon drum containers annually. The pad itself has a design capacity of 480 55-gallon drums. Figure B-2 indicates the location of the proposed spent solvent storage pad within Allied's Elizabeth plant.

The contact for information concerning environmental affairs at the Elizabeth facility is:

J. Thomas Eck
Manager, Environmental Affairs
201-354-3215

B-2 FACILITY DRAWINGS AND FIGURES NJAC 7:26-12.2(e)13 and 40 CFR 270.14(b)19

Section 7:26-12.2(e)13 of the New Jersey Hazardous Waste Management Regulations requires submission of specified general facility information included on suitably-sized topographic maps. The required information is contained in drawings and figures as follows:

Figure/Drawing	Information
101 and 101A	Site Area Topography Plans
102 and 102A	Facility Plot Plans
103	Effluent Abatement Plan
104	Fire Control Facilities Plan
B-3	Wind Rose
B-4	Land Use Map

The required figures and drawings are accompanied by written descriptions, presented as follows, outlining the information contained on each.

B-2a Site Area and Facility Plot Plans

The Site Area and Facility Plot Plans (Drawings 101, 101-A, 102, and 102-A) illustrate:

- The 100-year flood plain area.
- Surface waters, including intermittent streams.
- Legal property boundaries.
- Vehicle access roads.
- Buildings and structures.
- Hazardous waste management areas.
- Injection/withdrawal wells.
- Energy transmission units (transformers).
- Loading/unloading areas.
- Access control.

Each of these areas is discussed further as follows.

The site area plans (Drawings 101 and 101-A) include the entire Allied property at the Elizabeth site on a 1 inch = 140 feet scale, while the facility plot plans focus on buildings and structures at the site, giving greater detail with a 1 inch = 70 feet scale. The two drawings with the "-A" designation include shading to indicate the exact land transferred to Ausimont control and reacquired by Allied-Signal Inc., in February, 1989.

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B-2a(1) Flood Plain

As further discussed in Subsection B-3, the hazardous waste management units at the site are not located in the 100-year flood plain.

B-2a(2) Surface Waters

The only nearby surface water body, Newark Bay, forms the southeast border of the site area. The 100-year flood plain for this body of water is indicated on both the site area maps and facility plot plans.

B-2a(3) Vehicle Access

Traffic to the Elizabeth plant can proceed to the site from the New Jersey Turnpike located nearby (see Figure B-1). The recommended route is exit 13A off the Turnpike, proceeding approximately 1/4 mile southeast on North Avenue East to the Allied facility which is located on the right side of the road. Further information on traffic patterns, both external and internal to the site, is provided in Subsection B-5.

B-2a(4) Buildings and Structures

The buildings and structures involved with both current operations and the proposed spent solvent storage pad at the Elizabeth site are shown separately on the topographic site area maps. The accompanying facility plot plans show these structures in greater detail. Drawings 101-A and 102-A indicate the exact areas of the Elizabeth plant transferred to Ausimont control. These include the fluoropolymer resin manufacturing facilities and two associated hazardous waste management units (the Halar® process effluent storage tank and the drum storage area for alpha-pinene still bottoms from TFE monomer production operations). A description of operations at Allied's hazardous waste management units is presented in Section D.

As previously stated, the former Ausimont areas are under closure.

B-2a(5) Hazardous Waste Management Area Boundary

The hazardous waste management area boundaries for both existing site operations and the proposed spent solvent storage pad are indicated on the site area maps. The facility plot plans show the exact areas in greater detail.

The present hazardous waste management units at the Elizabeth facility consist of:

1. Bulk storage (two tanks) of spent antimony catalyst.

2. Bulk storage (two tanks) of spent caustic (sodium hydroxide).

3. Bulk storage (two tanks) of hydrochloric acid with ocean disposal of unsold acid.

4. Drum storage of various wastes, including spent carbon paint residuals, and waste oil.

The six tanks noted above are shutdown, with closure being applied for separately. Two other hazardous waste management units, bulk storage of Halar® process effluent and the drum storage area for alpha-pinene still bottoms from TFE monomer production operations, are associated with fluropolymer resin manufacturing operations and have been transferred to Ausimont's control (see Drawings 101-A and 102-A).

B-2a(6) Injection and Withdrawal Wells

From a 1980 listing (provided in Appendix B.1) by NJDEP, Division of Water Resources, four wells were noted in the immediate vicinity of the Allied facility. However, none is located within 1,000 feet of the overall facility boundary, with the nearest being approximately 2,000 feet away. All on-site wells involve ECRA sampling requirements and are not used as plant water sources.

B-2a(7) Energy Transmission Units (transformers)

Two transformers are present at the main electrical substation that is located along the dock road as indicated on the site area plans. These two transformers contain approximately 1,763 gallons (total) of No. 10 transformer oil. This grade of transformer oil does not contain polychlorinated biphenyls.

B-2a(8) Unloading/Loading Areas

Spent solvents loading and unloading operations will take place at a loading dock located at the eastern end of the storage pad. The dock itself has a nominal size of 12 feet by 22 feet and can accommodate two trucks at any one time. Loading area procedures to prevent hazards are described in detail in Section F.

B-2a(9) Access Control

Access to the overall Elizabeth plant facility is controlled by a combination of 24-hour security and surveillance of entry points, a perimeter fence, and warning signs. Contractor and visitors entering the plant must sign in on a log sheet and wear visitor identification passes. Access control is discussed in detail in Subsection F-1.

B-2b Effluent Abatement Plan

Drawing 103 shows the effluent abatement facilities for the Elizabeth site. Features of this system are detailed as follows.

B-2b(1) Storm Sewer System and Runoff Control

Runoff from the hazardous waste management units is controlled by secondary containment structures. The facility layout includes roofing, curbing, ramps, and a collection sump to provide secondary containment and to prevent runon and runoff. Runoff control is discussed in further detail in Subsection F-4b.

Collected contaminated stormwater from process areas discharges into the on-site effluent treatment facility. A ditch surrounding the Elizabeth plant collects stormwater from surrounding wetlands and discharges it through formerly designated outfall 001.

This former effluent ditch may receive runoff from the adjacent Corps of Engineers' dredge spoils, City of Elizabeth dumpsite, several industrial sites above this facility, and stormwater runoff from plant areas.

B-2b(2) Sanitary Sewers

Sanitary wastewater from the facility is discharged to the City of Elizabeth sewer system for treatment at the Joint Meeting of Essex and Union Counties Treatment Plant. The Effluent Abatement Plan (Drawing 103) indicates the layout of the on-site sanitary sewer system.

B-2b(3) Wastewater Treatment System

Details on the treatment system present on-site are included in the Effluent Abatement Plan (Drawing 103). The wastewater treatment system (operating under permit R751216) at the Elizabeth plant collects process wastewater and contaminated stormwater from process areas for treatment prior to discharge to Newark Bay pursuant to NJPDES Permit NJ0003166 (contained in Appendix B.2). Process wastewaters flow to two neutralization

tanks where the pH is adjusted to above 2.5, if necessary. The wastewater then flows to an EPDM-lined equalization pond. The equalization pond has a capacity of 400,000 gallons. It is approximately 40 feet square on the bottom, 105 feet square on top, and 10 feet deep with side slopes of 3:1. A leak collection system is present below the liner.

From the pond, the wastewater is pumped through a second neutralization system (two tanks) where NaOH is added to raise the pH of the wastewater to the range of 8.0 to 8.5. Each of the neutralization systems consists of a primary and a secondary neutralization tank equipped with agitation. Effluent from the second neutralization system flows to one of two 1.0-million-gallon EPDM-lined settling ponds for clarification. The treated wastewater flows from the settling ponds through a monitoring station and is discharged to Newark Bay from outfall 002 via a 36-inch public ditch.

The equalization basin is the subject of a major NJPDES modification and an administrative ruling. A history of correspondence concerning this impoundment is included in Appendix B.3.

With regard to the sale of fluoropolymer operations to Ausimont, process and contaminated stormwater from the Ausimont area is being treated in Allied's wastewater treatment facility and discharged through outfall 002 in accordance with the discharge permit. Therefore, the flows and effluent characteristics remain unchanged by the sale of facilities to Ausimont. Process water flow from Ausimont operations is at a rate of approximately 100 gpm. The fluoropolymer wastewater discharge has been classified as a bulk liquid and semiliquid waste (I.D. No. 72) by NJDEP (see Appendix B.3). The effluent stream from fluoropolymer production processes consists of acid drips, cooling tower and boiler blowdowns, once-through cooling water, water deionizer washes, and weak spent caustic solution.

B-2b(4) Ocean Disposal Permit

Hydrochloric acid is produced during the manufacture of both Genetron® by Allied and TFE monomer by Ausimont. By letter dated 25 June 1986, NJDEP agreed with Allied that the hydrochloric acid produced is a co-product. Allied and Ausimont ocean-dispose unsold hydrochloric acid from these operations under permit II-NJ-004. Copies of the co-product confirmation letter from NJDEP, Allied's ocean disposal permit application, and the granted permit are included in Appendix B.4. Disposal quantities listed under the permit are 52,000 tons/year for the Genetron®-22 acid and 6,600 tons/year for the TFE monomer acid. The material is disposed of at the Acid Waste Disposal site in the New York Bight.

Ocean disposal discontinued September 30, 1988.

Two tanks (101 and 128) are designated hydrochloric acid holding tanks (see Drawings 101 and 102). Tank 101 has a 390,000-gallon capacity, while tank 128 has a 540,000-gallon capacity.

All excess acid is transferred via pipeline to Allied's barge located at the dock facility on the Elizabeth site.

The dock facility is located on Newark Bay approximately 0.5 mile from the main operating area. Access to the dock is by way of the dock road. An underground 6-inch saran-lined pipe is used to transfer hydrochloric acid to the barge.

The transportation barge (AC-5) is a 238-foot-long vessel owned by Allied and equipped with four rubber-lined tanks with a capacity of 456,000 gallons. Each tank is normally loaded with 105,000 gallons, yielding 420,000-gallon shipments. Approximately two trips per month are made to the disposal site where the acid contents are discharged at a rate of 60,000 gallons per hour. This barge is totally dedicated to this disposal operation only.

As noted above, ocean dumping ceased 9/30/88 and the tanks are shutdown, and will be closed in accordance with a revised Closure Plan. Also, the acid transfer line to the barge has been blanked off and sealed by the US Coast Guard.

B-2c Fire Control Facilities Plan

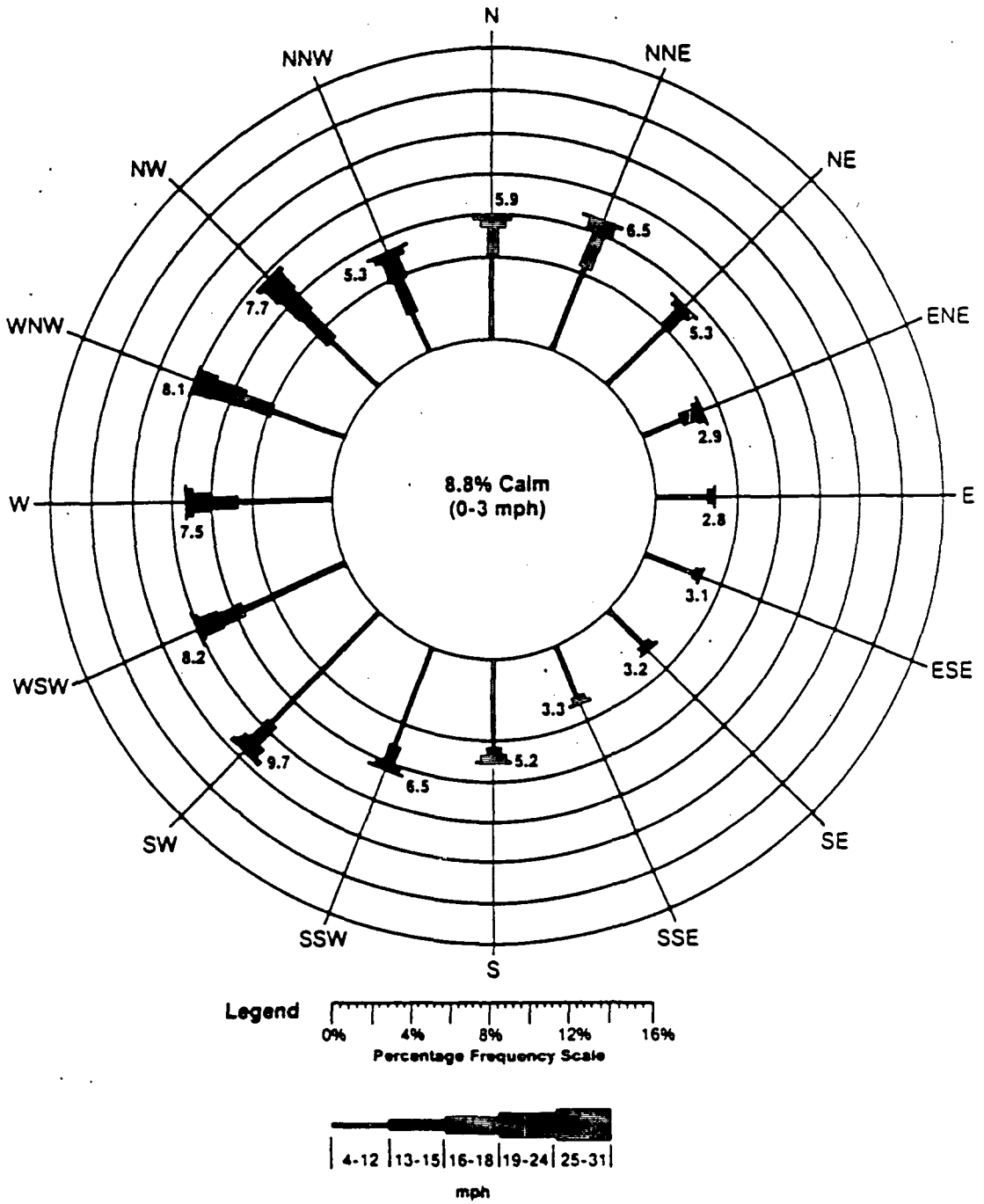
Fire control facilities at the Elizabeth plant are detailed in Drawing 104. Water from a 16-inch city water main is stored in a 300,000-gallon fire water tank. A fire water pump house located next to the storage tank provides flow to the dedicated fire water line system covering the site. Hydrants and hose houses are located throughout the site. Individual structures equipped with sprinkler protection are as indicated on Drawing 104.

B-2d Wind Rose

Figure B-3 is an annual wind rose of composite meteorological data collected from 1948 to 1978 at the Newark Airport in Newark, New Jersey, which is located approximately 1 mile northwest of the Elizabeth facility.

B-2e Land Use Map

The land uses for the surrounding area are illustrated in Figure B-4.



Source: "Wind-Ceiling-Visibility Data at Selected Airports," U.S. Dept. of Commerce, National Climatic Center (Asheville, NC), January, 1981

Conditions Depicted: Composite of all weather conditions from 1948 to 1978 at Newark International Airport

Distance to Allied's Elizabeth Facility: 1 Mile

FIGURE B-3 WIND ROSE

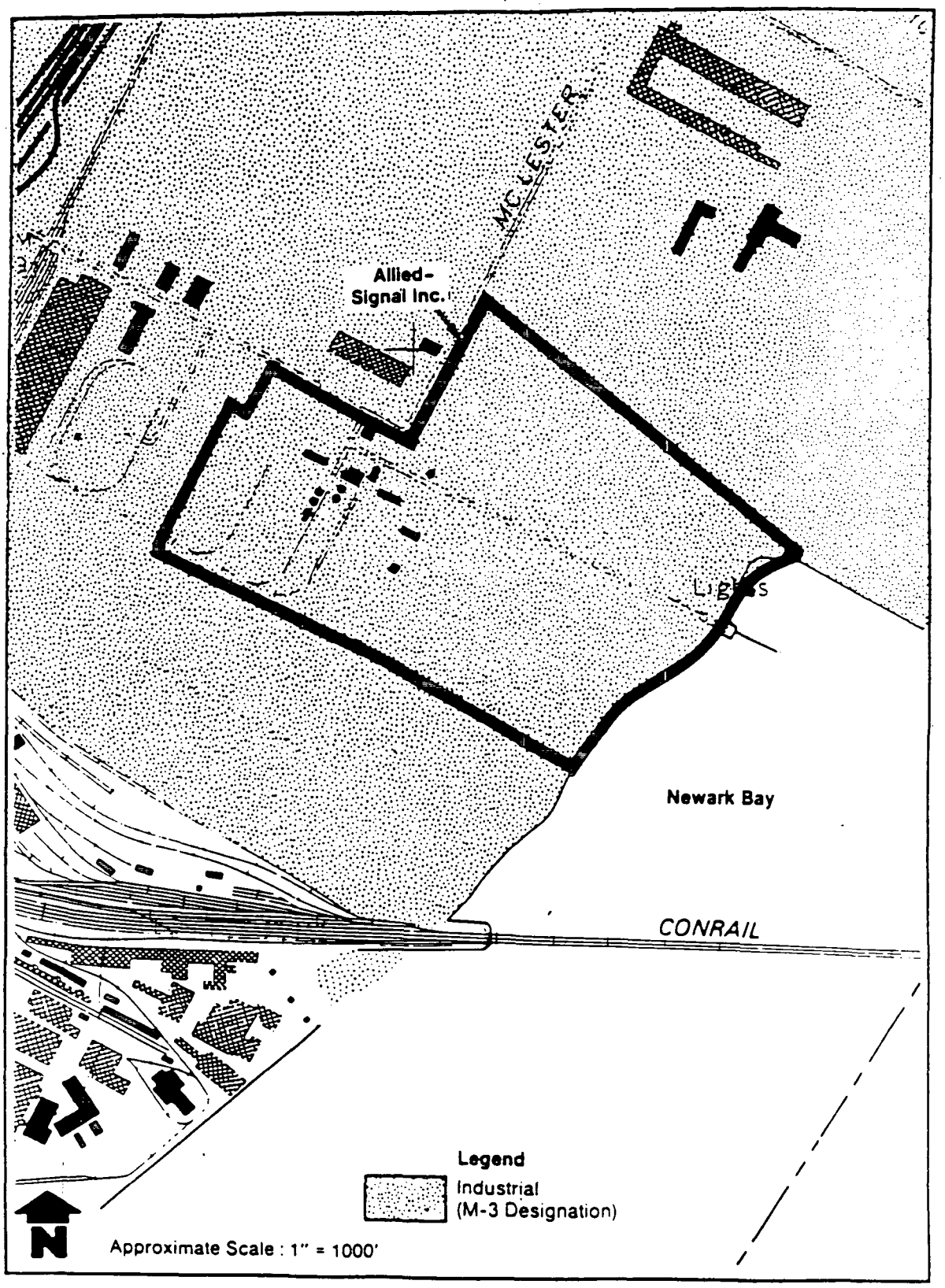


FIGURE B-4 SURROUNDING LAND USES

B-3 FLOOD PLAIN STANDARD NJAC 7:26-12.2(e)15 and 40 CFR 270.14(b)(11)ii

The site area plans indicate the extent of the 100-year flood plain of Newark Bay and other surface water features. This information was compiled from the Federal Emergency Management Agency's Floodway Map for Elizabeth, New Jersey (November 1985 edition). Based on this information, none of the hazardous waste management units at Allied is located in the 100-year flood plain.

B-4 SEISMIC STANDARD 40 CFR 264.18(a)

The facility is located within the City of Elizabeth, Union County, New Jersey, and is not listed in Appendix VI of CFR 264. Therefore, this standard is not applicable per 40 CFR 270.14(b)(11)(i).

B-5 TRAFFIC PATTERNS NJAC 7:26-12.2(e)22 and 40 CFR 270.14(b)(10)

B-5a Traffic Control

Traffic within the plant site is controlled by directional and stop signs. The plant speed limit is 10 mph.

B-5b Access Road Surfacing

Allied's internal road system consists of 3-inch asphalt over a compacted base. There is no limitation on the truck weight that can travel the roads.

B-5c Load-Bearing Capacity

Roads within the facility park are designed to support industrial traffic with loads up to the legal state and Federal limits (80,000 pounds).

B-5d Traffic Volume

The present traffic load for the overall facility is estimated to be approximately 35 to 40 trucks per weekday, with little or no traffic on the weekend.

It is estimated that ten trucks per day will bring spent solvents to the proposed storage pad five days per week. Spent solvents are expected to be sent to recovery facilities at the rate of three trucks per week. This additional traffic volume load is minimal compared to the present traffic load for the overall facility.

B-6 CONSTRUCTION SCHEDULE FOR THE PROPOSED SOLVENT STORAGE PAD NJAC 7:26 - 12.2(e)9i

Construction of the proposed spent solvent storage pad will commence with the issuance of the Part B permit. Construction time is estimated at 1 to 2 months depending upon weather conditions.

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

TRENTON

October 2, 1986

DIVISION OF COASTAL RESOURCES

PLEASE ADDRESS REPLY TO:
CN 401
TRENTON, N.J. 08625

Mr. L.A. Mattioli
Allied-Signal, Inc.
6300 Philadelphia Pike
Marcus Hook, PA 19061

RE: Map order and property in Elizabeth, N.J.

FILE: 2004-86

Dear Mr. Mattioli:

Confirming our conversation of this date, enclosed please find a copy of the Newark-Elizabeth Meadowlands map and overlay, invoice for same, and a grant application package.

If you have any further questions, please do not hesitate to contact this office.

Sincerely,

Jo Ann Cubberley
Acting Deputy Chief
Bureau of Tidelands

cc: DCLPS (file #2004-86-005A)

J.1-2

New Jersey Is An Equal Opportunity Employer

920880072

RECEIVED
ROY F. WESTON, INC.

JUL 24 1987

DCMD

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON

DIVISION OF COASTAL RESOURCES

PLEASE ADDRESS REPLY TO:
CN 401
TRENTON, N.J. 08625

September 22, 1986

Allied-Signal Inc.
Engineered Materials Sector
P.O. Box 1139R
Morristown, New Jersey 07960-1139

ATTENTION: Mr. L.A. Mattioli, Manager

SUBJECT: Applicability Determination, Proposed Property Sub-Division
Tax Account No: 1-314, Elizabeth, New Jersey
Bureau File No: 2004-86-005A

Dear Mr. Mattioli:

I am writing in response to your letter of September 8, 1986 in which you requested to know whether this Division asserted any wetlands claims against the above referenced property, as this information is required by the City Planning Board prior to sale and subdivision.

Please be advised that there are no wetlands regulated under the Wetlands Act of 1970 located within the property. However, this Division will assert regulatory jurisdiction, in the form of a Waterfront Development Permit, for any proposed development/construction on the upland within 500' of the high water line of Newark Bay and for any construction below said high water line, and development affecting wetlands is generally prohibited under the wetlands policy of the Rules on Coastal Resources and Development.

In addition, there appears to be a Tidelands claim against the property in the form of unconveyed, formerly flowed tidelands transeversing the property. You should contact this Division's Bureau of Tidelands at (609)-292-2573 for a more definitive determination in this regard. If you have any further questions please call me at (609)-292-8203.

Very truly yours
For Chief, Bureau of Coastal
Enforcement and Field Services

BY David Strasser, Region Supervisor

JOANNE CUBBERLEY
ACTING CHIEF, BUREAU OF TIDELAND

KMC:DCS:bad
c: Kathleen Cann, Acting Chief
James Johnson, Chief
Douglas Wehrle, Region Supervisor
Elizabeth Construction Official

New Jersey Is An Equal Opportunity Employer

920880073

AREAS NOW OR FORMERLY BELOW MEAN HIGH WATER

NEWARK-ELIZABETH MEADOWLANDS

SCALE 1:9600

1000 500 0 1000 2000 3000 FEET

LEGEND

ORIENTATION FEATURES
- ROAD
- RAILROAD
- BRIDGE

- LINES OF MEAN HIGH WATER
- TIDAL POND

NEW JERSEY STATE PLANE COORDINATE GRID LINES SHOWN AT 4000 FOOT INTERVALS.
UTM GRID TICKS ZONE 18, SHOWN AT 1000 METER INTERVALS.
LATITUDE AND LONGITUDE TICKS SHOWN AT 1 MINUTE INTERVALS.

THIS MAP DOES NOT REFLECT THE EXISTENCE OF CONVEYANCES AND LEASES OF STATE-OWNED TIDELANDS. WHERE NO CONVEYANCE OR LEASE OF STATE-OWNED TIDELANDS HAS BEEN MADE, THE STATE'S TIDELAND OWNERSHIP EXTENDS TO THE UPPER OR LANDWARD EDGE OF THE LINE OF MEAN HIGH WATER DRAWN HEREON.

PREPARED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR THE NATURAL RESOURCE COUNCIL IN ACCORDANCE WITH THE PROVISIONS OF N.J.S.A. 13:1B-13.2, ET SEQ.
PHOTOMAP PREPARED BY MARK HURD AERIAL SURVEYS, INC. FROM 1:80000 COLOR INFRARED PHOTOGRAPHS TAKEN 25 MARCH 1972.

THIS MAP DOES NOT DEPICT AREAS NOW OR FORMERLY BELOW MEAN HIGH WATER ON THE EASTERN SHORE OF NEWARK BAY AND THE EASTERN BANK OF THE PASSAIC RIVER.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

920880074

920880075

Information Regarding Potential Hazardous Waste and Hazardous Waste Constituent Releases From Solid Waste Management Units

Facility Name: Allied-Signal Inc.-Elizabeth

EPA I.D. No.: NJD 002451490

Location: Street 10 North Ave. East

City & State Elizabeth, NJ 07201

Check: owner X operator X

Please review the following definitions prior to proceeding to page 2.

I. Under the Resource Conservation and Recovery Act (RCRA) amendments of 1984, the term "solid waste" means any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, or byproduct material as defined by the Atomic Energy Act of 1954.

II. A hazardous waste is a solid waste that is either listed in 40 CFR; Part 261; Subpart D ("List of Hazardous Wastes") or possesses one or more of the characteristics identified in 40 CFR; Part 261; Subpart C ("Characteristics of Hazardous Waste") and is not excluded in 40 CFR 261.4.

III. A Hazardous Waste Constituent represents the basis for a specific hazardous waste being listed in 40 CFR; Part 261; Subpart D. The Hazardous Waste Constituents are listed in 40 CFR; Part 261; Appendix VIII (Hazardous Waste Constituents).

IV. The term "solid waste management unit" (SWMU) applies to any landfill, surface impoundment, land farm, waste pile, incinerator, tank, injection well, transfer station, waste recycling operation, tank or container storage area that currently or formerly was used to manage a solid waste.

V. Under the requirements of the Hazardous and Solid Waste Act Amendments of 1984, Section 3004U of the RCRA amendments mandates that EPA address contamination caused by prior releases of hazardous wastes and hazardous waste constituents from solid waste management units, regardless of the time when the waste was placed in the unit or when the unit was closed.

VI. The term "tank" includes wastewater treatment units, elementary neutralization units and short-term accumulation units that are exempted from RCRA permit requirements.

VII. The term "release" includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment, but excluding releases otherwise permitted under law (e.g., NPDES permitted discharges).

920880076

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

APPENDIX J.2

INFORMATION REGARDING POTENTIAL HAZARDOUS WASTE AND HAZARDOUS WASTE CONSTITUENT RELEASES FROM SOLID WASTE MANAGEMENT UNITS

SPECIFIC INFORMATION

Are there any of the following solid waste management units existing or closed at your facility? Include any units you are aware of that were used by previous owners. Do not include hazardous waste units currently shown in your B application.

	Yes	No
• Landfill		X
• Surface Impoundment	X	
• Dump-pit or Leach Field	X	
• Land Farm		X
• Waste Pile		X
• Incinerator		X
• Storage Tank (above ground)		X
• Storage Tank (below ground)		X
• Container Storage Area		X
• Injection Wells, Sink Holes	X	
• Wastewater Treatment Units		X
• Transfer Stations		X
• Waste Recycling Operations		X
• Other (specify)		X

(For items 2-4, if the space provided is not sufficient, use additional sheets as necessary and specify the item being answered.)

2.) If there are "Yes" answers to any of the items in number one above, please provide the following:

A. A description of the wastes that were stored, treated or disposed of in each unit.

o Surface Impoundment(s)- 2 settling ponds: nonhazardous waste streams resulting from neutralization, prior to discharge under NJPDES permit

o Dump-Pit- characteristically corrosive wastes from sulfuric acid operation and spent antimony catalyst from fluorocarbon operation.

o Waste treatment Units - 4 neutralizers at Plant Waste Treatment Facility.-neutralized non-hazardous wastes.

B. Determine, as best you can, if the particular waste would be considered a hazardous waste or hazardous waste constituent under RCRA (See definitions on page one)

Only the wastes in the Dump-Pit would be considered hazardous; characteristically corrosive

C. A description of each unit including its capacity, dimensions, period of operation, location at facility including a site plan if available.

o Surface Impoundments= 2 nonhazardous settling ponds; each 225 ft. long X 115 ft. wide X 10 ft. deep at center, sloping sides (inverted truncated pyramid), w/HPDM liner and leak detection system. Each has 1,000,000 gallon capacity and have been in operation from 1975 through the present. They are located at the waste treatment facility. See the attached Site Plan.

o Dump-Pit- earthen pit in ground; estimated dimensions- 125 ft. X 125 ft. X 5 ft. deep. Operated approximately between 1966 through 1972. located at SW end of Plant, south of the old Sulfuric Process Plant. See the attached Site Plan.

o Waste Treatment Units- 4 nonhazardous neutralizer tanks, agitated, made of reinforced fiberglass. 2 @ 4000 gallons each, 1 @ 2500 gallons and 1 @ 500 gallons. Operation between 1975 and present. Located at Waste Treatment Plant; see Site Plan.

3.) For each unit noted in number one and also those hazardous waste units identified in your Part B application, please provide the following information on any prior or current release of hazardous waste or hazardous waste constituents.

source of information that has led to the possibility that a release has occured (i.e. discoloration of surrounding soil)
date(s) of release
groundwater monitoring data for units not identified in your Part B
type of waste/material released
quantity or volume of waste/material released
nature of release (i.e., spill, overflow, ruptured tank or pipeline, leachate from landfill or surface impoundment, etc.)

o Settling Ponds

a) A study was conducted by NUS, consultants for USEPA II on 12/11/84. Split samples analyzed for Allied by FTC Inc. indicated the presence of toluene, benzene and chromium in one of the leak detection sumps. These organics and chromium are not used in any of our processes, but could have been introduced as the result of liner repa

b) The date of release of could have occurred on or prior to the the above sampling date.

c) groundwater monitoring is currently being conducted as part of the Plant's NJPDES Permit. No results are yet available for these units.

d) The type of waste released would be nonhazardous, resulting from the neutralization of fluorocarbon and fluoropolymer wastewaters.

e) The quantity of of release is undeterminable.

f) Nature of release- leachate from above surface impoundments.

o Dump Pit & Waste Treatment Units - see attached page 4a-3

4.) In regard to the prior releases described in number three above, please provide (for each unit) any analytical data that may be available which would describe the nature and/or extent of environmental contamination that exists as a result of such releases. In addition, any information on the concentration of hazardous waste or hazardous waste constituents present in contaminated soil, groundwater or surface water should be attached. Include any information/data (including groundwater monitoring data) submitted to EPA and the State under any other regulatory programs (i.e. Superfund, In place-toxics, etc.) that concerns prior or continuing releases as described above.

See attached ETC results of analyses from split samples in EPA II/NUS study and groundwater monitoring results submitted with ECRA EIS to NJDEP.

5.) If you do not have any record of a SWMU on your site, is there any evidence from soil borings, drilling of groundwater wells, groundwater monitoring results, exploratory pits or any excavations that would indicate the presence of a SWMU or that a release of hazardous waste or hazardous waste constituent has occured (Please describe the type of activity and observations that led to the discovery)?

Groundwater monitoring in early 1986, in connection with ECRA, indicates the presence of chloroform and other organics and inorganic compounds.

o Dump Pit

a) The pit was used to collect and neutralize acidic discharges from the Sulfuric Acid Process and spent antimony catalyst from a fluorocarbon process. The wastes were neutralized in in the pit by the addition of lime.

b) The date of the releases would be from 1966 through 1972. It cannot be determined how effective the neutralization was and how much unneutralized, corrosive material was released.

c) No groundwater monitoring data is available.

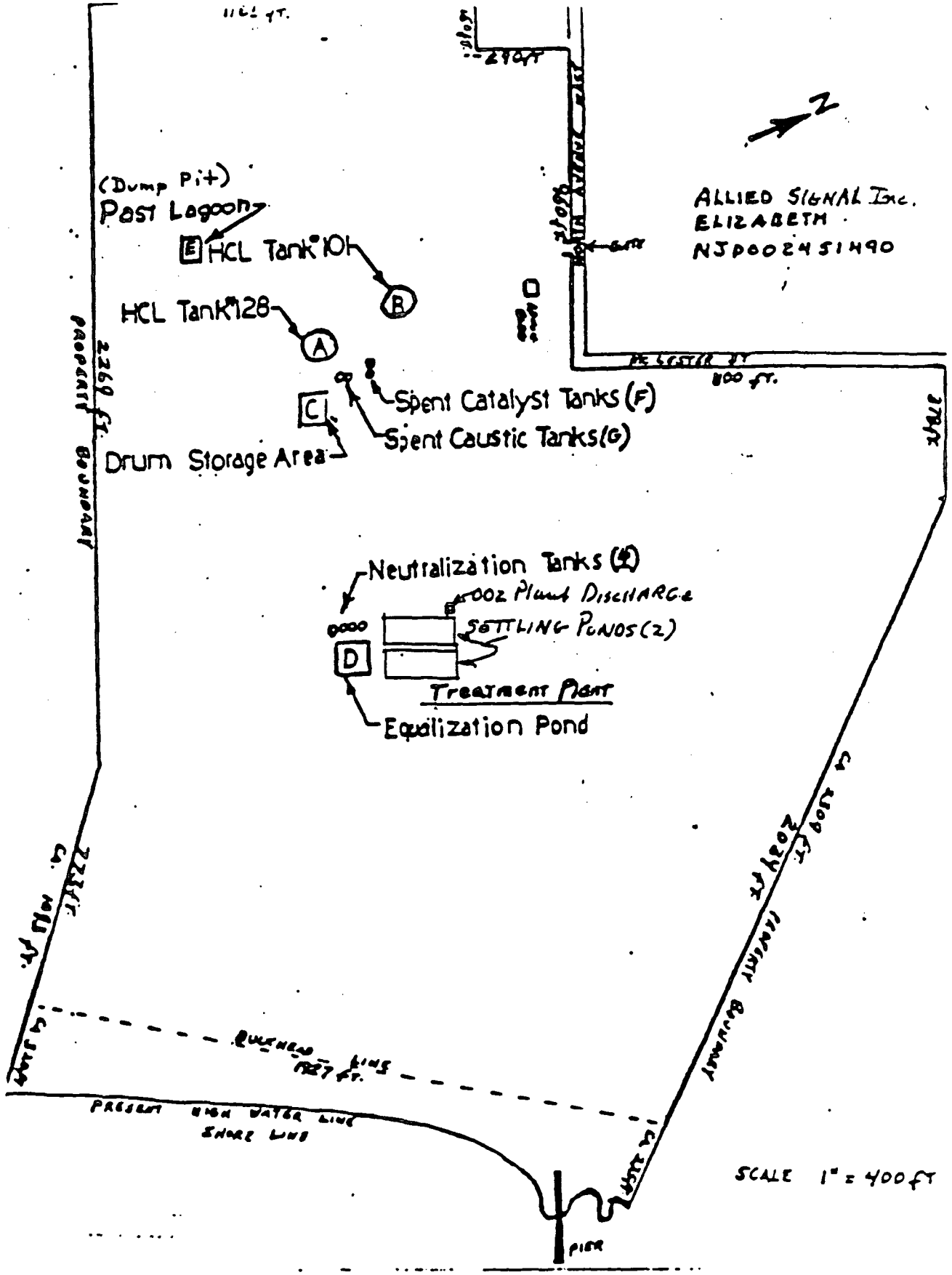
d) Type of waste released could be unneutralized acids, antimony compounds and organic compounds.

e) The quantity of release is indeterminable.

f) Nature of release would be leachate from the dump pit.

o Waste treatment Units (4 neutralizer tanks)

We have no knowledge of any releases from these units.



SITE PLAN

920880082

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

APPENDIX J.3

ECRA ADMINISTRATIVE CONSENT ORDER

XC: P. SCHULZ EZW
J.T. ECK EZW
J.E. COOPER MEY-4
C.D. SMITH SOL-2
F.J. RISHE EDISON

To: Ken Mathole
From: M.B. Helfant

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

IN THE MATTER OF	:	ADMINISTRATIVE
ALLIED-SIGNAL INC.	:	CONSENT ORDER
ECRA CASE #'s85820, 85821, 85822	:	
85823, 85824, 85825, 85826, 86049	:	
86103	:	

The following FINDINGS are made and ORDER is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP") by N.J.S.A. 13:1D-1 et seq. and the Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq., and duly delegated to the Assistant Director for Enforcement and Field Operations within the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. The Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq. ("ECRA" or "the Act"), was signed into New Jersey State Law by Governor Thomas H. Kean on September 2, 1983, and took effect on December 31, 1983.

2. ECRA required the NJDEP to adopt rules and regulations to implement the Act. On March 6, 1984, NJDEP adopted the Interim ECRA Regulations, N.J.A.C. 7:1-3 ("Regulations") in compliance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., upon acceptance for filing by the Office of Administrative Law pursuant to N.J.A.C. 1:30-4.4(d).

3. ECRA requires that the owner or operator of an industrial establishment planning to sell or transfer operations (a) notify the NJDEP in writing within five (5) days of the execution pursuant to N.J.A.C. 7:1-3.7, (b) submit within sixty (60) days prior to transfer of title a Negative Declaration or Cleanup Plan to the NJDEP for approval, and (c) obtain, upon approval of any necessary Cleanup Plan by the NJDEP, a surety bond or other financial security approved by the NJDEP guaranteeing performance of the Cleanup Plan in an amount equal to the cost estimate for the approved Cleanup Plan.

4. N.J.S.A. 13:1K-13 provides that failure to submit a Negative Declaration or Cleanup Plan pursuant to ECRA is grounds for voiding the sale by NJDEP. Any person who knowingly gives or causes to be given any false information or who fails to comply with the provisions of ECRA is liable for a penalty of not more than $25,000.00 for each occurrence, and each day of a violation of a continuing nature constitutes an additional and separate offense. Furthermore, any officer or management official of an industrial

establishment who knowingly directs or authorizes the violation of any provisions of the Act shall be personally liable for the $25,000.00 penalties for each violation described above.

5. Allied-Signal Inc. ("Allied-Signal"), a Delaware corporation, through its subsidiaries operates or formally operated each of the facilities listed in Appendix A (hereinafter collectively called the "Allied-Signal facilities"). Appendix A is attached and incorporated by reference as an integral part of this Administrative Consent Order. Allied-Signal has informed NJDEP that the Standard Industrial Classification ("SIC") numbers which best describes the operations for the Allied-Signal facilities are SIC numbers covered by ECRA. Allied-Signal has further informed NJDEP that hazardous substances as defined by the Regulations are used in operations at the Allied-Signal facilities. The Allied-Signal facilities are Industrial Establishments as defined by ECRA.

6. Allied-Signal was formed in 1985 through a combination of the Allied Corporation ("Allied"), a New York corporation, and The Signal Companies, Inc. ("Signal"), a Delaware corporation ("Combination"). On September 18, 1985 the share holders of Allied and Signal approved the Combination which required among other things the transfer of all voting shares of Allied and Signal to Allied-Signal in return for shares of Allied-Signal on a share-for-share basis. It was contemplated that the transfer of such shares would be completed by December 31, 1985; as of that date, approximately 90 percent of the voting shares of Allied and Signal had been exchanged for voting shares of Allied-Signal. NJDEP has informed Allied-Signal that the Combination as it relates to the Allied-Signal facilities is subject to ECRA and the Regulations.

7. Since December 31, 1985, Allied-Signal caused The Henley Group, Inc. ("Henley"), a Delaware corporation, to be formed. On or about May 27, 1986, Allied-Signal spun off Henley to Allied-Signal's shareholders ("the Spin-Off"). When the Spin-Off was completed, Allied-Signal shareholders owned sufficient stock of Henley to give them a majority of the voting power. NJDEP has determined that the Allied-Signal facilities involved in the Spin-Off are further subject to ECRA and the Regulations as a result of the Spin-Off.

8. In appropriate cases, NJDEP may allow transactions subject to ECRA to proceed by execution of an Administrative Consent Order. The Administrative Consent Order specifies a time schedule for completion of ECRA requirements by Allied-Signal and provides for financial assurances in forms and amounts acceptable to NJDEP. Failure to fully comply with all the terms and conditions of the Administrative Consent Order shall subject the Ordered Party(ies) to the full range of penalties and remedies prescribed in the Act, the Regulations, and the Administrative Consent Order.

9. NJDEP and Allied-Signal have agreed that an Administrative Consent Order shall be executed to ensure full compliance with ECRA and the Regulations.

10. On January 22, 1986, Allied-Signal entered into an agreement in principle with Ausimont U.S.A., Inc.("Compo"), a Delaware corporation and a subsidiary of Ausimont-Compo/N.V., N.B., a Netherlands corporation, to sell an

Allied-Signal facility, identified in Appendix A as the Halon facility, to Compo ("Halon Sale"). NJDEP and Allied-Signal expressly agree that the Halon Sale is subject to ECRA.

11. On January 24, 1986, Allied-Signal entered into an agreement with Automotive Rentals, Inc. (ARI), a New Jersey corporation, to sell an Allied-Signal facility, identified in Appendix A as the Criswell facility, to ARI ("Criswell Sale"). NJDEP and Allied-Signal expressly agree that the Criswell Sale is subject to ECRA.

12. Allied-Signal has informed NJDEP that the Halon Sale was consummated on or about June 17, 1986. In addition, the Criswell Sale is expected to be consummated in July, 1986. Allied-Signal has informed NJDEP that it was unable to comply with all the requirements of ECRA and the Regulations by June 17, 1986 in connection with the Halon Sale and that Allied-Signal cannot comply with all of the requirements of ECRA and the Regulations by July, 1986 in connection with the Criswell Sale. Therefore, Allied-Signal has requested that this Administrative Consent Order prepared by NJDEP, also allow the Halon Sale and the Criswell Sale to be consummated prior to completion of all administrative requirements under ECRA and the Regulations.

13. UOP Inc. ("UOP"), an indirect wholly-owned subsidiary of Allied-Signal, owns and operated a manufacturing facility at Route 17, East Rutherford, Bergen County; said site being further known as Block 104, Lots 4B, C, 5, 5A, 6 and 7 and Block 105A, Lot 11B on the tax map of the Borough of East Rutherford ("UOP facility"). UOP has informed NJDEP that the SIC number which best described the operations at UOP facility is 2819. UOP has further informed NJDEP that hazardous substances as defined by the Regulations are stored at the UOP facility. The UOP facility is an Industrial Establishment as defined by ECRA. NJDEP has determined that the UOP facility is subject to ECRA.

14. The UOP facility is presently the subject of an Amended Administrative Consent Order ("Amended ACO"), dated May 29, 1986, with NJDEP to ensure the cleanup of the UOP facility. NJDEP has determined that a completed cleanup at the UOP facility under the Amended ACO shall be deemed compliance with ECRA and the Regulations. Therefore, NJDEP and Allied-Signal have expressly agreed that the UOP facility shall not be additionally described within this Administrative Consent Order.

ORDER

NOW, THEREFORE, IT IS ORDERED AND AGREED THAT:

15. NJDEP and Allied-Signal expressly agree that the terms and conditions of this Administrative Consent Order, including the financial assurance requirements, set forth in Paragraphs 16, 17 and 18 below, shall apply separately to each facility of the Allied-Signal facilities. Furthermore, Allied-Signal agrees to complete all applicable ECRA program requirements, including exercise of the financial assurance requirements and any other remedial measures pursuant to the Administrative Consent Order and ECRA separately for each of the Allied-Signal facilities.

16. ECRA Program Requirements for the Allied-Signal Facilities

A. Allied-Signal shall complete Initial Notices for each of the Allied Signal facilities in accordance with the time schedule set forth in Appendix A.

B. Within one hundred-fifty (150) days from receipt of NJDEP's written approval of the Sampling Plan(s) prepared for any of the Allied-Signal facilities, pursuant to N.J.A.C. 7:1-3.7(d)14 and N.J.A.C. 7:1-3.9, Allied-Signal shall initiate, complete, and submit to NJDEP the results from any NJDEP-approved Sampling Plan(s) including, but not limited to, delineation of environmental contamination on-site, and any off-site environmental contamination resulting from discharges of hazardous wastes or substances on or from the Allied-Signal facility(ies) which is subject of the approved Sampling Plan(s). NJDEP and Allied-Signal recognize that additional sampling may be necessary during the various stages of the implementation of this Administrative Consent Order and ECRA, including during the implementation of a Cleanup Plan(s), at any of the Allied-Signal facilities to delineate fully the nature and extent of environmental contamination on-site, and any off-site environmental contamination resulting from discharges of hazardous substances or wastes on or from any Allied-Signal facility(ies). Therefore, Allied-Signal agrees to submit any additional sampling plans for NJDEP review and approval required by NJDEP in writing during the various stages of the implementation of this Administrative Consent Order and ECRA, including during the implementation of a Cleanup Plan(s), to further delineate the nature and extent of environmental contamination on or from any of the Allied-Signal facilities. NJDEP and Allied-Signal mutually agree that Allied-Signal shall submit any additional sampling plans, required to NJDEP for review and approval within thirty (30) days of the receipt of said written request. Within one hundred-twenty (120) days from receipt of NJDEP's written approval of any additional Sampling Plans(s), Allied-Signal shall initiate, complete and submit to NJDEP the results from any additional NJDEP-approved Sampling Plan(s) required pursuant to this paragraph.

C. NJDEP shall notify Allied-Signal in writing requiring Allied-Signal to submit either a Negative Declaration(s) or Cleanup Plan(s) when sampling results have satisified NJDEP's requirement to delineate fully the nature and extent of environmental contamination on or from any Allied-Signal facility(ies). Allied-Signal shall submit a Negative Declaration(s) or Cleanup Plan(s) within sixty (60) days from receipt of a written demand from NJDEP for a Negative Declaration(s) or Cleanup Plan(s). If a Cleanup Plan(s) is required, the Cleanup Plan(s) shall address remediation of any contamination identified on or from any Allied-Signal facility(ies). Any Negative Declaration(s) or Cleanup Plan(s) submitted shall conform to N.J.A.C. 7:1-3.

D. Should NJDEP determine that any submittal made under Paragraph 16 of this Administrative Consent Order is inadequate or incomplete, then NJDEP shall provide Allied-Signal with written notification of the deficiency(ies), and Allied-Signal shall revise and resubmit the required information within a reasonable period of time not to exceed thirty (30) days from receipt of such notification.

F. Allied-Signal shall implement any NJDEP approved Cleanup Plan(s) in accordance with the approved time schedule or defer implementation of all or part of the Cleanup Plan subject to NJDEP approval pursuant to N.J.A.C. 7:1-3.14.

F. All submissions requred pursuant to Paragraph 16 or any other provision of this Administrative Consent Order shall be accompanied by all appropriate fees required pursuant to the Fee Schedule for ECRA, N.J.A.C. 7:1-4.

17. Financial Assurance

A. Allied-Signal shall obtain and provide to NJDEP separate financial assurances in the form of surety bonds or letters of credit for each of the Allied-Signal facilities in the amounts specified in Appendix A. These financial assurances shall be provided to NJDEP within seven (7) business days from the effective date of this Administrative Consent Order. The financial assurance must conform with the requirements of N.J.S.A. 13:1K-9(b)3, N.J.A.C. 7:1-3.10, N.J.A.C. 7:1-3.13, and this Administrative Consent Order.

B. Allied-Signal shall establish and submit to NJDEP for each of the Allied-Signal facilities separate standby trust funds within seven (7) business days from the effective date of this Administrative Consent Order. The financial institution(s) which issues the financial assurance(s) shall agree to promptly and directly deposit all amounts up to the total value of the financial assurance(s) into the standby trust fund(s) upon demand by NJDEP.

C. Upon NJDEP approval of a Cleanup Plan(s) for any Allied-Signal facility(ies), Allied-Signal shall amend the amount of the financial assurance(s), described in Appendix A for the Allied-Signal facility, or facilities as the case may be, to equal the estimated cost of implementation of the approved Cleanup Plan(s), or shall provide such other financial assurance(s) as may be approved by NJDEP in an amount(s) equal to the estimated cost of implementation of the approved Cleanup Plan(s).

D. In the event that NJDEP determines that Allied-Signal has failed to perform any of its obligations under this Administrative Consent Order or ECRA at any of the Allied-Signal facilities, NJDEP may draw on the financial assurance(s) for that Allied-Signal facility (ies) provided, however, that before any such demand is made, NJDEP shall notify Allied Signal in writing of the obligation(s) with which it has not complied, and Allied-Signal shall have reasonable time, not to exceed fourteen (14) calendar days, to perform such obligation(s) to NJDEP's satisfaction. Nothing in this paragraph shall prevent NJDEP from collecting stipulated penalties pursuant to the terms of this Administrative Consent Order for cause; however, such stipulated penalties shall not be drawn from said financial assurances.

E. Upon NJDEP's written approval of a Negative Declaration(s), Allied Signal shall be relieved of any further obligation to maintain in full force and effect the financial assurance(s) required by this Administrative Consent Order for the Allied-Signal facility(ies) which

is the subject of the NJDEP-approved Negative Declaration(s). Upon NJDEP's written approval of the completion of any cleanup(s) required by this Administrative Consent Order, as verified by final site inspection(s) pursuant to N.J.A.C. 7:1-3.12(e) and upon Allied-Signal's satisfaction of all financial obligations in connection therewith, Allied-Signal shall be relieved of any further obligation to maintain in full force and effect the financial assurance(s) required by this Administrative Consent Order for the Allied-Signal facility(ies) at which the approved cleanup(s) has been completed. Upon NJDEP's written approval of any Negative Declaration or completion of any Cleanup Plan, Allied-Signal shall be relieved of its obligations hereunder and compliance with this Administrative Consent Order will be deemed fulfilled as to the Allied-Signal facility to which the approval or completion applies.

F. Notwithstanding anything to the contrary set forth above, NJDEP agrees that it will entertain Allied-Signal's written request for the use of alternate self-bonding measures which may be used in lieu of the financial assurance provided pursuant to Paragraph 17.A. of this Administrative Consent Order.

18. Additional Conditions of Consent

A. Allied-Signal shall allow NJDEP access to each of the Allied-Signal facilities for the purpose of undertaking all necessary monitoring and environmental cleanup activities. Prior to entry into this Administrative Consent Order, Allied-Signal shall provide NJDEP with appropriate documentation that Compo, ARI and Henley shall allow the NJDEP access required herein.

B. Compliance with the terms of this Administrative Consent Order shall not excuse Allied-Signal from obtaining and complying with any applicable federal and state permits, statutes, regulations and/or orders while carrying out the obligations imposed by ECRA through this Administrative Consent Order. The execution of this Administrative Consent Order shall not excuse Allied-Signal from compliance with all other applicable environmental permits, statutes, regulations and/or orders and shall not preclude NJDEP from requiring that Allied-Signal obtain and comply with any permits, and/or orders issued by NJDEP under the authority of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Spill Compensation and Control Act ("Spill Act") N.J.S.A. 58:10-23.11 et seq., for the matters covered herein. The terms and conditions of any such permit shall not be pre-empted by the terms and conditions of this Administrative Consent Order if the terms and conditions of any such permit are more stringent than the terms and conditions of this Administrative Consent Order. Should any of the measures to be taken by Allied-Signal during the remediation of any ground water and surface water pollution result in a new or modified discharge as defined in the NJPDES regulations, N.J.A.C. 7:14A-1 et seq., then Allied-Signal shall obtain a NJPDES permit or permit modification from NJDEP prior to commencement of said activity. Failure to comply with such other permits, statutes, regulations and orders, shall not be deemed a violation of this Administrative Consent Order. Notwithstanding the

foregoing, the NJDEP and Allied-Signal acknowledge that the Allied-Signal facilities subject to this Administrative Consent Order may also be subject to 42 U.S.C.A. 6924(u), 6924(v) or 6928(h) and to any similar provisions of the New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., or other New Jersey statute (hereinafter collectively referred to as "Corrective Action Provisions"). If New Jersey has not enacted applicable state Corrective Action Provisions or has not been duly delegated authorization by USEPA to administer the Federal Corrective Action Provisions, and if Allied-Signal is complying or has complied with the terms of this ACO as determined by NJDEP, NJDEP agrees to cooperate with Allied-Signal in discussions with the United States Environmental Protection Agency ("USEPA") officials by communicating to USEPA, in a manner deemed appropriate by NJDEP, the nature and extent of any NJDEP approved ECRA Cleanup Plan and the status of any performance under such ACO as known by NJDEP for any of the Allied-Signal facilities subject to the terms of this ACO. NJDEP agrees in principle with Allied-Signal that any NJDEP approved Cleanup Plan pursuant to ECRA should adequately address all environmental remediation required under the Corrective Action Provisions.

C. NJDEP agrees that it will not bring any action, nor will it recommend that the Attorney General's Office bring any action for failure to comply with (a) the time requirements in N.J.S.A. 13:1K-9(b)1 that NJDEP be notified within five (5) days of execution of an agreement of sale and (b) the time requirement in N.J.S.A. 13:1K-9(b)2 that a Negative Declaration or Cleanup Plan be submitted sixty (60) days prior to transfer of title. NJDEP also agrees that it will not bring any action, nor will it recommend that the Attorney General bring any action seeking monetary penalties for Allied-Signal's failure to meet the time requirements specified in (a) and (b) of this paragraph.

D. No obligations imposed by this Administrative Consent Order (other than by paragraph "18F" below) are intended to constitute a debt, claim, penalty or other civil action which could be limited or discharged in a bankruptcy proceeding. All obligations imposed by this Administrative Consent Order shall constitute continuing regulatory obligations imposed pursuant to the police power of the State of New Jersey, intended to protect the public health, safety and welfare.

E. This Administrative Consent Order imposes certain requirements and deadlines upon Allied-Signal. Allied-Signal agrees to use its best efforts to comply with said requirements and NJDEP agrees not to act unreasonably in the enforcement and implementation of this Administrative Consent Order.

F. In the event that Allied-Signal fails to comply with any of the provisions of this Administrative Consent Order, Allied-Signal shall pay to NJDEP stipulated penalties in the amount of up to $5,000.00 at discretion of NJDEP for each day for each Allied-Signal facility for which Allied-Signal fails to comply with any obligation under this Administrative Consent Order provided, however, that no such stipulated penalty shall be payable by Allied-Signal with respect to such period that said failure to comply results from Force Majeure. Allied-Signal waives its rights to contest NJDEP's exercise of discretion concerning the amount of any penalty assessed by NJDEP pursuant to this paragraph.

G. The provisions of this Administrative Consent Order shall be binding upon Allied-Signal and its successors in interest, assigns, tenants, and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity, and pursuant to ECRA, specifically N.J.S.A. 13:1K-13, and the Regulations, upon its officers and management officials.

H. NJDEP waives its right to void the transfer of stock. Allied-Signal's failure to submit an approvable Negative Declaration(s) or Cleanup Plan(s) for any or all of the Allied-Signal facilities, as the case may be, shall constitute grounds pursuant to the terms and conditions of this Administrative Consent Order for the NJDEP to void the Combination, Spin-Off, Halon sale or Criswell sale, as the case may be. NJDEP's right to void the Combination, Spin-Off, Halon sale or Criswell sale, as the case may be, shall terminate upon NJDEP's written approval of an appropriate Negative Declaration(s) or Cleanup Plan(s) for any or all of the Allied-Signal facilities as the case may be, submitted by Allied-Signal pursuant to this Administrative Consent Order and ECRA.

I. Any submission to be made to NJDEP in accordance with this Administrative Consent Order shall be directed to:

Lance R. Miller, Chief
Bureau of Industrial Site Evaluation
Division of Waste Management
428 East State Street
Trenton, NJ 08608

J. Upon completion by Allied-Signal of all requirements under the terms of this Administrative Consent Order as determined by NJDEP, such Administrative Consent Order shall terminate.

19. Force Majeure

If any event occurs which purportedly causes or may cause delays in the achievement of any deadline or completion of any obligation contained in this Administrative Consent Order, Allied-Signal shall notify NJDEP in writing within ten (10) days of the delay or anticipated delay, as appropriate, referencing this paragraph and describing the anticipated length, precise cause or causes, measures taken or to be taken and the time required to minimize the delay. Allied-Signal shall adopt all necessary measures to prevent or minimize any delay. If any delay or anticipated delay had been or will be caused by fire, flood, storm, riot, strike or other circumstances determined by NJDEP to be beyond the control of Allied Signal, then the time for performance hereunder shall be extended by NJDEP for a period no longer than the delay resulting from such circumstances, provided that NJDEP may grant additional extensions for good cause. If the events causing such delay are not found by NJDEP to be beyond the control of Allied-Signal, failure to comply with the provisions of the Administrative Consent Order shall constitute a breach of the Administrative Consent Order's requirements. The burden of proving that any delay is caused by circumstances beyond Allied-Signal's control and the length of such delay attributable to those circumstances shall rest with Allied-Signal.

Increases in the costs or expenses incurred in fulfilling the requirements contained herein shall not be a basis for an extension of time. Similarly, delay in completing an interim requirement shall not automatically justify or excuse delay in the attainment of subsequent requirements.

20. Reservation of Rights

This Administrative Consent Order shall be fully enforceable in the New Jersey Superior Court having jurisdiction over the subject matter and signatory parties upon the filing of a summary action for compliance pursuant to ECRA. This Administrative Consent Order may be enforced in the same manner as an Administrative Order issued by NJDEP pursuant to other statutory authority and shall not preclude NJDEP from taking whatever action it deems appropriate to enforce the environmental protection laws of the State of New Jersey in any manner not inconsistent with the terms of this Administrative Consent Order. It is expressly recognized by NJDEP and Allied-Signal that nothing in this Administrative Consent Order shall be construed as a waiver by NJDEP of its rights with respect to enforcement of ECRA on bases other than those set forth in the ECRA Program Requirements section of this Administrative Consent Order or by Allied-Signal of its right to seek judicial or administrative review of any enforcement action as provided by the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. Furthermore, nothing in this Administrative Consent Order shall constitute a waiver of any statutory right of NJDEP to require Allied-Signal to implement additional remedial measures should NJDEP determine that such measures are necessary to protect the public health, safety and welfare.

21. Allied-Signal hereby consents to entry of this Administrative Consent Order and waives its right to a hearing concerning the terms hereof pursuant to N.J.S.A. 52:14B-1 et seq.

22. NJDEP and Allied-Signal have entered into this Administrative Consent Order to insure ECRA compliance and to allow the Merger and all transactions ancillary thereto be completed as quickly as possible. Allied-Signal has executed this Administrative Consent Order without trial or adjudication of any issue of fact or law. Accordingly, neither Allied-Signal's execution of this Administrative Consent Order, nor its compliance with any of the provisions hereof, shall be deemed or construed to be an admission of liability at any time or for any purpose other than Allied-Signal's responsiblity to comply with the terms and conditions of the Administrative Consent Order, ECRA and the Regulations.

23. This Administrative Consent Order shall take effect upon the signature of all parties. Upon the signature of all parties, Allied-Signal may complete the Criswell Sale subject to the Administrative Consent Order.

NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Date: July 31, 86

By: Ronald T. Corcory
Ronald Corcory, Assistant
Director for Enforcement &
Field Operations

ALLIED-SIGNAL INC.

Date: July 28, 1986

By: Edward L. Hennessy, Jr.

Name: Edward L. Hennessy, Jr.

Title: Chairman of the Board and
Chief Executive Officer

APPENDIX A

A. ECRA Case #85820 SIC #: 3069
Financial Assurance: $500,000.00
Facility Name: Air Cruisers Co. ("Cruisers facility")
Facility Location: Highway 34 & Airport Road
Wall Township, Monmouth County
Block 17, Lot 1
Initial Notice Status: Complete Initial Notice required within sixty (60) days

B. ECRA Case #85821 SIC #: 3569
Financial Assurance: $250,000.00
Facility Name: Johnson Screen Div--Allied-Signal, Inc. ("Jessup facility")
Facility Location: Jessup Road (Rt. 130)
West Deptford Township, Gloucester County
Block 351A, Lot 1; Block 341, Lot 1A
Initial Notice Status: Complete Initial Notice required within ninety (90) days

C. ECRA Case #85822 SIC #: 2899
Financial Assurance: $100,000.00
Facility Name: Machining Centers of America, Inc. ("MCA facility")
Facility Location: 355 Cantor Avenue
Linden City, Union County
Block 202, Lots 3B, L5-L7
Initial Notice Status: Complete Initial Notice required within forty-five (45) days

D. ECRA Case #85823 SIC #: 2899
Financial Assurance: $3,000,000.00
Facility Name: Fisher Scientific Div--Allied-Signal, Inc. ("Reagent facility")
Facility Location: 1 Reagent Lane
Fair Lawn Borough, Bergen County
Block 4902, Lot 2
Initial Notice Status: Complete Initial Notice Required within thirty (30) days

E. ECRA Case #85824 SIC #: 5161
Financial Assurance: $3,000,000.00
Facility Name: Fisher Scientific Div--Allied-Signal, Inc. ("Bridgewater facility")
Facility Location: 755 State Route 202
Bridgewater Township, Somerset County
Block 2305, Lot 1, 7
Initial Notice Status: Complete Initial Notice Required within ninety (90) days

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F. ECRA Case #85825 SIC #: 5161
Financial Assurance: $250,000.00
Facility Name: Fisher Scientific Div--Allied-Signal, Inc. ("Springfield facility")
Facility Location: 52 Fadem Road
Springfield Township, Union County
Block 143, Lot 19
Initial Notice Status: Complete Initial Notice required within sixty (60) days

G. ECRA Case #85826 SIC #: 2211
Financial Assurance: $250,000.00
Facility Name: W.W. Criswell Co. ("Criswell facility")
Facility Location: 800 Industrial Highway
Cinnaminson Township, Burlington County
Block 506, Lot 4.01
Initial Notice Status: Complete Initial Notice required within thirty (30) days.

H. ECRA Case #86049 SIC #: 2893
Financial Assurance: $100,000.00
Facility Name: Allied Corp--Sinclair & Valentine Div. ("S&V facility")
Facility Location: 654 Gotham Parkway
Carlstadt Borough, Bergen County
Block 123, Lot 21
Initial Notice Status: Complete Initial Notice required within seventy-five (75) days

I. ECRA Case #86103 SIC #: 2819
Financial Assurance: $2,000,000.00
Facility Name: Allied Corp--Chemical Div. ("Halon facility")
Facility Location: 100 North Ave. East
Elizabeth City, Union County
Tax Account Number 1-1314
Initial Notice Status: Complete Initial Notice required within ninety (90) days

J. ECRA Case# to be assigned SIC #: 3621
Financial Assurance: $4,000,000.00
Facility Name: Bendix Corp--Electric & Fluid Power Div. ("Eatontown facility")
Location: Route 35
Eatontown Borough, Monmouth County
Block 64, Lot 6
Initial Notice Status: Complete Initial Notice required within seventy-five (75) days

K. ECRA Case # to be assigned SIC #: 36
Financial Assurance: $750,000.00
Facility Name: Bendix Aerospace ("Teterboro facility")
Facility Location: Route 46
Teterboro Borough, Bergen County
Block 4, Lot 1
Initial Notice Status: Complete Initial Notice required within seventy-five (75) days

L. ECRA Case # to be assigned SIC #: 3362
Financial Assurance: $1,000,000.00
Facility Name: Amphenol Products, Inc.-Severna Company ("Roseland facility")
Facility Location: 555 Eagle Rock Avenue
Roseland Borough, Essex County
Block 33, Lot 5
Initial Notice Status: Complete Initial Notice required within sixty (60) days

M. ECRA Case # to be assigned SIC #: 2800
Financial Assurance: $1,500,000.00
Facility Name: Allied Chemical ("Edison facility")
Facility Location: Prince Street, off US South
Edison Township, Middlesex County
Block 199, Lot 32C-3
Initial Notice Status: Complete Initial Notice required within seventy-five (75) days ie compl before 10/15/86.

N. ECRA Case # to e assigned SIC: 2800
Financial Assurance: $100,000.00
Facility Name: Allied Corp--Metglas Div. ("Metglass Facility")
Facility Location: 6 Eastmans Road
Parsippany, Morris County
Block 738, Lot 3
Initial Notice Status: Complete Initial Notice required within sixty (60) days

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

SECTION K

CERTIFICATION

I certify under penalty of law that I have personnally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe 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.

Name and Official Title: E. W. Callahan--Vice President
Health, Safety & Environmental Sciences

Date: 11/5/87

Signature: E. W. Callahan
E. W. Callahan

920880097

SECTION J

OTHER ENVIRONMENTAL ISSUES

J-1 POLLUTION LAWS

Information will be provided at the request of the New Jersey Department of Environmental Protection (NJDEP). At this time, however, Allied believes this facility is in compliance with the following New Jersey laws:

- New Jersey Air Pollution Control Act.
- New Jersey Water Pollution Control Act.
- New Jersey Solid Waste Management Act.

J-2 WETLANDS

As advised by the NJDEP Bureau of Coastal Enforcement and Field Services, there are no wetlands regulated under the Wetlands Act of 1970 located within the Elizabeth site.

However, there appears to be a tidelands claim for the Elizabeth site in the form of uncoveyed, formerly flowing tidelands traversing the property. This claim includes Allied's dock facilities. A copy of the correspondence detailing this matter is presented in Appendix J.1.

J-3 SOIL MONITORING PLAN

NJDEP is considering the adoption of regulations that would require a Soil Monitoring Plan for submission with RCRA Part B permit applications. Such a plan would be implemented in the event of a spill of hazardous waste onto the ground (outside secondary containment structures) to assess the extent of soil contamination that may have occurred.

The hazardous waste management units and operational procedures are designed to prevent soil contact with potential spills based on slopes, drainage patterns, secondary containment features, and contingency response actions described in Sections D and F of this application. These features greatly reduce the potential for soil contact by hazardous waste within the facility.

920880098

J-4 SOLID WASTE MANAGEMENT UNIT RELEASE QUESTIONNAIRE

Part B permit applications for all hazardous waste TSD facilities must address corrective action to be taken, both on and beyond the facility property, for any release of hazardous waste or hazardous waste constituents from any solid waste management unit on the premises, regardless of when the waste was placed in the unit or whether the unit is active or inactive. In addition, financial assurance for the completion of such corrective action must be addressed.

In response to this issue, Appendix J.2 contains a certified copy of the questionnaire "Information Regarding Potential Hazardous Waste and Hazardous Waste Constituent Releases From Solid Waste Management Units" for the Elizabeth Facility.

J-5 ECRA

By letter dated 11 February 1986, Allied submitted an Initial Notice to NJDEP's Bureau of Industrial Site Evaluation. The submittal contains information concerning past alleged regulatory violations as well as permit information.

Allied submitted Site Evaluation Submission (SES) information on 10 June 1986. This submittal contains information concerning plant processes, stored chemicals, analytical results, and a proposed sampling plan.

On 28 July 1986, Allied-Signal, Inc. signed an Administrative Consent Order with the New Jersey Department of Environmental Protection to provide financial assurance for remedial actions, if required, at a number of Allied-Signal locations. The Elizabeth location, ECRA Case No. 86103, is included in the Order for a financial assurance of $2,000,000.00. A copy of the Consent Order is provided in Appendix J-3.

All Environmental Cleanup and Responsibility Act (ECRA) requirements for the facility will be met as applicable.

J-6 ENVIRONMENTAL HEALTH AND IMPACT STATEMENT

Certain applicants are required to submit an Environmental Health and Impact Statement (EHIS) in addition to Parts A and B of the permit application pursuant to NJAC 7:26-12.2(i). Allied's Elizabeth Facility will not require submission of EHIS as it does not involve either a new facility, an increase of greater than 50 percent of the waste handled, or hazardous waste landfill/incineration operations.

920880099

DATE: OCTOBER 1, 1989
REVISION NO. 1
PART B

APPENDIX J.1

CORRESPONDENCE CONCERNING WETLANDS/TIDELANDS CLAIMS

920880101

SHANLEY & FISHER

A PROFESSIONAL CORPORATION

COUNSELORS AT LAW

131 MADISON AVENUE
CN-1979
MORRISTOWN, NEW JERSEY 07960-1979
(201) 285-1000
TELEX (TWX) 475-4255

180 WEST END AVENUE
SOMERVILLE, NEW JERSEY 08876-1824
(201) 685-1100

FRANK L. BATE
J. WILLIAM BARBA (1957-1987)
L. BRUCE PUFFER, JR.
WILLIAM G. BECKER, JR.
JOHN KANDRAVY
RAYMOND M. TIERNEY, JR.
ARTHUR R. SCHMAUDER
THOMAS F. CAMPION
JOHN J. FRANCIS, JR.
GERALD W. HULL, JR.
A. DENNIS TERRELL
JOHN J. DEGNAN
RICHARD E. BRENNAN
THOMAS J. ALWORTH
WILLIAM K. LEWIS
JEFFREY A. PECK
JAMES H. FREIS†
MATTHEW FARLEY
DANIEL F. O'CONNELL†
RICHARD A. LEVAO
RONALD GOULD
JOHN D. CLEMEN
CHARLES A. REID III

STEWART E. LAVEY
PAUL G. NITTOLY
HENRY G. FERRAIOLI
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GLENN S. PANTEL†
WALTER J. FLEISCHER, JR.†
LYDIA C. STEFANOWICZ
SUSAN M. SHARKO
KEVIN M. KILCULLEN
STEPHEN R. LONG
MARY E. TRACEY
BRIAN F. McDONOUGH
JAMES H. ALTIERI

BERNARD M. SHANLEY
HAROLD H. FISHER
ALVIN C. MARTIN
JAMES SCOTT HILL
PATRICK M. STANTON
MICHAEL J. FAIGEN
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T. KEVIN SHEEHY
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THEODORE S. SMITH
STEPHANIE C. ROSEN
JODI SYDELL ROSENZWEIG
ANDREW V. BALLANTINE
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RONALD G. WERNER†
MICHAEL O. ADELMAN
RICHARD C. GOTTUSO
KEVIN M. WALKER
DIANE CAMPBELL PAYNE
JOAN S. ANTOKOL
ELLEN O'CONNELL
EMILY A. SCHULTZ

WILLIAM D. SANDERS
CHARLES D. DONOHUE, JR.*
ELIZABETH A. O'BRIEN
PATRICK E. HOBBS
LONNA R. HOOKS
PETER O. HUGHES
PHILIP M. MOYNIHAN
JONATHAN R. LAGARENNE
SEAN PATRICK MURPHY†
DANIEL M. CURZIO
JUSTIN H. McCARTHY II
GARY M. BLYN
JAMES P. MULLEN†
LARRY M. POLLACK
SANDRA D. WILLIAMS
BARBARA A. REDMOND
SANDRA L. BOGRAD
STEPHEN W. BIALKOWSKI
JOAN M. NERI
THOMAS M. MURPHY
LISA M. FITTIPALDI†
HARRY D. McENROE
ROBERT W. ROSS, JR.
BRUCE L. SHAPIRO

October 11, 1988

HAND DELIVERY

N.J.D.E.P.
Division of Hazardous Waste Management
Industrial Site Evaluation Element
Trenton, New Jersey 08625

Attention: ECRA Initial Notice

Re: Ausimont, U.S.A., Inc. to Allied

Gentlemen:

With this messenger please find an original and three copies of a Site Evaluation Submission in the above-captioned case. Please conform the extra copy for filing.

Also enclosed is our check in the amount of $1,400.00 as the filing fee.

Very truly yours,

SHANLEY & FISHER, P.C.

Richard A. Levao

Richard A. Levao

RAL:rp
Enclosures

Industrial Site Evaluation Element
Trenton, NJ 08625
OCT 12 1988

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ECRA-002
12/87

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
INDUSTRIAL SITE EVALUATION ELEMENT
CN 028, TRENTON, N.J. 08625

OCT 12 1988
NJDEP
Industrial Site
Evaluation Element
CN 028
Trenton, NJ 08625

ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT (ECRA)

INITIAL NOTICE

SITE EVALUATION SUBMISSION (SES)

This is the second part of a two-part application form. This information must be submitted within 45 days following any applicable situation as specified at N.J.A.C. 7:26B-1.5 or any triggering event as specified at N.J.A.C. 7:26B-1.6. Please refer to the instructions and N.J.A.C. 7:26B-3.2 before filling out this form. Answer all questions. Should you encounter any problems in completing this form, we recommend that you discuss the matter with a representative from the Element. Submitting incorrect or insufficient data may cause processing delays and possible postponement of your transaction. Please call (609) 633-7141 between the hours of 8:30 a.m. and 4:30 p.m. to request assistance.

PLEASE PRINT OR TYPE

Date October 7, 1988

1. Industrial Establishment

Name Ausimont U.S.A., Inc.

Address 8 North Avenue East

City or Town Elizabeth Zip Code 07201

Municipality Elizabeth County Union

A. Operational and Ownership History: *(Attach additional sheets if necessary)*

Name	Owner/ Operator	From	To	Current Address
Ausimont U.S.A., Inc.	Owner	1986	Present	8 North Ave., East Elizabeth, NJ
Allied Chemical Corporation predecessor to Allied Corporation	Owner	1957	1986	Columbia Tpk. and Pa Avenue, Morris Twp.,
No prior operations at this site are known.				

B. Brief description of past operation(s) conducted on site *(Attach additional sheets if necessary)*

Ausimont's knowledge of pre-1986 operations on site is limited. With regard to that portion of the site which is occupied by Ausimont, Ausimont has been informed that prior to 1963 it was open land; in 1963 a TFE Monomer plant and a PTFE HALON plant were built. In 1971 a HALAR plant was built. In 1974 an ACLON plant was built. From 1968 through 1970 the Monomer plant produced brominated TFE (CFC 114B-2).

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E-1

G. If the Industrial Establishment discharges sanitary and/or industrial wastes to a publicly-owned treatment plant, provide the name and address of that facility

Name: Joint Meeting Sewage Commission Telephone No. 201-353-1313

Street Address: South 1st Street

Municipality: Elizabeth State: NJ Zip Code: 07201

Is a septic system used (or used previously) at the site? ☒ Yes ☐ No

H. Has an ECRA application been filed for this Industrial Establishment or location subsequent to January 1 1984? ☐ Yes ☒ No If so, when? _____

For what reason _____

Final disposition _____

I. How is this Industrial Establishment heated? (gas, oil, electricity) All three.

2. List previous activities at the location(s) involved (attach additional sheets if necessary). In addition to describing the activities, list the business name(s), current address(es) and dates of ownership/operation of the previous activity(ies), if known.

Sulfuric Acid Process Plant operated approximately 1957 1981, HALAR (ECTFE) Plant operated approximately 1980-1982 and fluorocarbon 1211 operated approximately 1961-1976 by Allied Chemical Corporation, a New York corporation, the predecessor of Allied Corporation. No operations at this location by any previous owners have been conducted, to the best of our knowledge.

3. If the transaction initiating an ECRA review is the cessation of operations at this location, fill in the date of public release of the decision to close the facility and enclose a copy of the public announcement. Is a cessation of operations involved? ☐ Yes ☒ No

Date of the public release of the decision _____

Is the public release enclosed? ☐ Yes ☐ No

If you checked "no", state the reason(s) _____

4. If the transaction initiating an ECRA review is an agreement of sale or option to purchase, fill in the date of the execution of that instrument plus provide a copy of the document See Attachment 1

A. Is a sale involved? ☒ Yes ☐ No

B. Date of Agreement See Attachment 1

C. Is a copy of the agreement of sale or option to purchase attached? ☐ Yes ☒ No

If you checked "no", state the reason(s) See Attachment 1

920880104

MEMO NEW JERSEY STATE DEPARTMENT OF HEALTH

TO Mr. Ernest R. Sagasser

FROM Mr. Christian T. Hoffman, Jr. DATE March 11, 1968

SUBJECT Allied Chemical Corporation

100 North Avenue East

Elizabeth, New Jersey 07201

Recent inspections and samplings indicate that Allied is discharging a highly polluted effluent from its neutralization treatment plant (S-9-56-299, October 1, 1956). Monthly operating reports indicate that their monthly average flows vary between 0.7 and 1.2 mgd.

On March 7, 1968 the Elizabeth City Engineer told me that the North Avenue East wastewater sewer has been installed and will be operational upon the completion of a pumping station. He estimated that the remaining work will take about two (2) months. This wastewater sewer will service Allied Chemical Corporation.

In view of the above, I recommend that Allied be issued an Order with a 12 month or less schedule to connect their wastewater discharge to the municipal system.

Christian T. Hoffman, Jr.

Chri. an T. Hoffman, Jr.
Principal Public Health Engineer

6E12:G5

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SP-12
Jan 64

file ✓

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM POLLUTION CONTROL PROGRAM
SURVEILLANCE REPORT

High 55

Valley: A.C.E. ( ); Del. ( ); Hack. ( ); I.S.C. (✓); Pas. ( ); Rar. ( ).

Municipality: Elizabeth County: Union

Plant Name: Allied Chemical (Gen Chemical)

Location: North Ave (Newark Bay)

Owner: Same as above.

Licensed Operator: Herbert Albrecht.

Person Interviewed: H Albrecht
F Menkes

Signature H G Albrecht

Name of Treatment Process: Neutralization.

*	Unit	Type	Remarks
	Screening:		
	Primary Sedimentation:	Neutralization tanks	
	Oxidation:	Lime neutralizer	
	Sec. Sedimentation:	Lagoon	
	Sep. Sludge Digestion:		
	Sludge Handling:		
	Chlorination:	Feed	
	Residual Sample #1 S - 2 346	Immediate	5 Minute
	Sample #2 S - 347		

Evaluation of Plant Maintanance: Fair

Average Daily Flows:

BAA000011

Effluent into:

Visual observation of Receiving Stream:

Special Remarks: Treatment does not appear adequate
Due to filling of ditch will have to dig
new ditch
Reports plans submitted for changes in
treatment and enlargement of lagoons

Inspected By: H D Hinchman Date: 3/1/65

*Items checked (✓) should be corrected as soon as possible and this office advised of said correction within 2 weeks of date of this report. Laboratory results will not be routinely forwarded.

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM POLLUTION CONTROL PROGRAM

SURVEILLANCE REPORT

LABORATORY ANALYSES - EFFLUENT SAMPLES

Municipality: Elizabeth

Plant Name: Allied Chemical (Nor Chemical Div.)

Treatment: Primary (✓); Secondary ( ); Chlorination ( ). Neutralization

Sample No.	S-21346	S-21347	
Time Collected	1:00	1:45	
Suspended Solids	340	518	
Suspended Ash	250	278	
Suspended Volatile	90	240	
pH	5.8	6.4	
B.O.D.			
Field D.O.			
Free Ammonia			
Nitrates			
Coliforms MPN/100 ml			
Reaction PH 4	230 Alkaline	600 Alkaline	
C.O.D	312	351	
Ether Sol	Negative	6.00	

Special Remarks:

Samples Collected By: H. Hutchinson Date: 3/1/65

Results expressed in p.p.m. except pH and coliforms.

920880109

920880110

April 30, 1968

Mr. William Stocker
Specialist Air and Water Control
Industrial Chemicals Division
Allied Chemical Corporation
P. O. Box 70
Morristown, New Jersey 07960

Dear Mr. Stocker:

Recent inspections by representatives of this Department indicate that the effluent from the wastewater treatment plant at your Elizabeth works does not comply with this Department's "Regulations Concerning Treatment of Wastewaters, Domestic and Industrial, Separately or in Combination, Discharged into the Waters of the Passaic River Basin Including the Newark Bay," dated February 1, 1967. Copies of these regulations are enclosed.

Will you please advise this Department of Allied's plans for compliance.

Your deliberations [illegible] include consideration of using the municipal wastewater sewer being installed in North Avenue East as a means of disposal.

Very truly yours,

[illegible] Hoffman, Jr.
Principal Public Health Engineer

6F12:06
Encl.
Mr. [illegible], Plant Manager
Interstate Sanitation Commission

BAA000012

920880111

TO: [illegible]

FROM: [illegible]

DATE: [illegible] 1970

SUBJECT: [illegible]

On May 27, 1970, Bob Harrison and I sampled the Industrial Chemicals Division of the Allied Chemical Corporation in Elizabeth. Messrs. Robert Riedel, Technical Superintendent, and Ken Sendowski, Process Engineer, were interviewed.

The effluent flows through a trench part an automatic neutralization process to a weir-shed equipped to measure flow, pH, and skim oil from the effluent. On May 27, 1970, the installation was being short-circuited due to the washing out of the trench wall or heavy rains. Thus no flow measurements were obtained. Furthermore, no oil removal was taking place.

The washing out of the trench wall has occurred once previously. Allied will repair the trench wall with a fill material they expect not to wash out with heavy rains.

Attached are the laboratory analyses of the samples taken.

John P. Cofman
Chemical Engineer, Trainee

Attachment

6E15:GL

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22

ALLIED CHEMICAL CORPORATION - INDUSTRIAL CHEMICALS DIVISION

ELIZABETH, NEW JERSEY

Collected by: John Coffman
Bob Harrison

Date		5/27/70	5/27/70	5/27/70	5/27/70							
Time		10:00 am	12:00 am	2:00 pm	Comp.							
Color (Units)		Gray-Green	Yellow	Gray-Green	Gray-Green							
Odor (Gold)		V.C	II C	III C	V.C							
Turbidity (Units)		850	350	850	550							
pH		9.6	7.2	13.0	7.4							
Acidity to pH 4		---	---	---	---							
Alkalinity to pH 4		1114	244	17,000	531							
Chloride		1960	640	800	965							
Suspended Solids		1086	200	98	614							
Ash		902	80	26	406							
Total Solids		10870	5010	24010	5350							
Ash		9280	4590	23810	5800							
Detergents		15.2	38	5.1	11.5							
Phenols		0.11	0.07	0.13	0.18							
C.O.D.		1264	237	395	869							
Pet. Ether Sol.		2261	73	69	611							
Ethyl Ether Sol.		1487	30	139	761							
Iron		80.0	98.0	90.0	96							
B.O.D.5		141	49	36	141							

10:00 a.m. to 2:00 p.m. at 0.5 hour intervals.

NOTE: All values as mg/l except where otherwise noted.

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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES

JOHN FITCH PLAZA, P. O. BOX 390, TRENTON, N.J. 08625

O R D E R

WHEREAS, The Department of Environmental Protection Act of 1970, Chapter 33, Laws of New Jersey 1970, transferred all functions, powers and duties relating to water pollution heretofore exercised by the Department of Health and the Commissioner thereof to the Department of Environmental Protection and the Commissioner thereof; and

WHEREAS, The State Department of Environmental Protection of the State of New Jersey has found through investigations made by its representatives that the industrial wastewater treatment plant owned and operated by Allied Chemical Corporation, in the City of Elizabeth, in the County of Union and State of New Jersey, is inadequate in capacity or unit design to properly care for, treat and dispose of the industrial wastewater received therein before an effluent from the said industrial wastewater treatment plant is discharged into the waters of Newark Bay, being waters of this State, thereby causing or threatening injury to the inhabitants of this State, either in their health, comfort or property; and

WHEREAS, The State Department of Environmental Protection of the State of New Jersey, in consideration of the aforesaid findings, is of the opinion that in order for the industrial wastewater to be properly, adequately and sufficiently treated at the said industrial wastewater treatment plant before an effluent is discharged to the said waters of the State, the said industrial wastewater treatment plant must be altered, added to or improved in a manner approved by the said Department of Environmental Protection; therefore

NOTICE IS HEREBY GIVEN by the State Department of Environmental Protection of the State of New Jersey, pursuant to R.S. 58:12-2 to the Allied Chemical Corporation, in the City of Elizabeth, in the County of Union and State of New Jersey, requiring that the said Allied Chemical Corporation must and shall, prior to December 1, 1971, alter, add to or improve the industrial wastewater treatment plant owned and operated by the Allied Chemical Corporation in order that the industrial wastewater received therein shall be cared for, treated and disposed of and the effluent discharged into Newark Bay in a manner approved by the State Department of Environmental Protection of the State of New Jersey.

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Richard J. Sullivan
Commissioner

BAA000014

DRAFT

NOTES FOR INFORMAL DISCUSSION WITH EPA, REGION II
ELIZABETH WORKS, ALLIED CHEMICAL CORPORATION
June 1, 1972

I. Elizabeth Works Background

A. History

1. Started in 1957 with sulfuric plant which replaced Hudson River Works at Edgewater, New Jersey.

2. 1961 to 1971--Very rapid growth with addition of Genetron®, Halon® polymer and A.C.T.™.

B. Location

1. Located on 177.3 acres in city of Elizabeth, Union County.

2. The plant fronts on 'st North Avenue and is bounded on the south by the city of Elizabeth dumping area which drains into plant effluent ditch, on the east by Newark Bay, on the west by a concrete block manufacturing facility.

3. The entire area is reclaimed marshland.

4. No residential area in the vicinity.

C. Plant Census

1. Salary (technical and supervision) - 120.

2. Hourly - 175.

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D. Local payroll, taxes, insurance, local purchases, and other expenditures exceed $5 million per year.

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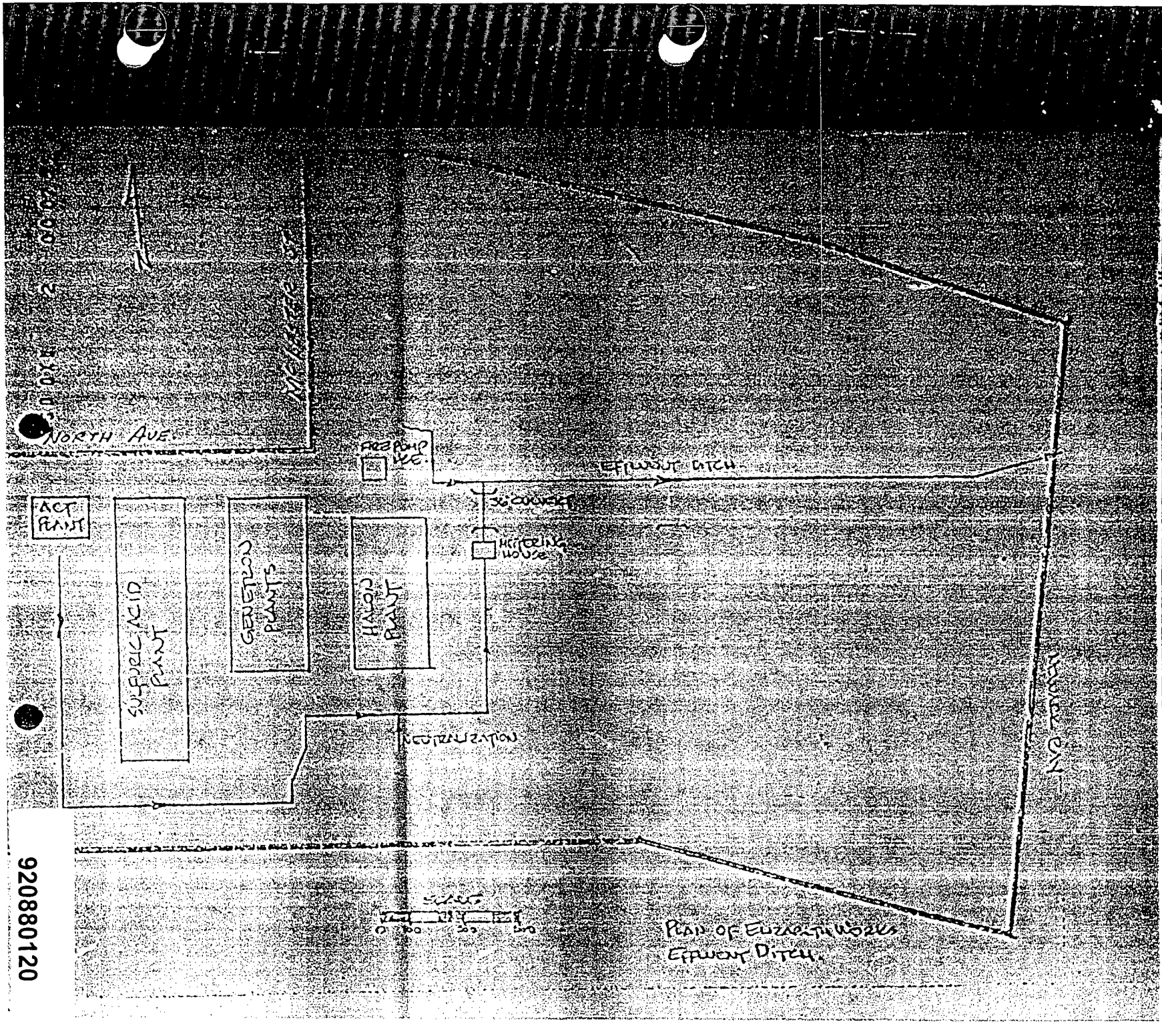
E. Major Products and Normal Capacities

1. Sulfuric Acid - 400 tons per day
2. Genetron® 12/11 - 120 tons per day
3. Genetron® 22 - 25 tons per day
4. Sulfan® - 25 tons per day
5. TFE Monomer - 3.5 tons per day
6. Halon® - 3.5 tons per day
7. A*C*T*® - developing product.

II. Review of Completed Abatement Projects

Project	Completion Date	Capital Cost	Effect on Effluent
1. Installation of centralized neutralization facility.	1965	$20,000	Provided improved pH control.
2. Installed flow measuring with recorder.	1969	$ 1,000	Flow monitoring.
3. Installed second effluent pH recorder in control room.	1969	$ 1,000	Improved surveillanc of effluent pH; rapi response to spills.
4. Shut down detergent manufacturing process.	11/69	$25,000	Reduced B.O.D. by 2200#/day.
5. Changed from spent caustic to virgin caustic for plant waste neutralization.	2/70	$75,000/yr. (operating penalty)	Reduced phenol 900 pp Reduced C.O.D. 900 pp
6. Recovery of H_2SO_4 from Brink demister (sulfuric manufacturing).	5/71	$ 5,000	Reduced effluent acid by 12200 ppd $CaCO_3$ equivalent. Reduced nitrate by 140 ppd.


NORTH AVE.
ACT PLANT
SULFURIC ACID PLANT
GENETRON PLANTS
HALON PLANT
FIRE PUMP HSE.
EFFLUENT DITCH
36" CULVERT
METERING HOUSE
NEUTRALIZATION
SCALE
0 100 200 300
PLAN OF ELIZABETH WORKS
EFFLUENT DITCH.

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7. Recovery of purification drip acid (sulfuric manufacturing).	8/71	$ 2,000	Reduced effluent ac by 11000 ppd $CaCO_3$ equivalent.
8. Oil adsorbing equipment.	1/72	$ 6,000	Eliminate floating o

III. Effluent Criteria

A. New Jersey--Newark Bay, class TW-2 (attachment I). Standar for receiving waters are:

1. pH - 6.5 to 8.5.

2. D.O. - not less than 4.0 mg/l.

B. Interstate Sanitation Commission--effluent standards (attachment II).

1. pH - 6.5 to 8.5

2. Fecal coliform - not to exceed 200 per 100 ml.

3. B.O.D. - removal not less than 80 per cent.

4. Settleable Solids - removal shall be at least 90 per cen

IV. Current Effluent Loadings

Parameter	Average		Average ppd
Flow	450 gpm		--
pH	4 to 9		--
Suspended Solids	1017.0	ppm	5500.0
Chromium	0.5	ppm	2.7
Iron	100.0	ppm	540.0
Oil & Grease	5.0	ppm	27.0
C.O.D.	160.0	ppm	864.0
Mercury	0.003	ppm	0.2
Fluoride	36.0	ppm	195.0
Phenol	0.02	ppm	0.1
Cl-Hydrocarbon (CCl_4, $CHCl_3$)	0.3	ppm	1.6
Manganese	3.0	ppm	16.0
B.O.D.	5.0	ppm	27.0

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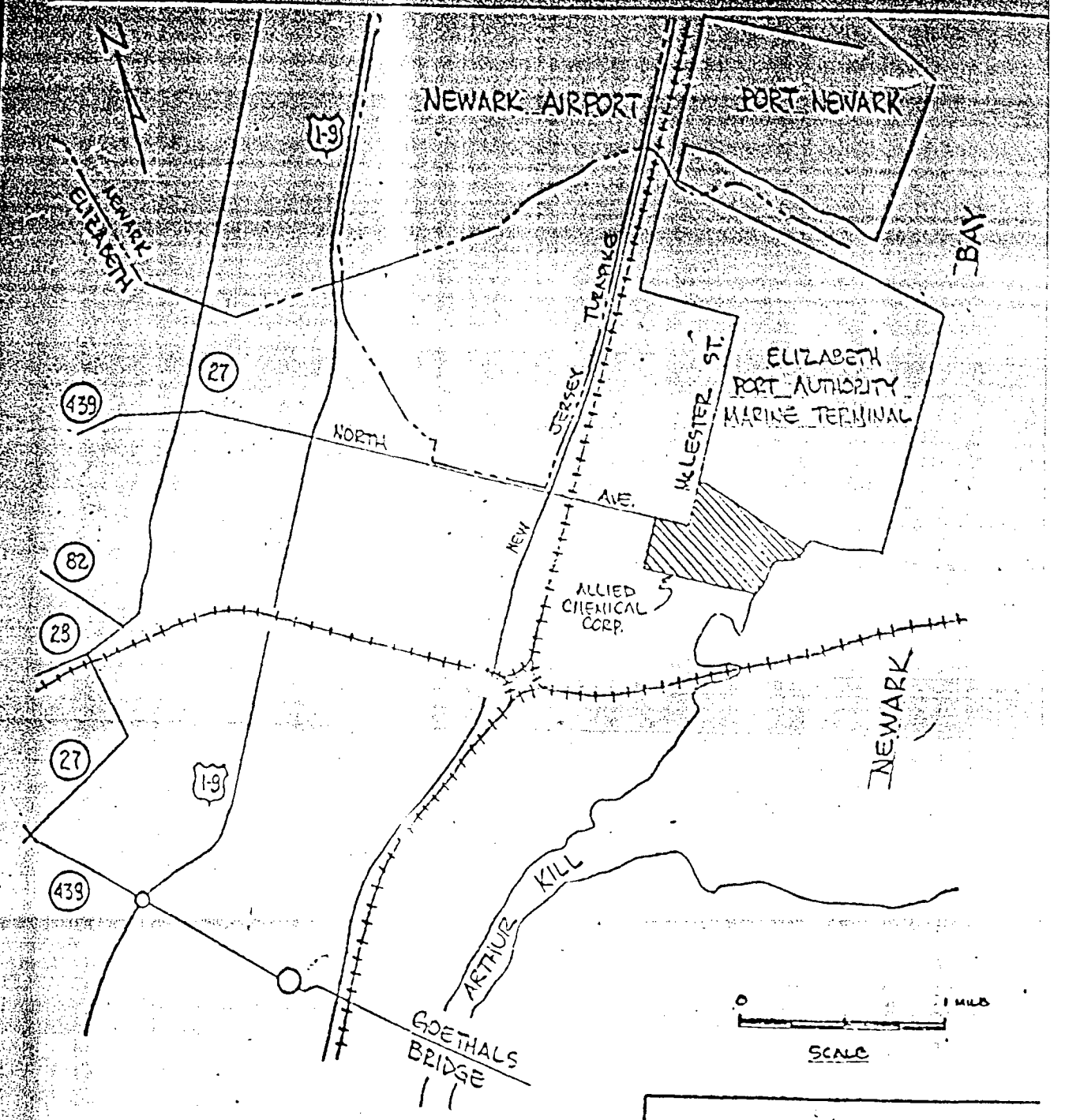

TRACED FROM MAP # 1, "HIGHWAY IMPROVEMENTS IN THE VICINITY OF PORT NEWARK AND THE ELIZ. MARINE TERMINAL", BY THE PORT OF N.Y. AUTHORITY.

ORIG. DRAWN 9/16/71

REDRAWN 4/11/72

GENERAL LOCATION MAP

COUNTY - UNION STATE - N.J.

APPLICATION BY SPECIALTY CHEMICALS DIV., ALLIED CHEM. CORP.

2 SD OXW 2 000756

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92 APR 13 AM 9:20

BRANCH

NJD 002.451.490

PHASE II ENVIRONMENTAL STUDY FOR COMPLIANCE WITH THE ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT AT THE ALLIED-SIGNAL INC. FACILITY ELIZABETH, NEW JERSEY

VOLUME I OF II

March 1992

Prepared for

Allied-Signal Inc.
10 North Avenue East
Elizabeth, New Jersey 07201

Prepared by

BAA000016

Geraghty & Miller, Inc.
125 East Bethpage Road
Plainview, New York 11803
(516) 249-7600

28

PHASE II ENVIRONMENTAL STUDY FOR COMPLIANCE WITH THE ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT AT THE ALLIED-SIGNAL, INC. FACILITY ELIZABETH, NEW JERSEY

March 27, 1992

Geraghty & Miller, Inc. is submitting this report to Allied-Signal, Inc. for a Phase II environmental assessment at Allied-Signal's facility in Elizabeth, New Jersey. The report was prepared in conformance with Geraghty & Miller's strict quality assurance/quality control procedures to ensure that the report meets the highest standards in terms of methods used and the information presented. If you have any questions or comments concerning this report, please contact one of the individuals listed below.

Respectfully submitted,

GERAGHTY & MILLER, INC.

Neil Benowitz

Neil Benowitz
Project Scientist/Project Hydrogeologist

Douglas J. Newton

Douglas J. Newton
Principal Scientist/Project Manager

Nicholas Valkenburg

Nicholas Valkenburg
Vice President/Project Officer

NB DJN NVvk
[illegible]

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VOLUME I

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2-4. Locations of Phase I and Phase II Soil Borings - Area 3, Allied-Signal, Inc., Elizabeth, New Jersey.

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2-6. Locations of Phase I and Phase II Soil Borings - Area 4, Allied-Signal, Inc., Elizabeth, New Jersey.

2-7. Locations of Soil Samples - Area 5, Allied-Signal, Inc., Elizabeth, New Jersey.

2-8. Locations of Phase I Surface-Water, Sediment, Background and Random Soil Samples - Areas 6 and 7, Allied-Signal, Inc., Elizabeth, New Jersey.

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3-2. Locations and Contents of Storage Tanks, Allied-Signal, Inc., Elizabeth, New Jersey.

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PHASE II ENVIRONMENTAL STUDY FOR COMPLIANCE WITH THE ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT AT THE ALLIED-SIGNAL INC. FACILITY, ELIZABETH, NEW JERSEY

1.0 INTRODUCTION

At the request of Allied-Signal Inc., Geraghty & Miller, Inc. has conducted a Phase II environmental site assessment at Allied-Signal's facility in Elizabeth, New Jersey in compliance with the New Jersey Environmental Cleanup and Responsibility Act (ECRA). The study was initiated and completed in accordance with the sampling plan submitted by Geraghty & Miller to the New Jersey Department of Environmental Protection (NJDEP) in November 1989. This sampling plan (Geraghty & Miller, Inc., 1989a) was approved with certain conditions by the NJDEP in its July 11, 1991 (Pompeo 1991a) letter and was amended by the NJDEP's July 24, 1991 letter (Pompeo 1991b).

The scope of the investigation included the installation and sampling of monitoring wells, and the collection of soil, sediment, and surface-water samples to further delineate and evaluate environmental quality conditions in the areas of potential environmental concern identified in the Phase I report (Geraghty & Miller, Inc. 1989b). A risk assessment was also prepared for the site and is included with this submittal. This Phase II report provides a brief summary of the Phase I results, describes the methodologies used during the Phase II investigation, provides a discussion of the Phase II analytical results, and presents our conclusions and recommendations.

1.1 OVERVIEW OF THE PHASE II ECRA REPORT

The format of this Phase II report generally follows the recommended format for reporting remedial investigation results, as outlined in the NJDEP's Remedial Investigation Guide (RIG) (NJDEP 1990). To provide a complete and convenient record for the additional technical information requested in the NJDEP's July 11, 1991

letter, however, the format of this report has been modified slightly. This Phase II report is divided into the following ten sections:

1.0 Introduction
2.0 Summary of the Phase I ECRA Investigation
3.0 Phase II Technical Overview
4.0 Hydrogeology
5.0 Findings
6.0 Risk Assessment
7.0 Asbestos Containing Material
8.0 Other Technical Requirements
9.0 Conclusions and Recommendations
10.0 References

Section 1.0 includes a discussion of the site background information, plant operations, previous investigations conducted at the site, and an overview of this report.

A brief summary of the Phase I report is provided in Section 2.0. Included in the section is a brief statement describing the specific sites in the areas of environmental concern that warranted further investigation pursuant to the NJDEP's sampling plan approval letters.

Section 3.0 provides a discussion of the methodologies used during the Phase II investigation, a general discussion concerning compliance with the approved sampling plan (as amended by the NJDEP's July 11, 1991 and July 24, 1991 letters), and a summary of the analytical results of samples collected during the Phase II investigation.

Section 4.0 describes the site-specific hydrogeology of the Elizabeth plant. Section 5.0 describes the results of the Phase II soil, sediment, ground-water, and surface-water sample analyses. Section 6.0 provides a summary of the risk assessment. Section 7.0

presents Allied-Signal's Operation & Maintenance (O&M) Plan for asbestos containing material (ACM). A discussion of the additional technical information requested in the NJDEP's July 11, 1991 letter is provided in Section 8.0. Section 9.0 presents the Phase II conclusions and recommendations, and Section 10.0 provides a listing of the references used during the Phase II investigation.

1.2 SITE LOCATION

The Allied-Signal site is located in the city of Elizabeth, Union County, New Jersey. The plant site occupies approximately 177 acres of which nearly 40 acres are used for production activities (see Figure 1-1).

The Elizabeth plant is located on the corner of North Avenue and McLester Street and is bounded on the south by an abandoned city dumping area and old railroad repair yard, on the east by Newark Bay, and on the west by a former concrete block manufacturer and industrial land to the north. Land use within the immediate area is industrial and the entire facility is situated on reclaimed marshland associated with Newark Bay. Of the approximately 40 acres of plant production area, an estimated 85 percent is paved or occupied by structures.

1.3 PLANT OPERATIONS

Operations at Allied-Signal's Elizabeth plant included the production of refrigerant gas under the trade name Genetron, which ceased operations in 1988, and currently consists of blending of chlorofluorocarbon solvents and the manufacture of specialty fluorocarbon polymers and copolymers. Details of materials used and produced may be found in Allied-Signal's Site Evaluation Submission (SES), dated June 10, 1986.

2.0 SUMMARY OF THE PHASE I ECRA INVESTIGATION

The Allied-Signal's Elizabeth plant is located in Union County, New Jersey (see Figure 1-1) and has been in operation since 1957. The Phase I Investigation report (Geraghty & Miller, Inc. 1989) established six areas of potential environmental concern at the Elizabeth plant. A seventh area was also defined to include background and random soil borings. The seven areas were as follows:

Area 1 -	Former Fluoroisobutylmonomer Production
Area 2 -	Former Sulfuric Acid Production
Area 3 -	Genetron Process and Tank Farm
Area 4 -	Fluoropolymers Production
Area 5 -	Electrical Substations
Area 6 -	Drainage Ditches
Area 7 -	Background and Random Soil Borings

The locations of these seven areas are shown on Figure 2-1. A brief summary of the Phase I results for the soil and sediment samples collected in each area and of the Phase I ground-water and surface-water samples is provided below. The schedule of analyses performed and sites monitored during the Phase I investigation is provided in Table 2-1. The results of the analyses performed on all the Phase I samples are included in Tables 2-2 through 2-16. The NJDEP guidelines for ECRA cleanup requirements that were in effect during Phase I are provided in Table 2-17. A more detailed discussion of the Phase I results is provided in the Phase I report (Geraghty & Miller, Inc. 1989).

2.1 AREA 1 - FORMER FLUOROISOBUTYLMONOMER PRODUCTION

During Phase I, several borings were drilled in Area 1 at locations shown on Figure 2-2. Concentrations of total petroleum hydrocarbons (TPHs) in four samples (B-2A, B-2B, B-5A, and B-5B) collected in Area 1 ranged from 120 to 740 milligrams per kilogram (mg/kg), which were above the previous ECRA cleanup guideline of 100 mg/kg

(see Table 2-6). The locations of these soil borings are shown on Figure 2-2. In accordance with the NJDEP's July 11, 1991 sampling plan approval letter, additional sampling was performed in Area 1 as part of the Phase II investigation to further delineate the occurrence of TPHs in this area.

2.2 AREA 2 - FORMER SULFURIC ACID PRODUCTION

Locations of soil borings drilled in Area 2 during Phase I are shown on Figure 2-3. Sulfate concentrations in the samples collected from Area 2 ranged from 5.1 to 71,000 mg/kg (see Table 2-3). Because ground water underlying the Elizabeth plant is brackish to saline with concentrations of sulfate ranging up to 6,300 micrograms per liter (ug/L), sulfate in soil will not have a measurable impact on ground-water quality at the site. Furthermore, no ECRA cleanup guidelines for sulfate exist. During Phase II, additional soil samples were collected near the two abandoned, aboveground storage tanks (ASTs) and the area identified as the old oil spill area, as requested in the NJDEP's July 11, 1991 sampling plan approval letter.

2.3 AREA 3 - GENETRON PROCESS AND TANK FARM

Concentrations of total base-neutral (BN) compounds exceeded the previous ECRA cleanup guideline (10,000 micrograms per kilogram [ug/kg]) in samples B-11A, B-11B, and B-19A (see Table 2-3). Five soil samples (B-16A, B-17A, B-18A, B-18B, and B-19A) had one or more metals with concentrations above the previous ECRA cleanup guideline (see Table 2-4). The metals reported above these ECRA guidelines were arsenic, chromium, copper, lead, mercury, nickel, and zinc. TPHs were detected above the previous ECRA cleanup guideline (100 mg/kg) in one boring (B-21) (see Table 2-6). Sample B-45B, which was collected near the former spent antimony disposal lagoon area, had a low concentration (2 ug/kg) of 1,1,2,2-tetrachloroethane (see Table 2-2). This volatile organic compound (VOC) is associated with the antimony catalyst that was disposed in the lagoon (Geraghty & Miller 1989). The locations of the Phase I soil

borings drilled in Area 3 are shown on Figure 2-4. The locations of the Phase I borings drilled near the former lagoon are shown in Figure 2-5.

In accordance with Geraghty & Miller's Phase II Work Plan (Geraghty & Miller, Inc. 1989a) and the NJDEP's July 11, 1991 sampling plan approval letter, additional soil samples were collected in the vicinity of the former lagoon to further characterize soil-quality conditions in this area. Similarly, additional soil samples were collected in Area 3 to delineate the vertical and horizontal extent of TPHs, BNs, and priority pollutant (PP) metals in soil samples and the source of chloroform detected in ground water during the Phase I investigation.

2.4 AREA 4 - FLUOROPOLYMERS PRODUCTION

Borings B-24 and B-25 in Area 4 contained one or more metals at concentrations above ECRA cleanup guidelines (see Table 2-4). Chromium, copper, lead, nickel, and zinc were reported in samples B-24A, B-25A, and B-25B at levels above ECRA guidelines. The locations of these Phase I borings are shown on Figure 2-6. During Phase II, additional samples were collected around the drum storage area (DSAs) (one on each side) in accordance with the NJDEP's RIG (NJDEP 1990) and July 11, 1991 sampling plan approval letter.

2.5 AREA 5 - ELECTRICAL SUBSTATIONS

As shown in Table 2-6, TPHs were reported at concentrations slightly above the previous ECRA guideline in samples collected from Borings B-36, B-37, and B-39 in the vicinity of substations D and E (see Figure 2-7). The concentrations of TPHs reported in these samples does not reflect a continuing source. The no action alternative recommended by Geraghty & Miller was approved by the NJDEP (see NJDEP's July 11, 1991 sampling plan letter).

2.6 AREA 6 - DRAINAGE DITCHES

Sediment samples were collected from the drainage ditches at locations shown on Figure 2-7. Samples SS-3 and SS-7 had concentrations of total VOCs that exceeded the ECRA cleanup guideline (1,000 mg/kg) in Area 6 (see Table 2-2). Concentrations of total BNs were reported above the ECRA cleanup guideline in sediment samples SS-1 and SS-7 (see Table 2-3). One or more of the following metals were detected in sediment samples SS-1, SS-4, SS-6, and SS-7 above ECRA cleanup guidelines: arsenic, copper, chromium, lead, mercury, and zinc (see Table 2-4). Polychlorinated biphenyls (PCBs) were detected in sediment sample SS-6 at a total concentration of 6,300 ug/kg (see Table 2-5). TPHs were reported in samples SS-1, SS-2, and SS-7 at concentrations ranging from 540 to 1,200 mg/kg (see Table 2-6). During Phase II, additional samples were collected from the drainage ditches to further characterize sediment quality.

2.7 AREA 7 - BACKGROUND AND RANDOM SOIL BORINGS

Background and random soil samples (see Figure 2-8) had concentrations of arsenic, chromium, copper, lead, mercury, and zinc above reported ECRA cleanup guidelines (Table 2-4). Six background or random soil borings also had concentrations of TPHs above the ECRA cleanup guidelines (Table 2-6). Concentrations of metals above guidance values at these and most other locations probably reflect the quality of the fill material and not facility impact. Similarly, the levels of TPHs in the background samples do not reflect a continuing source, but are probably representative of the quality of the fill material.

2.8 GROUND-WATER QUALITY

Concentrations of total VOCs in ground water ranged from not detected to 53,000 ug/L (see Tables 2-8 and 2-13). The two wells with the highest concentrations of total VOCs were Wells W-16S (53,000 ug/L) and W-17S (19,030 ug/L). The predominant

VOCs reported in these wells were chloroform (W-16S at 50,000 ug/L) and 1,1,2,2-tetrachloroethane (W-17S at 19,000 ug/L).

Concentrations of total semivolatile organic compounds exceeded ECRA guidelines (100 ug/L) in Wells W-3, W-17S, and W-18S. With the exception of arsenic, concentrations of metals reported in ground-water samples were below ECRA cleanup guidelines. Samples collected from Wells W-5 and W-20S exceeded the ECRA cleanup guidelines for TPHs.

During the Phase II investigation, five additional monitoring wells were installed and sampled for VOCs to further delineate the occurrence of chloroform in the shallow water-bearing zone.

2.9 SURFACE-WATER QUALITY

Total VOCs were reported in samples SW-3 and SW-4 at concentrations that ranged from not detected to 1,762 ug/L. Concentrations of total semivolatile organic compounds in the four surface-water samples ranged from not detected to 86 ug/L. Six metals (arsenic, chromium, copper, lead, nickel, and zinc) were reported in sample SW-3, at higher concentrations than in samples SW-1, SW-2, and SW-4. The Phase I analytical results of the surface-water samples are provided in Tables 2-8 through 2-12. The locations of the surface-water samples are shown on Figure 2-8.

3.0 PHASE II TECHNICAL OVERVIEW

To further characterize soil and water quality conditions at the Elizabeth plant, additional sampling was conducted in five of the seven areas of environmental concern. The five areas are as follows:

Area 1 - Former Flouroisobutylmonomer Production

Area 2 - Former Sulfuric Acid Production

Area 3 - Genetron Process and Tank Farm

Area 4 - Fluoropolymers Production

Area 6 - Drainage Ditches

The locations of the seven areas of environmental concern at the Elizabeth plant that were identified during the Phase I study are shown on Figure 2-1. During the Phase II investigation, Area 1 was expanded to include the administration building and its associated former Underground Storage Tank (UST). The contents and locations of all storage tanks at the Elizabeth plant are shown on Figures 3-1 and 3-2.

The Phase II field investigation conducted at the Elizabeth plant consisted of the following six tasks: (1) soil sampling; (2) sediment sampling; (3) additional monitoring well installation; (4) ground-water sampling; (5) surface-water sampling; and (6) water-level monitoring. All samples were submitted to Enseco-East, a New Jersey-certified laboratory, for analysis of parameters specific to each sample. In accordance with the NJDEP's RIG, one copy of the entire laboratory report, including the QA/QC data, for all samples is provided as a separate document to this report. A risk assessment was also developed for the Elizabeth plant from data collected during the Phase I and Phase II investigations. A summary of the results of the risk assessment is presented in Section 6.0 (Risk Assessment). The risk assessment report is in Appendix A. A description of the methodologies employed during the field investigation is provided below.

3.1 SOIL SAMPLING

During the Phase II investigation, soil samples were collected from 109 boring locations to further characterize soil-quality conditions at the Elizabeth plant. The soil borings were drilled from August 22 through September 5, 1991, on October 15 and 16, 1991, and on December 9, 1991. Soil samples were collected near specific sites in the five areas that required further evaluation based upon the results of the Phase I investigation. The number of soil samples collected near the specific sites monitored in each area was consistent with the guidance established in the NJDEP's RIG (NJDEP 1990) and the NJDEP's sampling plan approval letters of July 11, 1991 and July 24, 1991 (except where noted). Samples were analyzed for parameters diagnostic of the area sampled. The NJDEP approved the list of parameters diagnostic of each area sampled (July 11, 1991 letter). The locations of the Phase II soil borings are shown on Figures 2-2 through 2-8. A schedule of the number of borings and analyses performed on samples collected in each area is provided in Table 3-1. The results of the soil sample analyses are provided in Tables 3-2 through 3-5.

Soil samples were collected continuously at 2-ft intervals in each boring using a split-spoon core barrel sampling device. Depending on surface soil conditions, the split-spoon was driven into the ground either manually, or with truck-mounted drilling equipment, or a portable tripod rig. All but two borings were installed by Environmental Drilling, Inc., (EDI) of West Creek, New Jersey (a New Jersey-licensed driller). Borings B-400 and B-401 were drilled manually using a stainless-steel bucket auger by a Geraghty and Miller hydrogeologist. Soil samples were collected and analyzed from the following depth intervals: (1) from the uppermost 6 inches of soil (designated with suffix "A"); (2) from 18 to 24 inches below land surface (bls) (designated with suffix "B"); and (3) from the 6-inch interval directly above the water table (designated with suffix "C"). The land surface was defined as a point below the bottom of asphalt, gravel and/or construction debris that overlies indigenous (native) soils and/or the fill material that was hydraulically

dredged from Newark Bay. Samples were described in the field and recorded on the geologic core logs. The sample/core logs for the borings are provided in Appendix B.

Samples were also screened in the field with an organic vapor analyzer (OVA) to determine the presence of VOCs in the soil. Samples were selected for laboratory analysis based upon the OVA instrument reading, visual inspection, and the field hydrogeologist's professional judgment. As part of a field screening technique, a portion of the soil sample in the split spoons collected in the vicinity of the chloroform tanks (B-56 through B-58, B-70 through B-87, and B-132 through B-134) and near the former lagoon area (B-88 through B-110) was placed in Ziplock storage bags. The remainder of the sample was then placed in laboratory-cleaned containers for possible submittal to the laboratory for analysis. After the sample was allowed to sit for a few minutes in the storage bags, the OVA was used to record a head space reading. No OVA readings above background were recorded. As specified in the NJDEP's sampling plan approval letter, all samples designated in the field as being clean (no VOCs detected with the OVA) were sent to the laboratory for confirmatory analysis.

Field equipment blanks, laboratory-prepared trip blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples were also included and analyzed with the samples for quality assurance/quality control (QA/QC) purposes.

3.2 SEDIMENT SAMPLING

On October 18 and 21, 1991, sediment samples were collected from four locations in the drainage ditches that run through and adjacent to the plant. The sediment sampling locations are shown on Figure 3-3. Samples were collected at three new locations (SS-10, SS-11, and SS-12), as well as at location SS-3 (a Phase I sediment sampling location).

Sediment samples were collected at a depth of about 0.3 ft below the top of the sediment surface. Grab samples were collected directly in the laboratory-supplied containers. Sediment samples were analyzed for parameters representative of the soil quality conditions adjacent to the ditch area sampled. The sediment sampling locations and analyses performed are provided in Table 3-1. The results of the sediment sample analyses are provided in Tables 3-2 through 3-5.

3.3 MONITORING WELL INSTALLATION

Five shallow ground-water monitoring wells (W-22S, W-23S, W-24S, W-25S, and W-27S) were installed and developed from September 23 through October 2, 1991, at the locations shown on Figure 2-1. The monitoring wells were installed by EDI with oversight provided by Geraghty & Miller personnel. Each well was designed to screen approximately the upper 10 ft of the shallow water zone.

A monitoring well was to be installed across the public ditch from the former lagoon in Area 3 to assist in determining the hydraulic connection between the water-table zone and the surface-water ditches. However, after several attempts to access this location, it was determined that the planned location of this well was inaccessible. Since this proposed well could not be installed, a series of five staff gauges were located in the ditches to allow a determination of the hydraulic connection between the water-table zone and the ditches. The NJDEP was notified of this deviation from the July 11, 1991 sampling plan approval letter.

The five shallow wells (W-22S, W-23S, W-24S, W-25S, and W-27S) were installed using the hollow-stem auger drilling method. Each monitoring well was constructed of 4-inch diameter PVC casing and equipped with 10 ft of PVC screen (0.01 inch slot size). The monitoring wells were surveyed by Ensurplan (a New Jersey-licensed surveyor) to obtain the measuring point elevation relative to mean sea level. Well construction details for the new and existing monitoring wells located at the Elizabeth plant are provided in

Table 3-6. Drilling, well installation, and development procedures were performed in accordance with the procedures provided in Appendix B of the NJDEP-approved sampling plan (Geraghty & Miller, Inc. 1988). Sample core logs, well construction logs, and the NJDEP Well Certification Forms A and B for the five new monitoring wells appear in Appendix C.

3.4 GROUND-WATER SAMPLING

Ground-water samples were collected on October 18 through 23, 1991 from the five newly installed shallow monitoring wells (W-22S, W-23S, W-24S, W-25S, and W-27S) and the 12 existing shallow monitoring wells (W-1S, W-2, W-3, W-4, W-5, W-15S, W-16S, W-17S, W-18S, W-19S, W-20S, and W-21S) at the Elizabeth plant. The locations of all the monitoring wells at the Elizabeth plant are shown on Figure 2-1. Prior to sampling, water levels were measured in the shallow wells. Ground-water samples were delivered by laboratory courier to Enseco for analyses. All samples were analyzed for VOCs. In accordance with the NJDEP's July 11, 1991 letter, Well W-3 was also analyzed for BNs, and Well W-22S was analyzed for total TPHs. Field equipment blanks and laboratory-prepared trip blanks were also analyzed to ensure field and laboratory QA/QC procedures. Specific conductance, temperature, and pH of each sample were measured in the field. All sampling was conducted in accordance with the sampling protocols and QA/QC procedures provided in Appendix B of the NJDEP-approved ECRA sampling plan (Geraghty & Miller, Inc. 1988). Water sampling logs are included in Appendix D. The analytical results of the ground-water samples are provided in Tables 3-7 through 3-9.

3.5 SURFACE-WATER SAMPLING

Two rounds of surface-water samples were collected on October 18 and 21 and November 7, 1991 from the ditch system that runs through and adjacent to the Elizabeth plant. Surface-water sampling locations are shown on Figure 3-3. Surface-water

samples collected at locations SW-4 and SW-7 were analyzed for VOCs; samples SW-3, SW-10, and SW-11 were analyzed for VOCs, BNs, and antimony; and sample SW-12 was analyzed for VOCs, BNs, and PP metals. During the second sampling round, a surface-water sample could not be collected from SW-11 because this location was dry. In addition, a surface-water sample could not be collected at locations upstream from the plant because the public ditch along North Avenue consists of pipes and is located underground. As discussed in the Phase I report (Geraghty & Miller, Inc. 1989b), numerous industrial sites are located along the public ditch upstream from the Elizabeth plant. All surface-water samples were collected directly in the laboratory-supplied containers. Specific conductance, pH, and temperature were measured in the field. Trip blanks were included and analyzed by the laboratory. The surface-water analytical results are provided in Tables 3-7, 3-8, and 3-10.

3.6 WATER-LEVEL MONITORING

On November 7, 1991, staff gauges were installed at five locations (see Figure 2-1) in the drainage ditches that run through and adjacent to the Allied-Signal facility. The staff gauges provide additional control points so that ground-water flow patterns adjacent to the surface-water ditch network can be more confidently determined. Three of the staff gauges (SG-2, SG-4, and SG-5) are stakes with a permanent measuring point marked on them; the measuring points for staff gauges SG-1 and SG-3 are located on adjacent drainage culverts. The measuring points were surveyed by Ensurplan to determine their elevations relative to mean sea level.

As specified in the NJDEP July 11, 1991 sampling plan approval letter, two rounds of water levels (November 7 and 26, 1991) were measured from the shallow and deep monitoring wells located at the Elizabeth plant. Water-level measurements from the staff gauges were only collected on November 26, 1991. The water-level data collected during both rounds is provided in Table 3-11.

3.7 ANALYTICAL SUMMARY

A brief summary of the Phase II analytical results of the soil, sediment, ground-water, and surface-water samples is provided below. A more detailed discussion of the analytical results of samples collected in each area of environmental concern, along with a comparison to the proposed New Jersey Soil Cleanup Standards (NJSCS) (February 3, 1992, New Jersey Register), is provided in Section 5.0 (Findings) of this report.

3.7.1 Soil Quality

Total VOC concentrations in soil samples ranged from not detected to 876,750 ug/kg (see Table 3-2). The highest concentration of total VOCs was reported in sample B-317C (876,750 ug/kg). The predominant VOC was 1,1,2,2-tetrachloroethane (860,000 ug/kg); this compound was associated with the spent antimony catalyst which was reportedly disposed in the former lagoon located in Area 3. Low levels of VOCs (less than approximately 1,500 ug/kg) were reported in soil samples collected near the chloroform tanks.

Concentrations of total BNs in soil ranged from not detected to 88,100 ug/kg (see Table 3-3). Most of the BNs reported in the soil samples collected at the plant were polycyclic aromatic hydrocarbons (PAHs) (coal tar derivatives) and are not diagnostic of plant processes.

Several metals, including arsenic, cadmium, copper, lead, and zinc, were reported at levels that exceed the proposed NJSCS (see Table 3-4). The occurrence of these metals probably reflects the chemical quality of the fill, which is a hydraulically-dredged material, and/or plant operations. Concentrations of antimony ranged from not detected to 1,660 mg/kg. The highest concentrations of antimony were reported in samples collected in the former lagoon. Spent antimony catalyst was diagnostic of material disposed in the former lagoon area.

TPHs were reported in 33 of the 61 soil samples collected at the Elizabeth plant (see Table 3-5). The highest concentration of TPHs was detected in sample B-304B (70,000 mg/kg). TPHs detected in the soils appear to be related to past and/or present fuel storage tanks and truck traffic at the plant.

3.7.2 Sediment Quality

The highest concentrations of total VOCs were reported in the three sediment samples collected adjacent to the former lagoon (52 to 21, 557 ug/kg) (see Table 3-2). The predominant VOC reported in these samples was 1,1,2,2-tetrachloroethane and was reported as high as 8,800 ug/kg in SS-11. The presence of this VOC in these samples is probably the result of the previous disposal activities associated with the former lagoon area. Similarly, high levels of antimony, which is also associated with the former lagoon, were reported in samples SS-10 (162 mg/kg) and SS-11 (106 mg/kg).

Total BNs were detected in three of the four sediment samples (SS-3, SS-11, and SS-12) at concentrations ranging from 880 to 8,470 ug/kg (see Table 3-3). Hexachlorobenzene (2,400 ug/kg in SS-11) and bis (2-ethylhexyl)phthalate (1,300 ug/kg in SS-11) were reported at the highest concentrations.

3.7.3 Ground-Water Quality

Concentrations of total VOCs in ground water ranged from not detected to 70,200 ug/L (see Table 3-7). Samples collected from Wells W-23S (70,200 ug/L) and W-17S (13,230 ug/L) had the highest concentrations of total VOCs. The predominant VOCs detected in these wells were chloroform (46,000 ug/L in W-23S) and 1,1,2,2-tetrachlorethane (10,000 ug/L in W-17S).

The concentration of total BNs reported in Well W-3 was about 294 ug/L (see Table 3-8). The predominant BNs reported in Well W-3 was naphthalene (130 ug/L)

and 2-methylnaphthalene (78 ug/L). In accordance with the July 11, 1991 sampling plan approval letter, Well W-3 was the only well sampled for BN analysis.

The concentrations of TPHs in Well W-22S were reported at 4 milligrams per liter (mg/L) (see Table 3-9). Well W-22S was installed near the two former USTs in Area 1 and was the only well analyzed for TPHs.

3.7.4 Surface-Water Quality

The predominant VOCs detected in the surface-water samples were 1,1,2,2-tetrachloroethane (not detected to 2,300 ug/L) and chloroform (not detected to 150 ug/L) (see Table 3-7). Concentrations of total BNs were reported in SW-3 and SW-12 during the second sampling round at low levels (2 ug/L and 2.9 ug/L, respectively) (see Table 3-8). The only metals reported in the surface-water samples were antimony in SW-3 (0.14 mg/L) and copper (0.015 mg/L) in SW-12 (see Table 3-10).

4.0 HYDROGEOLOGY

The surficial deposits at the Elizabeth plant consist of Recent-age unconsolidated sediments and fill material dredged from Newark Bay, as well as the native tidal marsh deposits. Underlying the surficial deposits are unconsolidated sediments deposited by glaciers and glacial meltwater during the Pleistocene Epoch. The glacial deposits are underlain by Triassic-age sandstone and shale bedrock of the Brunswick Formation, which is estimated to be approximately 85 ft below land surface (United States Geological Survey [USGS] 1968).

The fill material consists of glacial till deposits that were hydraulically dredged from Newark Bay to reclaim saltwater tidal marshes that once extended from the plant site to the Bay. Allied-Signal's notarized certification of the use of dredged material is provided in Appendix E. Deposits of fill at the site vary in thickness from less than 1 ft at the western portion of the site to approximately 25 ft at the wastewater treatment facility. In general, the upper 10 ft of fill consist of dark reddish-brown clay, with varying amounts of fine sand, gravel, small cobbles, and occasional shell fragments. The lower portion of the fill consists of a dark gray, clayey silt deposit, with varying amounts of fine sand and dense black, organic-rich clay lenses. Overlying the fill material at many paved areas of the site is usually a layer of asphalt, gravel and/or construction debris ranging from 0.5 ft to 8 ft thick.

The fill material is underlain by the tidal marsh deposits. The upper portion of these deposits consists predominantly of silt and fine sand, which is underlain by an 8- to 10-ft thick peat layer. Below the peat layer, the deposits consist predominantly of interbedded lenses of clay, silt, peat, and fine sand.

The hydrogeologic data collected during the ECRA investigation indicate that the ground-water flow regime at the Elizabeth plant is complex. As determined by a review of the Phase I hydrogeologic data, two discrete water-bearing zones exist at the site: (1) the shallow water-table zone and (2) the confined (deep) zone. Water-level and ground-

water quality data collected during the Phase I investigation indicate that the peat layer separating the water-table and confined zones is a confining unit. The NJDEP supports Allied-Signal's interpretation that the peat layer is a confining unit (see NJDEP's July 24, 1991 letter). Therefore, this Phase II investigation examines ground-water quality in the water-table zone only. A discussion of the hydrogeology and ground-water quality of the deep zone was provided in the Phase I report (Geraghty & Miller, Inc. 1989b). The configuration of the water table as measured on November 7 and November 26, 1991, is shown on Figures 4-1 and 4-2, respectively. The water-level data used to prepare these figures are provided in Table 3-11.

As shown on Figures 4-1 and 4-2, the horizontal component of ground-water flow in the water-table zone is generally eastward, but controlled locally by the ditches that surround the plant. Water-level data collected from wells at the plant site indicates that a ground-water mound exists beneath the plant. Ground water in this area flows radially until it eventually discharges to the ditches. Ground water in the water-table zone discharges to Newark Bay either directly or ultimately to the bay via the ditches. This determination of ground-water flow was made from the water-level measurements made from staff gauges that were installed in the ditches during this Phase II investigation. Specifically, the elevation of the surface water at staff gauge location SG-4 (5.47 ft above mean sea level [msl]) is lower than the ground-water elevation observed in nearby Well W-3 (6.22 ft above msl). Similarly, the elevation of surface water at SG-5 was 6.99 ft above msl and the elevation of ground water measured in Well W-17S was 7.07 ft above msl. This is further supported by the absence of several site-specific VOCs in Well W-4, which is located across the ditch from the main plant (see Section 5.2.1 [Ground Water]).

5.0 FINDINGS

5.1 SOIL AND SEDIMENT QUALITY

The schedule of analyses and sites monitored during Phase II is pr
3-1. The analytical results of the Phase II soil and sediment samples
Tables 3-2 through 3-5. The proposed NJSCS (both residential and
(NJSCS) that were published in the February 3, 1992 New Jersey Register, and the NJDEP's policies regarding TPHs in soils (see S. Weiner's November 1, 1991 letter) were compared. For this report, nonresidential and residential surface soil cleanup standards were used. The proposed NJSCS are summarized in Table 5-1. Subsurface soil cleanup standards are not applicable at the Elizabeth plant because there is no potential for ground water impacted by the soils at the site to migrate to a Class I or Class IIA aquifer. However, if the subsurface standard of a particular constituent was more stringent than the surface standard, the subsurface standard was used for comparison. Figures 2-2 through 2-6 show the constituents reported in the soil samples that exceeded the most stringent NJSCS for surface or subsurface soils. A detailed discussion of the analytical results of the samples collected within the five areas of environmental concern that were investigated during Phase II is presented below.

5.1.1 Area 1 - Former Fluoroisobutylmonomer Production

Area 1 is located in the northwestern portion of the plant and includes the former flouroisobutylmonomer manufacturing and production area, and the administration building. Soil samples were collected in Area 1 from 14 borings at the locations shown on Figure 2-2. As required by the NJDEP's July 11, 1991 sampling plan approval letter, soil samples were collected from boring B-50, which was drilled near Phase I Boring B-5, to delineate the horizontal and vertical extent of TPHs in soils at this location. The analytical results of samples collected from Boring B-50 indicated that additional sampling was warranted. Therefore, four additional borings were drilled (B-300, B-301, B-302, and B-303) to further characterize soil quality conditions in this area. Samples

collected from these five borings were analyzed for TPHs and BNs. Also during the Phase II investigation, seven borings (B-46, B-47, B-48, B-49, B-51, B-122, and B-123) were drilled near Phase I boring location B-2 to further evaluate soil quality conditions near two USTs that formerly existed in this area. Samples collected from Borings B-48, B-49, B-51, B-122, and B-123 were analyzed for TPHs. Samples collected from Boring B-51 were also analyzed for BNs. The results of the VOC analyses are in Table 3-2; the BN results are in Table 3-3; and the results of the TPHs analyses are in Table 3-5.

To evaluate soil quality conditions below the material used to fill the UST excavation, samples B-46C and B-47C were analyzed for TPHs and sample B-47C was also analyzed for VOCs. Since Allied-Signal could not provide certification of the use of clean backfill material, as these tanks were removed prior to the requirements of the NJDEP's Bureau of Underground Storage Tank (BUST) program, two composite samples of the fill material were collected and analyzed for the priority pollutant plus 40 compounds, in accordance with the NJDEP's July 11, 1991 letter (see Tables 5-2 through 5-4). In addition, two borings (B-400 and B-401) were drilled near a former UST that had been located near the administration building (see Figure 2-2). Because this former UST contained heating oil, samples collected at this location were analyzed for TPHs and BNs.

Concentrations of TPHs reported in soil samples collected near Boring B-5 during the Phase II investigation ranged from not detected to 10,000 mg/kg. Three samples exceeded the NJDEP's guideline for TPHs in soils (1,000 mg/kg) (Weiner 1991c) as follows: B-300A (1,200 mg/kg), B-302B (4,000 mg/kg) and B-302C (10,000 mg/kg). The concentration of TPHs in B-302C (10,000 mg/kg) was also at the NJDEP's proposed soil standard for total organic compounds (10,000 mg/kg). Concentrations of TPHs generally decreased with depth in Borings B-303 and B-300 and increased with depth in Borings B-302 and B-50. With the exception of sample B-300A (1,200 mg/kg), the concentrations of TPHs in samples collected from Borings B-303 and B-300 were well below the NJDEP guidance level and the proposed NJSCS. TPHs were also not detected in soil samples

B-301A and B-301B. Although concentrations of TPHs increased slightly with depth in samples collected from Boring B-5 (210 mg/kg in B-5A to 300 mg/kg in B-5B) during Phase I, and in Boring B-50 (210 mg/kg in B-50A to 670 mg/kg in B-50C) during Phase II, these concentrations are below the current NJDEP cleanup guidelines for TPHs.

All samples collected near Boring B-5 in Area 1 had concentrations of total organic compounds well below the proposed NJSCS for total organic compounds (10,000,000 ug/kg). Concentrations of total BNs in soil samples collected near Boring B-5 ranged from not detected to 52,520 ug/kg (borings B-300 through 303, and B-50). However, sample B-303A had one BN that exceeded its proposed NJSCS: Benzo(a)pyrene (860 ug/kg) was reported above its proposed NJSCS for non-residential and residential surface soil of 660 ug/kg. Chrysene, benzo(a)fluoranthene, and benzo(k)fluoranthene were also reported above the proposed NJSCS for residential surface soils in samples collected from Boring B-303. Chrysene was reported at concentrations ranging from 500 to 2,200 ug/kg; benzo(b)fluoranthene from 480 to 1800 ug/kg; and benzo(k)fluoranthene from not detected to 660 ug/kg. The NJSCS for these three BNs is 660 ug/kg for residential surface soil. The proposed nonresidential surface soil standard for these three BNs is 2,500 ug/kg.

As discussed in the Phase I report, Boring B-5 was drilled to provide additional coverage in Area 1 and not to evaluate a specific point source(s) at this location. However, trucks and trailers were routinely parked in this area and the occurrence of TPHs and BNs reported in soil samples is not surprising. Based upon a review of these analyses and of the plant activities at this site in Area 1, it is likely that the highest concentrations of BNs and TPHs have been delineated.

Borings B-46 and B-47 are composite samples that were collected from the upper 2 ft of backfill used to fill the excavation of the former gasoline UST. Further review of Allied-Signal's records indicates that a second UST containing diesel fuel was located adjacent to the former gasoline UST and was removed in 1982. The

approximate locations of the two tanks are shown on Figure 2-2. Both USTs were installed in 1957 and removed by Allied-Signal prior to the existence of the NJDEP's BUST guidelines. According to Allied-Signal, the material used to backfill the excavation was obtained from locations at and adjacent to the excavation site.

The analytical results of the two composite samples (B-46 and B-47) are consistent with the results of soil samples collected throughout the plant. Two metals reported in the composite samples exceeded the proposed NJSCS. Arsenic was reported in B-46 at a concentration of 23.8 mg/kg which is slightly above the proposed NJSCS for residential and nonresidential surface soil (20 mg/kg). Beryllium was reported above the proposed NJSCS (2 mg/kg) for residential and nonresidential surface soil in samples B-46 (4.5 mg/kg) and B-47 (4.1 mg/kg). During the Phase I investigation, metals were reported above ECRA cleanup guidelines in samples collected at the plant, including those from several background locations. The occurrence of these metals does not reflect plant operations in Area 1. Since it is likely that the material used to fill the excavation was hydraulically dredged from Newark Bay, the occurrence of metals is not surprising.

The concentrations of total BNs in the two composite samples were reported at 33,540 ug/kg (B-46) and 8,090 ug/kg (B-47), which are well below the proposed NJSCS for total organic compounds (10,000,000 ug/kg). With the exception of benzo(b)fluoranthene, all detected BNs in B-47 were reported at levels below the NJSCS for residential and nonresidential surface soils. Benzo(b)fluoranthene (820 ug/kg) was reported slightly above the proposed NJSCS for residential surface soil (660 ug/kg). Hexachlorobenzene (22,000 ug/kg) was reported in B-46 at a concentration above the proposed NJSCS for nonresidential surface soils (2,000 ug/kg) and also for residential surface soil (420 ug/kg). The concentrations of total VOCs in the composite samples ranged from 22.6 ug/kg (B-47) to 297.9 ug/kg (B-46). All detected VOCs were reported at levels well below the proposed NJSCS.

To further delineate the vertical and horizontal extent of TPHs in soils adjacent to the former USTs, four borings (B-48, B-49, B-122, and B-123) were drilled outside of the excavated area and one additional boring (B-51) was drilled within the excavated area. The former excavated area is visible on the land surface as a line of demarcation of disturbed blacktop/soils. These four samples were analyzed for TPHs only. Since at the time of sample collection the existence of the former diesel UST was not known, these samples only were analyzed for TPHs. Two additional soil samples (B-46C, and B-47C) were collected at the 6-inch interval above the water table to evaluate soil quality conditions underlying the backfill material. These samples were also within the excavated area and were at the same locations of the two composite samples. Sample B-46C was analyzed for VOCs and TPHs; sample B-47C was analyzed for TPHs only.

TPHs were not detected in samples that were collected outside the former excavated area (samples B-48C, B-49C, B-122C, and B-123C). However, samples collected within the excavated area had concentrations of TPHs that exceeded the NJDEP guideline (1,000 mg/kg): B-51A (11,000 mg/kg), B-51B (23,000 mg/kg), and B-51C (8,100 mg/kg). Also, sample B-46C, which was collected from soils underlying the backfill, had a concentration of TPHs at 7,200 mg/kg. The concentration of TPHs in B-47C (290 mg/kg) was below the NJDEP guideline. Only samples B-51A and B-51B had concentrations of TPHs that exceeded the proposed NJSCS for total organic compounds (10,000 mg/kg).

Five BNs were reported at concentrations above the proposed NJSCS in samples B-51A, B-51B, and B-51C. Hexachlorobenzene was reported in samples B-51A (29,000 ug/kg), B-51B (9,300 ug/kg), and B-51C (14,000 ug/kg) at concentrations above the NJSCS for nonresidential surface soil (2,000 ug/kg) and residential surface soil (420 ug/kg). Benzo(a)pyrene was reported at 1,300 ug/kg and 5,800 ug/kg in samples B-51A and B-51B, respectively. The proposed NJSCS for benzo(a)pyrene is 660 ug/kg for both residential and nonresidential surface soils. Also, benzo(a)anthracene was reported at a concentration of 5,600 ug/kg in sample B-51B, which is above the proposed NJSCS for

residential and nonresidential surface soil (660 and 2,500 ug/kg, respectively. In sample B-51A, the concentration of benzo(a)anthrencene (1,100 ug/kg) exceeded the proposed NJSCS for residential surface soil only. Chrysene in sample B-51B (5,500 ug/kg) exceeded the proposed NJSCS for nonresidential surface soil (2,500 ug/kg); in sample B-51A (1,200 ug/kg) chrysene exceeded the residential surface soil standard only (660 ug/kg). Benzo(b)fluoranthene exceeded the proposed NJSCS for both residential and nonresidential surface soils in B-51A (3,000 ug/kg) and B-51B (8,100 ug/kg). Total VOCs were reported at a concentration of 816 ug/kg in sample B-46C, which is well below the proposed NJSCS for total VOCs (1,000,000 ug/kg). All detected VOCs were reported at levels below the proposed NJSCS. The analytical results of the soil samples collected within and adjacent to the excavated area indicate that soils impacted by the former USTs are confined to the excavated area. This area is identifiable on the land surface by the demarcation of disturbed soils. The vertical and horizontal extent of impacted soils at this area in Area 1 has been delineated.

As previously discussed, a second UST was discovered to have existed near the administration building. Two borings were drilled in this area to evaluate soil quality conditions. With the exception of one sample (B-401A), the concentrations of TPHs in samples collected near the former UST that was located adjacent to the administration building were either not detected or well below the NJDEP guideline for TPHs (1,000 mg/kg). Sample B-401A had concentrations of TPHs (1,200 mg/kg) that slightly exceeded the NJDEP guideline. The concentration of total BNs in samples collected from borings B-400 and B-401 ranged from 1,559 to 13,134 ug/kg, which are well below the NJSCS for total organic compounds (10,000,000 ug/kg). One BN (benzo(a)pyrene) was reported at concentrations above the proposed NJSCS of 660 ug/kg in sample B-401C (830 ug/kg).

The concentrations of TPHs near the administration building do not appear to reflect a continuing source for the following reasons: (1) concentrations of TPHs decrease with depth at Boring B-401; (2) concentrations of TPHs in samples B-401B and

B-401C are well below the NJDEP guideline; and (3) the highest concentration of TPHs in Boring B-400 (33 mg/kg) is well below the NJDEP guideline and lower than the lowest concentration reported in samples collected from Boring B-401 (61 mg/kg).

5.1.2 Area 2 - Former Sulfuric Acid Production

Area 2 is the former sulfuric acid production area. The Phase II subsurface investigation focused on the two abandoned empty fuel oil ASTs and the area identified as the old oil spill area. During August 1991, four borings (B-52, B-53, B-54, and B-55) were drilled near the two ASTs. Since the two ASTs were installed prior to the construction of the containment dike, two of the borings (B-54 and B-55) were drilled through the dike to evaluate the impacts to soil quality prior to its construction. The analytical results for the samples collected during August indicated that additional sampling was warranted in this area. Therefore, three additional borings (B-306, B-307, and B-309) were drilled during October 1991 in an attempt to further delineate the vertical and horizontal extent of TPHs in the soils. Also during October, two borings (B-304 and B-305) were drilled in the old oil spill area to evaluate soil quality conditions in this area. All samples collected in Area 2 were analyzed for BNs and TPHs (see Tables 3-3 and 3-5, respectively). The locations of the soil borings drilled in Area 2 are shown on Figure 2-3.

Concentrations of TPHs in samples collected from Area 2 ranged from 38 mg/kg to 70,000 mg/kg. With the exception of samples B-52B (38 mg/kg), B-53B (47 mg/kg), and B-309A (560 mg/kg), all samples collected from borings drilled in Area 2 exceeded the NJDEP guideline for TPHs (1,000 mg/kg). The highest concentrations of TPHs were reported in sample B-304B (70,000 mg/kg), which was collected within the old oil spill area, and sample B-54A (12,000 mg/kg), which was collected beneath the containment dike of the abandoned fuel tanks. Also, the following samples exceeded the proposed NJSCS for total organic compounds (10,000 mg/kg): B-52A (11,000 mg/kg), B-54A (12,000 mg/kg), B-55A (15,000 mg/kg), B-304A (56,000 mg/kg), B-304B (70,000 mg/kg).

B-305A (21,000 mg/kg), B-305B (33,000 mg/kg), B-306A (16,000 mg/kg), B-306B (34,000 mg/kg), B-307A (37,000 mg/kg), and B-307B (15,000 mg/kg).

Concentrations of total BNs ranged from not detected to 59,700 ug/kg. Only three samples had BNs detected at concentrations above the proposed NJSCS. Hexachlorobenzene was reported at an estimated concentration of 2,500 ug/kg in sample B-305B; the NJSCS for this BN is 2,000 ug/kg for nonresidential surface soil and 420 ug/kg for residential soil. Four BNs were detected at concentrations above the proposed NJSCS in sample B-309A: benzo(a)anthracene at 2,700 ug/kg (the proposed NJSCS for nonresidential surface soil is 2,500 ug/kg); chrysene at 2,900 ug/kg (the proposed NJSCS for nonresidential surface soil is 2,500 ug/kg); benzo(a)pyrene at 1,100 ug/kg (the proposed NJSCS residential soil is 660 ug/kg), and benzo(b)fluoranthene at 3,300 ug/kg (the proposed NJSCS for nonresidential soil is 2,500 ug/kg). Benzo(g,h,i)perylene was also reported in sample B-309A at a concentration of 690 ug/kg (the proposed NJSCS for residential surface soil is 660 ug/kg). Similarly, benzo(b)fluoranthene in sample B-309B (740 ug/kg) was reported above the proposed NJSCS for residential surface soil (660 ug/kg) but below the nonresidential standard (2,500 ug/kg).

Although the horizontal and vertical extent of impacted soils near the abandoned ASTs and the oil spill area have not been determined, it is likely that soils with the highest concentrations of TPHs and BNs have been identified since several of the borings were drilled within the former source areas of these constituents. Because the highest concentrations have been identified, the risks calculated for these areas are conservative. Furthermore, even if the areas are fully delineated, the calculated risks would not change. The risk assessment report appears in Appendix A. A summary of the risk assessment is provided in Section 6.0 (Risk Assessment).

5.1.3 Area 3 - Genetron Process and Tank Farm

Area 3 comprises the Genetron Process and Tank Farm areas. Specific sites monitored in Area 3 included the following: (1) three DSAs, (2) the AST fuel oil storage tank area, (3) chloroform tanks, (4) process buildings (structures), (5) valves under the G-11 tanks, and (6) the former lagoon area. The locations of the soil borings drilled in the vicinity of the DSAs, chloroform tanks, fuel oil tanks, process structures, and G-11 valves are shown on Figure 2-4. Figure 2-5 shows the locations of borings drilled in and adjacent to the former lagoon.

Twenty-four borings (B-56, B-58, B-70 through B-87 and B-132 through B-132) were drilled in the vicinity of the chloroform tanks. Samples collected from these borings were analyzed for VOCs. Ten borings (B-12 and B-59 through B-67) were installed adjacent to the three DSAs. Soil samples were analyzed for constituents diagnostic of the materials stored at each DSA such as BNs, PP metals, TPHs, and VOCs. To provide additional coverage in the vicinity of the process structures, four borings were drilled (B-68, B-69, B-120, and B-121) and analyzed for BNs and PP metals. Boring B-84 was also analyzed for PP metals as well as for VOCs. Five borings (B-117 through B-119 and B-126 and B-127) were drilled adjacent to the fuel oil storage tanks in Area 3 and analyzed for BNs, TPHs, and VOCs. To provide additional coverage in the vicinity of the fuel oil storage tanks, Boring B-68 was also analyzed for TPHs. Samples were collected (B-128 through B-131) under the valve of each of the four G-11 tanks in Area 3 and analyzed for VOCs. In the former lagoon area, 33 borings (B-88 through B-110 and B-310 through B-319) were drilled and analyzed for antimony and VOCs; samples collected from B-103 were also analyzed for BNs; samples collected from B-310 were analyzed for antimony and TPHs only. Results of antimony and the PP metal analyses are in Table 3-4. The VOCs results are in Table 3-2; the BNs and TPHs results are in Tables 3-3 and 3-5 respectively.

The results of soil samples collected in the vicinity of the chloroform tanks show that concentrations of total VOCs ranged from not detected to 1,428 ug/kg, which are well below the proposed NJSCS for total VOCs (1,000,000 ug/kg). Only two samples had concentrations of total VOCs reported above 100 ug/kg: B-84B (1,428 ug/kg) and B-72B (394.3 ug/kg). Tetrachloroethene was reported at the highest concentration (sample B-84B [1,200 ug/kg]), which is below the proposed NJSCS for this VOC for nonresidential (37,000 ug/kg) and residential (9,000 ug/kg) surface soil. The highest concentration of chloroform reported in this area was in sample B-72B at 380 ug/kg. The concentration of chloroform reported in this sample is also well below the proposed NJSCS for nonresidential surface soil (28,000 ug/kg) and residential soils (19,000 ug/kg). The analytical results of the soil samples collected near the chloroform tanks indicate that the chloroform tanks and the adjacent soils do not appear to be a continuing source of chloroform to ground water.

Concentrations of total VOCs in samples collected under the G-11 tanks ranged from not detected to 5.7 ug/kg. Methylene chloride was the only VOC detected in samples B-129B (1.5 ug/kg) and B-131B (1.7 ug/kg). The presence of methylene chloride at these low levels is probably from decontamination of the laboratory-supplied sample glassware since similar concentrations of methylene chloride were reported in several of the laboratory-prepared trip blanks (see Table 3-2). Methylene chloride (1.2 ug/kg) and 1,2-dichloroethene (4.5 ug/kg) were reported in sample B-130B. The concentrations of total VOCs and detected VOCs in these samples are well below the proposed NJSCS.

Total VOC concentrations reported in soil samples collected near the fuel oil storage tanks ranged from not detected to 87.3 ug/kg. Sample B-126B had the highest concentration of total VOCs (87.3 ug/kg); acetone was reported at the highest level (79 ug/kg) in this sample. The concentrations of VOCs are well below the proposed NJSCS.

Concentrations of TPHs in samples collected from borings installed near the fuel oil tanks (Borings B-117 through B-119, B-126, and B-127) ranged from not detected to

12,000 mg/kg. Samples B-126A (7,700 mg/kg), B-126B (12,000 mg/kg), and B-127A (4,100 mg/kg) had concentrations of TPHs above the NJDEP guideline (1,000 mg/kg). Also, the concentration of total organic constituents (including TPHs) reported in sample B-126B exceeded the proposed NJSCS (10,000 mg/kg) for soils. As shown on Figure 2-4, samples collected from Borings B-126 and B-127 were drilled through the concrete pad. TPHs were not detected in soil samples collected from borings drilled outside the concrete pad. Similarly, BNs were not detected in samples collected from outside the concrete pad. Concentrations of total BNs in samples collected from within the concrete pad ranged from not detected (B-126A) to 480 ug/kg (B-126B). All detected BNs were reported at concentrations below the proposed NJSCS for residential and nonresidential surface soils. The levels of TPHs and BNs reported in soils collected near the fuel tanks do not appear to reflect a continuing source.

Five borings (B-68, B-69, B-84, B-120, and B-121) were drilled near the process structures to further delineate the presence of metals and BNs reported in soil samples collected during the Phase I investigation. With the exception of Boring B-84, the concentrations of metals reported in samples collected from these five borings were below the proposed NJSCS for nonresidential surface soil. Beryllium was detected at the proposed NJSCS of 2 mg/kg in sample B-84A. The following metals were also reported in this sample at concentrations above the proposed NJSCS for residential and non-residential surface soil: antimony (894 mg/kg), arsenic (429 mg/kg), and cadmium (5.3 mg/kg). The proposed NJSCS for nonresidential surface standards for these metals are antimony at 340 mg/kg; arsenic at 20 mg/kg; and cadmium at 100 mg/kg. Lead (354 mg/kg) was also reported above the residential surface standard (100 mg/kg) but below the non-residential standard (600 mg/kg). BNs were not detected in soil samples collected from these four borings. The vertical and horizontal extent of soils with metals and BNs present at levels above the proposed NJSCS has been delineated in this area. It should be noted, however, that several of these metals, particularly arsenic and zinc, have been reported in background samples collected at the Elizabeth plant. As stated in the Phase I report (Geraghty & Miller, Inc. 1989b) and in Section 4.0 (Hydrogeology)

of this report, the presence of these metals may reflect the quality of the fill material dredged from Newark Bay.

Soil quality conditions around three DSAs were further evaluated during Phase II. Borings B-59 through B-64 were drilled around the two DSAs at the southwestern portion of Area 3, and Borings B-65 through B-67 were drilled around the DSA at the eastern portion of Area 3. Samples collected from these borings were analyzed for BNs, VOCs, and PP metals.

Concentrations of total VOCs in samples collected around the three DSAs ranged from not detected to 41.5 ug/kg. The concentrations of total and detected VOCs were well below the proposed NJSCS. Total BN concentrations ranged from not detected to 22,600 ug/kg. The highest concentration of total BNs was reported in sample B-61B (22,600 ug/kg) but was well below the proposed NJSCS for total organic compounds (10,000,000 ug/kg). However, benzo(a)pyrene was reported at a concentration above the NJSCS (660 ug/kg) in one sample collected from boring B-61: B-61B (1,100 ug/kg). Chrysene (1,500 ug/kg) and benzo(b)fluoranthene (2,300 ug/kg) were also reported above the proposed NJSCS in this sample for residential surface soil (660 ug/kg). All other BNs detected in samples collected near the DSAs were below the proposed NJSCS. The results of the PP metal analyses indicate that the concentrations of detected metals were below the proposed NJSCS for nonresidential surface soils. Only three metals were reported at or slightly above the proposed NJSCS for residential subsurface soil: cadmium was reported at the proposed NJSCS (1.0 mg/kg) in sample B-64B; antimony was reported in B-67B (16.2 mg/kg) above its proposed NJSCS (14 mg/kg); and lead was reported in sample B-62A (129 mg/kg) above the proposed NJSCS (100 mg/kg). The results of the analyses performed on soil samples near the three DSAs in Area 3 do not appear to reflect impact.

To delineate the boundaries of the former lagoon, 33 soil boring were drilled on 25-ft grid spacings (see Figure 2-5). All samples were analyzed for antimony and

selected samples were analyzed for VOCs and TPHs. Since the results of the field screening technique were inconclusive (see Section 3.1 [Soil Sampling]), most samples collected near the former lagoon were also analyzed for VOCs. Additional borings were not drilled west of Phase I Boring B-45 as requested by the NJDEP because review of the aerial photographs indicated that B-45 was located outside of the western edge of the former lagoon. The absence or low levels (less than 3 mg/kg) of chloroform and/or 1,1,2,2-tetrachloroethane in samples collected from Borings B-91, B-96, B-101, and B-106 support this observation (see Figure 2-5).

As shown on Figure 2-5, thirteen samples had one or more parameters that exceeded the proposed NJSCS for residential and nonresidential soils. The predominant VOC reported in samples collected from this area was 1,1,2-2-tetrachloroethane. Samples B-317C (860,000 ug/kg) and B-314C (360,000 ug/kg) had the highest reported concentrations of this compound. Antimony was also reported at elevated concentrations in samples collected from the former lagoon. The highest concentrations of antimony were reported in samples B-317A (1,340 mg/kg), B-317B (1,660 mg/kg), B-315A (408 mg/kg), B-107C (815 mg/kg), and B-319B (554 mg/kg). As stated previously, 1,1,2,2-tetrachloroethane and antimony were associated with material previously disposed in the former lagoon.

The horizontal and vertical extent of impacted soils has been delineated in the easterly, westerly, and northerly directions, but not toward the south (see Figure 2-5). The highest concentrations of 1,1,2,2-tetrachloroethane and antimony were reported in the southernmost samples collected from the lagoon. However, based upon a review of available aerial photographs and interviews with plant personnel, Borings B-310, and B-313 through B-319 were drilled within the approximate center portion of the former lagoon. As such, it is likely that the highest concentrations of 1,1,2-2-tetrachloroethane and antimony have been identified. Because the highest concentrations of this VOC have been identified, the risk calculated for this area is conservative. Furthermore, even

if the lagoon was fully delineated in a southerly direction, the calculated risk would not change. The risk assessment report is provided in Appendix A.

5.1.4 Area 4 - Fluoropolymers Area

Area 4 is the fluoropolymers area and is also an active manufacturing portion of the Elizabeth plant. Six soil borings (B-111 through B-116) were drilled around the two DSAs at locations shown on Figure 2-6. All samples collected in Area 4 were analyzed for VOCs; the results of the VOC analyses appear in Table 3-2.

Total VOC concentrations ranged from 1.2 to 19.2 ug/kg. The concentrations of total VOCs and detected VOCs are well below the proposed NJSCS for total VOCs (1,000,000 ug/kg) and specific compounds with proposed standards. These results do not appear to reflect impacts from plant operations.

5.1.5 Area 6 - Drainage Ditches

Area 6 is defined as the drainage system, consisting of the public ditch and the old ditch which run through and around much of the Elizabeth plant. Four sediment samples were collected at locations shown on Figure 3-3. The sediment samples (SS-3, SS-10 and SS-11) collected from the ditch that is adjacent to the former lagoon were analyzed for antimony, BNs, and VOCs; sediment sample SS-12 was collected from an upgradient location and analyzed for BNs and PP metals. The results of the sediment sample analyses are provided in Tables 3-2 through 3-5. Since there are no NJSCS for sediment, the sediment quality criteria established by the National Oceanic and Atmospheric Administration (NOAA) (NOAA 1990) were used for comparison purposes, where applicable (see Table 5-5).

VOCs were detected in the three sediment samples collected adjacent to the former lagoon at total concentrations ranging from 52 ug/kg to about 21,557 ug/kg.

Sediment samples SS-3 and SS-11 had concentrations of 1,1,2,2-tetrachloroethane reported at 4,700 ug/kg and 8,800 ug/kg, respectively. This VOC was also detected in the soil samples collected from the adjacent former lagoon area and is diagnostic of its past operation. The highest concentration of VOCs was reported in the sample collected at a downstream location of the former lagoon (sample SS-11 at about 21,557 ug/kg).

Concentrations of antimony exceeded the effects-range (ER) of 2 to 25 mg/kg (NOAA 1990) in samples SS-10 (162 mg/kg) and SS-11 (106 mg/kg). At upgradient location SS-12, lead (308 mg/kg), copper (166 mg/kg), mercury (3.5 mg/kg), and zinc (271 mg/kg) exceeded NOAA sediment criteria. The presence of antimony in samples SS-10 and SS-11 is reflective of the past operation of the adjacent former disposal lagoon.

Total BNs were detected in SS-3, SS-11, and SS-12 at concentrations ranging from 880 to 8,470 ug/kg. The highest concentration of total BNs was reported in upgradient sample SS-12 (8,470 mg/kg). Sample SS-12 was the only sample that exceeded the NOAA total PAH criteria of 4,000 mg/kg. Three BNs were reported in this sample: benzo(b)flouranthene (340 mg/kg), fluoranthene (320 ug/kg), and pyrene (310 ug/kg). There is no sediment criteria for benzo(b)fluoranthene; however, the concentrations of fluoranthene and pyrene are below the ER for each compound (600 to 3600 ug/kg and 350 to 2200 ug/kg, respectively). Bis(2-Ethylhexyl)phthalate was the only BN detected in sample SS-3 (880 ug/kg); bis(ethylhexyl)phthalate (1,300 ug/kg) and hexachlorobenzene (2,400 ug/kg) were also reported in sample SS-11. There are no sediment criteria for either of these BNs. bis(2-ethylhexyl)phthalate is also a common laboratory contaminant.

5.1.6 Summary of Tentatively Identified Compounds Detected in Soil Samples

The predominant reported tentatively identified compounds (TICs) in the soil samples collected during Phase II were the following: 1,1,2-trichloro-1,2,2-trifluoroethane, trichlorofluoromethane, hexachloroethane, and hydrocarbon-type

compounds. Trichlorofluoromethane and 1,1,2-trichloro-1,2,2-trifluoroethane are refrigerant gases that are manufactured at the plant. The highest concentrations of trichlorofluoromethane were reported in samples B-107C and B-84B at estimated concentrations of 5,400 ug/kg and 240 ug/kg, respectively. Sample B-84B was collected in Area 3 near the process structure and B-107C was collected within the former lagoon also located in Area 3. The compound, 1,1,2-trichloro-1,2,2-trifluoroethane, was reported in samples B-76B (700 ug/kg), B-71B (370 ug/kg), B-70B (230 ug/kg), and B-133B (100 ug/kg) at estimated concentrations. Samples B-70B, B-71B, B-76B, and B-133B were collected near the process structure and chloroform tanks in Area 3. The laboratory data sheets for samples with reported TICs are provided in Appendix F.

5.2 WATER QUALITY

The analytical results of the ground-water and surface-water samples are provided in Tables 3-7 through 3-10. A discussion of the analytical results of the samples collected from the shallow ground-water monitoring wells and the two rounds of surface-water samples collected from the ditches is provided below. The distribution of selected site-specific VOCs (chloroform, carbon tetrachloride, 1,1,2,2-tetrachloroethane, and trichloroethene) is shown on Figure 5-1.

It should be noted that ground-water quality at the Elizabeth plant generally meets the criteria for Class III-B ground water, as defined in the January 21, 1992 New Jersey Register. As stated in the Register, "Class III-B ground water is not suitable for potable water supply due to natural hydrogeologic conditions or natural water quality." Ground water at the Elizabeth plant meets both these criteria: (1) the physical properties of the shallow water-table zone are not suitable to sustain any significant yields, and (2) the natural water quality conditions are not suitable for potable water; concentrations of chloride generally exceed 3,000 mg/L and total dissolved solids exceed 5,000 mg/L. There are no ground-water quality standards for Class III-B ground water; criteria are

established on a case-by-case basis. A general discussion of the analytical results of the ground-water samples is provided below.

5.2.1 Ground Water

Concentrations of total VOCs in ground water collected from the shallow monitoring wells ranged from not detected to 70,200 ug/L. As shown on Figure 5-1, samples collected from Wells W-23S (70,200 ug/L), W-17S (13,230 ug/L) and W-16S (7,710/7,340 [replicate] ug/L had the highest concentrations of total VOCs. Chloroform was the predominant VOC reported in W-23S (46,000 ug/L) and W-16S (6,200/6,100 [replicate] ug/L, and was also the VOC reported at the highest concentration in ground water at the Elizabeth plant. Well W-23S is located near the chloroform tanks which at one time may have been the source of chloroform in the ground water. The predominant VOC detected in W-17S was 1,1,2,2-tetrachloroethane (10,000 ug/L). This VOC was associated with the spent antimony catalyst that was disposed in the former lagoon. Other predominant VOCs reported in ground water at the plant were carbon tetrachloride (W-23S at a concentration of 21,000 ug/L); trichloroethene (W-17S at a concentration of 380 ug/L); and tetrachloroethene (W-3 at a concentration of 180 ug/L).

During the Phase I investigation, concentrations of total VOCs in ground water collected during August and September 1989 from the shallow monitoring wells ranged from not detected to 53,000 ug/L (Tables 2-8 and 2-13 respectively). Samples collected from Wells W-16S (53,000 ug/L) and W-17S (19,030 ug/L) had the highest concentrations of total VOCs. Chloroform was the predominant VOC reported in W-16S (50,000 ug/L) (see Table 2-8). The VOCs with the highest concentration in Well W-17 was 1,1,2,2-tetrachloroethane (15,000 ug/L) (see Table 2-8). This VOC was associated with the spent antimony catalyst that was reportedly disposed in the former lagoon.

Concentrations of total VOCs in Wells W-16S (7,710 ug/L) and W-17S (13,230 ug/L) were lower during the Phase II investigation than during Phase I installation (W-

16S at 53,000 ug/L and W-17S at 19,030 ug/L). The decrease in the VOC concentrations in these wells is likely due to one or both of the following factors: (1) the chemical heterogeneity of ground-water quality; (2) the removal of the VOC source(s) (thus, ground-water quality is improving due to natural attenuation).

The analytical results for the ground-water sample collected from Well W-4 appear to support the conclusion that ground water in the shallow water-table zone discharges to the ditches. As shown on Figure 5-1, the concentration of total VOCs reported in Well W-4 was about 43 ug/L. However, several site-specific VOCs (chloroform, carbon tetrachloride, and 1,1,2,2-tetrachloroethane) were not detected in this well. The VOC with the highest concentration in Well W-4 was trichloroethene (14 ug/L).

In accordance with the July 11, 1991 sampling plan approval letter, Well W-3 was sampled for BNs during the Phase II investigation. The concentrations of total BNs in W-3 was reported at 293.5 ug/L. BNs are not reflective of plant activities. However, the predominant BNs reported in W-3 were coal tar derivatives (naphthalene at 130 ug/L), acenaphthene at 37 ug/L, 2-methylnaphthalene at 78 ug/L, and dibenzofuran at 22 ug/L). Since Well W-3 was constructed flush to the land surface, the presence of BNs in ground water may be the result of runoff from the blacktop (asphalt) surface, as the integrity of the well seal is suspect due to heavy vehicular traffic in this area.

In addition to the VOC analyses, Well W-22S was sampled for TPHs to evaluate the impacts, if any, from the former USTs on ground-water quality. The results of the analyses indicated that the concentrations of TPHs in W-22S were 4 mg/L. The source of TPHs in Well W-3 was probably the two former adjacent USTs.

5.2.2 Surface Water

Two rounds of surface-water samples were collected from the ditches that surround the plant. All samples were analyzed for VOCs, BNs, and antimony. The PP metals were also analyzed in sample SW-12. The surface-water sampling locations are shown on Figure 3-3.

During the first round, concentrations of total VOCs ranged from 10 to about 260 ug/L. The highest concentration of total VOCS was reported in SW-11 at 260.7 ug/L; the predominant VOCs at this sampling location were trichloroethene (150 ug/L) and 1,1,2,2-tetrachloroethane (84 ug/L). The lowest concentration of total VOCs was reported at downgradient location SW-10 (10 ug/L). The predominant VOC reported at this location was acetone (8 ug/L), which is a common laboratory contaminant, and is probably reflective of the decontamination of the laboratory-supplied sample bottles.

Low levels of BNs (less than 3.0 ug/L) were reported in two surface-water samples (SW-3 and SW-12) collected from the ditches during the second sampling round. In fact, the only BN reported in samples SW-3 (2 ug/L) and SW-12 (2.9 ug/L) was the common laboratory contaminant bis(2-ethylhexyl)phthalate. BNs were not detected in samples collected during the first round.

In general, higher concentrations of total VOCs were reported at these sampling locations during the second sampling round. Concentrations of total VOCs ranged from not detected (SW-10) to about 2,995 ug/L (SW-7). Similar to the first round, the predominant VOCs reported in the surface-water samples were 1,1,2-2-tetrachloroethane (2,300 ug/L and 1,200 ug/L at SW-7 and SW-4, respectively) and trichloroethene (470 ug/L and 140 ug/L at SW-7 and SW-4, respectively). The high concentrations of VOCs reported during the second sampling round are probably related to the lower water levels at the plant compared to the first sampling round. This is supported by the fact that surface-water location SW-11 was dry during the second sampling round.

Antimony was detected in SW-3 (0.14 mg/L) during the first sampling round only. Copper was detected in SW-12 at a concentration of 0.015 mg/L, but it was also reported in the laboratory blank. No other metals were reported in the surface-water samples.

5.2.3 Summary of Tentatively Identified Compounds in Ground Water

The predominant TICs reported in ground-water samples were the refrigerant gases trichlorofluoromethane and 1,1,2-trichloro-1,2,2-trifluoroethane. The highest concentrations of 1,1,2-trichloro-1,2,2-trifluoroethane were reported in the following wells: W-23S (27,000 ug/L), W-3 (500 ug/L), and W-15S (470 ug/L). Well W-16S had the highest concentration of trichlorofluoromethane (12,000 ug/L). This compound was also reported in Wells W-27S (700 ug/L), W-15S (180 ug/L), and W-3 (160 ug/L). The laboratory data sheets containing the TICs for the monitoring wells sampled during Phase II are provided in Appendix F.

6.0 RISK ASSESSMENT

The results of the risk assessment indicate that for site-specific exposure scenarios the risks associated with air, soil, ground water, surface water, and sediment are within or below federal regulatory guidelines for a nonresidential site. The total chronic pathway risks for air and soil had an excess lifetime cancer risk (ELCR) of 3×10^{-5}, which is within the acceptable range of 1×10^{-4} to 1×10^{-6}; the health index (HI) was 0.07, which is below the acceptable limit of 1.0. The subchronic risk estimates for e: potable ground water were below regulatory guidelines: an ELCR of 7 › of 0.4. A hypothetical acute exposure scenario involving a site worker exp water and sediment in the drainage ditches resulted in acceptable risk ELCR of 1×10^{-7} and an HI of 0.7. Concentrations of site-specific con drainage ditches were below surface-water criteria for the protection of aquatic life, the ecologic impact of these constituents is expected to be low.

To ensure that the risks associated with subchronic exposure to hot spots across the site are accounted for, a hypothetical excavation worker scenario was used to establish site specific action levels for site soils. The only constituents that exceeded the calculated health based levels (see Table 8-4 of risk assessment report in Appendix A) were total carcinogenic PAHs (cPAHs), antimony, arsenic, and 1,1,2-2-tetrachloroethane. Carcinogenic PAHs are as follows: chrysene, benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, diben(a,h)anthracene, and indo(1,2,3,-cd)pyrene. It should be noted, however, that the average concentrations for the cPAHs, antimony, arsenic, and 1,1,2,2-tetrachloroethane at the 95 percent Upper Confidence Limit (UCL) in Areas 1, 2, 3, and 4 were well below the calculated health-based action levels based on an ELCR of 1×10^{-6}, which indicates an acceptable level of risk. The specific sites where the action levels for the constituents were exceeded is provided in the risk assessment report (see Appendix A) and Section 9.0 (Conclusions and Recommendations) of this report.

7.0 ASBESTOS CONTAINING MATERIAL

Allied-Signal has developed an Operations and Maintenance Plan (O&M) which is designed to minimize the possibility of the accidental disturbance of ACMs at the site and to protect workers and other building occupants who work around these materials. The O&M plan is provided in Appendix G and is being submitted to address, in part, the NJDEP's comment in the July 11, 1991 sampling plan approval letter concerning ACM at the site (page 9 of the sampling plan approval letter).

8.0 OTHER TECHNICAL REQUIREMENTS

A discussion of additional information requested by the NJDEP in its July 11, 1991 letter is provided below.

8.1 AERIAL PHOTOGRAPHS

The previously submitted aerial photographs have been enlarged to sufficient scale to provide additional detail about the site. These photographs are provided as an attachment to this report.

8.2 REVISED SCALED SITE/AREA MAPS

Where applicable, all figures provided in this report were prepared to reflect the ECRA data requirements contained in Item IV.A.2.B of the April 10, 1989 sampling plan approval and the "ECRA Guidelines for Presentation and Proposal" section of the NJDEP's July 11, 1991 sampling plan approval letter.

8.3 QUALITY ASSURANCE/QUALITY CONTROL

The QA/QC information requested in the NJDEP's July 11, 1991 sampling plan approval letter was previously submitted (Geraghty & Miller, Inc. letters dated January 22, 1991 and August 2, 1991).

8.4 UST CERTIFICATION

Information concerning the number of former and existing USTs located at the site, as well as their content, construction, capacity, and data of installation and removal, is summarized in Table 8-1. The three USTs located in Area 1 were addressed as part of the current ECRA investigation. The still dump tank was removed on October 30,

1990. The letter report summarizing the results of the sampling associated with the removal of this tank is provided in Appendix H.

8.5 CONSTRUCTION/PAVING HISTORY AND INTEGRITY INSPECTION/TESTING

As required in the July 11, 1991 sampling plan approval letter, the following information is provided in this Phase II report: (1) a site map showing the paving history at the plant is provided on Figure 8-1; (2) a list of the USTs that are located at the plant (see Table 8-1); (3) a list of the construction dates for the containment dikes built around the ASTs and DSAs (see Table 8-2). An inspection to evaluate the integrity of the containment dikes was conducted by Allied-Signal during February 1992. A summary of the integrity inspection is provided below; photographic documentation of the inspection is provided in Appendix I.

8.5.1 Integrity Inspection

#101 (HCl) Storage Tank Dike - This facility was shutdown in late 1988 and RCRA-closed in 1991. The dike walls and floor show signs of deterioration.

#128 (HCl) Storage Tank Dike - same as above.

Sulfuric Area Twin Fuel Dike - These tanks were taken out of service in 1981 with the shut down of the Sulfuric Acid Plant. The walls and floor of this facility show signs of deterioration.

Monomer Oil Storage Tanks Dike - The walls and floor of this active facility are in excellent condition. A new state-of-the-art epoxy floor coating was applied in late 1991.

#102 and #103 Chloroform Storage Tanks Dike - These tanks were emptied of their contents in 1991 and remain idle. The process which they served was shutdown in late 1988. The walls and floor of this facility are in excellent condition.

Blends Area Tank Containment Area - This poured concrete flooring and curbed area was installed in February 1991. The walls and floors are in good condition.

Monomer Caustic/Acid Tanks Dike - Acid was removed from the tank during 1988 and one tank is presently sitting idle. One tank is currently being used in caustic (NaOH) service. The floor of the caustic tank shows signs of cracks; the wall is in good condition.

Genetron Spent Caustic Tanks Curbed Area - These tanks were taken out of service in late 1988 and RCRA-closed in 1991. The curbing and floor are in good condition.

Hazardous Waste Drum Storage Area (Genetron Area) - This area is currently being used and its floor and curbing are in excellent condition.

Hazardous Waste Drum Storage Area (Ausimont Boneyard Area) - This fenced, unpaved area was used by Ausimont USA and subsequently shutdown in 1986. This facility was RCRA-closed in February 1991, along with the Halar Effluent Tank. There are no visual signs of deterioration.

Fire Tank Diesel Oil Tank Dike - The dike floor and curbing are in good condition with no signs of deterioration.

Heating Oil Tanks at Garage Dike - Same as above.

Chloroform Tanks (#102 & #103) Dike - The dike and floor are in good condition.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions concerning the soil and sediment sampling activities conducted in the five areas of environmental concern investigated during Phase II are presented below along with conclusions concerning ground-water and surface-water qu the results of the Phase II investigation and the risk assessment e accordance with N.J.A.C. 7:26B-4.3, Geraghty & Miller have recomm following three alternatives for each of the five areas investigated du the ECRA investigation: (1) no action; submittal of a Negative submittal of a Cleanup Plan; and (3) submittal of a supplemental sampling plan to further delineate the extent and degree of contamination, if any, at the site.

9.1 AREA 1 - FORMER FLUOROISOBUTYLMONOMER PRODUCTION

Three specific sites within Area 1 were investigated during Phase II as follows: (1) the two former USTs, (2) the area near Phase I Boring B-5, and (3) the recently discovered UST near the administration building. The vertical and horizontal extent of soils impacted by the former USTs has been delineated. Concentrations of TPHs and BNs reported in samples collected from within the former excavated area ranged from 8,100 to 23,000 mg/kg and 51,460 to 88,100 ug/kg, respectively. The results of the risk assessment show that the overall site risk (ELCR of 3×10^{-5}) to a worker is within the acceptable federal range of 1×10^{-4} to 1×10^{-6} for soil and air. The health-based soil action level for total cPAHs (13,000 ug/kg) that was calculated for a subchronic exposure scenario at a 1×10^{-6} ELCR was exceeded in sample B-51B (25,000 ug/kg) only. However, the average concentration of cPAHs, in Area 1 (6,900 ug/kg) at the 95 percent UCL was well below the health-based action level of 13,000 ug/kg.

Recommendation: No Action.

The vertical and horizontal extent of impacted soils near the Phase I Boring

B-5 has also been sufficiently delineated. Concentrations of TPHs in this area ranged from not detected to 10,000 mg/kg; BN concentrations ranged from not detected to 52,520 ug/kg. Concentrations of TPHs and BNs reported in several samples collected at this location exceeded the NJSCS. As stated above, the results of the risk assessment show that the overall site risk (ELCR of 3×10^{-5}) to a worker is within the potentially acceptable federal range of 1×10^{-4} to 1×10^{-6} for soil and air. The highest concentration of total cPAHs near Boring B-5 (sample B-303A at 5,520 ug/kg) was below the health-based soil action level for cPAHs (13,000 ug/kg).

Recommendation: No Action.

The results of the soil samples collected near the former UST near the administration building indicate that the concentrations of TPHs were either not detected or were well below the NJDEP guideline of 1,000 mg/kg, except for sample B-401A (1,200 mg/kg). Similarly, the concentrations of specific BNs and total BNs were well below the proposed NJSCS. TPH and BN concentrations at these levels do not reflect a continuing source.

Recommendation: No Action.

9.2 AREA 2 - FORMER SULFURIC ACID PRODUCTION

Concentrations of total TPHs in samples collected near the two abandoned fuel oil tanks and the old oil spill area ranged from 38 to 70,000 mg/kg. Total BN concentrations reported in samples collected from these areas ranged from not detected to 59,700 ug/kg. Although the vertical and horizontal extent of impacted soils has not been fully delineated, it is likely that the highest concentrations of BNs and TPHs have been identified since several samples were collected from borings that were drilled within the source areas for these constituents. Assuming the highest concentrations have been identified, the overall site risk for soil and air to a worker is within federal guidelines.

Furthermore, the highest concentration of total cPAHs reported in samples collected from Area 2 (sample B-309A at a concentration of 10,000 ug/kg) was below the calculated health-based action level for subchronic exposure to cPAHs (13,000 ug/kg).

Recommendation: No Action.

9.3 AREA 3- GENETRON PROCESS AND TANK FARM

Six specific sites in Area 3 were monitored: (1) three DSAs, (2) the AST for fuel oil, (3) chloroform tanks, (4) process buildings, (5) G-11 tanks, and (6) the former lagoon area.

Results of the soil samples collected near the DSAs indicated that VOCs ranged from concentrations of not detected to 41.5 ug/kg. Concentrations of total organic compounds were well below the proposed NJSCS. Only three metals were reported at or slightly above the proposed NJSCS. The concentrations of detected metals were also below the health-based soil action levels calculated as part of the risk assessment.

Recommendation: No Action.

The analytical results of samples collected from the five borings drilled around the process buildings indicated that BNs were not detected and only samples collected from one boring (B-84) had concentrations of metals above the proposed NJSCS. Antimony (894 mg/kg) and arsenic (429 mg/kg) reported in sample B-84A exceeded the health-based soil action levels calculated as part of the risk assessment (370 ug/kg for antimony and 280 ug/kg for arsenic). However, the average concentrations of antimony (100 ug/kg) and arsenic (35 ug/kg) in Area 3 at the 95 percent UCL were below the health-based action levels calculated for subchronic exposure at a 1×10^{-6} ELCR.

Recommendation: No Action.

Concentrations of total VOCs in samples collected under the valves of the G-11 tanks ranged from not detected to 5.7 ug/kg. The results do not reflect impact.

Recommendation: No Action.

The analytical results of the soil samples collected in the vicinity of the chloroform tanks show that concentrations of total VOCs ranged from not detected to 1,428 ug/kg, which are well below the proposed NJSCS. The highest concentration of chloroform reported in soil samples collected from this area was 380 ug/kg (sample B-72B), which was also well below the proposed NJSCS for chloroform in nonresidential soils (28,000 ug/kg).

Recommendation: No Action.

Concentrations of TPHs in samples collected near the fuel oil tanks ranged from not detected to 12,000 mg/kg. Three samples had concentrations of TPHs above NJDEP guidelines. All detected BNs were reported at concentrations below the proposed NJSCS.

Recommendation: No Action.

Thirteen soil samples collected near the former lagoon had concentrations above the NJSCS. The predominant parameters reported at levels above the proposed NJSCS were 1,1,2,2-tetrachloroethane and antimony, which are diagnostic of material previously disposed in the former lagoon. Also, the highest concentrations of these parameters (including cPAHs) reported in soil samples collected near the former lagoon exceeded the health-based soil action levels. However, the average concentration of 1,1,2,2-tetrachloroethane (24 mg/kg), cPAHs (3.1 mg/kg), antimony (100 mg/kg), and arsenic (35 mg/kg) at the 95 percent UCL were below the health-based soil action levels.

Recommendation: No Action.

9.4 AREA 4 - FLUOROPOLYMERS PRODUCTION

Concentrations of total VOCs in samples collected around the DSAs located in Area 4 ranged from 1.2 to 19.2 ug/kg and do not appear to reflect impact.

Recommendation: No Action.

9.5 GROUND WATER AND SURFACE WATER

Concentrations of total VOCs in ground water collected from the shallow monitoring wells ranged from not detected to 70,200 ug/L. The highest concentrations of total VOCs were reported in the following wells: W-23S (70,200 ug/L), W-17S (13,230 ug/L), and W-16S (7,710 ug/L). The VOC with the highest concentration was chloroform, which was reported in Well W-23S at a concentration of 46,000 ug/L. Since this well is situated adjacent to the empty chloroform tanks, which were probably at one time the source of chloroform to ground water, it is likely that this concentration represents the highest concentration of chloroform in the ground-water system. The VOC reported at the second highest concentration was 1,1,2,2-tetrachloroethane which was reported in Well W-17S at a concentration of 10,000 ug/L. Well W-17S is located adjacent to the former lagoon where this VOC was disposed.

The subchronic risk estimates for exposure to shallow ground water at the plant were calculated to be below federal and state guidelines: an ELCR of $7 \times 10^{-}$ and an HI of 0.4. A hypothetical acute exposure of site workers to surface water and sediment in the drainage ditches also resulted in acceptable risks: ELCR of $1 \times 10^{-}$ and an HI of 0.7. Concentrations of VOCs will decrease in ground water with time because there do not appear to be any continuing sources of VOCs at the Elizabeth plant. Furthermore, since ground water discharges to the ditches, surface-water quality should improve with

time and ultimately the risks associated with the ditches and ground water will decline as well. These conclusions are supported by the fact that higher concentrations of total VOCs were reported in Wells W-16S (53,000 ug/L) and W-17S (19,030 ug/L) during Phase I than reported during Phase II (7,710 ug/L and 13,230 ug/L, respectively), which suggests that the VOCs in ground water are attenuating.

Recommendation: No Action.

10.0 REFERENCES

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TABLES

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Table 2-1. Schedule of Analyses and Sites Monitored, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
SOIL SAMPLES		
Area 1-Former Fluoroisobutylmonomer Production		
B-1A	PHCs	Aboveground gas tanks
B-1B	PHCs, VOCs	Aboveground gas tanks
B-2A	PHCs	Aboveground diesel tanks and former underground gas tanks
B-2B	PHCs, VOCs	Aboveground diesel tanks and former underground gas tanks
B-3A	PHCs	Heating oil tank near garage
B-3B	PHCs, VOCs,	Heating oil tank near garage
B-5A	PHCs	Additional Area 1 coverage
B-4B, B-5B	PHCs, VOCs	Additional Area 1 coverage
Area 2-Former Sulfuric Acid Production		
B-6A, B-7A, B-8A, B-9A, B-10A	Sulfate, pH	General coverage of Area 2
B-6B, B-7B, B-8B, B-9B,	Sulfate, pH	General coverage of Area 2
B-16SA, W-16SB, W-16SC	Sulfate, pH	Downgradient of sulfuric acid tanks
Area 3-Genetron Process and Tank Farm		
B-11A	BNs, metals	Drum strorage areas
B-11B	BNs, metals, VOCs	Drum strorage areas
B-13A	BNs, metals	East side of Genesolv blends warehouse
B-13B	BNs, metals, VOCs	East side of Genesolv blends warehouse
B-14A, B-16A	BNs, metals, pH	HCl tanks
B-14B	BNs, metals, pH, VOCs	HCl tanks
B-15A	BNs, metals	Genetron 113 tank
B-15B	BNs, metals, VOCs	Genetron 113 tank
B-17A	BNs, metals	Methylene chloride brine tank
B-17B	BNs, metals, VOCs	Methylene chloride brine tank
B-18A	BNs, metals, PCBs, pH	Spent catalyst tanks
B-18B	BNs, metals, PCBs, pH, VOCs	Spent catalyst tanks
B-19A	BNs, metals	East-central portion of Area 3
B-19B	BNs, metals, VOCs	East-central portion of Area 3
B-20A	BNs, metals, pH	Spent caustic tanks
B-20B	BNs, metals, pH, VOCs	Spent caustic tanks
B-21A	BNs, metals, PHCs	Drum storage area and fuel tanks
B-21B	BNs, metals, PHCs, VOCs	Drum storage area and fuel tanks
W-17SA	BNs, metals, PCBs, PHCs, sulfate, pH	Filled lagoon
W-17SC, W-17SB	BNs, metals, PCBs, PHCs, VOCs, sulfate, pH	Filled lagoon

See page 3 for footnotes.

Table 2-1. Schedule of Analyses and Sites Monitored, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
SOIL SAMPLES		
Area 4-Fluoropolymers Production		
B-22B, B-23B	VOCs	Drum storage areas
B-24A	BNs, metals	Halar effluent tank
B-24B	BNs, metals, VOCs	Halar effluent tank
B-25A	BNs, metals	Calcium chloride brine tank
B-25B	BNs, metals, VOCs	Calcium chloride brine tank
B-26A	BNs, metals, pH	HCl tank
B-26B	BNs, metals, pH, VOCs	HCl tank
B-27A	BNs, metals	Still dump tank
B-27B	BNs, metals, VOCs	Still dump tank
Area 5-Electrical Substations		
B-28A, B through B-35A, B	PCBs	Main substation and substations A, B, and C which contained PCBs
B-36A, B through B-39A, B	PHCs	Substations D and E not containing PCBs
Area 7-Background and Random Borings		
W-19SA, W-21SA, B-40A	BNs, metals, PHCs, PCBs, sulfate, pH	Background soil quality
W-19SB, W-19SC, W-21SB, W-21SC, B-40B	BNs, metals, PHCs, PCBs, sulfate, pH, VOCs	Background soil quality
B-41A through B-45A	BNs, metals, PHCs, PCBs, sulfate, pH	Random soil samples
B-41B through B-45B	BNs, metals, PHCs, PCBs, sulfate, pH, VOCs	Random soil samples
SEDIMENT SAMPLES		
Area 6-Drainage Ditches		
SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, SS-7	BNs, metals, PHCs, PCBs, VOCs	Drainage ditches
SURFACE-WATER SAMPLES		
Area 6-Drainage Ditches		
SW-1, SW-2, SW-3, SW-4	BNs, metals, PHCs, VOCs	Drainage ditches

See page 3 for footnotes.

Table 2-1. Schedule of Analyses and Sites Monitored, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
GROUND-WATER SAMPLES		
Area 6-Drainage Ditches		
W-15S, W-16S, W-17S, W-18S, W-19S, W-20S, W-21S, W-1, W-2, W-3, W-4, W-5	BNs, metals, PHCs, PCBs, sulfate, pH, VOCs, acid-extractables, gross alpha, gross beta	Entire site

HCl Hydrochloric acid.
PHCs Petroleum hydrocarbons.
VOCs Volatile organic compounds.
BNs Base/neutral extractable compounds.
PCBs Polychlorinated biphenyls.
Suffix "A" Soil sample in 0-to 6-inch interval below land surface.
Suffix "B" Soil sample in 18-to 24-inch interval below land surface.
Suffix "C" Soil sample in 6-inch interval above water table.
Suffix "S" Shallow well.
A library search for additional compounds was included with applicable organic analyses (VOCs, BNs, and acid extractables).

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	1
			Sample I.D.:	B-1B	B-2B	B-3B
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/30/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<13	<13
Bromomethane	1,000,000	790,000	1,000	<11	<13	<13
Vinyl chloride	7,000	2,000	1,000	<11	<13	<13
Chloroethane	NA	NA	NA	<11	<13	<13
Methylene chloride	170,000	49,000	10,000	6 B	8 B	5 BJ
Acetone	1,000,000	1,000,000	50,000	<11	13	63 B
Carbon disulfide	NA	NA	NA	<5	<6	<6
1,1-Dichloroethene	940,000	51,000	10,000	<5	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5	<6	<6
Chloroform	28,000	19,000	1,000	<5	<6	<6
1,2-Dichloroethane	24,000	6,000	1,000	<5	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<13	<13
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<5	<6	<6
Vinyl acetate	NA	NA	NA	<11	<13	<13
Bromodichloromethane	22,000	5,000	1,000	<5	<6	<6
1,2-Dichloropropane	NA	NA	NA	<5	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<5	<6	<6
Trichloroethene	100,000	23,000	1,000	<5	<6	<6
Dibromochloromethane	1,000,000	110,000	1,000	<5	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5	<6	<6
Benzene	13,000	3,000	1,000	<5	<6	4 J
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5	<6	<6
Bromoform	370,000	86,000	1,000	<5	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<13	<13
2-Hexanone	NA	NA	NA	<11	<13	<13
Tetrachloroethene	37,000	34,000	1,000	<5	<6	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<5	<6	<6
Toluene	1,000,000	1,000,000	500,000	<5	<6	<6
Chlorobenzene	690,000	37,000	1,000	<5	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<5	<6	<6
Styrene	97,000	23,000	100,000	<5	<6	<6
Xylene (total)	6,300,000	360,000	10,000	<5	<6	<6
Total VOCs:	1,000,000	1,000,000	1,000,000	6	21	72

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	3
			Sample I.D.:	B-4B	B-5B	B-11B
			Sample Depth (inches):	18 - 24	18 - 24	16 - 18
			Date Sampled:	5/25/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	< 11	< 11	< 13
Bromomethane	1,000,000	790,000	1,000	< 11	< 11	< 13
Vinyl chloride	7,000	2,000	1,000	< 11	< 11	< 13
Chloroethane	NA	NA	NA	< 11	< 11	< 13
Methylene chloride	170,000	49,000	10,000	3 BJ	6 B	15 B
Acetone	1,000,000	1,000,000	50,000	25 B	35	92
Carbon disulfide	NA	NA	NA	< 6	< 6	< 6
1,1-Dichloroethene	940,000	51,000	10,000	< 6	< 6	< 6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	< 6	< 6	< 6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	< 6	< 6	< 6
Chloroform	28,000	19,000	1,000	< 6	< 6	< 6
1,2-Dichloroethane	24,000	6,000	1,000	< 6	< 6	< 6
2-Butanone	1,000,000	1,000,000	50,000	< 11	< 11	< 13
1,1,1-Trichloroethane	3,800,000	210,000	50,000	< 6	< 6	< 6
Carbon tetrachloride	4,000	2,000	1,000	< 6	< 6	< 6
Vinyl acetate	NA	NA	NA	< 11	< 11	< 13
Bromodichloromethane	22,000	5,000	1,000	< 6	< 6	< 6
1,2-Dichloropropane	NA	NA	NA	< 6	< 6	< 6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	< 6	< 6	< 6
Trichloroethene	100,000	23,000	1,000	< 6	< 6	< 6
Dibromochloromethane	1,000,000	110,000	1,000	< 6	< 6	< 6
1,1,2-Trichloroethane	420,000	23,000	1,000	< 6	< 6	< 6
Benzene	13,000	3,000	1,000	< 6	< 6	< 6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	< 6	< 6	< 6
Bromoform	370,000	86,000	1,000	< 6	< 6	< 6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	< 11	< 11	< 13
2-Hexanone	NA	NA	NA	< 11	< 11	< 13
Tetrachloroethene	37,000	34,000	1,000	< 6	< 6	< 6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	< 6	< 6	< 6
Toluene	1,000,000	1,000,000	500,000	< 6	< 6	< 6
Chlorobenzene	690,000	37,000	1,000	< 6	< 6	< 6
Ethylbenzene	1,000,000	1,000,000	100,000	< 6	< 6	< 6
Styrene	97,000	23,000	100,000	< 6	< 6	< 6
Xylene (total)	6,300,000	360,000	10,000	< 6	< 6	< 6
Total VOCs:	1,000,000	1,000,000	1,000,000	28	41	107

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample I.D.:	B-13B	B-14B	B-15B
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/30/89	5/25/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	10 B	5 BJ	4 J
Acetone	1,000,000	1,000,000	50,000	12	25 B	<11
Carbon disulfide	NA	NA	NA	<6	<6	<6
1,1-Dichloroethene	940,000	51,000	10,000	<6	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<6	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<6	<6	<6
Chloroform	28,000	19,000	1,000	<6	<6	<6
1,2-Dichloroethane	24,000	6,000	1,000	<6	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<6	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<6	<6	<6
Vinyl acetate	NA	NA	NA	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<6	<6	<6
1,2-Dichloropropane	NA	NA	NA	<6	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<6	<6	<6
Trichloroethene	100,000	23,000	1,000	<6	<6	<6
Dibromochloromethane	1,000,000	110,000	1,000	<6	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<6	<6	<6
Benzene	13,000	3,000	1,000	<6	<6	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<6	<6	<6
Bromoform	370,000	86,000	1,000	<6	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11
Tetrachloroethene	37,000	34,000	1,000	<6	<6	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<6	<6	<6
Toluene	1,000,000	1,000,000	500,000	<6	<6	<6
Chlorobenzene	690,000	37,000	1,000	<6	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<6	<6	<6
Styrene	97,000	23,000	100,000	<6	<6	<6
Xylene (total)	6,300,000	360,000	10,000	<6	<6	<6
Total VOCs:	1,000,000	1,000,000	1,000,000	22	30	4

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample I.D.:	B-17B	B-18B	B-19B
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/25/89	5/30/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	5 BJ	12	4 BJ
Acetone	1,000,000	1,000,000	50,000	27 B	<11	35 BY
Carbon disulfide	NA	NA	NA	<6	<6	<6
1,1-Dichloroethene	940,000	51,000	10,000	<6	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<6	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<6	<6	<6
Chloroform	28,000	19,000	1,000	<6	<6	<6
1,2-Dichloroethane	24,000	6,000	1,000	<6	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<6	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<6	<6	<6
Vinyl acetate	NA	NA	NA	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<6	<6	<6
1,2-Dichloropropane	NA	NA	NA	<6	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<6	<6	<6
Trichloroethene	100,000	23,000	1,000	<6	<6	<6
Dibromochloromethane	1,000,000	110,000	1,000	<6	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<6	<6	<6
Benzene	13,000	3,000	1,000	<6	<6	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<6	<6	<6
Bromoform	370,000	86,000	1,000	<6	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11
Tetrachloroethene	37,000	34,000	1,000	<6	<6	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<6	<6	<6
Toluene	1,000,000	1,000,000	500,000	<6	<6	<6
Chlorobenzene	690,000	37,000	1,000	<6	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	8	<6	<6
Styrene	97,000	23,000	100,000	<6	<6	<6
Xylene (total)	6,300,000	360,000	10,000	27 BY	<6	<6
Total VOCs	1,000,000	1,000,000	1,000,000	67	12	39

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			ple I.D.:	B-20B	B-21B	W-17SB
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/26/89	5/26/89	7/12/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	< 11	< 11	< 15
Bromomethane	1,000,000	790,000	1,000	< 11	< 11	< 15
Vinyl chloride	7,000	2,000	1,000	< 11	< 11	< 15
Chloroethane	NA	NA	NA	< 11	< 11	< 15
Methylene chloride	170,000	49,000	10,000	4 J	5 JY	< 15
Acetone	1,000,000	1,000,000	50,000	< 11	< 11	7 BJ
Carbon disulfide	NA	NA	NA	< 5	< 6	26 B
1,1-Dichloroethene	940,000	51,000	10,000	< 5	< 6	< 8
1,1-Dichloroethane	1,000,000	1,000,000	1,000	< 5	< 6	< 8
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	< 5	< 6	< 8
Chloroform	28,000	19,000	1,000	8	< 6	< 8
1,2-Dichloroethane	24,000	6,000	1,000	< 5	< 6	3 J
2-Butanone	1,000,000	1,000,000	50,000	< 11	< 11	< 8
1,1,1-Trichloroethane	3,800,000	210,000	50,000	< 5	< 6	< 15
Carbon tetrachloride	4,000	2,000	1,000	< 5	< 6	< 8
Vinyl acetate	NA	NA	NA	< 11	< 11	< 8
Bromodichloromethane	22,000	5,000	1,000	< 5	< 6	< 15
1,2-Dichloropropane	NA	NA	NA	< 5	< 6	< 8
cis-1,3-Dichloropropene	5000 +	4,000 +	1000 +	< 5	< 6	< 8
Trichloroethene	100,000	23,000	1,000	52	< 6	< 8
Dibromochloromethane	1,000,000	110,000	1,000	< 5	< 6	< 8
1,1,2-Trichloroethane	420,000	23,000	1,000	< 5	< 6	< 8
Benzene	13,000	3,000	1,000	< 5	< 6	< 8
trans-1,3-Dichloropropene	5,000 +	4,000 +	1,000 +	< 5	< 6	< 8
Bromoform	370,000	86,000	1,000	< 5	< 6	< 8
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	< 11	< 11	< 15
2-Hexanone	NA	NA	NA	< 11	< 11	< 15
Tetrachloroethene	37,000	34,000	1,000	8	< 6	< 8
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	< 5	< 6	12 B
Toluene	1,000,000	1,000,000	500,000	< 5	< 6	< 8
Chlorobenzene	690,000	37,000	1,000	< 5	< 6	< 8
Ethylbenzene	1,000,000	1,000,000	100,000	< 5	< 6	< 8
Styrene	97,000	23,000	100,000	< 5	< 6	< 8
Xylene (total)	6,300,000	360,000	10,000	< 5	< 6	< 8
Total VOCs:	1,000,000	1,000,000	1,000,000	72	5	48

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	4	4
			Sample I.D.:	W-17SC	B-22B	B-23B
			Sample Depth (inches):	*	18 - 24	18 - 24
			Date Sampled:	7/12/89	5/30/89	5/30/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<15	<11	<11
Bromomethane	1,000,000	790,000	1,000	<15	<11	<11
Vinyl chloride	7,000	2,000	1,000	<15	<11	<11
Chloroethane	NA	NA	NA	<15	<11	<11
Methylene chloride	170,000	49,000	10,000	<7	8	7 B
Acetone	1,000,000	1,000,000	50,000	75 B	<11	6 J
Carbon disulfide	NA	NA	NA	<7	<6	<5
1,1-Dichloroethene	940,000	51,000	10,000	<7	<6	<5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<7	<6	<5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<7	<6	<5
Chloroform	28,000	19,000	1,000	<7	<6	<5
1,2-Dichloroethane	24,000	6,000	1,000	<7	<6	<5
2-Butanone	1,000,000	1,000,000	50,000	<15	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<7	<6	<5
Carbon tetrachloride	4,000	2,000	1,000	<7	<6	<5
Vinyl acetate	NA	NA	NA	<15	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<7	<6	<5
1,2-Dichloropropane	NA	NA	NA	<7	<6	<5
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<7	<6	<5
Trichloroethene	100,000	23,000	1,000	<7	<6	<5
Dibromochloromethane	1,000,000	110,000	1,000	<7	<6	<5
1,1,2-Trichloroethane	420,000	23,000	1,000	<7	<6	<5
Benzene	13,000	3,000	1,000	<7	<6	<5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<7	<6	<5
Bromoform	370,000	86,000	1,000	<7	<6	<5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<15	<11	<11
2-Hexanone	NA	NA	NA	<15	<11	<11
Tetrachloroethene	37,000	34,000	1,000	<7	<6	3 J
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	190 B	<6	<5
Toluene	1,000,000	1,000,000	500,000	<7	<6	<5
Chlorobenzene	690,000	37,000	1,000	<7	<6	<5
Ethylbenzene	1,000,000	1,000,000	100,000	<7	3 BJ	<5
Styrene	97,000	23,000	100,000	<7	<6	<5
Xylene (total)	6,300,000	360,000	10,000	<7	12 BY	2 JY
Total VOCs:	1,000,000	1,000,000	1,000,000	265	23	18

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4
			Sample I.D.:	B-24B	B-25B	B-26B
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/30/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	19 B	7	7
Acetone	1,000,000	1,000,000	50,000	30	<11	<11
Carbon disulfide	NA	NA	NA	<5	<6	<6
1,1-Dichloroethene	940,000	51,000	10,000	<5	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5	<6	<6
Chloroform	28,000	19,000	1,000	<5	<6	<6
1,2-Dichloroethane	24,000	6,000	1,000	<5	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<5	<6	<6
Vinyl acetate	NA	NA	NA	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5	<6	<6
1,2-Dichloropropane	NA	NA	NA	<5	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<5	<6	<6
Trichloroethene	100,000	23,000	1,000	<5	<6	<6
Dibromochloromethane	1,000,000	110,000	1,000	<5	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5	<6	<6
Benzene	13,000	3,000	1,000	<5	<6	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5	<6	<6
Bromoform	370,000	86,000	1,000	<5	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11
Tetrachloroethene	37,000	34,000	1,000	<5	<6	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<5	<6	<6
Toluene	1,000,000	1,000,000	500,000	<5	<6	<6
Chlorobenzene	690,000	37,000	1,000	<5	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<5	<6	<6
Styrene	97,000	23,000	100,000	<5	<6	<6
Xylene (total)	6,300,000	360,000	10,000	7 BY	<6	<6
Total VOCs:	1,000,000	1,000,000	1,000,000	56	7	7

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	6	6
			Sample I.D.:	B-27B	SS-1	SS-2
			Sample Depth (inches):	18 - 24	6 - 12	6 - 12
			Date Sampled:	5/27/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<14	<13
Bromomethane	1,000,000	790,000	1,000	<11	<14	<13
Vinyl chloride	7,000	2,000	1,000	<11	<14	<13
Chloroethane	NA	NA	NA	<11	<14	<13
Methylene chloride	170,000	49,000	10,000	8	3 J	8 B
Acetone	1,000,000	1,000,000	50,000	<11	39	<13
Carbon disulfide	NA	NA	NA	<6	<7	<6
1,1-Dichloroethene	940,000	51,000	10,000	<6	<7	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<6	<7	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<6	<7	<6
Chloroform	28,000	19,000	1,000	<6	<7	<6
1,2-Dichloroethane	24,000	6,000	1,000	<6	<7	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<14	<13
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<6	<7	<6
Carbon tetrachloride	4,000	2,000	1,000	<6	<7	<6
Vinyl acetate	NA	NA	NA	<11	<14	<13
Bromodichloromethane	22,000	5,000	1,000	<6	<7	<6
1,2-Dichloropropane	NA	NA	NA	<6	<7	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<6	<7	<6
Trichloroethene	100,000	23,000	1,000	<6	<7	<6
Dibromochloromethane	1,000,000	110,000	1,000	<6	<7	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<6	<7	<6
Benzene	13,000	3,000	1,000	<6	<7	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<6	<7	<6
Bromoform	370,000	86,000	1,000	<6	<7	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<14	<13
2-Hexanone	NA	NA	NA	<11	<14	<13
Tetrachloroethene	37,000	34,000	1,000	<6	<7	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<6	<7	<6
Toluene	1,000,000	1,000,000	500,000	<6	<7	<6
Chlorobenzene	690,000	37,000	1,000	<6	<7	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<6	<7	3 J
Styrene	97,000	23,000	100,000	<6	<7	<6
Xylene (total)	6,300,000	360,000	10,000	<6	<7	16 Y
Total VOCs	1,000,000	1,000,000	1,000,000	8	42	27

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6
			Sample I.D.:	SS-3	SS-4	SS-5
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12
			Date Sampled:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<2,000	<12	<13
Bromomethane	1,000,000	790,000	1,000	<2,000	<12	<13
Vinyl chloride	7,000	2,000	1,000	<2,000	<12	<13
Chloroethane	NA	NA	NA	<2,000	<12	<13
Methylene chloride	170,000	49,000	10,000	<2,000	5 BJ	14 B
Acetone	1,000,000	1,000,000	50,000	<2,000	<12	62
Carbon disulfide	NA	NA	NA	<1,000	<6	6 J
1,1-Dichloroethene	940,000	51,000	10,000	<1,000	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<1,000	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<1,000	<6	6 J
Chloroform	28,000	19,000	1,000	640 J	<6	7
1,2-Dichloroethane	24,000	6,000	1,000	<1,000	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<2,000	<12	<13
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<1,000	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<1,000	<6	<6
Vinyl acetate	NA	NA	NA	<2,000	<12	<13
Bromodichloromethane	22,000	5,000	1,000	<1,000	<6	<6
1,2-Dichloropropane	NA	NA	NA	<1,000	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<1,000	<6	<6
Trichloroethene	100,000	23,000	1,000	320 J	<6	57
Dibromochloromethane	1,000,000	110,000	1,000	<1,000	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<1,000	<6	<6
Benzene	13,000	3,000	1,000	<1,000	<6	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<1,000	<6	<6
Bromoform	370,000	86,000	1,000	<1,000	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<2,000	<12	<13
2-Hexanone	NA	NA	NA	<2,000	<12	<13
Tetrachloroethene	37,000	34,000	1,000	<1,000	<6	17
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	10,000	<6	<6
Toluene	1,000,000	1,000,000	500,000	<1,000	<6	<6
Chlorobenzene	690,000	37,000	1,000	<1,000	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<1,000	2 J	<6
Styrene	97,000	23,000	100,000	<1,000	<6	<6
Xylene (total)	6,300,000	360,000	10,000	<1,000	8 Y	<6
Total VOCs:	1,000,000	1,000,000	1,000,000	10,960	15	169

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	7
			Sample I.D.:	SS-6	SS-7	B-40B
			Sample Depth (inches):	6 - 12	6 - 12	18 - 24
			Date Sampled:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<13	<360	<12
Bromomethane	1,000,000	790,000	1,000	<13	<360	<12
Vinyl chloride	7,000	2,000	1,000	<13	<360	<12
Chloroethane	NA	NA	NA	<13	<360	<12
Methylene chloride	170,000	49,000	10,000	<7	310 B	<6
Acetone	1,000,000	1,000,000	50,000	37	<360	34
Carbon disulfide	NA	NA	NA	<7	<180	<6
1,1-Dichloroethene	940,000	51,000	10,000	<7	<180	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<7	72 J	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<7	<180	<6
Chloroform	28,000	19,000	1,000	<7	1,700	<6
1,2-Dichloroethane	24,000	6,000	1,000	<7	<180	<6
2-Butanone	1,000,000	1,000,000	50,000	<13	<360	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<7	1,500	<6
Carbon tetrachloride	4,000	2,000	1,000	<7	<180	<6
Vinyl acetate	NA	NA	NA	<13	<360	<12
Bromodichloromethane	22,000	5,000	1,000	<7	<180	<6
1,2-Dichloropropane	NA	NA	NA	<7	<180	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<7	<180	<6
Trichloroethene	100,000	23,000	1,000	<7	1,500	<6
Dibromochloromethane	1,000,000	110,000	1,000	<7	<180	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<7	<180	<6
Benzene	13,000	3,000	1,000	<7	<180	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<7	<180	<6
Bromoform	370,000	86,000	1,000	<7	<180	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<13	<360	<12
2-Hexanone	NA	NA	NA	<13	<360	<12
Tetrachloroethene	37,000	34,000	1,000	<7	2,000	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<7	<180	<6
Toluene	1,000,000	1,000,000	500,000	<7	<180	<6
Chlorobenzene	690,000	37,000	1,000	<7	<180	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<7	<180	<6
Styrene	97,000	23,000	100,000	<7	<180	<6
Xylene (total)	6,300,000	360,000	10,000	<7	<180	<6
Total VOCs	1,000,000	1,000,000	1,000,000	37	7,082	34

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample I.D.:	B-41B	B-42B	B-43B
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	< 13	< 11	< 11
Bromomethane	1,000,000	790,000	1,000	< 13	< 11	< 11
Vinyl chloride	7,000	2,000	1,000	< 13	< 11	< 11
Chloroethane	NA	NA	NA	< 13	< 11	< 11
Methylene chloride	170,000	49,000	10,000	9 B	< 6	3 BJ
Acetone	1,000,000	1,000,000	50,000	< 13	< 11	< 11
Carbon disulfide	NA	NA	NA	< 6	< 6	< 5
1,1-Dichloroethene	940,000	51,000	10,000	< 6	< 6	< 5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	< 6	< 6	< 5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	< 6	< 6	< 5
Chloroform	28,000	19,000	1,000	< 6	< 6	< 5
1,2-Dichloroethane	24,000	6,000	1,000	< 6	< 6	< 5
2-Butanone	1,000,000	1,000,000	50,000	< 13	< 11	< 11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	< 6	< 6	< 5
Carbon tetrachloride	4,000	2,000	1,000	< 6	< 6	< 5
Vinyl acetate	NA	NA	NA	< 13	< 11	< 11
Bromodichloromethane	22,000	5,000	1,000	< 6	< 6	< 5
1,2-Dichloropropane	NA	NA	NA	< 6	< 6	< 5
cis-1,3-Dichloropropene	5000 +	4,000 +	1000 +	< 6	< 6	< 5
Trichloroethene	100,000	23,000	1,000	< 6	< 6	< 5
Dibromochloromethane	1,000,000	110,000	1,000	< 6	< 6	< 5
1,1,2-Trichloroethane	420,000	23,000	1,000	< 6	< 6	< 5
Benzene	13,000	3,000	1,000	< 6	< 6	< 5
trans-1,3-Dichloropropene	5,000 +	4,000 +	1,000 +	< 6	< 6	< 5
Bromoform	370,000	86,000	1,000	< 6	< 6	< 5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	< 13	< 11	< 11
2-Hexanone	NA	NA	NA	< 13	< 11	< 11
Tetrachloroethene	37,000	34,000	1,000	< 6	< 6	< 5
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	< 6	< 6	< 5
Toluene	1,000,000	1,000,000	500,000	< 6	< 6	< 5
Chlorobenzene	690,000	37,000	1,000	< 6	< 6	< 5
Ethylbenzene	1,000,000	1,000,000	100,000	< 6	< 6	4 J
Styrene	97,000	23,000	100,000	< 6	< 6	< 5
Xylene (total)	6,300,000	360,000	10,000	< 6	< 6	17 Y
Total VOCs:	1,000,000	1,000,000	1,000,000	9	0	24

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample I.D.:	B-44B	B-45B	W-19SB
			Sample Depth (inches):	18 - 24	18 - 24	18 - 24
			Date Sampled:	5/31/89	5/31/89	7/11/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<11	<11	<12
Bromomethane	1,000,000	790,000	1,000	<11	<11	<12
Vinyl chloride	7,000	2,000	1,000	<11	<11	<12
Chloroethane	NA	NA	NA	<11	<11	<12
Methylene chloride	170,000	49,000	10,000	31 B	4 J	5 BJ
Acetone	1,000,000	1,000,000	50,000	<11	<11	36 B
Carbon disulfide	NA	NA	NA	3 J	<6	2 J
1,1-Dichloroethene	940,000	51,000	10,000	<5	<6	<6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5	<6	<6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5	<6	<6
Chloroform	28,000	19,000	1,000	4 J	<6	<6
1,2-Dichloroethane	24,000	6,000	1,000	<5	<6	<6
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5	<6	<6
Carbon tetrachloride	4,000	2,000	1,000	<5	<6	<6
Vinyl acetate	NA	NA	NA	<11	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<5	<6	<6
1,2-Dichloropropane	NA	NA	NA	<5	<6	<6
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<5	<6	<6
Trichloroethene	100,000	23,000	1,000	1 J	<6	<6
Dibromochloromethane	1,000,000	110,000	1,000	<5	<6	<6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5	<6	<6
Benzene	13,000	3,000	1,000	<5	<6	<6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5	<6	<6
Bromoform	370,000	86,000	1,000	<5	<6	<6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<12
2-Hexanone	NA	NA	NA	<11	<11	<12
Tetrachloroethene	37,000	34,000	1,000	6	<6	<6
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<5	2 J	<6
Toluene	1,000,000	1,000,000	500,000	<5	<6	<6
Chlorobenzene	690,000	37,000	1,000	<5	<6	<6
Ethylbenzene	1,000,000	1,000,000	100,000	<5	<6	<6
Styrene	97,000	23,000	100,000	<5	<6	<6
Xylene (total)	6,300,000	360,000	10,000	<5	<6	<6
Total VOCs	1,000,000	1,000,000	1,000,000	45	6	43

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample I.D.:	W-19SC	W-21SB	W-21SC
			Sample Depth (inches):	*	18 - 24	*
			Date Sampled:	7/11/89	7/11/89	7/11/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential (ug/kg)	Surface Soil Standards (1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)			
Chloromethane	1,000,000	520,000	10,000	<14	<12	<14
Bromomethane	1,000,000	790,000	1,000	<14	<12	<14
Vinyl chloride	7,000	2,000	1,000	<14	<12	<14
Chloroethane	NA	NA	NA	<14	<12	<14
Methylene chloride	170,000	49,000	10,000	8 B	7 B	5 BJ
Acetone	1,000,000	1,000,000	50,000	68 B	44 B	22 BY
Carbon disulfide	NA	NA	NA	4 J	5 J	<7
1,1-Dichloroethene	940,000	51,000	10,000	<7	<6	<7
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<7	<6	<7
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<7	<6	<7
Chloroform	28,000	19,000	1,000	<7	<6	<7
1,2-Dichloroethane	24,000	6,000	1,000	<7	<6	<7
2-Butanone	1,000,000	1,000,000	50,000	<14	<12	<14
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<7	<6	<7
Carbon tetrachloride	4,000	2,000	1,000	<7	<6	<7
Vinyl acetate	NA	NA	NA	<14	<12	<14
Bromodichloromethane	22,000	5,000	1,000	<7	<6	<7
1,2-Dichloropropane	NA	NA	NA	<7	<6	<7
cis-1,3-Dichloropropene	5000+	4,000+	1000+	<7	<6	<7
Trichloroethene	100,000	23,000	1,000	<7	<6	<7
Dibromochloromethane	1,000,000	110,000	1,000	<7	<6	<7
1,1,2-Trichloroethane	420,000	23,000	1,000	<7	<6	<7
Benzene	13,000	3,000	1,000	<7	<6	<7
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<7	<6	<7
Bromoform	370,000	86,000	1,000	<7	<6	<7
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<14	<12	<14
2-Hexanone	NA	NA	NA	<14	<12	<14
Tetrachloroethene	37,000	34,000	1,000	<7	<6	<7
1,1,2,2-Tetrachloroethane	70,000	9,000	1,000	<7	<6	<7
Toluene	1,000,000	1,000,000	500,000	<7	<6	<7
Chlorobenzene	690,000	37,000	1,000	<7	<6	<7
Ethylbenzene	1,000,000	1,000,000	100,000	<7	<6	<7
Styrene	97,000	23,000	100,000	<7	<6	<7
Xylene (total)	6,300,000	360,000	10,000	<7	<6	<7
Total VOCs	1,000,000	1,000,000	1,000,000	80	56	27

See last page for footnotes.

Table 2-2. Volatile Organic Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

ug/kg	Micrograms per kilogram.
J	J Indicates an estimated value.
B	*Analyte was found in the blank as well as the sample.*
Y	Compound values have been edited on RTE/MS data system.
(1)	Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2)	Subsurface soil is the soil more than two feet below grade and extending downward to the top of the water table (proposed New Jersey Soil Cleanup Standard).
NA	No standard given.
+	Value for total cis-1,3-Dichloropropene and trans-1,3-Dichloropropene.
•	*Collected from the 6-inch interval above the water table.*
VOCs	Volatile organic compounds.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-11A	B-11B	B-13A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/25/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<1900	<500	<370
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<1900	<500	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<1900	<500	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<1900	<500	<370
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<1900	<500	<370
2-Methylphenol	NA	NA	NA	<1900	<500	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<1900	<500	<370
4-Methylphenol	NA	NA	NA	<1900	<500	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<1900	<500	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<1900	<500	<370
Nitrobenzene	520,000	1,000	50,000	<1900	<500	<370
Isophorone	10,000,000	1,100,000	10,000	<1900	<500	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<1900	<500	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<1900	<500	<370
Naphthalene	4,200,000	230,000	100,000	<1900	<500	<370
4-Chloroaniline	NA	NA	NA	<1900	<500	<370
Hexachlorobutadiene	210,000	11,000	50,000	<1900	<500	<370
2-Methylnaphthalene	NA	NA	NA	<1900	<500	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<1900	<500	<370
2-Chloronaphthalene	NA	NA	NA	<1900	<500	<370
2-Nitroaniline	NA	NA	NA	<9200	<2400	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<1900	<500	<370
Acenaphthylene	NA	NA	NA	<1900	<500	<370
2,6-Dinitrotoluene	NA	NA	NA	<1900	<500	<370
3-Nitroaniline	NA	NA	NA	<9200	<2400	<1800
Acenaphthene	10,000,000	3,400,000	100,000	620 J	98 J	<370
Dibenzofuran	NA	NA	NA	380 J	73 J	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<1900	<500	<370
Diethylphthalate	10,000,000	10,000,000	50,000	<1900	<500	<370
4-Chlorophenyl-phenylether	NA	NA	NA	<1900	<500	<370
Fluorene	10,000,000	2,300,000	100,000	750 J	110 J	<370
4-Nitroaniline	NA	NA	NA	<9200	<2400	<1800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-11A	B-11B	B-13A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/25/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<1900	<500	<370
4-Bromophenyl-phenylether	NA	NA	NA	<1900	<500	<370
Hexachlorobenzene	2,000	420	50,000	<1900	<500	<370
Phenanthrene	NA	NA	NA	10000 Y	1800 Y	<370
Anthracene	10,000,000	10,000	500,000	1200 J	200 J	<370
Di-n-butylphthalate	10,000,000	5,700,000	100,000	220 BJ	<500	<370
Fluoranthene	10,000,000	2,300,000	500,000	13000 Y	1600 Y	53 J
Pyrene	10,000,000	1,700,000	500,000	11000 Y	1600 Y	<370
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<1900	<500	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<3800	<1000	<740
Benzo(a)anthracene	2,500	660	500,000	8000 Y	840 Y	<370
Chrysene	2,500	660	500,000	5200	940	<370
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	1100 BJ	950 BY	330 BJ
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<1900	<500	<370
Benzo(b)fluoranthene	2,500	660	500,000	12000	1500	<370
Benzo(k)fluoranthene	2,500	660	500,000	12000	1500	<370
Benzo(a)pyrene	660	660	100,000	5200	720	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	3400	440 JY	<370
Dibenz(a,h)anthracene	660	660	500,000	860 J	<500	<370
Benzo(g,h,i)perylene	2,500	660	500,000	3800	490 JY	<370
Total Base-Neutrals:	NA	NA	NA	88730	12861	383

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-13B	B-14A	B-14B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/25/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<380	<470	<420
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<380	<470	<420
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<380	<470	<420
Benzyl alcohol	10,000,000	10,000,000	50,000	<380	<470	<420
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<380	<470	<420
2-Methylphenol	NA	NA	NA	<380	<470	<420
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<380	<470	<420
4-Methylphenol	NA	NA	NA	<380	<470	<420
N-Nitroso-di-n-propylamine	660	660	1,000	<380	<470	<420
Hexachloroethane	10,000,000	1,700,000	100,000	<380	<470	<420
Nitrobenzene	520,000	1,000	50,000	<380	<470	<420
Isophorone	10,000,000	1,100,000	10,000	<380	<470	<420
bis(2-Chloroethoxy)methane	NA	NA	NA	<380	<470	<420
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<380	<470	<420
Naphthalene	4,200,000	230,000	100,000	<380	<470	<420
4-Chloroaniline	NA	NA	NA	<380	<470	<420
Hexachlorobutadiene	210,000	11,000	50,000	<380	<470	<420
2-Methylnaphthalene	NA	NA	NA	<380	<470	<420
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<380	<470	<420
2-Chloronaphthalene	NA	NA	NA	<380	<470	<420
2-Nitroaniline	NA	NA	NA	<1800	<2300	<2000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<380	<470	<420
Acenaphthylene	NA	NA	NA	<380	<470	<420
2,6-Dinitrotoluene	NA	NA	NA	<380	<470	<420
3-Nitroaniline	NA	NA	NA	<1800	<2300	<2000
Acenaphthene	10,000,000	3,400,000	100,000	<380	<470	<420
Dibenzofuran	NA	NA	NA	<380	<470	<420
2,4-Dinitrotoluene	4,000	1,000	10,000	<380	<470	<420
Diethylphthalate	10,000,000	10,000,000	50,000	<380	<470	<420
4-Chlorophenyl-phenylether	NA	NA	NA	<380	<470	<420
Fluorene	10,000,000	2,300,000	100,000	<380	<470	<420
4-Nitroaniline	NA	NA	NA	<1800	<2300	<2000

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-13B	B-14A	B-14B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/25/89	5/25/89	5/25/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<380	<470	<420
4-Bromophenyl-phenylether	NA	NA	NA	<380	<470	<420
Hexachlorobenzene	2,000	420	50,000	<380	<470	120 J
Phenanthrene	NA	NA	NA	<380	<470	<420
Anthracene	10,000,000	10,000	500,000	<380	<470	<420
Di-n-butylphthalate	10,000,000	5,700,000	100,000	<380	49 J	42 J
Fluoranthene	10,000,000	2,300,000	500,000	<380	51 J	<420
Pyrene	10,000,000	1,700,000	500,000	<380	<470	<420
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<380	<470	<420
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<760	<940	<830
Benzo(a)anthracene	2,500	660	500,000	<380	<470	<420
Chrysene	2,500	660	500,000	<380	<470	<420
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	240 BJ	410 J	410 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<380	<470	<420
Benzo(b)fluoranthene	2,500	660	500,000	<380	58 J	<420
Benzo(k)fluoranthene	2,500	660	500,000	<380	58 J	<420
Benzo(a)pyrene	660	660	100,000	<380	<470	<420
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<380	<470	<420
Dibenz(a,h)anthracene	660	660	500,000	<380	<470	<420
Benzo(g,h,i)perylene	2,500	660	500,000	<380	<470	<420
Total Base-Neutrals:	NA	NA	NA	240	626	572

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-15A	B-15B	B-16A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<370	<420
1,3-Dichorobenzene .	10,000,000	5,100,000	100,000	<370	<370	<420
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<370	<420
Benzyl alcohol	10,000,000	10,000,000	50,000	<370	<370	<420
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<370	<420
2-Methylphenol	NA	NA	NA	<370	<370	<420
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<370	<420
4-Methylphenol	NA	NA	NA	<370	<370	<420
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<370	<420
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<370	<420
Nitrobenzene	520,000	1,000	50,000	<370	<370	<420
Isophorone	10,000,000	1,100,000	10,000	<370	<370	<420
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<370	<420
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<370	<420
Naphthalene	4,200,000	230,000	100,000	<370	<370	<420
4-Chloroaniline	NA	NA	NA	<370	<370	<420
Hexachlorobutadiene	210,000	11,000	50,000	<370	<370	<420
2-Methylnaphthalene	NA	NA	NA	<370	<370	<420
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<370	<420
2-Chloronaphthalene	NA	NA	NA	<370	<370	<420
2-Nitroaniline	NA	NA	NA	<1800	<1800	<2000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<370	<420
Acenaphthylene	NA	NA	NA	<370	<370	<420
2,6-Dinitrotoluene	NA	NA	NA	<370	<370	<420
3-Nitroaniline	NA	NA	NA	<1800	<1800	<2000
Acenaphthene	10,000,000	3,400,000	100,000	<370	<370	<420
Dibenzofuran	NA	NA	NA	<370	<370	<420
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<370	<420
Diethylphthalate	10,000,000	10,000,000	50,000	<370	<370	<420
4-Chlorophenyl-phenylether	NA	NA	NA	<370	<370	<420
Fluorene	10,000,000	2,300,000	100,000	<370	<370	<420
4-Nitroaniline	NA	NA	NA	<1800	<1800	<2000

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-15A	B-15B	B-16A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<370	<420
4-Bromophenyl-phenylether	NA	NA	NA	<370	<370	<420
Hexachlorobenzene	2,000	420	50,000	<370	<370	<420
Phenanthrene	NA	NA	NA	62 J	<370	110 J
Anthracene	10,000,000	10,000	500,000	<370	<370	<420
Di-n-butylphthalate	10,000,000	5,700,000	100,000	2800 B	2900 B	79 J
Fluoranthene	10,000,000	2,300,000	500,000	150 J	<370	330 J
Pyrene	10,000,000	1,700,000	500,000	64 J	<370	240 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	90 JB	<370	96 J
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<730	<730	<830
Benzo(a)anthracene	2,500	660	500,000	56 J	<370	160 J
Chrysene	2,500	660	500,000	81 J	<370	250 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	320 JB	71 JB	960
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<370	<420
Benzo(b)fluoranthene	2,500	660	500,000	160 J	<370	480
Benzo(k)fluoranthene	2,500	660	500,000	160 J	<370	480
Benzo(a)pyrene	660	660	100,000	60 J	<370	190 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	44 J	<370	170 J
Dibenz(a,h)anthracene	660	660	500,000	<370	<370	<420
Benzo(g,h,i)perylene	2,500	660	500,000	47 J	<370	180 J
Total Base-Neutrals:	NA	NA	NA	4094	2971	3725

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-17A	B-17B	B-18A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/25/89	5/25/89	5/30/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<410	<470	<350
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<410	<470	<350
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<410	<470	<350
Benzyl alcohol	10,000,000	10,000,000	50,000	<410	<470	<350
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<410	<470	<350
2-Methylphenol	NA	NA	NA	<410	<470	<350
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<410	<470	<350
4-Methylphenol	NA	NA	NA	<410	<470	<350
N-Nitroso-di-n-propylamine	660	660	1,000	<410	<470	<350
Hexachloroethane	10,000,000	1,700,000	100,000	<410	<470	<350
Nitrobenzene	520,000	1,000	50,000	<410	<470	<350
Isophorone	10,000,000	1,100,000	10,000	<410	<470	<350
bis(2-Chloroethoxy)methane	NA	NA	NA	<410	<470	<350
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<410	<470	<350
Naphthalene	4,200,000	230,000	100,000	<410	<470	<350
4-Chloroaniline	NA	NA	NA	<410	<470	<350
Hexachlorobutadiene	210,000	11,000	50,000	<410	<470	<350
2-Methylnaphthalene	NA	NA	NA	<410	<470	<350
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<410	<470	<350
2-Chloronaphthalene	NA	NA	NA	<410	<470	<350
2-Nitroaniline	NA	NA	NA	<2000	<2300	<1700
Dimethyl phthalate	10,000,000	10,000,000	50,000	<410	<470	<350
Acenaphthylene	NA	NA	NA	<410	<470	<350
2,6-Dinitrotoluene	NA	NA	NA	<410	<470	<350
3-Nitroaniline	NA	NA	NA	<2000	<2300	<1700
Acenaphthene	10,000,000	3,400,000	100,000	<410	<470	<350
Dibenzofuran	NA	NA	NA	<410	<470	<350
2,4-Dinitrotoluene	4,000	1,000	10,000	<410	<470	<350
Diethylphthalate	10,000,000	10,000,000	50,000	<410	<470	<350
4-Chloropnenyl-phenylether	NA	NA	NA	<410	<470	<350
Fluorene	10,000,000	2,300,000	100,000	<410	<470	<350
4-Nitroaniline	NA	NA	NA	<2000	<2300	<1700

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-17A	B-17B	B-18A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/25/89	5/25/89	5/30/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<410	<470	<350
4-Bromophenyl-phenylether	NA	NA	NA	<410	<470	<350
Hexachlorobenzene	2,000	420	50,000	71 J	93 J	4300
Phenanthrene	NA	NA	NA	<410	<470	<350
Anthracene	10,000,000	10,000	500,000	<410	<470	<350
Di-n-butylphthalate	10,000,000	5,700,000	100,000	<410	<470	990 B
Fluoranthene	10,000,000	2,300,000	500,000	<410	78 J	49 J
Pyrene	10,000,000	1,700,000	500,000	<410	<470	51 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<410	<470	88 J
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<820	<940	<700
Benzo(a)anthracene	2,500	660	500,000	<410	<470	<350
Chrysene	2,500	660	500,000	<410	110 J	<350
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	250 J	340 J	470
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<410	<470	<350
Benzo(b)fluoranthene	2,500	660	500,000	<410	360 J	99 J
Benzo(k)fluoranthene	2,500	660	500,000	<410	360 J	<350
Benzo(a)pyrene	660	660	100,000	<410	130 J	<350
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<410	91 J	<350
Dibenz(a,h)anthracene	660	660	500,000	<410	<470	<350
Benzo(g,h,i)perylene	2,500	660	500,000	<410	58 J	<350
Total Base-Neutrals:	NA	NA	NA	321	1620	6047

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-18B	B-19A	B-19B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<380	<370	<370
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<380	<370	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<380	<370	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<380	<370	<370
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<380	<370	<370
2-Methylphenol	NA	NA	NA	<380	<370	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<380	<370	<370
4-Methylphenol	NA	NA	NA	<380	<370	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<380	<370	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<380	<370	<370
Nitrobenzene	520,000	1,000	50,000	<380	<370	<370
Isophorone	10,000,000	1,100,000	10,000	<380	<370	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<380	<370	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<380	<370	<370
Naphthalene	4,200,000	230,000	100,000	<380	<370	<370
4-Chloroaniline	NA	NA	NA	<380	<370	<370
Hexachlorobutadiene	210,000	11,000	50,000	<380	<370	<370
2-Methylnaphthalene	NA	NA	NA	<380	<370	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<380	<370	<370
2-Chloronaphthalene	NA	NA	NA	<380	<370	<370
2-Nitroaniline	NA	NA	NA	<1900	<1800	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<380	110 J	<370
Acenaphthylene	NA	NA	NA	<380	<370	<370
2,6-Dinitrotoluene	NA	NA	NA	<380	<370	<370
3-Nitroaniline	NA	NA	NA	<1900	<1800	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<380	55 J	<370
Dibenzofuran	NA	NA	NA	<380	<370	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<380	<370	<370
Diethylphthalate	10,000,000	10,000,000	50,000	<380	<370	<370
4-Chlorophenyl-phenylether	NA	NA	NA	<380	<370	<370
Fluorene	10,000,000	2,300,000	100,000	<380	<370	<370
4-Nitroaniline	NA	NA	NA	<1900	<1800	<1800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-18B	B-19A	B-19B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<380	<370	<370
4-Bromophenyl-phenylether	NA	NA	NA	<380	<370	<370
Hexachlorobenzene	2,000	420	50,000	390	<370	<370
Phenanthrene	NA	NA	NA	<380	1100	<370
Anthracene	10,000,000	10,000	500,000	<380	160 J	<370
Di-n-butylphthalate	10,000,000	5,700,000	100,000	<380	2100 B	2100 B
Fluoranthene	10,000,000	2,300,000	500,000	<380	3400	<370
Pyrene	10,000,000	1,700,000	500,000	<380	1400	<370
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<380	<370	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<770	<730	<740
Benzo(a)anthracene	2,500	660	500,000	<380	1200	<370
Chrysene	2,500	660	500,000	<380	1900	<370
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	330 J	970 B	<370
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<380	<370	<370
Benzo(b)fluoranthene	2,500	660	500,000	<380	3000	<370
Benzo(k)fluoranthene	2,500	660	500,000	<380	3000	<370
Benzo(a)pyrene	660	660	100,000	<380	1100	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<380	710	<370
Dibenz(a,h)anthracene	660	660	500,000	<380	110 J	<370
Benzo(g,h,i)perylene	2,500	660	500,000	<380	650	<370
Total Base-Neutrals:	NA	NA	NA	720	20965	2100

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-20A	B-20B	B-21A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<360	<370
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<370	<360	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<360	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<370	<360	<370
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<360	<370
2-Methylphenol	NA	NA	NA	<370	<360	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<360	<370
4-Methylphenol	NA	NA	NA	<370	<360	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<360	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<360	<370
Nitrobenzene	520,000	1,000	50,000	<370	<360	<370
Isophorone	10,000,000	1,100,000	10,000	<370	<360	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<360	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<360	<370
Naphthalene	4,200,000	230,000	100,000	<370	<360	<370
4-Chloroaniline	NA	NA	NA	<370	<360	<370
Hexachlorobutadiene	210,000	11,000	50,000	<370	<360	<370
2-Methylnaphthalene	NA	NA	NA	<370	<360	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<360	<370
2-Chloronaphthalene	NA	NA	NA	<370	<360	<370
2-Nitroaniline	NA	NA	NA	<1800	<1700	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<360	<370
Acenaphthylene	NA	NA	NA	<370	<360	<370
2,6-Dinitrotoluene	NA	NA	NA	<370	<360	<370
3-Nitroaniline	NA	NA	NA	<1800	<1700	<1800
Acenaphthene	10,000,000	3,400,000	100,000	41 J	87 J	<370
Dibenzofuran	NA	NA	NA	<370	<360	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<360	<370
Diethylphthalate	10,000,000	10,000,000	50,000	<370	<360	<370
4-Chlorophenyl-phenylether	NA	NA	NA	<370	<360	<370
Fluorene	10,000,000	2,300,000	100,000	37 J	80 J	<370
4-Nitroaniline	NA	NA	NA	<1800	<1700	<1800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-20A	B-20B	B-21A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<360	<370
4-Bromophenyl-phenylether	NA	NA	NA	<370	<360	<370
Hexachlorobenzene	2,000	420	50,000	450	<360	<370
Phenanthrene	NA	NA	NA	240 J	330 J	<370
Anthracene	10,000,000	10,000	500,000	69 J	120 J	<370
Di-n-butylphthalate	10,000,000	5,700,000	100,000	1300 B	660 B	240 JB
Fluoranthene	10,000,000	2,300,000	500,000	390	540	100 J
Pyrene	10,000,000	1,700,000	500,000	220 J	320 J	130 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	67 JB	<360	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<750	<720	<750
Benzo(a)anthracene	2,500	660	500,000	130 J	230 J	61 J
Chrysene	2,500	660	500,000	240 J	330 J	110 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	120 JB	88 JB	110 JB
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<360	<370
Benzo(b)fluoranthene	2,500	660	500,000	280 J	470	120 J
Benzo(k)fluoranthene	2,500	660	500,000	280 J	<360	<370
Benzo(a)pyrene	660	660	100,000	96 J	250 J	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	100 J	220 J	<370
Dibenz(a,h)anthracene	660	660	500,000	<370	<360	<370
Benzo(g,h,i)perylene	2,500	660	500,000	71 JY	160 J	<370
Total Base-Neutrals:	NA	NA	NA	4131	3885	871

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-21B	W-17SA	W-17SB
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/26/89	7/12/89	7/12/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<1900	<380	<510
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<1900	<380	<510
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<1900	<380	<510
Benzyl alcohol	10,000,000	10,000,000	50,000	<1900	<380	<510
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<1900	<380	<510
2-Methylphenol	NA	NA	NA	<1900	<380	<510
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<1900	<380	<510
4-Methylphenol	NA	NA	NA	<1900	<380	<510
N-Nitroso-di-n-propylamine	660	660	1,000	<1900	<380	<510
Hexachloroethane	10,000,000	1,700,000	100,000	<1900	<380	<510
Nitrobenzene	520,000	1,000	50,000	<1900	<380	<510
Isophorone	10,000,000	1,100,000	10,000	<1900	<380	<510
bis(2-Chloroethoxy)methane	NA	NA	NA	<1900	<380	<510
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<1900	<380	<510
Naphthalene	4,200,000	230,000	100,000	<1900	<380	<510
4-Chloroaniline	NA	NA	NA	<1900	<380	<510
Hexachlorobutadiene	210,000	11,000	50,000	<1900	<380	<510
2-Methylnaphthalene	NA	NA	NA	<1900	<380	<510
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<1900	<380	<510
2-Chloronaphthalene	NA	NA	NA	<1900	<380	<510
2-Nitroaniline	NA	NA	NA	<9000	<1800	<2500
Dimethyl phthalate	10,000,000	10,000,000	50,000	<1900	<380	<510
Acenaphthylene	NA	NA	NA	<1900	<380	<510
2,6-Dinitrotoluene	NA	NA	NA	<1900	<380	<510
3-Nitroaniline	NA	NA	NA	<9000	<1800	<2500
Acenaphthene	10,000,000	3,400,000	100,000	<1900	<380	<510
Dibenzofuran	NA	NA	NA	<1900	<380	<510
2,4-Dinitrotoluene	4,000	1,000	10,000	<1900	<380	<510
Diethylphthalate	10,000,000	10,000,000	50,000	<1900	<380	<510
4-Chlorophenyl-phenylether	NA	NA	NA	<1900	<380	<510
Fluorene	10,000,000	2,300,000	100,000	<1900	<380	<510
4-Nitroaniline	NA	NA	NA	<9000	<1800	<2500

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3
			Sample No.:	B-21B	W-17SA	W-17SB
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/26/89	7/12/89	7/12/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<1900	<380	<510
4-Bromophenyl-phenylether	NA	NA	NA	<1900	<380	<510
Hexachlorobenzene	2,000	420	50,000	<1900	<380	<510
Phenanthrene	NA	NA	NA	<1900	72 J	<510
Anthracene	10,000,000	10,000	500,000	<1900	<380	<510
Di-n-butylphthalate	10,000,000	5,700,000	100,000	360 BJ	1700 BY	320 BJ
Fluoranthene	10,000,000	2,300,000	500,000	<1900	120 J	<510
Pyrene	10,000,000	1;700,000	500,000	<1900	83 J	<510
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<1900	240 J	<510
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<3700	<760	<1000
Benzo(a)anthracene	2,500	660	500,000	<1900	<380	<510
Chrysene	2,500	660	500,000	<1900	<380	<510
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<1900	81 BJ	75 BJ
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<1900	<380	130 J
Benzo(b)fluoranthene	2,500	660	500,000	<1900	<380	<510
Benzo(k)fluoranthene	2,500	660	500,000	<1900	<380	<510
Benzo(a)pyrene	660	660	100,000	<1900	<380	<510
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<1900	<380	<510
Dibenz(a,h)anthracene	660	660	500,000	<1900	<380	<510
Benzo(g,h,i)perylene	2,500	660	500,000	<1900	<380	<510
Total Base-Neutrals:	NA	NA	NA	360	2296	525

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	4	4
			Sample No.:	W-17SC	B-24A	B-24B
			Sample Depth (inches):	*	0 - 6	18 - 24
			Sample Date:	7/12/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<490	<370	<370
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<490	<370	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<490	<370	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<490	<370	<370
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<490	<370	<370
2-Methylphenol	NA	NA	NA	<490	<370	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<490	<370	<370
4-Methylphenol	NA	NA	NA	<490	<370	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<490	<370	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<490	120 J	<370
Nitrobenzene	520,000	1,000	50,000	<490	<370	<370
Isophorone	10,000,000	1,100,000	10,000	<490	<370	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<490	<370	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<490	<370	<370
Naphthalene	4,200,000	230,000	100,000	<490	<370	<370
4-Chloroaniline	NA	NA	NA	<490	<370	<370
Hexachlorobutadiene	210,000	11,000	50,000	<490	<370	<370
2-Methylnaphthalene	NA	NA	NA	<490	<370	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<490	<370	<370
2-Chloronaphthalene	NA	NA	NA	<490	<370	<370
2-Nitroaniline	NA	NA	NA	<2400	<1800	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<490	120 J	<370
Acenaphthylene	NA	NA	NA	<490	<370	<370
2,6-Dinitrotoluene	NA	NA	NA	<490	<370	<370
3-Nitroaniline	NA	NA	NA	<2400	<1800	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<490	48 J	<370
Dibenzofuran	NA	NA	NA	<490	<370	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<490	<370	<370
Diethylphthalate	10,000,000	10,000,000	50,000	<490	<370	<370
4-Chlorophenyl-phenylether	NA	NA	NA	<490	<370	<370
Fluorene	10,000,000	2,300,000	100,000	<490	44 J	<370
4-Nitroaniline	NA	NA	NA	<2400	<1800	<1800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	4	4
			Sample No.:	W-17SC	B-24A	B-24B
			Sample Depth (inches):	*	0 - 6	18 - 24
			Sample Date:	7/12/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<490	<370	<370
4-Bromophenyl-phenylether	NA	NA	NA	<490	<370	<370
Hexachlorobenzene	2,000	420	50,000	<490	<370	<370
Phenanthrene	NA	NA	NA	<490	540	<370
Anthracene	10,000,000	10,000	500,000	<490	85 J	<370
Di-n-butylphthalate	10,000,000	5,700,000	100,000	210 BJ	1500 B	98 J
Fluoranthene	10,000,000	2,300,000	500,000	<490	390	<370
Pyrene	10,000,000	1,700,000	500,000	<490	350 J	<370
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<490	95 JB	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<990	<730	<750
Benzo(a)anthracene	2,500	660	500,000	<490	160 J	<370
Chrysene	2,500	660	500,000	<490	350 J	<370
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	64 BJ	2800 YB	140 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	74 J	<370	<370
Benzo(b)fluoranthene	2,500	660	500,000	<490	470	<370
Benzo(k)fluoranthene	2,500	660	500,000	<490	<370	<370
Benzo(a)pyrene	660	660	100,000	<490	200 J	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<490	120 J	<370
Dibenz(a,h)anthracene	660	660	500,000	<490	<370	<370
Benzo(g,h,i)perylene	2,500	660	500,000	<490	160 JY	<370
Total Base-Neutrals:	NA	NA	NA	348	7552	238

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4
			Sample No.:	B-25A	B-25B	B-26A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<360	<370	<360
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<360	<370	<360
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<360	<370	<360
Benzyl alcohol	10,000,000	10,000,000	50,000	<360	<370	<360
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<360	<370	<360
2-Methylphenol	NA	NA	NA	<360	<370	<360
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<360	<370	<360
4-Methylphenol	NA	NA	NA	<360	<370	<360
N-Nitroso-di-n-propylamine	660	660	1,000	<360	<370	<360
Hexachloroethane	10,000,000	1,700,000	100,000	<360	<370	<360
Nitrobenzene	520,000	1,000	50,000	<360	<370	<360
Isophorone	10,000,000	1,100,000	10,000	<360	<370	<360
bis(2-Chloroethoxy)methane	NA	NA	NA	<360	<370	<360
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<360	<370	<360
Naphthalene	4,200,000	230,000	100,000	<360	<370	70 J
4-Chloroaniline	NA	NA	NA	<360	<370	<360
Hexachlorobutadiene	210,000	11,000	50,000	<360	<370	<360
2-Methylnaphthalene	NA	NA	NA	<360	<370	37 J
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<360	<370	<360
2-Chloronaphthalene	NA	NA	NA	<360	<370	<360
2-Nitroaniline	NA	NA	NA	<1800	<1800	<1700
Dimethyl phthalate	10,000,000	10,000,000	50,000	<360	<370	<360
Acenaphthylene	NA	NA	NA	<360	<370	<360
2,6-Dinitrotoluene	NA	NA	NA	<360	<370	<360
3-Nitroaniline	NA	NA	NA	<1800	<1800	<1700
Acenaphthene	10,000,000	3,400,000	100,000	38 J	<370	<360
Dibenzofuran	NA	NA	NA	<360	<370	<360
2,4-Dinitrotoluene	4,000	1,000	10,000	<360	<370	<360
Diethylphthalate	10,000,000	10,000,000	50,000	<360	<370	<360
4-Chlorophenyl-phenylether	NA	NA	NA	<360	<370	<360
Fluorene	10,000,000	2,300,000	100,000	<360	<370	<360
4-Nitroaniline	NA	NA	NA	<1800	<1800	<1700

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4
			Sample No.:	B-25A	B-25B	B-26A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<360	<370	<360
4-Bromophenyl-phenylether	NA	NA	NA	<360	<370	<360
Hexachlorobenzene	2,000	420	50,000	<360	<370	<360
Phenanthrene	NA	NA	NA	180 J	72 J	52 J
Anthracene	10,000,000	10,000	500,000	41 J	<370	<360
Di-n-butylphthalate	10,000,000	5,700,000	100,000	340 J	2000	430
Fluoranthene	10,000,000	2,300,000	500,000	190 J	73 J	60 J
Pyrene	10,000,000	1,700,000	500,000	120 J	54 J	60 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	88 J	<370	<360
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<730	<740	<720
Benzo(a)anthracene	2,500	660	500,000	73 J	<370	<360
Chrysene	2,500	660	500,000	110 J	<370	96 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<340	350 J	460
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<360	<370	<360
Benzo(b)fluoranthene	2,500	660	500,000	180 J	<370	83 J
Benzo(k)fluoranthene	2,500	660	500,000	<360	<370	<360
Benzo(a)pyrene	660	660	100,000	<360	<370	45 JY
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<360	<370	<360
Dibenz(a,h)anthracene	660	660	500,000	<360	<370	<360
Benzo(g,h,i)perylene	2,500	660	500,000	<360	<370	<360
Total Base-Neutrals:	NA	NA	NA	1360	2549	1393

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4
			Sample No.:	B-26B	B-27A	B-27B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<350	<370
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<370	<350	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<350	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<370	<350	<370
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<350	<370
2-Methylphenol	NA	NA	NA	<370	<350	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<350	<370
4-Methylphenol	NA	NA	NA	<370	<350	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<350	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<350	<370
Nitrobenzene	520,000	1,000	50,000	<370	<350	<370
Isophorone	10,000,000	1,100,000	10,000	<370	<350	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<350	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<350	<370
Naphthalene	4,200,000	230,000	100,000	<370	<350	<370
4-Chloroaniline	NA	NA	NA	<370	<350	<370
Hexachlorobutadiene	210,000	11,000	50,000	<370	<350	<370
2-Methylnaphthalene	NA	NA	NA	<370	<350	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<350	<370
2-Chloronaphthalene	NA	NA	NA	<370	<350	<370
2-Nitroaniline	NA	NA	NA	<1800	<1700	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<350	<370
Acenaphthylene	NA	NA	NA	<370	<350	<370
2,6-Dinitrotoluene	NA	NA	NA	<370	<350	<370
3-Nitroaniline	NA	NA	NA	<1800	<1700	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<370	<350	<370
Dibenzofuran	NA	NA	NA	<370	<350	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<350	<370
Diethylphthalate	10,000,000	10,000,000	50,000	<370	<350	<370
4-Chlorophenyl-phenylether	NA	NA	NA	<370	<350	<370
Fluorene	10,000,000	2,300,000	100,000	<370	<350	<370
4-Nitroaniline	NA	NA	NA	<1800	<1700	<1800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4
			Sample No.:	B-26B	B-27A	B-27B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/26/89	5/26/89	5/26/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<350	<370
4-Bromophenyl-phenylether	NA	NA	NA	<370	<350	<370
Hexachlorobenzene	2,000	420	50,000	<370	<350	<370
Phenanthrene	NA	NA	NA	<370	50 J	42 J
Anthracene	10,000,000	10,000	500,000	<370	<350	<370
Di-n-butylphthalate	10,000,000	5,700,000	100,000	91 J	60 J	120 BJ
Fluoranthene	10,000,000	2,300,000	500,000	<370	77 J	57 J
Pyrene	10,000,000	1,700,000	500,000	<370	81 J	48 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<370	<350	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<730	<710	<730
Benzo(a)anthracene	2,500	660	500,000	<370	<350	43 J
Chrysene	2,500	660	500,000	<370	82 J	58 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<370	6900 E	170 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<350	<370
Benzo(b)fluoranthene	2,500	660	500,000	<370	78 J	53 J
Benzo(k)fluoranthene	2,500	660	500,000	<370	<350	<370
Benzo(a)pyrene	660	660	100,000	<370	<350	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<370	<350	<370
Dibenz(a,h)anthracene	660	660	500,000	<370	<350	<370
Benzo(g,h,i)perylene	2,500	660	500,000	<370	<350	<370
Total Base-Neutrals:	NA	NA	NA	91	7328	591

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6
			Sample No.:	SS-1	SS-2	SS-3
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<560	<520	<960
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<560	<520	<960
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<560	<520	<960
Benzyl alcohol	10,000,000	10,000,000	50,000	<560	<520	<960
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<560	<520	<960
2-Methylphenol	NA	NA	NA	<560	<520	<960
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<560	<520	<960
4-Methylphenol	NA	NA	NA	<560	<520	<960
N-Nitroso-di-n-propylamine	660	660	1,000	<560	<520	<960
Hexachloroethane	10,000,000	1,700,000	100,000	<560	<520	<960
Nitrobenzene	520,000	1,000	50,000	<560	<520	<960
Isophorone	10,000,000	1,100,000	10,000	61 J	<520	<960
bis(2-Chloroethoxy)methane	NA	NA	NA	<560	<520	<960
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<560	<520	<960
Naphthalene	4,200,000	230,000	100,000	59 J	<520	<960
4-Chloroaniline	NA	NA	NA	<560	<520	<960
Hexachlorobutadiene	210,000	11,000	50,000	<560	<520	<960
2-Methylnaphthalene	NA	NA	NA	<560	<520	<960
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<560	<520	<960
2-Chloronaphthalene	NA	NA	NA	<560	<520	<960
2-Nitroaniline	NA	NA	NA	<2700	<2500	<4700
Dimethyl phthalate	10,000,000	10,000,000	50,000	<560	<520	<960
Acenaphthylene	NA	NA	NA	70 J	<520	<960
2,6-Dinitrotoluene	NA	NA	NA	<560	<520	<960
3-Nitroaniline	NA	NA	NA	<2700	<2500	<4700
Acenaphthene	10,000,000	3,400,000	100,000	74 J	<520	<960
Dibenzofuran	NA	NA	NA	<560	<520	<960
2,4-Dinitrotoluene	4,000	1,000	10,000	<560	<520	<960
Diethylphthalate	10,000,000	10,000,000	50,000	<560	<520	<960
4-Chlorophenyl-phenylether	NA	NA	NA	<560	<520	<960
Fluorene	10,000,000	2,300,000	100,000	76 J	<520	<960
4-Nitroaniline	NA	NA	NA	<2700	<2500	<4700

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6
			Sample No.:	SS-1	SS-2	SS-3
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<560	<520	<960
4-Bromophenyl-phenylether	NA	NA	NA	<560	<520	<960
Hexachlorobenzene	2,000	420	50,000	<560	<520	<960
Phenanthrene	NA	NA	NA	850	240 J	<960
Anthracene	10,000,000	10,000	500,000	220 J	54 J	<960
Di-n-butylphthalate	10,000,000	5,700,000	100,000	300 BJ	180 BJ	150 BJ
Fluoranthene	10,000,000	2,300,000	500,000	1800	530	<960
Pyrene	10,000,000	1,700,000	500,000	940	370 J	<960
Butylbenzylphthalate	10,000,000	10,000,000	100,000	230 J	89 J	<960
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<1100	<1000	<1900
Benzo(a)anthracene	2,500	660	500,000	840	320 J	<960
Chrysene	2,500	660	500,000	770	410 J	<960
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	1700 B	790 B	<960
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<560	<520	<960
Benzo(b)fluoranthene	2,500	660	500,000	1100	750	<960
Benzo(k)fluoranthene	2,500	660	500,000	1100	750	<960
Benzo(a)pyrene	660	660	100,000	480 J	240 J	<960
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	360 J	270 J	<960
Dibenz(a,h)anthracene	660	660	500,000	<560	<520	<960
Benzo(g,h,i)perylene	2,500	660	500,000	520 J	260 J	<960
Total Base-Neutrals:	NA	NA	NA	11550	5253	150

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6
			Sample No.:	SS-4	SS-5	SS-6
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<560	<600	<520
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<560	<600	<520
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<560	<600	<520
Benzyl alcohol	10,000,000	10,000,000	50,000	<560	<600	<520
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<560	<600	<520
2-Methylphenol	NA	NA	NA	<560	<600	<520
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<560	<600	<520
4-Methylphenol	NA	NA	NA	<560	<600	<520
N-Nitroso-di-n-propylamine	660	660	1,000	<560	<600	<520
Hexachloroethane	10,000,000	1,700,000	100,000	<560	<600	<520
Nitrobenzene	520,000	1,000	50,000	<560	<600	<520
Isophorone	10,000,000	1,100,000	10,000	<560	<600	210 J
bis(2-Chloroethoxy)methane	NA	NA	NA	<560	<600	<520
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<560	<600	<520
Naphthalene	4,200,000	230,000	100,000	<560	<600	<520
4-Chloroaniline	NA	NA	NA	<560	<600	<520
Hexachlorobutadiene	210,000	11,000	50,000	<560	<600	<520
2-Methylnaphthalene	NA	NA	NA	<560	<600	<520
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<560	<600	<520
2-Chloronaphthalene	NA	NA	NA	<560	<600	<520
2-Nitroaniline	NA	NA	NA	<2700	<2900	<2500
Dimethyl phthalate	10,000,000	10,000,000	50,000	<560	<600	<520
Acenaphthylene	NA	NA	NA	<560	<600	<520
2,6-Dinitrotoluene	NA	NA	NA	<560	<600	<520
3-Nitroaniline	NA	NA	NA	<2700	<2900	<2500
Acenaphthene	10,000,000	3,400,000	100,000	<560	140 J	<520
Dibenzofuran	NA	NA	NA	<560	<600	<520
2,4-Dinitrotoluene	4,000	1,000	10,000	<560	<600	<520
Diethylphthalate	10,000,000	10,000,000	50,000	<560	<600	<520
4-Chlorophenyl-phenylether	NA	NA	NA	<560	<600	<520
Fluorene	10,000,000	2,300,000	100,000	<560	<600	<520
4-Nitroaniline	NA	NA	NA	<2700	<2900	<2500

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6
			Sample No.:	SS-4	SS-5	SS-6
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<560	<600	<520
4-Bromophenyl-phenylether	NA	NA	NA	<560	<600	<520
Hexachlorobenzene	2,000	420	50,000	<560	190 J	<520
Phenanthrene	NA	NA	NA	<560	110 J	280 J
Anthracene	10,000,000	10,000	500,000	<560	<600	66 J
Di-n-butylphthalate	10,000,000	5,700,000	100,000	210 BJ	210 BJ	200 BJ
Fluoranthene	10,000,000	2,300,000	500,000	<560	170 J	440 J
Pyrene	10,000,000	1,700,000	500,000	<560	120 J	420 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<560	<600	<520
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<1100	<1200	<1000
Benzo(a)anthracene	2,500	660	500,000	<560	62 J	280 J
Chrysene	2,500	660	500,000	<560	86 J	380 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	310 BJ	130 BJ	<520
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<560	<600	<520
Benzo(b)fluoranthene	2,500	660	500,000	<560	83 J	500 J
Benzo(k)fluoranthene	2,500	660	500,000	<560	<600	500 J
Benzo(a)pyrene	660	660	100,000	<560	<600	180 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<560	<600	150 J
Dibenz(a,h)anthracene	660	660	500,000	<560	<600	<520
Benzo(g,h,i)perylene	2,500	660	500,000	<560	<600	110 J
Total Base-Neutrals:	NA	NA	NA	520	1301	3716

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	7	7
			Sample No.:	SS-7	B-40A	B-40B
			Sample Depth (inches):	6 - 12	0 - 6	18 - 24
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<3200	<590	<520
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<3200	<590	<520
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<3200	<590	<520
Benzyl alcohol	10,000,000	10,000,000	50,000	<3200	<590	<520
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<3200	<590	<520
2-Methylphenol	NA	NA	NA	<3200	<590	<520
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<3200	<590	<520
4-Methylphenol	NA	NA	NA	<3200	<590	<520
N-Nitroso-di-n-propylamine	660	660	1,000	<3200	<590	<520
Hexachloroethane	10,000,000	1,700,000	100,000	<3200	<590	<520
Nitrobenzene	520,000	1,000	50,000	<3200	<590	<520
Isophorone	10,000,000	1,100,000	10,000	<3200	<590	<520
bis(2-Chloroethoxy)methane	NA	NA	NA	<3200	<590	<520
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<3200	<590	<520
Naphthalene	4,200,000	230,000	100,000	<3200	<590	<520
4-Chloroaniline	NA	NA	NA	<3200	<590	<520
Hexachlorobutadiene	210,000	11,000	50,000	<3200	<590	<520
2-Methylnaphthalene	NA	NA	NA	<3200	<590	<520
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<3200	<590	<520
2-Chloronaphthalene	NA	NA	NA	<3200	<590	<520
2-Nitroaniline	NA	NA	NA	<15000	<2800	<2500
Dimethyl phthalate	10,000,000	10,000,000	50,000	<3200	<590	<520
Acenaphthylene	NA	NA	NA	<3200	<590	<520
2,6-Dinitrotoluene	NA	NA	NA	<3200	<590	<520
3-Nitroaniline	NA	NA	NA	<15000	<2800	<2500
Acenaphthene	10,000,000	3,400,000	100,000	<3200	<590	<520
Dibenzofuran	NA	NA	NA	<3200	<590	<520
2,4-Dinitrotoluene	4,000	1,000	10,000	<3200	<590	<520
Diethylphthalate	10,000,000	10,000,000	50,000	<3200	<590	<520
4-Chlorophenyl-phenylether	NA	NA	NA	<3200	<590	<520
Fluorene	10,000,000	2,300,000	100,000	<3200	<590	<520
4-Nitroaniline	NA	NA	NA	<15000	<2800	<2500

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	7	7
			Sample No.:	SS-7	B-40A	B-40B
			Sample Depth (inches):	6 - 12	0 - 6	18 - 24
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<3200	<590	<520
4-Bromophenyl-phenylether	NA	NA	NA	<3200	<590	<520
Hexachlorobenzene	2,000	420	50,000	6300	<590	<520
Phenanthrene	NA	NA	NA	1200 J	83 J	<520
Anthracene	10,000,000	10,000	500,000	<3200	<590	<520
Di-n-butylphthalate	10,000,000	5,700,000	100,000	1000 BJ	250 BJ	260 BJ
Fluoranthene	10,000,000	2,300,000	500,000	2000 J	130 J	<520
Pyrene	10,000,000	1,700,000	500,000	910 J	97 J	<520
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<3200	97 J	<520
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<6300	<1200	<1000
Benzo(a)anthracene	2,500	660	500,000	680 J	100 J	<520
Chrysene	2,500	660	500,000	770 J	110 J	<520
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	8600 B	220 J	120 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	1900 J	<590	<520
Benzo(b)fluoranthene	2,500	660	500,000	<3200	160 J	<520
Benzo(k)fluoranthene	2,500	660	500,000	<3200	<590	<520
Benzo(a)pyrene	660	660	100,000	<3200	<590	<520
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<3200	<590	<520
Dibenz(a,h)anthracene	660	660	500,000	<3200	<590	<520
Benzo(g,h,i)perylene	2,500	660	500,000	<3200	<590	<520
Total Base-Neutrals:	NA	NA	NA	23360	1247	380

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-41A	B-41B	B-42A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	< 440	< 550	< 2000
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	< 440	< 550	< 2000
1,4-Dichlorobenzene	1,200,000	280,000	100,000	< 440	< 550	< 2000
Benzyl alcohol	10,000,000	10,000,000	50,000	< 440	< 550	< 2000
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	< 440	< 550	< 2000
2-Methylphenol	NA	NA	NA	< 440	< 550	< 2000
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	< 440	< 550	< 2000
4-Methylphenol	NA	NA	NA	< 440	< 550	< 2000
N-Nitroso-di-n-propylamine	660	660	1,000	< 440	< 550	< 2000
Hexachloroethane	10,000,000	1,700,000	100,000	< 440	< 550	< 2000
Nitrobenzene	520,000	1,000	50,000	< 440	< 550	< 2000
Isophorone	10,000,000	1,100,000	10,000	< 440	< 550	< 2000
bis(2-Chloroethoxy)methane	NA	NA	NA	< 440	< 550	< 2000
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	< 440	< 550	< 2000
Naphthalene	4,200,000	230,000	100,000	< 440	< 550	< 2000
4-Chloroaniline	NA	NA	NA	< 440	< 550	< 2000
Hexachlorobutadiene	210,000	11,000	50,000	< 440	< 550	< 2000
2-Methylnaphthalene	NA	NA	NA	< 440	< 550	< 2000
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	< 440	< 550	< 2000
2-Chloronaphthalene	NA	NA	NA	< 440	< 550	< 2000
2-Nitroaniline	NA	NA	NA	< 2100	< 2700	< 9800
Dimethyl phthalate	10,000,000	10,000,000	50,000	< 440	< 550	200 J
Acenaphthylene	NA	NA	NA	< 440	< 550	< 2000
2,6-Dinitrotoluene	NA	NA	NA	< 440	< 550	< 2000
3-Nitroaniline	NA	NA	NA	< 2100	< 2700	< 9800
Acenaphthene	10,000,000	3,400,000	100,000	< 440	< 550	< 2000
Dibenzofuran	NA	NA	NA	< 440	< 550	< 2000
2,4-Dinitrotoluene	4,000	1,000	10,000	< 440	< 550	< 2000
Diethylphthalate	10,000,000	10,000,000	50,000	< 440	< 550	< 2000
4-Chlorophenyl-phenylether	NA	NA	NA	< 440	< 550	< 2000
Fluorene	10,000,000	2,300,000	100,000	< 440	< 550	< 2000
4-Nitroaniline	NA	NA	NA	< 2100	< 2700	< 9800

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-41A	B-41B	B-42A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	< 440	< 550	< 2000
4-Bromophenyl-phenylether	NA	NA	NA	< 440	< 550	< 2000
Hexachlorobenzene	2,000	420	50,000	< 440	< 550	< 2000
Phenanthrene	NA	NA	NA	430 J	< 550	550 J
Anthracene	10,000,000	10,000	500,000	70 J	< 550	< 2000
Di-n-butylphthalate	10,000,000	5,700,000	100,000	240 BJ	260 BJ	480 BJ
Fluoranthene	10,000,000	2,300,000	500,000	520	< 550	1300 J
Pyrene	10,000,000	1,700,000	500,000	700 Y	< 550	950 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	260 JY	< 550	860 JY
3,3'-Dichlorobenzidine	7,000	2,000	100,000	< 890	< 1100	< 4000
Benzo(a)anthracene	2,500	660	500,000	210 J	< 550	470 J
Chrysene	2,500	660	500,000	520	< 550	740 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	770 Y	160 J	2000 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	< 440	< 550	< 2000
Benzo(b)fluoranthene	2,500	660	500,000	730	< 550	860 J
Benzo(k)fluoranthene	2,500	660	500,000	< 440	< 550	860 J
Benzo(a)pyrene	660	660	100,000	170 J	< 550	260 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	200 J	< 550	220 J
Dibenz(a,h)anthracene	660	660	500,000	< 440	< 550	< 2000
Benzo(g,h,i)perylene	2,500	660	500,000	210 J	< 550	230 J
Total Base-Neutrals:	NA	NA	NA	5030	420	9980

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-42B	B-43A	B-43B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<500	<450	<440
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<500	<450	<440
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<500	<450	<440
Benzyl alcohol	10,000,000	10,000,000	50,000	<500	<450	<440
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<500	<450	<440
2-Methylphenol	NA	NA	NA	<500	<450	<440
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<500	<450	<440
4-Methylphenol	NA	NA	NA	<500	<450	<440
N-Nitroso-di-n-propylamine	660	660	1,000	<500	<450	<440
Hexachloroethane	10,000,000	1,700,000	100,000	<500	<450	<440
Nitrobenzene	520,000	1,000	50,000	<500	<450	<440
Isophorone	10,000,000	1,100,000	10,000	<500	<450	<440
bis(2-Chloroethoxy)methane	NA	NA	NA	<500	<450	<440
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<500	<450	<440
Naphthalene	4,200,000	230,000	100,000	<500	<450	<440
4-Chloroaniline	NA	NA	NA	<500	<450	<440
Hexachlorobutadiene	210,000	11,000	50,000	<500	<450	<440
2-Methylnaphthalene	NA	NA	NA	<500	<450	<440
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<500	<450	<440
2-Chloronaphthalene	NA	NA	NA	<500	<450	<440
2-Nitroaniline	NA	NA	NA	<2400	<2200	<2200
Dimethyl phthalate	10,000,000	10,000,000	50,000	<500	<450	<440
Acenaphthylene	NA	NA	NA	<500	<450	<440
2,6-Dinitrotoluene	NA	NA	NA	<500	<450	<440
3-Nitroaniline	NA	NA	NA	<2400	<2200	<2200
Acenaphthene	10,000,000	3,400,000	100,000	<500	94 J	<440
Dibenzofuran	NA	NA	NA	<500	51 J	<440
2,4-Dinitrotoluene	4,000	1,000	10,000	<500	<450	<440
Diethylphthalate	10,000,000	10,000,000	50,000	<500	<450	<440
4-Chlorophenyl-phenylether	NA	NA	NA	<500	<450	<440
Fluorene	10,000,000	2,300,000	100,000	<500	72 J	<440
4-Nitroaniline	NA	NA	NA	<2400	<2200	<2200

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-42B	B-43A	B-43B
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<500	<450	<440
4-Bromophenyl-phenylether	NA	NA	NA	<500	<450	<440
Hexachlorobenzene	2,000	420	50,000	<500	<450	<440
Phenanthrene	NA	NA	NA	<500	430 J	<440
Anthracene	10,000,000	10,000	500,000	<500	78 J	<440
Di-n-butylphthalate	10,000,000	5,700,000	100,000	320 BJ	410 BJ	1400 B
Fluoranthene	10,000,000	2,300,000	500,000	<500	280 J	<440
Pyrene	10,000,000	1,700,000	500,000	<500	260 J	<440
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<500	130 J	<440
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<990	<900	<890
Benzo(a)anthracene	2,500	660	500,000	<500	110 J	<440
Chrysene	2,500	660	500,000	<500	120 J	<440
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	94 J	700	150 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<500	<450	<440
Benzo(b)fluoranthene	2,500	660	500,000	<500	140 J	<440
Benzo(k)fluoranthene	2,500	660	500,000	<500	<450	<440
Benzo(a)pyrene	660	660	100,000	<500	<450	<440
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<500	<450	<440
Dibenz(a,h)anthracene	660	660	500,000	<500	<450	<440
Benzo(g,h,i)perylene	2,500	660	500,000	<500	<450	<440
Total Base-Neutrals:	NA	NA	NA	414	2875	1550

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-44A	B-44B	B-45A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<430	<490	<3800
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<430	<490	<3800
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<430	<490	<3800
Benzyl alcohol	10,000,000	10,000,000	50,000	<430	<490	<3800
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<430	<490	<3800
2-Methylphenol	NA	NA	NA	<430	<490	<3800
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<430	<490	<3800
4-Methylphenol	NA	NA	NA	<430	<490	<3800
N-Nitroso-di-n-propylamine	660	660	1,000	<430	<490	<3800
Hexachloroethane	10,000,000	1,700,000	100,000	<430	<490	<3800
Nitrobenzene	520,000	1,000	50,000	<430	<490	<3800
Isophorone	10,000,000	1,100,000	10,000	<430	<490	<3800
bis(2-Chloroethoxy)methane	NA	NA	NA	<430	<490	<3800
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<430	<490	<3800
Naphthalene	4,200,000	230,000	100,000	<430	<490	<3800
4-Chloroaniline	NA	NA	NA	<430	<490	<3800
Hexachlorobutadiene	210,000	11,000	50,000	<430	<490	<3800
2-Methylnaphthalene	NA	NA	NA	<430	74 J	<3800
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<430	<490	<3800
2-Chloronaphthalene	NA	NA	NA	<430	<490	<3800
2-Nitroaniline	NA	NA	NA	<2100	<2400	<19000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<430	<490	<3800
Acenaphthylene	NA	NA	NA	<430	<490	<3800
2,6-Dinitrotoluene	NA	NA	NA	<430	<490	<3800
3-Nitroaniline	NA	NA	NA	<2100	<2400	<19000
Acenaphthene	10,000,000	3,400,000	100,000	52 J	110 J	<3800
Dibenzofuran	NA	NA	NA	<430	51 J	<3800
2,4-Dinitrotoluene	4,000	1,000	10,000	<430	<490	<3800
Diethylphthalate	10,000,000	10,000,000	50,000	<430	<490	<3800
4-Chlorophenyl-phenylether	NA	NA	NA	<430	<490	<3800
Fluorene	10,000,000	2,300,000	100,000	58 J	140 J	<3800
4-Nitroaniline	NA	NA	NA	<2100	<2400	<19000

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-44A	B-44B	B-45A
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	< 430	< 490	< 3800
4-Bromophenyl-phenylether	NA	NA	NA	< 430	< 490	< 3800
Hexachlorobenzene	2,000	420	50,000	< 430	< 490	< 3800
Phenanthrene	NA	NA	NA	620	450 J	550 J
Anthracene	10,000,000	10,000	500,000	96 J	75 J	< 3800
Di-n-butylphthalate	10,000,000	5,700,000	100,000	270 BJ	650 B	< 3800
Fluoranthene	10,000,000	2,300,000	500,000	630	400 J	580 J
Pyrene	10,000,000	1,700,000	500,000	670	420 J	460 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	< 430	< 490	< 3800
3,3'-Dichlorobenzidine	7,000	2,000	100,000	< 850	< 980	< 7700
Benzo(a)anthracene	2,500	660	500,000	370 J	150 J	< 3800
Chrysene	2,500	660	500,000	450	290 J	< 3800
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	350 J	260 J	< 3800
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	< 430	< 490	< 3800
Benzo(b)fluoranthene	2,500	660	500,000	570	160 J	< 3800
Benzo(k)fluoranthene	2,500	660	500,000	< 430	< 490	< 3800
Benzo(a)pyrene	660	660	100,000	200 J	79 J	< 3800
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	250 J	< 490	< 3800
Dibenz(a,h)anthracene	660	660	500,000	< 430	< 490	< 3800
Benzo(g,h,i)perylene	2,500	660	500,000	280 J	< 490	< 3800
Total Base-Neutrals:	NA	NA	NA	4866	3309	1590

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-45B	W-19SA	W-19SB
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	7/11/89	7/11/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<410	<410	<410
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	<410	<410	<410
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<410	<410	<410
Benzyl alcohol	10,000,000	10,000,000	50,000	<410	<410	<410
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<410	<410	<410
2-Methylphenol	NA	NA	NA	<410	<410	<410
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<410	<410	<410
4-Methylphenol	NA	NA	NA	<410	<410	<410
N-Nitroso-di-n-propylamine	660	660	1,000	<410	<410	<410
Hexachloroethane	10,000,000	1,700,000	100,000	<410	<410	<410
Nitrobenzene	520,000	1,000	50,000	<410	<410	<410
Isophorone	10,000,000	1,100,000	10,000	<410	<410	<410
bis(2-Chloroethoxy)methane	NA	NA	NA	<410	<410	<410
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<410	<410	<410
Naphthalene	4,200,000	230,000	100,000	<410	<410	<410
4-Chloroaniline	NA	NA	NA	<410	<410	<410
Hexachlorobutadiene	210,000	11,000	50,000	<410	<410	<410
2-Methylnaphthalene	NA	NA	NA	<410	<410	<410
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<410	<410	<410
2-Chloronaphthalene	NA	NA	NA	<410	<410	<410
2-Nitroaniline	NA	NA	NA	<2000	<2000	<2000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<410	<410	<410
Acenaphthylene	NA	NA	NA	<410	67 J	51 J
2,6-Dinitrotoluene	NA	NA	NA	<410	<410	<410
3-Nitroaniline	NA	NA	NA	<2000	<2000	<2000
Acenaphthene	10,000,000	3,400,000	100,000	<410	<410	<410
Dibenzofuran	NA	NA	NA	<410	<410	<410
2,4-Dinitrotoluene	4,000	1,000	10,000	<410	<410	<410
Diethylphthalate	10,000,000	10,000,000	50,000	<410	<410	<410
4-Chlorophenyl-phenylether	NA	NA	NA	<410	<410	<410
Fluorene	10,000,000	2,300,000	100,000	<410	56 J	<410
4-Nitroaniline	NA	NA	NA	<2000	<2000	<2000

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	B-45B	W-19SA	W-19SB
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24
			Sample Date:	5/31/89	7/11/89	7/11/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<410	<410	<410
4-Bromophenyl-phenylether	NA	NA	NA	<410	<410	<410
Hexachlorobenzene	2,000	420	50,000	<410	<410	<410
Phenanthrene	NA	NA	NA	<410	620	79 J
Anthracene	10,000,000	10,000	500,000	<410	290 J	120 J
Di-n-butylphthalate	10,000,000	5,700,000	100,000	300 BJ	3100 B	3000 B
Fluoranthene	10,000,000	2,300,000	500,000	<410	1100	290 J
Pyrene	10,000,000	1,700,000	500,000	<410	530	350 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	<410	<410	60 J
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<820	<820	<820
Benzo(a)anthracene	2,500	660	500,000	<410	650	260 J
Chrysene	2,500	660	500,000	<410	650	310 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<410	790 B	890 B
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<410	<410	<410
Benzo(b)fluoranthene	2,500	660	500,000	<410	920 Y	420 Y
Benzo(k)fluoranthene	2,500	660	500,000	<410	<410	<410
Benzo(a)pyrene	660	660	100,000	<410	650	330 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<410	270 J	170 J
Dibenz(a,h)anthracene	660	660	500,000	<410	43 J	51 J
Benzo(g,h,i)perylene	2,500	660	500,000	<410	250 J	160 J
Total Base-Neutrals:	NA	NA	NA	300	9986	6541

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	W-19SC	W-21SA	W-21SB
			Sample Depth (inches):	*	0 - 6	18 - 24
			Sample Date:	7/11/89	7/11/89	7/11/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential	Residential	Standards (2)			
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	< 460	< 410	< 410
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	< 460	< 410	< 410
1,4-Dichlorobenzene	1,200,000	280,000	100,000	< 460	< 410	< 410
Benzyl alcohol	10,000,000	10,000,000	50,000	< 460	< 410	< 410
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	< 460	< 410	< 410
2-Methylphenol	NA	NA	NA	< 460	< 410	< 410
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	< 460	< 410	< 410
4-Methylphenol	NA	NA	NA	< 460	< 410	< 410
N-Nitroso-di-n-propylamine	660	660	1,000	< 460	< 410	< 410
Hexachloroethane	10,000,000	1,700,000	100,000	< 460	< 410	< 410
Nitrobenzene	520,000	1,000	50,000	< 460	< 410	< 410
Isophorone	10,000,000	1,100,000	10,000	< 460	< 410	< 410
bis(2-Chloroethoxy)methane	NA	NA	NA	< 460	< 410	< 400
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	< 460	< 410	< 400
Naphthalene	4,200,000	230,000	100,000	61 JX	< 410	< 400
4-Chloroaniline	NA	NA	NA	< 460	< 410	< 400
Hexachlorobutadiene	210,000	11,000	50,000	< 460	< 410	< 400
2-Methylnaphthalene	NA	NA	NA	< 460	< 410	< 400
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	< 460	< 410	< 400
2-Chloronaphthalene	NA	NA	NA	< 460	< 410	< 400
2-Nitroaniline	NA	NA	NA	< 2300	< 2000	< 2000
Dimethyl phthalate	10,000,000	10,000,000	50,000	< 460	< 410	< 400
Acenaphthylene	NA	NA	NA	76 J	< 410	< 400
2,6-Dinitrotoluene	NA	NA	NA	< 460	< 410	< 400
3-Nitroaniline	NA	NA	NA	< 2300	< 2000	< 2000
Acenaphthene	10,000,000	3,400,000	100,000	< 460	< 410	< 400
Dibenzofuran	NA	NA	NA	< 460	< 410	< 400
2,4-Dinitrotoluene	4,000	1,000	10,000	< 460	< 410	< 400
Diethylphthalate	10,000,000	10,000,000	50,000	< 460	< 410	< 400
4-Chlorophenyl-phenylether	NA	NA	NA	< 460	< 410	< 400
Fluorene	10,000,000	2,300,000	100,000	60 J	< 410	< 400
4-Nitroaniline	NA	NA	NA	< 2300	< 2000	< 2000

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample No.:	W-19SC	W-21SA	W-21SB
			Sample Depth (inches):	*	0 - 6	18 - 24
			Sample Date:	7/11/89	7/11/89	7/11/89
	Surface Soil Standards (1)		Subsurface Soil			
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
N-Nitrosodiphenylamine	590,000	140,000	100,000	<460	<410	<400
4-Bromophenyl-phenylether	NA	NA	NA	<460	<410	<400
Hexachlorobenzene	2,000	420	50,000	<460	<410	<400
Phenanthrene	NA	NA	NA	340 J	45 J	<400
Anthracene	10,000,000	10,000	500,000	240 J	<410	<400
Di-n-butylphthalate	10,000,000	5,700,000	100,000	3700 B	3000 B	78 BJ
Fluoranthene	10,000,000	2,300,000	500,000	1300	92 J	57 J
Pyrene	10,000,000	1,700,000	500,000	580	63 J	71 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	110 J	<410	<400
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<930	<820	<810
Benzo(a)anthracene	2,500	660	500,000	600	65 J	<400
Chrysene	2,500	660	500,000	570	77 J	<400
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	590 B	130 BJ	150 BJ
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<460	<410	<400
Benzo(b)fluoranthene	2,500	660	500,000	150 J	120 JY	<400
Benzo(k)fluoranthene	2,500	660	500,000	<460	<410	<400
Benzo(a)pyrene	660	660	100,000	710	86 J	<400
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	250 J	<410	<400
Dibenz(a,h)anthracene	660	660	500,000	<460	<410	<400
Benzo(g,h,i)perylene	2,500	660	500,000	270 J	44 J	<400
Total Base-Neutrals:	NA	NA	NA	9607	3722	356

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7
			Sample No.:	W-21SC
			Sample Depth (inches):	*
			Sample Date:	7/11/89
	Surface Soil Standards (1)		Subsurface Soil	
Parameter (concentrations in ug/kg)	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)	
bis(2-Chloroethyl)ether	3,000	1,000	1,000	< 480
1,3-Dichorobenzene	10,000,000	5,100,000	100,000	< 480
1,4-Dichlorobenzene	1,200,000	280,000	100,000	< 480
Benzyl alcohol	10,000,000	10,000,000	50,000	< 480
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	< 480
2-Methylphenol	NA	NA	NA	< 480
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	< 480
4-Methylphenol	NA	NA	NA	< 480
N-Nitroso-di-n-propylamine	660	660	1,000	< 480
Hexachloroethane	10,000,000	1,700,000	100,000	< 480
Nitrobenzene	520,000	1,000	50,000	< 480
Isophorone	10,000,000	1,100,000	10,000	< 480
bis(2-Chloroethoxy)methane	NA	NA	NA	< 480
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	< 480
Naphthalene	4,200,000	230,000	100,000	56 J
4-Chloroaniline	NA	NA	NA	< 480
Hexachlorobutadiene	210,000	11,000	50,000	< 480
2-Methylnaphthalene	NA	NA	NA	< 480
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	< 480
2-Chloronaphthalene	NA	NA	NA	< 480
2-Nitroaniline	NA	NA	NA	< 2300
Dimethyl phthalate	10,000,000	10,000,000	50,000	< 480
Acenaphthylene	NA	NA	NA	68 J
2,6-Dinitrotoluene	NA	NA	NA	< 480
3-Nitroaniline	NA	NA	NA	< 2300
Acenaphthene	10,000,000	3,400,000	100,000	< 480
Dibenzofuran	NA	NA	NA	< 480
2,4-Dinitrotoluene	4,000	1,000	10,000	< 480
Diethylphthalate	10,000,000	10,000,000	50,000	< 480
4-Chlorophenyl-phenylether	NA	NA	NA	< 480
Fluorene	10,000,000	2,300,000	100,000	< 480
4-Nitroaniline	NA	NA	NA	< 2300

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7
			Sample No.:	W-21SC
			Sample Depth (inches):	*
			Sample Date:	7/11/89
	Surface Soil Standards (1)		Subsurface Soil	
Parameter	Non-Residential	Residential	Standards (2)	
(concentrations in ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	
N-Nitrosodiphenylamine	590,000	140,000	100,000	<480
4-Bromophenyl-phenylether	NA	NA	NA	<480
Hexachlorobenzene	2,000	420	50,000	<480
Phenanthrene	NA	NA	NA	93 J
Anthracene	10,000,000	10,000	500,000	190 J
Di-n-butylphthalate	10,000,000	5,700,000	100,000	4400 B
Fluoranthene	10,000,000	2,300,000	500,000	510
Pyrene	10,000,000	1,700,000	500,000	380 J
Butylbenzylphthalate	10,000,000	10,000,000	100,000	500
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<960
Benzo(a)anthracene	2,500	660	500,000	280 J
Chrysene	2,500	660	500,000	410 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	600 B
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<480
Benzo(b)fluoranthene	2,500	660	500,000	61 J
Benzo(k)fluoranthene	2,500	660	500,000	61 J
Benzo(a)pyrene	660	660	100,000	270 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	110 J
Dibenz(a,h)anthracene	660	660	500,000	<480
Benzo(g,h,i)perylene	2,500	660	500,000	120 J
Total Base-Neutrals:	NA	NA	NA	8109

See footnotes on last page.

Table 2-3. Base-Neutral Compound Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

ug/kg	Micrograms per kilogram.
J	Estimated concentration quantified below the contractually required detection limit.
B	Compound detected in method blank.
Y	Compound edited on RTE/MS data system.
E	Compound concentrations that exceed calibration range of the GC/MS instrument.
(1)	Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2)	Subsurface soil is the soil more than two feet below grade and extending downward to the top of the water table (proposed New Jersey Soil Cleanup Standard). downward to the top of the seasonally high water table.
NA	No standard given.
*	Sample collected from the 6-inch interval above the water table.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample ID:	B-11A	B-11B	B-13A	B-13B
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24
			Sample Date:	5/25/89	5/25/89	5/25/89	5/25/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1)		Subsurface Soil Standards (2)				
	Non-Residential	Residential					
Antimony	340	14	NA	7.10 B	1.90 B	1.10 B	<0.91
Arsenic	20	20	NA	2.90	6.60	2.00 B	1.50 B
Beryllium	2	2	NA	1.30	1.80	0.59 B	0.68 B
Cadmium	100	1	NA	0.50 B	0.36 B	<0.22	<0.23
Chromium	NA	NA	NA	58.70	69.20	2.70	<2.30
Copper	600	600	NA	128.00	78.20	9.70	6.70
Lead	600	100	NA	125.00	140.00	5.50	2.80
Mercury	260	14	NA	<0.11	0.21	<0.11	<0.11
Nickel	2400	250	NA	28.60	12.40	<5.50	<5.70
Selenium	1000	1	NA	0.65 B	0.71 B	<0.22	<0.23
Silver	2000	40	NA	<1.10	<1.20	<1.10	<1.10
Thallium	2	2	NA	<0.88	<0.93	<0.87	<0.91
Zinc	1500	1500	NA	161.00	58.90	43.00	28.80

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample ID:	B-14A	B-14B	B-15A	B-15B
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24
			Sample Date:	5/25/89	5/25/89	5/26/89	5/26/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1)		Subsurface Soil Standards (2)				
	Non-Residential	Residential					
Antimony	340	14	NA	15.80 B	8.20 B	3.50 B	<0.89
Arsenic	20	20	NA	4.70	2.80	3.70	0.92 B
Beryllium	2	2	NA	0.92 B	0.49 B	0.92 B	0.44 B
Cadmium	100	1	NA	0.29 B	0.24 B	0.46 B	<0.22
Chromium	NA	NA	NA	19.00	5.30	20.70	11.10
Copper	600	600	NA	70.90	1.80 B	74.50	13.40
Lead	600	100	NA	37.90	15.20	56.30	8.10
Mercury	260	14	NA	0.22	<0.10	<0.11	<0.11
Nickel	2400	250	NA	30.00	<5.60	22.00	<5.60
Selenium	1000	1	NA	<0.22	<0.22	<0.22	<0.22
Silver	2000	40	NA	<1.10	<1.10	2.50	<1.10
Thallium	2	2	NA	<0.87	<0.89	<0.90	<0.89
Zinc	1500	1500	NA	214.00	<3.30	222.00	38.70

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample ID:	B-16A	B-17A	B-17B	B-18A
			Sample Depth (inches):	0 - 6	0 - 6	18 - 24	0 - 6
			Sample Date:	5/25/89	5/25/89	5/25/89	5/30/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	6.20 B	2.10 B	<0.95	73.50 B
Arsenic	20	20	NA	2.30	3.00	1.40 B	89.80
Beryllium	2	2	NA	0.27 B	0.94 B	0.50 B	0.58 B
Cadmium	100	1	NA	0.32 B	1.90	0.25 B	0.77 B
Chromium	NA	NA	NA	106.00	4.80	6.60	31.10
Copper	600	600	NA	1.90 B	60.70	5.50 B	244.00
Lead	600	100	NA	246.00	7.50	3.50 B	317.00
Mercury	260	14	NA	0.54	<0.11	<0.11	0.24
Nickel	2400	250	NA	<5.60	16.40	<5.90	57.80
Selenium	1000	1	NA	0.43 B	<0.22	<0.24	<0.22
Silver	2000	40	NA	3.10	<1.10	<1.20	1.60 B
Thallium	2	2	NA	<0.89	<0.90	<0.95	<0.86
Zinc	1500	1500	NA	<3.30	749.00	56.60	349.00

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample ID:	B-18B	B-19A	B-19B	B-20A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Sample Date:	5/30/89	5/26/89	5/26/89	5/26/89
Parameter	Surface Soil Standards (1)		Subsurface Soil				
(concentrations in mg/kg)	Non-Residential	Residential	Standards (2)				
Antimony	340	14	NA	1690.00 B	211.00 B	<0.88	71.00
Arsenic	20	20	NA	227.00 B	104.00	2.10 B	3.30
Beryllium	2	2	NA	<0.23	9.00	0.24 B	0.61 B
Cadmium	100	1	NA	<0.23	0.60 B	<0.22	<0.22
Chromium	NA	NA	NA	15.20	238.00	9.40	21.50
Copper	600	600	NA	14.70	679.00	9.70	98.10
Lead	600	100	NA	14.80	795.00	4.50	79.30
Mercury	260	14	NA	<0.12	1.20	<0.11	<0.11
Nickel	2400	250	NA	<5.80	275.00	<5.50	31.30
Selenium	1000	1	NA	<0.23	1.90	<0.22	<0.22
Silver	2000	40	NA	<1.20	2.70	<1.10	1.60 B
Thallium	2	2	NA	<0.93	<0.92	<0.88	<0.87
Zinc	1500	1500	NA	17.90	1830.00	19.70	230.00

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample ID:	B-20B	B-21A	B-21B	W-17SA
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Sample Date:	5/26/89	5/26/89	5/26/89	7/12/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	<0.88	3.30 B	<0.88	2.00 B
Arsenic	20	20	NA	1.80 B	3.00	2.20	2.20
Beryllium	2	2	NA	0.22 B	0.58 B	0.26 B	<0.21
Cadmium	100	1	NA	<0.22	0.23 B	<0.22	<0.21
Chromium	NA	NA	NA	10.40	6.10	8.10	2.60
Copper	600	600	NA	14.00	36.10	3.90 B	4.60 B
Lead	600	100	NA	11.10	20.10	5.40	5.90
Mercury	260	14	NA	<0.11	<0.11	<0.10	<0.11
Nickel	2400	250	NA	<5.50	<5.60	<5.50	<5.30
Selenium	1000	1	NA	<0.22	<0.22	<0.22	<0.21
Silver	2000	40	NA	1.20 B	<1.10	<1.10	<1.10
Thallium	2	2	NA	<0.88	<0.89	<0.88	<0.64
Zinc	1500	1500	NA	27.20	66.70	21.90	19.60

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

		Area:	3	3	4	4
		Sample ID:	W-17SB	W-17SC	B-24A	B-24B
		Sample Depth (inches):	18 - 24	*	0 - 6	18 - 24
		Sample Date:	7/12/89	7/12/89	5/26/89	5/26/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)			
Antimony	340	14	NA	3.10 B	<0.96	2.80 B	<0.87
Arsenic	20	20	NA	1.40 B	2.30 B	1.60 B	0.59 B
Beryllium	2	2	NA	<0.22	0.24 B	9.10	<0.22
Cadmium	100	1	NA	<0.22	<0.24	4.50	<0.22
Chromium	NA	NA	NA	5.30	17.20	186.00	5.60
Copper	600	600	NA	4.30 B	28.80	558.00	5.40 B
Lead	600	100	NA	1.80	3.40	365.00	4.80
Mercury	260	14	NA	<0.11	<0.12	0.17	<0.11
Nickel	2400	250	NA	<5.40	<6.00	232.00	<5.50
Selenium	1000	1	NA	<0.22	<0.24	0.89 B	<0.22
Silver	2000	40	NA	<1.10	<1.20	2.40	2.20
Thallium	2	2	NA	<0.65	<0.72	<0.89	<0.87
Zinc	1500	1500	NA	15.40	36.60	1850.00	16.80

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4	4
			Sample ID:	B-25A	B-25B	B-26A	B-26B
			Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24
			Sample Date:	5/26/89	5/26/89	5/26/89	5/26/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1)		Subsurface Soil Standards (2)				
	Non-Residential	Residential					
Antimony	340	14	NA	2.60 B	<0.92	2.50 B	<0.88
Arsenic	20	20	NA	1.20 B	1.40 B	1.70 B	2.50
Beryllium	2	2	NA	0.86 B	<0.23	0.67 B	0.29 B
Cadmium	100	1	NA	0.53 B	<0.23	0.38 B	<0.22
Chromium	NA	NA	NA	100.00	30.60	27.70	12.00
Copper	600	600	NA	141.00	10.10	84.80	5.70
Lead	600	100	NA	47.90	358.00	42.60	9.30
Mercury	260	14	NA	0.49	<0.11	0.14	<0.10
Nickel	2400	250	NA	40.50	<5.7	40.60	5.60 B
Selenium	1000	1	NA	<0.22	<0.23	<0.22	<0.22
Silver	2000	40	NA	1.30 B	<1.10	<1.10	<1.10
Thallium	2	2	NA	<0.86	<0.92	<0.86	<0.88
Zinc	1500	1500	NA	108.00	24.90	134.00	21.40

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	6	6
			Sample ID:	B-27A	B-27B	SS-1	SS-2
			Sample Depth (Inches):	0 - 6	18 - 24	6 - 12	6 - 12
			Sample Date:	5/26/89	5/26/89	5/31/89	5/31/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	1.00 B	<0.90	3.60 B	3.80 B
Arsenic	20	20	NA	2.00 B	1.70 B	5.10	2.70 B
Beryllium	2	2	NA	1.10	0.72 B	<0.43	0.46 B
Cadmium	100	1	NA	0.67 B	0.30 B	3.00	0.39 B
Chromium	NA	NA	NA	35.70	7.00	28.30	67.20
Copper	600	600	NA	93.70	6.30	255.00	60.40
Lead	600	100	NA	50.40	6.10	510.00	73.60
Mercury	260	14	NA	<0.10	<0.11	0.59	0.64
Nickel	2400	250	NA	39.20	7.20 B	16.00 B	10.80 B
Selenium	1000	1	NA	<0.22	<0.22	0.94 B	<0.30
Silver	2000	40	NA	3.00	<1.10	3.40 B	2.40 B
Thallium	2	2	NA	<0.86	<0.90	<1.70	<1.20
Zinc	1500	1500	NA	115.00	23.00	687.00	168.00

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6	6
			Sample ID:	SS-3	SS-4	SS-5	SS-6
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12	6 - 12
			Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	<2.00	18.10	7.30	14.00 B
Arsenic	20	20	NA	<2.00	23.40	9.50	10.40
Beryllium	2	2	NA	0.49 B	<0.26	0.41 B	0.30 B
Cadmium	100	1	NA	<0.49	<0.26	3.40	0.56 B
Chromium	NA	NA	NA	7.50	9.30	18.90	28.10
Copper	600	600	NA	44.10	10.10	28.50	21.80
Lead	600	100	NA	30.60	16.70	17.80	143.00
Mercury	260	14	NA	0.25	<0.12	0.61	1.40
Nickel	2400	250	NA	<12.30	6.70 B	<7.40	<6.80
Selenium	1000	1	NA	<0.49	<0.26	<0.29	<0.27
Silver	2000	40	NA	5.70	<1.30	<1.50	<1.40
Thallium	2	2	NA	<2.00	<1.00	<1.20	<1.10
Zinc	1500	1500	NA	11.40	52.70	201.00	46.60

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	7	7	7
			Sample ID:	SS-7	B-40A	B-40B	B-41A
			Sample Depth (inches):	6 - 12	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	309.00 B	1.90 B	<0.96	2.20 B
Arsenic	20	20	NA	223.00	4.20	1.60 B	5.20
Beryllium	2	2	NA	1.60 B	0.28 B	0.36 B	0.40 B
Cadmium	100	1	NA	3.30 B	0.34 B	<0.24	0.25 B
Chromium	NA	NA	NA	157.00	11.90	11.70	13.20
Copper	600	600	NA	157.00	23.20	6.20	33.10
Lead	600	100	NA	40.20	82.90	9.60	85.30
Mercury	260	14	NA	0.90	<0.13	<0.12	0.21
Nickel	2400	250	NA	44.60	<6.40	<6.00	6.30 B
Selenium	1000	1	NA	<1.00	0.37 B	<0.24	0.24 B
Silver	2000	40	NA	<5.10	<1.30	<1.20	<1.2
Thallium	2	2	NA	<4.10	<1.00	<0.96	<0.93
Zinc	1500	1500	NA	460.00	43.60	21.50	65.60

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7	7
			Sample ID:	B-41B	B-42A	B-42B	B-43A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter	Surface Soil Standards (1)		Subsurface Soil				
(concentrations in mg/kg)	Non-Residential	Residential	Standards (2)				
Antimony	340	14	NA	0.93 B	8.80 B	3.40 B	1.90 B
Arsenic	20	20	NA	1.60 B	21.40	2.20	2.50
Beryllium	2	2	NA	0.38 B	1.30	0.29 B	0.78 B
Cadmium	100	1	NA	<0.22	3.80 B	0.83 B	0.44 B
Chromium	NA	NA	NA	9.30	142.00	20.10	6.10
Copper	600	600	NA	18.20	258.00	49.90	84.70
Lead	600	100	NA	27.40	480.00	27.80	58.00
Mercury	260	14	NA	<0.11	1.30	<0.11	<0.11
Nickel	2400	250	NA	<5.60	122.00	15.60	12.60
Selenium	1000	1	NA	<0.22	3.60	0.31 B	0.24 B
Silver	2000	40	NA	<1.10	<1.20	<1.10	<1.10
Thallium	2	2	NA	<0.90	<0.98	<0.88	<0.86
Zinc	1500	1500	NA	33.70	457.00	146.00	143.00

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7	7
			Sample ID:	B-43B	B-44A	B-44B	B-45A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter	Surface Soil Standards (1)		Subsurface Soil				
(concentrations in mg/kg)	Non-Residential	Residential	Standards (2)				
Antimony	340	14	NA	1.10 B	3.00 B	4.70 B	1.50 B
Arsenic	20	20	NA	<0.46	2.50	2.80	0.62 B
Beryllium	2	2	NA	0.25 B	0.30 B	0.30 B	<0.22
Cadmium	100	1	NA	<0.23	0.28 B	<0.22	<0.22
Chromium	NA	NA	NA	<2.30	13.60	10.70	<2.20
Copper	600	600	NA	3.00	40.10	30.80	77.50
Lead	600	100	NA	135.00	50.60	48.10	82.50
Mercury	260	14	NA	<0.11	1.60	<0.11	<0.11
Nickel	2400	250	NA	<5.70	12.20	5.50 B	<5.50
Selenium	1000	1	NA	<0.23	0.29 B	0.32 B	0.27 B
Silver	2000	40	NA	18.70	<1.10	<1.10	1.50 B
Thallium	2	2	NA	<0.91	<0.85	<0.87	<0.88
Zinc	1500	1500	NA	12.80	79.30	43.20	5.70

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7	7
			Sample ID:	B-45B	W-19SA	W-19SB	W-19SC
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	*
			Sample Date:	5/31/89	7/11/89	7/11/89	7/11/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Antimony	340	14	NA	<0.89	2.00 B	<0.97	1.90 B
Arsenic	20	20	NA	2.80	19.30	7.50	24.00
Beryllium	2	2	NA	<0.22	0.56 B	0.36 B	0.69 B
Cadmium	100	1	NA	<0.22	1.70	0.39 B	2.40
Chromium	NA	NA	NA	<2.20	116.00	23.20	90.20
Copper	600	600	NA	14.60	91.30	19.10	110.00
Lead	600	100	NA	17.20	95.20	15.90	75.30
Mercury	260	14	NA	<0.11	5.10	0.35	3.50
Nickel	2400	250	NA	<5.60	23.80	<6.10	13.90
Selenium	1000	1	NA	0.25 B	0.73 B	0.27 B	1.00 B
Silver	2000	40	NA	<1.20	4.20	1.90 B	3.50
Thallium	2	2	NA	<0.89	<0.84	<0.73	<0.94
Zinc	1500	1500	NA	10.10	167.00	61.40	199.00

See last page for footnotes.

Table 2-4. Metal Analyses of Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	7	7	7
			Sample ID:	W-21SA	W-21SB	W-21SC
			Sample Depth (inches):	0 - 6	18 - 24	*
			Sample Date:	7/11/89	7/11/89	7/11/89
Parameter (concentrations in mg/kg)	Surface Soil Standards (1)		Subsurface Soil Standards (2)			
	Non-Residential	Residential				
Antimony	340	14	NA	<0.99	<0.96	<1.10
Arsenic	20	20	NA	3.40	12.70	2.40 B
Beryllium	2	2	NA	<0.25	0.36 B	0.74 B
Cadmium	100	1	NA	<0.25	<0.24	<0.28
Chromium	NA	NA	NA	16.00	16.60	21.10
Copper	600	600	NA	12.90	15.80	30.20
Lead	600	100	NA	8.10	7.80	10.90
Mercury	260	14	NA	<0.12	<0.11	<0.14
Nickel	2400	250	NA	<6.20	13.20	20.40
Selenium	1000	1	NA	<0.25	<0.24	<0.28
Silver	2000	40	NA	<1.20	1.90 B	3.60
Thallium	2	2	NA	<0.74	<0.72	<0.85
Zinc	1500	1500	NA	50.80	50.50	99.60

See last page for footnotes.

mg/kg	Milligrams per kilogram.
B	Compound detected in method blank.
(1)	Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2)	Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA	No standard given.
*	Collected at 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3
			Sample I.D.:	B-18A	B-18B	W-17SA	W-17SB
			Sample Depth (inches):	0 - 6	18 - 24	0-6	18-24
			Date Sampled:	5/30/89	5/30/89	7/12/89	7/12/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<420	<47	<200	<20
Aroclor 1221				<420	<47	<200	<20
Aroclor 1232				<420	<47	<200	<20
Aroclor 1242				<420	<47	<200	<20
Aroclor 1248				<420	<47	<200	<20
Aroclor 1254				740 J	270	<200	<20
Aroclor 1260				<840	<94	<200	<20
Total PCBs	2000	450	100000	740	270	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	5	5	5
			Sample I.D.:	W-17SC	B-28A	B-28B	B-29A
			Sample Depth (inches):	*	0 - 6	18 - 24	0 - 6
			Date Sampled:	7/12/89	5/30/89	5/30/89	5/30/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<10	<45	<92	<4.3
Aroclor 1221				<10	<45	<92	<4.3
Aroclor 1232				<10	<45	<92	<4.3
Aroclor 1242				<10	<45	<92	<4.3
Aroclor 1248				<10	<45	<92	<4.3
Aroclor 1254				<10	<90	<180	<8.7
Aroclor 1260				<10	<90	<180	<8.7
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	5	5	5	5
			Sample I.D.:	B-29B	B-30A	B-30B	B-31A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Date Sampled:	5/30/89	5/30/89	5/30/89	5/30/89
Parameter (concentrations in ug/kg)*	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<4.4	<56	<4.7	<51
Aroclor 1221				<4.4	<56	<4.7	<51
Aroclor 1232				<4.4	<56	<4.7	<51
Aroclor 1242				<4.4	<56	<4.7	<51
Aroclor 1248				<4.4	<56	<4.7	<51
Aroclor 1254				<8.9	<110	<9.3	<100
Aroclor 1260				<8.9	<110	<9.3	<100
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	5	5	5	5
			Sample I.D.:	B-31B	B-32A	B-32B	B-33A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Date Sampled:	5/30/89	5/30/89	5/30/89	5/30/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<50	<450	<450	<450
Aroclor 1221				<50	<450	<450	<450
Aroclor 1232				<50	<450	<450	<450
Aroclor 1242				<50	<450	<450	<450
Aroclor 1248				<50	<450	<450	<450
Aroclor 1254				<100	<900	<900	<910
Aroclor 1260				100	1900	2500	2600
Total PCBs	2000	450	100000	100	1900	2500	2600

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	5	5	5	5
			Sample I.D.:	B-33B	B-34A	B-34B	B-35A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Date Sampled:	5/30/89	5/30/89	5/30/89	5/30/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<46	<48	<4.5	<47
Aroclor 1221				<46	<48	<4.5	<47
Aroclor 1232				<46	<48	<4.5	<47
Aroclor 1242				<46	<48	<4.5	<47
Aroclor 1248				<46	<48	<4.5	<47
Aroclor 1254				<92	<96	<9.0	110
Aroclor 1260				<92	<96	<9.0	<93
Total PCBs	2000	450	100000	0	0	0	110

ug/kg Micrograms per kilogram.
J *Indicates an estimated value.*
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	5	6	6	6
			Sample I.D.:	B-35B	SS-1	SS-2	SS-3
			Sample Depth (inches):	18 - 24	6 - 12	6 - 12	6 - 12
			Date Sampled:	5/30/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<46	<140	<1300	<230
Aroclor 1221				<46	<140	<1300	<230
Aroclor 1232				<46	<140	<1300	<230
Aroclor 1242				<46	<140	<1300	<230
Aroclor 1248				<46	<140	<1300	<230
Aroclor 1254				140	<270	<2500	370
Aroclor 1260				<92	843	<2500	<470
Total PCBs	2000	450	100000	140	843	0	370

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	6	6	6	6
			Sample I.D.:	SS-4	SS-5	SS-6	B-40A
			Sample Depth (inches):	6 - 12	6 - 12	6 - 12	0 - 6
			Date Sampled:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				< 140	< 1500	< 130	< 140
Aroclor 1221				< 140	< 1500	< 130	< 140
Aroclor 1232				< 140	< 1500	< 130	< 140
Aroclor 1242				< 140	< 1500	< 130	< 140
Aroclor 1248				< 140	< 1500	< 130	< 140
Aroclor 1254				< 270	< 2900	< 250	< 280
Aroclor 1260				< 270	< 2900	6300	< 280
Total PCBs	2000	450	100000	0	0	6300	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	7	7	7	7
			Sample I.D.:	B-40B	B-41A	B-41B	B-42A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Date Sampled:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<130	<1100	<130	<110
Aroclor 1221				<130	<1100	<130	<110
Aroclor 1232				<130	<1100	<130	<110
Aroclor 1242				<130	<1100	<130	<110
Aroclor 1248				<130	<1100	<130	<110
Aroclor 1254				<250	<2100	<270	<220
Aroclor 1260				<250	<2100	<270	<220
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	7	7	7	7
			Sample I.D.:	B-42B	B-43A	B-43B	B-44A
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	0 - 6
			Date Sampled:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in ug/kg) *	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<120	<1100	<110	<100
Aroclor 1221				<120	<1100	<110	<100
Aroclor 1232				<120	<1100	<110	<100
Aroclor 1242				<120	<1100	<110	<100
Aroclor 1248				<120	<1100	<110	<100
Aroclor 1254				<240	<2200	<220	<210
Aroclor 1260				<240	<2200	<220	<210
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	7	7	7	7
			Sample I.D.:	B-44B	B-45A	B-45B	SS-7
			Sample Depth (inches):	18 - 24	0 - 6	18 - 24	6 - 12
			Date Sampled:	5/31/89	5/31/89	5/31/89	5/31/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<120	<110	<99	<7800
Aroclor 1221				<120	<110	<99	<7800
Aroclor 1232				<120	<110	<99	<7800
Aroclor 1242				<120	<110	<99	<7800
Aroclor 1248				<120	<110	<99	<7800
Aroclor 1254				<240	<210	<200	<16000
Aroclor 1260				<240	<210	<200	<16000
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	7	7	7	7
			Sample I.D.:	W-19SA	W-19SB	W-19C	W-21SA
			Sample Depth (inches):	0-6	18-24	*	0-6
			Date Sampled:	7/11/89	7/11/89	7/11/89	7/11/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)				
Aroclor 1016				<200	<200	<200	<200
Aroclor 1221				<200	<200	<200	<200
Aroclor 1232				<200	<200	<200	<200
Aroclor 1242				<200	<200	<200	<200
Aroclor 1248				<200	<200	<200	<200
Aroclor 1254				<200	<200	<200	<200
Aroclor 1260				<200	<200	<200	<200
Total PCBs	2000	450	100000	0	0	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-5. Results of PCB Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	7	7
			Sample I.D.:	W-21SB	W-21SC
			Sample Depth (inches):	18-24	*
			Date Sampled:	7/11/89	7/11/89
Parameter (concentrations in ug/kg)	Surface Soil Standards (1) Non-Residential	Surface Soil Standards (1) Residential	Subsurface Soil Standards (2)		
Aroclor 1016				<200	<200
Aroclor 1221				<200	<200
Aroclor 1232				<200	<200
Aroclor 1242				<200	<200
Aroclor 1248				<200	<200
Aroclor 1254				<200	<200
Aroclor 1260				<200	<200
Total PCBs	2000	450	100000	0	0

ug/kg Micrograms per kilogram.
J Indicates an estimated value.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.
PCBs Polychlorinated biphenyls.
* Collected at the 6-inch interval above the water table.

Table 2-6. Results of Petroleum Hydrocarbon Analyses of Soil and Sediment Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Area:	1	1	1	1	1	1	1	1	1	3	3
Sample ID:	B-1A	B-1B	B-2A	B-2B	B-3A	B-3B	B-4B	B-5A	B-5B	B-21A	B-21B
Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24
Sample Date:	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/26/89	5/26/89
TPHCs (mg/g)	<0.08	<0.08	0.12	0.74	<0.07	<0.08	<0.08	0.21	0.30	0.67	2.1

Area:	3	3	3	5	5	5	5	5	5	5	5
Sample ID:	W-17SA	W-17SB	W-17SC	B-36A	B-36B	B-37A	B-37B	B-38A	B-38B	B-39A	B-39B
Sample Depth (inches):	0 - 6	18 - 24	*	0 - 6	18 - 24	0 - 6	18 - 24	12 - 18	18 - 24	0 - 6	18 - 24
Sample Date:	7/11/89	7/12/89	7/12/89	5/30/89	5/30/89	5/30/89	5/30/89	5/31/89	5/31/89	5/31/89	5/31/89
TPHCs (mg/g)	<0.08	<0.08	<0.08	0.41	0.27	0.59	<0.07	<0.08	0.09	0.14	<0.07

Area:	5	6	6	6	6	6	6	6	7	7	7
Sample ID:	B-40A	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	B-40B	B-41A	B-41B
Sample Depth (inches):	0 - 6	6 - 12	6 - 12	6 - 12	6 - 12	6 - 12	6 - 12	6 - 12	18 - 24	0 - 6	18 - 24
Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89
TPHCs (mg/g)	<0.08	0.85	0.54	<0.14	<0.08	<0.09	<0.09	1.2	<0.08	0.14	0.12

Area:	7	7	7	7	7	7	7	7	7	7	7
Sample ID:	B-42A	B-42B	B-43A	B-43B	B-44A	B-44B	B-45A	B-45B	W-19SA	W-19SB	W-19SC
Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	*
Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	7/11/89	7/11/89	7/11/89
TPHCs (mg/g)	0.48	<0.07	0.54	0.08	0.94	2.9	0.65	<0.08	0.13	<0.08	<0.1

Area:	7	7	7
Sample ID:	W-21SA	W-21SB	W-21SC
Sample Depth (inches):	0 - 6	18 - 24	*
Sample Date:	7/11/89	7/11/89	7/11/89
TPHCs (mg/g)	<0.08	0.32	0.09

TPHCs Total petroleum hydrocarbons.
mg/g Milligrams per gram.
* Sample collected 6 inches above saturated zone.

Soil action level for TPHCs is 1000 mg/kg.

5-89HYDR.XLS

Table 2-7. Results of Sulfate Analyses and pH Measurements for Soil Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample ID:	B-6A	B-6B	B-7A	B-7B	B-8A	B-8B	B-9A	B-9B	B-10A	B-14A	B-14B
Sample Depth (inches):	0 - 6	17 - 20	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	0 - 6	18 - 24
Sample Date:	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89	5/25/89
Sulfate (ug/g)	65	20,000	65	5.1	250	3,800	410	150	71,000	NA	NA
pH	6.35	6.71	7.09	8.61	6.26	6.96	4.73	4.44	3.84	7.35	9.02

Sample ID:	B-16A	B-18A	B-18B	B-26A	B-26B	B-40A	B-40B	B-41A	B-41B	B-42A	B-42B
Sample Depth (inches):	0 - 6	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24
Sample Date:	5/25/89	5/30/89	5/30/89	5/26/89	5/26/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89
Sulfate (ug/g)	NA	NA	NA	NA	NA	130	110	17	48	45	33
pH	8.49	8.85	7.63	10.21	8.12	5.63	5.68	7.37	5.7	6.19	7.26

Sample ID:	B-43A	B-43B	B-44A	B-44B	B-45A	B-45B	W-16SA	W-16SB	W-16SC	W-17SA
Sample Depth (inches):	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	0 - 6	18 - 24	*	0 - 6
Sample Date:	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	5/31/89	7/12/89	7/12/89	7/12/89	7/12/89
Sulfate (ug/g)	38	58	860	1,500	10,000	12,000	310	480	41	110
pH	9.14	7.39	7.16	6.57	3.06	4.12	6.69	6.49	6.49	7.40

Sample ID:	W-17SB	W-17SC	W-19SA	W-19SB	W-19SC	W-21SA	W-21SB	W-21SC
Sample Depth (inches):	18 - 24	*	0 - 6	18 - 24	*	0 - 6	18 - 24	*
Sample Date:	7/12/89	7/12/89	7/11/89	7/11/89	7/11/89	7/11/89	7/11/89	7/11/89
Sulfate (ug/g)	37	330	5,900	140	13	3,300	110	30
pH	7.23	5.92	3.68	9.06	8.18	8.61	9.45	8.60

ug/g Micrograms per gram.
* Sample collected 6inches above saturated zone.
NA Not analyzed.

5-89SULF.XLS

Table 2-8. First Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4	W-5
Sample Date:	8/10/89	8/10/89	8/10/89	8/10/89	8/17/89
Parameter (concentrations in ug/L)					
Chloromethane	<10	<10	<10	<10	<10
Bromomethane	<10	<10	10	<10	<10
Vinyl chloride	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10
Methylene chloride	3 BJ	9 B	2 J	2 BJ	10
Acetone	<10	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5
1,2-Dichloroethene (total)	<5	11	36	<5	<5
Chloroform	<5	37	16	1 J	<5
1,2-Dichloroethane	<5	1 J	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10	<10
Bromodichloromethane	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5
Trichloroethene	<5	90	18	4 J	<5
Dibromochloromethane	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	1 J	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10
Tetrachloroethene	<5	32	200	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5
Toluene	<5	5	19	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5
Ethylbenzene	<5	1 J	<5	<5	<5
Styrene	<5	<5	<5	<5	<5
Xylene (total)	<5	2 JY	<5	<5	<5
Total VOCs:	3	188	301	8	10

ug/L Micrograms per liter.
* Replicate of W-17S.
B Analyte was also detected in associated blank.
J Estimated value.
Y Values have been edited by Cambridge Analytical Associate's RTE/MS data system.
VOCs Volatile organic compounds.

Table 2-8. First Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15S	W-16S	W-17S	W-18S	W-19S	W-20S
Sample Date:	8/10/89	8/10/89	8/10/89	8/17/89	8/17/89	8/10/89
Parameter (concentrations in ug/L)						
Chloromethane	<10	<10000	<2000	<10	<10	<10
Bromomethane	<10	<10000	<2000	<10	<10	<10
Vinyl chloride	<10	<10000	<2000	<10	<10	<10
Chloroethane	<10	<10000	<2000	<10	<10	<10
Methylene chloride	1 BJ	3000 BJ	530 J	11	7	2 BJ
Acetone	<10	<10000	<2000	<10	<10	<10
Carbon disulfide	<5	<5000	<1000	<5	<5	<5
1,1-Dichloroethene	<5	<5000	<1000	<5	<5	<5
1,1-Dichloroethane	<5	<5000	<1000	<5	<5	<5
1,2-Dichloroethene (total)	<5	<5000	630 J	<5	<5	<5
Chloroform	180	50000	770 J	<5	<5	<5
1,2-Dichloroethane	<5	<5000	2100	<5	<5	<5
2-Butanone	<10	<10000	<2000	<10	<10	<10
1,1,1-Trichloroethane	<5	<5000	<1000	<5	<5	<5
Carbon tetrachloride	<5	<5000	<1000	<5	<5	<5
Vinyl acetate	<10	<10000	<2000	<10	<10	<10
Bromodichloromethane	<5	<5000	<1000	<5	<5	<5
1,2-Dichloropropane	<5	<5000	<1000	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5000	<1000	<5	<5	<5
Trichloroethene	2 J	<5000	<1000	<5	<5	<5
Dibromochloromethane	<5	<5000	<1000	<5	<5	<5
1,1,2-Trichloroethane	<5	<5000	<1000	<5	<5	<5
Benzene	<5	<5000	<1000	5	<5	<5
trans-1,3-Dichloropropene	<5	<5000	<1000	<5	<5	<5
Bromoform	<5	<5000	<1000	<5	<5	<5
4-Methyl-2-pentanone	<10	<10000	<2000	<10	<10	<10
2-Hexanone	<10	<10000	<2000	<10	<10	<10
Tetrachloroethene	2 J	<5000	<1000	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5000	15000	<5	<5	<5
Toluene	1 J	<5000	<1000	4 J	<5	<5
Chlorobenzene	<5	<5000	<1000	<5	<5	<5
Ethylbenzene	3 J	<5000	<1000	8	<5	<5
Styrene	<5	<5000	<1000	<5	<5	<5
Xylene (total)	4 JY	<5000	<1000	12 Y	<5	<5
Total VOCs:	193	53000	19030	40	7	2

ug/L Micrograms per liter.
* Replicate of W-17S.
B Analyte was also detected in associated blank.
J Estimated value.
Y Values have been edited by Cambridge Analytical Associate's RTE/MS data system.
VOCs Volatile organic compounds.

Table 2-8. First Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-21S	W-22S*	SW-1	SW-2	SW-3	SW-4
Sample Date:	8/10/89	8/10/89	8/10/89	8/10/89	8/10/89	8/23/89
Parameter (concentrations in ug/L)						
Chloromethane	<10	<1000	<10	<10	<100	3 J
Bromomethane	<10	<1000	<10	<10	<100	<10
Vinyl chloride	<10	<1000	<10	<10	<100	<10
Chloroethane	<10	<1000	<10	<10	<100	<10
Methylene chloride	2 BJ	220 J	<5	<5	64 B	18
Acetone	<10	<1000	<10	<10	<100	<10
Carbon disulfide	<5	<500	<5	<5	<50	<5
1,1-Dichloroethene	<5	<500	<5	<5	<50	<5
1,1-Dichloroethane	<5	<500	<5	<5	<50	<5
1,2-Dichloroethene (total)	<5	410 J	<5	<5	48 J	<5
Chloroform	<5	560	<5	<5	55	33
1,2-Dichloroethane	<5	<500	<5	<5	83	<5
2-Butanone	<10	<1000	<10	<10	<100	<10
1,1,1-Trichloroethane	<5	<1000	<5	<5	<50	3 J
Carbon tetrachloride	<5	<500	<5	<5	<50	2 J
Vinyl acetate	<10	<500	<10	<10	<100	<10
Bromodichloromethane	<5	<1000	<5	<5	<50	<5
1,2-Dichloropropane	<5	<500	<5	<5	<50	<5
cis-1,3-Dichloropropene	<5	<500	<5	<5	<50	<5
Trichloroethene	<5	<500	<5	<5	12 J	2 J
Dibromochloromethane	<5	160 J	<5	<5	<50	<5
1,1,2-Trichloroethane	<5	<500	<5	<5	<50	<5
Benzene	8	<500	<5	<5	<50	<5
trans-1,3-Dichloropropene	<5	<500	<5	<5	<50	<5
Bromoform	<5	<500	<5	<5	<50	<5
4-Methyl-2-pentanone	<10	<1000	<10	<10	<100	<10
2-Hexanone	<10	<1000	<10	<10	<100	<10
Tetrachloroethene	<5	<500	<5	<5	<50	<5
1,1,2,2-Tetrachloroethane	<5	9700 B	<5	<5	1500	9
Toluene	<5	<500	<5	<5	<50	<5
Chlorobenzene	<5	<500	<5	<5	<50	<5
Ethylbenzene	2 J	<500	<5	<5	<50	<5
Styrene	<5	<500	<5	<5	<50	<5
Xylene (total)	10 Y	<500	<5	<5	<50	<5
Total VOCs:	22	11050	0	0	1762	70

ug/L Micrograms per liter.
* Replicate of W-17S.
B Analyte was also detected in associated blank.
J Estimated value.
Y Values have been edited by Cambridge Analytical Associate's RTE/MS data system.
VOCs Volatile organic compounds.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4
Sample Date:	8/17/89	8/10/89	8/10/89	8/10/89
Parameter (ug/L)				
Phenol	<10	<10	13	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10
Benzyl alcohol	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10
2-Methylphenol	<10	<10	3 J	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10
4-Methylphenol	<10	<10	33	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	5 J	<10
Benzoic acid	<50	<50	<50	<50
bis(2-Chloroethoxy)methane	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10
Naphthalene	<10	17	130	<10
4-Chloroaniline	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10
2-Methylnaphthalene	<10	10	82	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10
2,4,5-Trichlorophenol	<50	<50	<50	<50
2-Chloronaphthalene	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50
Dimethylphthalate	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4
Sample Date:	8/17/89	8/10/89	8/10/89	8/10/89
Parameter (ug/L)				
3-Nitroaniline	<50	<50	<50	<50
Acenaphthene	<10	8 J	38	<10
2,4-Dinitrophenol	<50	<50	<50	<50
4-Nitrophenol	<50	<50	<50	<50
Dibenzofuran	<10	4 J	27	<10
2,4-Dinitrotoluene	<10	<10	<10	<10
Diethylphthalate	<10	<10	<10	<10
4-Chlorophenyl-phenylether	<10	<10	<10	<10
Fluorene	<10	4 J	23	<10
4-Nitroaniline	<50	<50	<50	<50
4,6-Dinitro-2-methylphenol	<50	<50	<50	<50
N-Nitrosodiphenylamine	<10	<10	<10	<10
4-Bromophenyl-phenylether	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10
Pentachlorophenol	<50	<50	<50	<50
Phenanthrene	<10	3 J	4 J	<10
Anthracene	<10	<10	<10	<10
Di-n-butylphthalate	<10	9 J	<10	<10
Fluoranthene	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10
Butylbenzylphthalate	<10	<10	<10	<10
3,3'-Dichlorobenzidine	<20	<20	<20	<20
Benzo(a)anthracene	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	<10	10	17	<10
Di-n-octylphthalate	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10
Total acid and base-neutral compounds	0	65	375	0

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-5	W-15S	W-16S	W-17S	W-18S
Sample Date:	8/17/89	8/10/89	8/17/89	8/10/89	8/17/89
Parameter (ug/L)					
Phenol	<10	<10	<10	110	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10
Benzyl alcohol	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10	<10
2-Methylphenol	<10	<10	<10	4 J	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10
4-Methylphenol	<10	<10	<10	18	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<10	2 J	<10	<10	14
Benzoic acid	4 J	<50	<50	<50	<50
bis(2-Chloroethoxy)methane	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10
Naphthalene	<10	13	52	<10	<10
4-Chloroaniline	<10	<10	<10	<10	2 J
Hexachlorobutadiene	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10
2-Methylnaphthalene	<10	3 J	12	<10	18
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<50	<50	<50	<50	<50
2-Chloronaphthalene	<10	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50	<50
Dimethylphthalate	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-5	W-15S	W-16S	W-17S	W-18S
Sample Date:	8/17/89	8/10/89	8/17/89	8/10/89	8/17/89
Parameter (ug/L)					
3-Nitroaniline	<50	<50	<50	<50	<50
Acenaphthene	<10	4 J	4 J	<10	76
2,4-Dinitrophenol	<50	<50	<50	<50	<50
4-Nitrophenol	<50	<50	<50	<50	<50
Dibenzofuran	<10	3 J	7 J	<10	21
2,4-Dinitrotoluene	<10	<10	<10	<10	<10
Diethylphthalate	<10	<10	<10	<10	<10
4-Chlorophenyl-phenylether	<10	<10	6 J	<10	<10
Fluorene	<10	3 J	<10	<10	16
4-Nitroaniline	<50	<50	<50	<50	<50
4,6-Dinitro-2-methylphenol	<50	<50	<50	<50	<50
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10
4-Bromophenyl-phenylether	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10
Pentachlorophenol	<50	<50	<50	<50	<50
Phenanthrene	<10	<10	4 J	<10	<10
Anthracene	<10	<10	<10	<10	<10
Di-n-butylphthalate	<10	<10	3 J	<10	<10
Fluoranthene	<10	<10	<10	<10	2 J
Pyrene	<10	<10	<10	<10	<10
Butylbenzylphthalate	<10	<10	<10	<10	7 J
3,3'-Dichlorobenzidine	<20	<20	<20	<20	<20
Benzo(a)anthracene	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	<10	4 J	<10	<10	<10
Di-n-octylphthalate	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10
Total acid and base-neutral compounds	4	32	88	132	156

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-19S	W-20S	W-21S	W-22S*	SW-1	SW-2
Sample Date:	8/17/89	8/10/89	8/10/89	8/10/89	8/10/89	8/10/89
Parameter (ug/L)						
Phenol	<10	<10	<10	110	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10
Benzyl alcohol	<10	<10	3 J	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10
2-Methylphenol	<10	<10	<10	4 J	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10	<10
4-Methylphenol	<10	<10	<10	17	<10	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10
Benzoic acid	<50	<50	<50	12 JY	<50	<50
bis(2-Chloroethoxy)methane	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10	<10
4-Chloroaniline	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<50	<50	<50	<50	<50	<50
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50	<50	<50
Dimethylphthalate	<10	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-W
Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey

Sample Identification:	W-19S	W-20S	W-21S	W-22S*	SW-1	
Sample Date:	8/17/89	8/10/89	8/10/89	8/10/89	8/10/89	8/1(
Parameter (ug/L)						
3-Nitroaniline	<50	<50	<50	<50	<50	
Acenaphthene	<10	<10	<10	<10	<10	
2,4-Dinitrophenol	<50	<50	<50	<50	<50	
4-Nitrophenol	<50	<50	<50	<50	<50	<
Dibenzofuran	<10	<10	<10	<10	<10	<
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<
Diethylphthalate	<10	<10	<10	<10	<10	<
4-Chlorophenyl-phenylether	<10	<10	<10	<10	<10	<
Fluorene	<10	<10	<10	<10	<10	<
4-Nitroaniline	<50	<50	<50	<50	<50	<:
4,6-Dinitro-2-methylphenol	<50	<50	<50	<50	<50	<:
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10	<1
4-Bromophenyl-phenylether	<10	<10	<10	<10	<10	<1
Hexachlorobenzene	<10	<10	<10	<10	<10	<1
Pentachlorophenol	<50	<50	<50	<50	<50	<5
Phenanthrene	<10	<10	<10	<10	<10	<1
Anthracene	<10	<10	<10	<10	<10	<1
Di-n-butylphthalate	<10	<10	<10	<10	<10	<1(
Fluoranthene	<10	<10	<10	<10	<10	<1(
Pyrene	<10	<10	<10	<10	<10	<1(
Butylbenzylphthalate	<10	<10	28	<10	<10	<10
3,3'-Dichlorobenzidine	<20	<20	<20	<20	<20	<20
Benzo(a)anthracene	<10	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	<10	<10	<10	<10	<10	5
Di-n-octylphthalate	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10	<10
Total acid and base-neutral compounds	0	0	31	143	0	5

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	SW-3	SW-4
Sample Date:	8/10/89	8/23/89
Parameter (ug/L)		
Phenol	51	<10
bis(2-Chloroethyl)ether	<10	<10
2-Chlorophenol	<10	<10
1,3-Dichlorobenzene	<10	<10
1,4-Dichlorobenzene	<10	<10
Benzyl alcohol	<10	<10
1,2-Dichlorobenzene	<10	<10
2-Methylphenol	2 J	<10
bis(2-Chloroisopropyl)ether	<10	<10
4-Methylphenol	24	<10
N-Nitroso-di-n-propylamine	<10	<10
Hexachloroethane	<10	<10
Nitrobenzene	<10	<10
Isophorone	<10	<10
2-Nitrophenol	<10	<10
2,4-Dimethylphenol	<10	<10
Benzoic acid	<50	<50
bis(2-Chloroethoxy)methane	<10	<10
2,4-Dichlorophenol	<10	<10
1,2,4-Trichlorobenzene	<10	<10
Naphthalene	<10	<10
4-Chloroaniline	<10	<10
Hexachlorobutadiene	<10	<10
4-Chloro-3-methylphenol	<10	<10
2-Methylnaphthalene	<10	<10
Hexachlorocyclopentadiene	<10	<10
2,4,6-Trichlorophenol	<10	<10
2,4,5-Trichlorophenol	<50	<50
2-Chloronaphthalene	<10	<10
2-Nitroaniline	<50	<50
Dimethylphthalate	<10	<10
Acenaphthylene	<10	<10
2,6-Dinitrotoluene	<10	<10

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-9. First Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water and Surface-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	SW-3	SW-4
Sample Date:	8/10/89	8/23/89
Parameter (ug/L)		
3-Nitroaniline	<50	<50
Acenaphthene	<10	<10
2,4-Dinitrophenol	<50	<50
4-Nitrophenol	<50	<50
Dibenzofuran	<10	<10
2,4-Dinitrotoluene	<10	<10
Diethylphthalate	<10	2 J
4-Chlorophenyl-phenylether	<10	<10
Fluorene	<10	<10
4-Nitroaniline	<50	<50
4,6-Dinitro-2-methylphenol	<50	<50
N-Nitrosodiphenylamine	<10	<10
4-Bromophenyl-phenylether	<10	<10
Hexachlorobenzene	<10	<10
Pentachlorophenol	<50	<50
Phenanthrene	<10	<10
Anthracene	<10	<10
Di-n-butylphthalate	<10	<10
Fluoranthene	<10	<10
Pyrene	<10	<10
Butylbenzylphthalate	<10	<10
3,3'-Dichlorobenzidine	<20	<20
Benzo(a)anthracene	<10	<10
Chrysene	<10	<10
bis(2-Ethylhexyl)phthalate	9 J	11
Di-n-octylphthalate	<10	<10
Benzo(b)fluoranthene	<10	<10
Benzo(k)fluoranthene	<10	<10
Benzo(a)pyrene	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10
Dibenzo(a,h)anthracene	<10	<10
Benzo(g,h,i)perylene	<10	<10
Total acid and base-neutral compounds	86	13

ug/L Micrograms per liter.
* Replicate of W-17S.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-10. First Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water and Surface-Water Samples, Phase I Investigations, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4	W-5
Sample Date:	8/10/89	8/10/89	8/10/89	8/10/89	8/17/89
Parameter (ug/L)					
Antimony	<4.00	10.60 B	<4.00	44.80 B	<4.00
Arsenic	13.90	146.00	5.60 B	30.80	9.50 B
Beryllium	<1.00	<1.00	<1.00	<1.00	2.20 B
Cadmium	<1.00	<1.00	<1.00	<1.00	<1.00
Chromium	<10.00	<10.00	<10.00	<10.00	14.50
Copper	5.10 B	6.50 B	<5.00	15.00 B	14.50 B
Lead	<2.00	<2.00	3.30 B	<2.00	<2.00
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	<25.00	<25.00	<25.00	<25.00	<25.00
Selenium	<1.00	<1.00	<1.00	<1.00	16.50 B
Silver	<5.00	<5.00	<5.00	5.10 B	<5.00
Thallium	<15.00	<3.00	<3.00	<15.00	<15.00
Zinc	43.40	25.90	<15.00	35.20	64.00
Sulfate (mg/L)	27	68	0.96	730	1.3
Gross Alpha (pCi/L)	<20	<4	<3	<20	<40
Gross Beta (pCi/L)	64 +/- 5	19 +/- 4	64 +/- 5	95 +/- 6	300 +/- 5
pH (units)	6.2	6.7	6.4	6.9	6.5

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
* Replicate of W-17S.
B Values less than contract required detection limit, but greater than the instrument detection limit.
NA Not analyzed.

Table 2-10. First Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water and Surface-Water Samples, Phase I Investigations, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15S	W-16S	W-17S	W-18S	W-19S
Sample Date:	8/10/89	8/10/89	8/10/89	8/17/89	8/17/89
Parameter (ug/L)					
Antimony	<4.00	<4.00	<4.00	<4.00	<4.00
Arsenic	6.50 B	72.80	14.10	12.60	59.80
Beryllium	<1.00	1.60 B	2.80 B	<1.00	1.90 B
Cadmium	<1.00	<1.00	<1.00	<1.00	<1.00
Chromium	<10.00	<10.00	<10.00	<10.00	32.80
Copper	<5.00	19.80 B	17.50 B	<5.00	17.00 B
Lead	<2.00	<2.00	<2.00	<2.00	<2.00
Mercury	<0.20	<0.20	<0.20	<0.20	<0.40
Nickel	<25.00	<25.00	26.10 B	28.00 B	30.00 B
Selenium	<1.00	<5.00	1.80 B	1.80 B	36.10
Silver	<5.00	<5.00	<5.00	<5.00	<5.00
Thallium	<3.00	<3.00	<3.00	17.80 B	<15.00
Zinc	18.30 B	151.00	260.00	<15.00	99.50
Sulfate (mg/L)	180	5300	6300	83	39
Gross Alpha (pCi/L)	<4	<10	<4	<5	<40
Gross Beta (pCi/L)	18 +/- 3	59 +/- 5	23 +/- 5	71 +/- 9	290 +/- 50
pH (units)	6.3	4.5	5.1	6.9	6.6

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
* Replicate of W-17S.
B Values less than contract required detection limit, but greater than the instrument detection limit.
NA Not analyzed.

Table 2-10. First Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water and Surface-Water Samples, Phase I Investigations, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-20S	W-21S	W-22S*	SW-1
Sample Date:	8/10/89	8/10/89	8/10/89	8/10/89
Parameter (ug/L)				
Antimony	<4.00	<4.00	<4.00	<4.00
Arsenic	4.80 B	9.80 B	10.20 B	2.90 B
Beryllium	<1.00	1.60 B	2.70 B	<1.00
Cadmium	<1.00	<1.00	<1.00	<1.00
Chromium	<10.00	<10.00	<10.00	<10.00
Copper	16.40 B	31.50	18.90 B	<5.00
Lead	<10.00	<2.00	<10.00	3.00 B
Mercury	<0.20	<0.20	<0.20	<0.20
Nickel	26.10 B	<25.00	59.90	34.80 B
Selenium	<1.00	13.50 B	<1.00	1.40 B
Silver	<5.00	73.70	12.90	<5.00
Thallium	<15.00	<15.00	<3.00	<3.00
Zinc	15.80 B	75.00	236.00	<15.00
Sulfate (mg/L)	1300	52	2000	NA
Gross Alpha (pCi/L)	<10	<70	<7	NA
Gross Beta (pCi/L)	89 +/- 5	270 +/- 30	33 +/- 5	NA
pH (units)	7.0	7.0	5.1	NA

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
* Replicate of W-17S.
B Values less than contract required detection limit, but greater than the instrument detection limit.
NA Not analyzed.

Table 2-10. First Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water and Surface-Water Samples, Phase I Investigations, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	SW-2	SW-3	SW-4
Sample Date:	8/10/89	8/10/89	8/23/89
Parameter (ug/L)			
Antimony	<4.00	66.20 B	7.80 B
Arsenic	3.40 B	674.00	4.70 B
Beryllium	<1.00	42.00	1.90 B
Cadmium	<1.00	39.60	<1.00
Chromium	<10.00	3340.00	10.50
Copper	<5.00	882.00	18.80 B
Lead	<2.00	280.00	<2.00
Mercury	<0.20	<0.20	<0.20
Nickel	<25.00	1140.00	<25.00
Selenium	1.40 B	<1.00	9.80
Silver	<5.00	<5.00	<5.00
Thallium	<3.00	<3.00	<15.00
Zinc	<15.00	4280.00	51.20
Sulfate (mg/L)	NA	NA	NA
Gross Alpha (pCi/L)	NA	NA	NA
Gross Beta (pCi/L)	NA	NA	NA
pH (units)	NA	NA	NA

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
* Replicate of W-17S.
B Values less than contract required detection limit, but greater than the instrument detection limit.
NA Not analyzed.

Table 2-11. First Round Sampling Results of PCB Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4	W-5	W-15S
Sample Date:	8/17/89	8/10/89	8/10/89	8/10/89	8/17/89	8/10/89
Parameter (concentrations in ug/L)						
Aroclor 1016	<1	<1	<10	<10	<1	<10
Aroclor 1221	<1	<1	<10	<10	<1	<10
Aroclor 1232	<1	<1	<10	<10	<1	<10
Aroclor 1242	<1	<1	<10	<10	<1	<10
Aroclor 1248	<1	<1	<10	<10	<1	<10
Aroclor 1254	<1	<1	<10	<10	<1	<10
Aroclor 1260	<1	<1	<10	<10	<1	<10

ug/L Micrograms per liter.
* Replicate of W-17S.
PCB Polychlorinated biphenyl.

Table 2-11. First Round Sampling Results of PCB Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-16S	W-17S	W-18S	W-19S	W-20S	W-21S
Sample Date:	8/17/89	8/17/89	8/17/89	8/17/89	8/17/89	8/10/89
Parameter (concentrations in ug/L)						
Aroclor 1016	<5	<1	<1	<1	<1	<1
Aroclor 1221	<5	<1	<1	<1	<1	<1
Aroclor 1232	<5	<1	<1	<1	<1	<1
Aroclor 1242	<5	<1	<1	<1	<1	<1
Aroclor 1248	<5	<1	<1	<1	<1	<1
Aroclor 1254	<5	<1	<1	<1	<1	<1
Aroclor 1260	<5	<1	<1	<1	<1	<1

ug/L Micrograms per liter.
* Replicate of W-17S.
PCB Polychlorinated biphenyl.

Table 2-11. First Round Sampling Results of PCB Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-22S*
Sample Date:	8/2/89
Parameter (concentrations in ug/L)	
Aroclor 1016	<1
Aroclor 1221	<1
Aroclor 1232	<1
Aroclor 1242	<1
Aroclor 1248	<1
Aroclor 1254	<1
Aroclor 1260	<1

ug/L Micrograms per liter.
* Replicate of W-17S.
PCB Polychlorinated biphenyl.

Table 2-12. First Round Sampling Results of Total Petroleum Hydrocarbon Analyses of Ground-Water and Surface-Water Samples, Phase I Invesigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-2	W-3	W-4	W-5	W-15S	W-16S
Sample Date:	8/10/89	8/10/89	8/10/89	8/10/89	8/17/89	8/10/80	8/17/89
PHCs (mg/L)	<2.0	<2.0	<2.0	<2.0	9.9	<2.0	<3.0

Sample Identification:	W-17S	W-18S	W-19S	W-20S	W-21S	W-22S*
Sample Date:	8/10/89	8/17/89	8/17/89	8/10/89	8/10/89	8/10/89
PHCs (mg/L)	<3.0	<3.0	<3.0	14	<3.0	<2.0

Sample Identification:	SW-1	SW-2	SW-3	SW-4
Sample Date:	8/10/89	8/10/89	8/10/89	8/23/89
PHCs (mg/L)	<3.0	<3.0	<3.0	<3.0

mg/L Milligrams per liter.
* Replicate of W-17S.
PHCs Total petroleum hydrocarbons.

Table 2-13. Second Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-1D	W-2	W-3	W-4	W-5
Sample Date:	9/21/89	9/21/89	9/22/89	9/21/89	9/22/89	9/21/89
Parameter (concentrations in ug/L)						
Chloromethane	<10	<10	<50	<10	<10	<10
Bromomethane	<10	<10	<50	<10	<10	<10
Vinyl chloride	<10	<10	30 J	73	<10	<10
Chloroethane	<10	<10	<50	<10	<10	<10
Methylene chloride	<5	<5	18 BJ	4 BJ	5 B	7 B
Acetone	<10	<10	<50	<10	<10	<10
Carbon disulfide	<5	26	<25	<5	<5	<5
1,1-Dichloroethene	<5	<5	<25	<5	<5	<5
1,1-Dichloroethane	<5	<5	<25	<5	<5	<5
1,2-Dichloroethene (total)	<5	<5	30	90	<5	<5
Chloroform	<5	2 J	39	<5	2 J	<5
1,2-Dichloroethane	<5	<5	<25	<5	<5	<5
2-Butanone	<10	<10	<50	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<25	<5	<5	<5
Carbon tetrachloride	<5	<5	<25	<5	<5	<5
Vinyl acetate	<10	<10	<50	<10	<10	<10
Bromodichloromethane	<5	<5	<25	<5	<5	<5
1,2-Dichloropropane	<5	<5	<25	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<25	<5	<5	<5
Trichloroethene	<5	<5	95	25	1 J	<5
Dibromochloromethane	<5	<5	<25	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<25	<5	<5	<5
Benzene	<5	<5	<25	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<25	<5	<5	<5
Bromoform	<5	<5	<25	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<50	<10	<10	<10
2-Hexanone	<10	<10	<50	<10	<10	<10
Tetrachloroethene	<5	<5	36 B	310	2 BJ	<5
1,1,2,2-Tetrachloroethane	<5	<5	<25	<5	<5	<5
Toluene	<5	<5	7 J	32	<5	<5
Chlorobenzene	<5	<5	<25	<5	<5	<5
Ethylbenzene	<5	<5	<25	<5	<5	<5
Styrene	<5	<5	<25	<5	<5	<5
Total Xylenes	<5	<5	<25	<5	<5	<5
Total VOCs:	0	28	255	534	10	7

ug/L Micrograms per liter.
J Estimated concentration, quantified below contract required detection limit.
B Compound detected in method blank.
Y Edited on RTE/MS data system.

Table 2-13. Second Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15D	W-15S	W-16S	W-17D	W-17S	W-18S
Sample Date:	9/22/89	9/22/89	9/22/89	9/22/89	9/22/89	9/21/89
Parameter (concentrations in ug/L)						
Chloromethane	<10	<50	<10000	<10	<2000	<10
Bromomethane	<10	<50	<10000	<10	<2000	<10
Vinyl chloride	<10	<50	<10000	<10	<2000	<10
Chloroethane	<10	<50	<10000	<10	<2000	<10
Methylene chloride	3 BJ	44 B	<5000	4 BJ	<1000	8 B
Acetone	<10	<50	<10000	<10	<2000	<10
Carbon disulfide	<5	<25	<5000	<5	<1000	<5
1,1-Dichloroethene	<5	<25	<5000	<5	<1000	<5
1,1-Dichloroethane	<5	<25	<5000	<5	<1000	<5
1,2-Dichloroethene (total)	<5	<25	<5000	<5	<1000	<5
Chloroform	1 J	430	47000	4 J	220 J	<5
1,2-Dichloroethane	<5	<25	<5000	<5	3300	<5
2-Butanone	<10	<50	<10000	<10	<2000	<10
1,1,1-Trichloroethane	<5	<25	<5000	<5	<1000	<5
Carbon tetrachloride	<5	<25	<5000	<5	<1000	<5
Vinyl acetate	<10	<50	<10000	<10	<2000	<10
Bromodichloromethane	<5	<25	<5000	<5	<1000	<5
1,2-Dichloropropane	<5	<25	<5000	<5	<1000	<5
cis-1,3-Dichloropropene	<5	<25	<5000	<5	<1000	<5
Trichloroethene	<5	<25	<5000	10	<1000	<5
Dibromochloromethane	<5	<25	<5000	<5	<1000	<5
1,1,2-Trichloroethane	<5	<25	<5000	<5	<1000	<5
Benzene	<5	<25	<5000	<5	<1000	6
trans-1,3-Dichloropropene	<5	<25	<5000	<5	<1000	<5
Bromoform	<5	<25	<5000	<5	<1000	<5
4-Methyl-2-pentanone	<10	<50	<10000	<10	<2000	<10
2-Hexanone	<10	<50	<10000	<10	<2000	<10
Tetrachloroethene	<5	18 BJ	<5000	<5	<1000	<5
1,1,2,2-Tetrachloroethane	<5	<25	<5000	20 B	13000	<5
Toluene	<5	<25	<5000	<5	<1000	3 J
Chlorobenzene	<5	<25	<5000	<5	<1000	<5
Ethylbenzene	<5	<25	<5000	<5	<1000	5 Y
Styrene	<5	<25	<5000	<5	<1000	<5
Total Xylenes	<5	<25	<5000	<5	<1000	<5
Total VOCs:	4	492	47000	38	16520	22

ug/L Micrograms per liter.
J Estimated concentration, quantified below contract required detection limit.
B Compound detected in method blank.
Y Edited on RTE/MS data system.

Table 2-13. Second Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-19S	W-20S	W-21D	W-21S
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (concentrations in ug/L)				
Chloromethane	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10
Methylene chloride	<5	5 B	<5	4 BJ
Acetone	<10	<10	<10	<10
Carbon disulfide	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5
1,2-Dichloroethene (total)	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10
Bromodichloromethane	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5
Dibromochloromethane	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5
Benzene	<5	<5	<5	17
trans-1,3-Dichloropropene	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10
Tetrachloroethene	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5
Toluene	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5
Styrene	<5	<5	<5	<5
Total Xylenes	<5	<5	<5	16
Total VOCs:	0	5	0	21

ug/L Micrograms per liter.
J Estimated concentration, quantified below contract required detection limit.
B Compound detected in method blank.
Y Edited on RTE/MS data system.

Table 2-13. Second Round Sampling Results of Volatile Organic Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	Field Blank 2	Trip Blank 1	Trip Blank 2
Sample Date:	9/21/89	9/21/89	9/21/89
Parameter (concentrations in ug/L)			
Chloromethane	<10	<10	<10
Bromomethane	<10	<10	<10
Vinyl chloride	<10	<10	<10
Chloroethane	<10	<10	<10
Methylene chloride	12	5 B	<5
Acetone	<10	<10	<10
Carbon disulfide	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5
1,2-Dichloroethene (total)	<5	<5	<5
Chloroform	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5
2-Butanone	<10	<10	<10
1,1,1-Trichloroethane	<5	<5	<5
Carbon tetrachloride	<5	<5	<5
Vinyl acetate	<10	<10	<10
Bromodichloromethane	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5
Trichloroethene	<5	<5	<5
Dibromochloromethane	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5
Benzene	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5
Bromoform	<5	<5	<5
4-Methyl-2-pentanone	<10	<10	<10
2-Hexanone	<10	<10	<10
Tetrachloroethene	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5
Toluene	<5	<5	<5
Chlorobenzene	<5	<5	<5
Ethylbenzene	<5	<5	<5
Styrene	<5	<5	<5
Total Xylenes	<5	<5	<5
Total VOCs:	12	5	0

ug/L Micrograms per liter.
J Estimated concentration, quantified below contract required detection limit.
B Compound detected in method blank.
Y Edited on RTE/MS data system.

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-1D	W-2	W-3	W-4	W-5
Sample Date:	9/21/89	9/21/89	9/22/89	9/21/89	9/22/89	9/21/89
Parameter (ug/L)						
Phenol	<10	<10	<17	13	<50	<10
bis(2-Chloroethyl)ether	<10	<10	<17	<10	<50	<10
2-Chlorophenol	<10	<10	<17	<10	<50	<10
1,3-Dichlorobenzene	<10	<10	<17	<10	<50	<10
1,4-Dichlorobenzene	<10	<10	<17	<10	<50	<10
Benzyl alcohol	<10	<10	<17	<10	38 J	<10
1,2-Dichlorobenzene	<10	<10	<17	<10	<50	<10
2-Methylphenol	<10	<10	<17	<10	<50	<10
bis(2-Chloroisopropyl)ether	<10	<10	<17	<10	<50	<10
4-Methylphenol	<10	<10	<17	52	<50	<10
N-Nitroso-di-n-propylamine	<10	<10	<17	<10	<50	<10
Hexachloroethane	<10	<10	<17	<10	<50	<10
Nitrobenzene	<10	<10	<17	<10	<50	<10
Isophorone	<10	<10	<17	<10	<50	<10
2-Nitrophenol	<10	<10	<17	<10	<50	<10
2,4-Dimethylphenol	<10	<10	<17	5 J	<50	<10
Benzoic acid	<50	14 J	<84	110 Y	<250	<50
bis(2-Chloroethoxy)methane	<10	<10	<17	<10	<50	<10
2,4-Dichlorophenol	<10	<10	<17	<10	<50	<10
1,2,4-Trichlorobenzene	<10	<10	<17	<10	<50	<10
Naphthalene	<10	<10	<17	130	<50	<10
4-Chloroaniline	<10	<10	<17	<10	<50	<10
Hexachlorobutadiene	<10	<10	<17	<10	<50	<10
4-Chloro-3-methylphenol	<10	<10	<17	<10	<50	<10
2-Methylnaphthalene	<10	<10	<17	[illegible]	<50	<10
hexachlorocyclopentadiene	<10	<10	<17	[illegible]	<50	<10
2,4,6-Trichlorophenol	<10	<10	<17	<10	<50	<10
2,4,5-Trichlorophenol	<50	<50	<84	<50	<250	<50
2-Chloronaphthalene	<10	<10	<17	<10	<50	<10
2-Nitroaniline	<10	<50	<84	<50	<250	<50
Dimethyl phthalate	<10	<10	<17	<10	<50	<10
Acenaphthylene	<10	<10	<17	<10	<50	<10
2,6-Dinitrotoluene	<10	<10	<17	<10	<50	<10

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-1D	W-2	W-3	W-4	W-5
Sample Date:	9/21/89	9/21/89	9/22/89	9/21/89	9/22/89	9/21/89
Parameter (ug/L)						
3-Nitroaniline	<50	<50	<84	<50	<250	<50
Acenaphthene	<10	<10	<17	50	<50	<10
2,4-Dinitrophenol	<50	<50	<84	<50	<250	<50
4-Nitrophenol	<50	<50	<84	<50	<250	<50
Dibenzofuran	<10	<10	<17	35	<50	<10
2,4-Dinitrotoluene	<10	<10	<17	<10	<50	<10
Diethylphthalate	<10	<10	<17	<10	<50	<10
4-Chlorophenyl-phenylether	<10	<10	<17	<10	<50	<10
Fluorene	<10	<10	<17	31	<50	<10
4-Nitroaniline	<50	<50	<84	<50	<250	<50
4,6-Dinitro-2-methylphenol	<50	<50	<84	<50	<250	<50
N-Nitrosodiphenylamine (1)	<10	<10	<17	<10	<50	<10
4-Bromophenyl-phenylether	<10	<10	<17	<10	<50	<10
Hexachlorobenzene	<10	<10	<17	<10	<50	<10
Pentachlorophenol	<50	<50	<84	<50	<250	<50
Phenanthrene	<10	<10	5 J	5 J	<50	<10
Anthracene	<10	<10	<17	<10	<50	<10
Di-n-butylphthalate	<10	<10	<17	<10	10 J	<10
Fluoranthene	<10	<10	<17	<10	<50	<10
Pyrene	<10	<10	<17	<10	<50	<10
Butylbenzylphthalate	<10	<10	<17	<10	1600	<10
3,3'-dichlorobenzidine	<20	<20	<33	<20	<100	<20
Benzo(a)anthracene	<10	<10	<17	<10	<50	<10
Chrysene	<10	<10	<17	<10	<50	<10
bis(2-Ethylhexyl)phthalate	<10	3 J	<17	<10	17 J	<10
Di-n-octyl phthalate	<10	<10	<17	<10	<50	<10
Benzo(b)fluoranthene	<10	<10	<17	<10	<50	<10
Benzo(k)fluoranthene	<10	<10	<17	<10	<50	<10
Benzo(a)pyrene	<10	<10	<17	<10	<50	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<17	<10	<50	<10
Dibenz(a,h)anthracene	<10	<10	<17	<10	<50	<10
Benzo(g,h,i)perylene	<10	<10	<17	<10	<50	<10
Total acid and base neutral compounds:	0	17	5	501	1665	0

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

2NDBN.XLS

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15D	W-15S	W-16S	W-17D	W-17S	W-18S
Sample Date:	9/22/89	9/22/89	9/22/89	9/22/89	9/22/89	9/21/89
Parameter (ug/L)						
Phenol	<10	<10	<10	<10	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10
Benzyl alcohol	6 J	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10
2-Methylphenol	<10	<10	<10	<10	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10	<10
4-Methylphenol	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	4 J	<10	<10	9 J
Benzoic acid	<50	<50	<50	<50	<50	<50
bis(2-Chloroethoxy)methane	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10
Naphthalene	<10	15	100	<10	<10	<10
4-Chloroaniline	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	<10	4J	13	<10	<10	5 J
hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<50	<50	<50	<50	<50	<50
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50	<50	<50
Dimethyl phthalate	<10	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

2NDBN.XLS

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15D	W-15S	W-16S	W-17D	W-17S	W-18S
Sample Date:	9/22/89	9/22/89	9/22/89	9/22/89	9/22/89	9/21/89
Parameter (ug/L)						
3-Nitroaniline	<50	<50	<50	<50	<50	<50
Acenaphthene	<10	6 J	7 J	<10	<10	21
2,4-Dinitrophenol	<50	<50	<50	<50	<50	<50
4-Nitrophenol	<50	<50	<50	<50	<50	<50
Dibenzofuran	<10	4 J	10	<10	<10	7 J
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10
Diethylphthalate	<10	<10	<10	<10	<10	<10
4-Chlorophenyl-phenylether	<10	<10	<10	<10	<10	<10
Fluorene	<10	4 J	9 J	<10	<10	4 J
4-Nitroaniline	<50	<50	<50	<50	<50	<50
4,6-Dinitro-2-methylphenol	<50	<50	<50	<50	<50	<50
N-Nitrosodiphenylamine (1)	<10	<10	<10	<10	<10	<10
4-Bromophenyl-phenylether	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10
Pentachlorophenol	<50	9 J	<50	<50	<50	<50
Phenanthrene	<10	2 J	6 J	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10	<10
Di-n-butylphthalate	<10	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10	2 J
Pyrene	<10	<10	<10	<10	<10	<10
Butylbenzylphthalate	<10	<10	<10	<10	<10	<10
3,3'-dichlorobenzidine	<20	<20	<20	<20	<50	<20
Benzo(a)anthracene	<10	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	<10	<10	<10	<10	<10	3 J
Di-n-octyl phthalate	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10	<10
Total acid and base neutral compounds:	6	40	149	0	0	51

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

2NDBN.XLS

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-19S	W-20S	W-21D	W-21S
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (ug/L)				
Phenol	<10	<10	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10
Benzyl alcohol	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10
2-Methylphenol	<10	<10	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10
4-Methylphenol	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	<10	<10
Benzoic acid	<50	<50	<50	<50
bis(2-Chloroethoxy)methane	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10
4-Chloroaniline	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10
2-Methylnaphthalene	<10	<10	<10	<10
hexachlorocyclopentadiene	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10
2,4,5-Trichlorophenol	<50	<50	<50	<50
2-Chloronaphthalene	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50
Dimethyl phthalate	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

2NDBN.XLS

Table 2-14. Second Round Sampling Results of Acid and Base-Neutral Compound Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-19S	W-20S	W-21D	W-21S
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (ug/L)				
3-Nitroaniline	<50	<50	<50	<50
Acenaphthene	<10	<10	<10	<10
2,4-Dinitrophenol	<50	<50	<50	<50
4-Nitrophenol	<50	<50	<50	<50
Dibenzofuran	<10	<10	<10	<10
2,4-Dinitrotoluene	<10	<10	<10	<10
Diethylphthalate	<10	<10	<10	<10
4-Chlorophenyl-phenylether	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10
4-Nitroaniline	<50	<50	<50	<50
4,6-Dinitro-2-methylphenol	<50	<50	<50	<50
N-Nitrosodiphenylamine (1)	<10	<10	<10	<10
4-Bromophenyl-phenylether	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10
Pentachlorophenol	<50	<50	<50	<50
Phenanthrene	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10
Di-n-butylphthalate	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10
Butylbenzylphthalate	<10	<10	<10	<10
3,3'-dichlorobenzidine	<20	<20	<20	<20
Benzo(a)anthracene	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	6 J	<10	<10	3 J
Di-n-octyl phthalate	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10
Dibenz(a,h)anthracene	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10
Total acid and base neutral compounds:	6	0	0	3

ug/L Micrograms per liter.
J Estimated value below contract required detection limit and above instrument detection limit.
Y Edited on RTE/MS data system.

2NDBN.XLS

Table 2-15. Second Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-1D	W-2	W-3	W-4	W-5
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (ug/L)						
Antimony	<4.00	20.50 B	8.20 B	<4.00	125.00 B	20.10 B
Arsenic	7.60 B	18.80	146.00	5.50 B	26.00	2.40 B
Beryllium	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00
Cadmium	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00
Chromium	17.20	23.30	<6.00	6.60 B	8.30 B	17.50
Copper	8.70 B	<6.00	<6.00	6.40 B	<6.00	<6.00
Lead	<10.00	<10.00	10.50 B	2.80 B	<10.00	<10.00
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	<13.00	13.10 B	<13.00	<13.00	<13.00	15.30 B
Selenium	1.80 B	38.40	<1.00	<1.00	<1.00	25.50
Silver	<3.00	<3.00	<3.00	<3.00	<3.00	6.30 B
Thallium	<3.00	<30.00	<3.00	<3.00	<3.00	<30.00
Zinc	42.80	35.30	20.70	11.40 B	25.60	20.10
Sulfate (mg/L)	3.7	580	92	1.5	315	1.5
Gross Alpha (pCi/L)	<8	<40	<4	<2	<4	<60
Gross Beta (pCi/L)	72 +/- 12	330 +/- 60	24 +/- 5	83 +/- 6	72 +/- 7	400 +/- 60
pH (units)	6.10	6.50	6.75	6.00	7.30	7.20

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
B Values less than contract required detection limit but greater than the instrument detection limit.

2NDMETL.XLS

Table 2-15. Second Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-15S	W-15D	W-16S	W-17S	W-17D	W-18S
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (ug/L)						
Antimony	<4.00	<20.00	<4.00	<4.00	<4.00	<4.00
Arsenic	5.30 B	13.20	105.00	9.60 B	11.20	14.40
Beryllium	<4.00	<4.00	<4.00	9.00	<4.00	<4.00
Cadmium	<1.00	<5.00	<1.00	<1.00	<5.00	<1.00
Chromium	<6.00	10.50	9.00 B	20.70	11.50	<6.00
Copper	<6.00	<6.00	<6.00	<6.00	<6.00	<6.00
Lead	<2.00	<10.00	<10.00	<10.00	<10.00	<10.00
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	<13.00	<13.00	35.90 B	191.00	<13.00	<13.00
Selenium	<1.00	44.90	<5.00	<5.00	29.40	<1.00
Silver	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
Thallium	<3.00	<30.00	<3.00	<3.00	<30.00	<3.00
Zinc	22.20	15.60 B	142.00	1290.00	20.50	10.80 B
Sulfate (mg/L)	500	680	510	4000	280	200
Gross Alpha (pCi/L)	<4	<40	<6	<5	<60	<5
Gross Beta (pCi/L)	13 +/-3	740 +/- 70	45 +/- 6	6 +/- 3.1	450 +/- 90	60 +/- 7
pH (units)	6.70	8.05	4.50	4.90	8.10	7.10

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
B Values less than contract required detection limit but greater than the instrument detection limit.

Table 2-15. Second Round Sampling Results of Metal, Sulfate, and Radiological Analyses and pH Measurements of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-19S	W-20S	W-21S	W-21D
Sample Date:	9/21/89	9/21/89	9/21/89	9/21/89
Parameter (ug/L)				
Antimony	<4.00	<4.00	<8.00	19.50 B
Arsenic	83.80	2.40 B	17.70	6.00 B
Beryllium	<4.00	<4.00	<4.00	<4.00
Cadmium	<5.00	<1.00	<5.00	<5.00
Chromium	36.20	<6.00	13.60	<6.00
Copper	<6.00	<6.00	<6.00	<6.00
Lead	<10.00	<10.00	<10.00	<10.00
Mercury	<0.20	<0.20	<0.20	<0.20
Nickel	15.60 B	<13.00	<13.00	<13.00
Selenium	4.20 B	<1.00	40.70	36.40
Silver	<3.00	7.70 B	<3.00	5.20 B
Thallium	<30.00	<3.00	<30.00	<30.00
Zinc	14.80 B	13.00 B	24.50	<5.00
Sulfate (mg/L)	7.4	95	3.4	820
Gross Alpha (pCi/L)	<60	<6	<6	<70
Gross Beta (pCi/L)	320 +/- 60	76 +/- 8	340 +/- 60	700 +/- 100
pH (units)	7.20	6.50	6.30	6.40

ug/L Micrograms per liter.
mg/L Milligrams per liter.
pCi/L Pico curries per liter.
B Values less than contract required detection limit but greater than the instrument detection limit.

Table 2-17. NJDEP Guidelines for ECRA Cleanup Requirements.*

Parameter	Ground Water (ug/L)	Soil (mg/kg)
Metals		
Arsenic	50	20
Barium	1000	400
Cadmium	10	3
Chromium	50	100
Copper	1000	170
Lead	50	250
Mercury	2	1
Nickel	N/A	100
Selenium	10	4
Silver	50	5
Zinc	5000	350
Organics		
Total Volatiles	10	1
Total Base Neutrals	50	10
Total Acid Extractables	50	10
Total Petroleum Hydrocarbons	1000	100
Total PCBs	1	1 to 5
Other		
Cyanide	200	12

* Used informally by the New Jersey Department of Environmental Protection. Cleanup standards are determined on a case-by-case basis.

ug/L Micrograms per liter.

mg/kg Milligrams per kilogram.

N/A Not applicable.

The NJDEP Environmental Cleanup Responsibility Act Guidelines have been superseded by the New Jersey Department of Environmental Protection and Energy (NJDEPE) Cleanup Standards (February 3, 1992 New Jersey Register).

Table 2-16. Second Round Sampling Results of Total Petroleum Hydrocarbon Analyses of Ground-Water Samples, Phase I Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Identification:	W-1	W-1D	W-2	W-3	W-4	W-5	W-15S
Sample Date:	9/21/89	9/21/89	9/22/89	9/21/89	9/22/89	9/21/89	9/22/89
PHCs (mg/L)	3.1	6.2	<3	<2	<3	23	<3

Sample Identification:	W-15D	W-16S	W-17S	W-17D	W-18S	W-19S	W-20S
Sample Date:	9/22/89	9/22/89	9/22/89	9/22/89	9/21/89	9/21/89	9/21/89
PHCs (mg/L)	<3	<3	<3	<3	8.9	<3	26

Sample Identification:	W-21S	W-21D
Sample Date:	9/21/89	9/21/89
PHCs (mg/L)	<2	<2

mg/L Milligrams per liter.

Table 3-1. Schedule of Analyses and Sites Monitored, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
SOIL SAMPLES		
Area 1 - Former Fluoroisobutylmonomer Production		
B-46, B-47 (composite of backfill)	PPMs	Backfill from excavations of former USTs
B-46C	VOCs, TPHCs	Below backfill from excavations of former USTs
B-47C	TPHCs	Below backfill from excavations of USTs
B-48C, B-49C, B-122C, B-123C	TPHCs	Former USTs
B-50A ,B,C through B-300A, B, C through B-303A, B, C	BNs, TPHCs	Truck parking area
B-51A, B, C	BNs, TPHCs	Aboveground diesel tank and former USTs
B-400A, B, C B-401A, B, C	BNs, TPHCs	Excavated No.2 fuel oil UST
Area 2 - Former Sulfuric Acid Production		
B-52A, B B-53A, B B-306A, B B-307A, B B-309A, B	BNs, TPHCs	Abandoned aboveground fuel storage tank, outside dike
B-304A, B B-305A, B	BNs, TPHCs	"Old oil spill" area
B-54A, B-55A	BNs, TPHCs	Abandoned aboveground fuel storage tank, outside dike
Area 3 - Genetron Process and Tank Farm		
B-56B through B-58B B-70B through B-87B B-132B through B-134B	VOCs	Chloroform tanks
B-12A, B-59A through B-64A	BNs, PPMs	Drum storage area
B-12B, B-59B through B-64B	BNs, VOCs	Drum storage area
B-65A through B-67A	BNs, PPMs, TPHCs	Drum storage area
B-65B through B-67B	BNs, PPMs, VOCs	Drum storage area

See page 3 for footnotes.

Table 3-1. Schedule of Analyses and Sites Monitored, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
SOIL SAMPLES		
Area 3 - Genetron Process and Tank Farm (cont.)		
B-68A, B	BNs, BNs, TPHCs	Area in the vicinity of the process structures existing fuel storage tank
B-69A, B, B-120A, B B-121A, B	BNs, PPMs	Area in the vicinity of the process structures
B-84A, B	PPM	Area in the vicinity of the process structures
B-88A, B, C through B-110A to C	Antimony	Former lagoon area
B-88A, B, C through B110A, B, C	VOCs	Former lagoon area
103B	BNs	Former lagoon area
B-106B	PHCs	Former lagoon area
B-310A	Antimony and TPHC	Former lagoon area
B-310B, C	Antimony	Former lagoon area
B-311A through B-319A	Antimony	Former lagoon area
B-310B, C through B-319B, C	Antimony, VOCs	Former lagoon area
B-117A through B119A, B-126A, B-127A	TPHCs, BNs	Fuel oil storage tanks
B-117B through B-119B, B-126B, B-127B	TPHCs, BNs, VOCs	Fuel oil storage tanks
B-128B through B-131B	VOCs	Under value of G-11 tanks
Area 4 - Fluoropolymers Production		
B-111B through B-116B	VOCs	Drum storage area
SEDIMENT SAMPLES		
Area 5 - Drainage Ditches		
SS-3, SS-10, SS-11	Antimony, BNs, VOCs	Drainage ditches in the vicinity of former lagoon
SS-12	BNs, PPMs	Upgradient drainage ditch

See page 3 for footnotes.

Table 3-1. Schedule of Analyses and Sites Monitored, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sampling Location	Analyses Performed	Site Monitored
SURFACE-WATER SAMPLES		
Area 6 - Drainage Ditches (cont.)		
SW-3, SW-10, SW-11	Antimony, BNs, VOCs	Drainage ditch in the vicinity of former lagoon
SW-4, SW-7	VOCs	Downgradient drainage ditch
SW-12	BNs, PPMs, VOCs	Upgradient drainage ditch
GROUND-WATER SAMPLES		
W-1, W-2, W-3, W-4, W-5, W-15S W-16S, W-17S, W-18S, W-19S, W-20S, W-21S, W-22S, W-23S, W-24S, W-25S, W-27S	VOCs	Entire site
W-3	BNs	BNs in W-3
W-22S	TPHCs	Former UST

PPLs Priority pollutants.
UST Underground storage tank.
VOCs Volatile organic compounds.
TPHCs Total petroleum hydrocarbons.
BNs Base neutrals.
PPMs Priority pollutant metals.

Suffix "A" Soil sample in 0 to 6-inch interval below land surface.
Suffix "B" Soil sample in 18-24-inch interval below land surface.
Suffix "C" Soil sample in 6-inch interval above water table.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	3	3	3
			Sample Designation:	B-46C	B-12B	B-56B	B-57B
			Sample Depth*(Inches):	96-120	18-24	18-24	18-24
			Sample Date:	8/27/91	8/23/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<130	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<130	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<130	<11	<11	<11
Chloroethane	NA	NA	NA	<130	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	<64	1.4 JB	1.5 JB	<5.3
Acetone	1,000,000	1,000,000	50,000	530 B	6.3 JB	<11	<11
Carbon disulfide	NA	NA	NA	<64	<5.5	<5.4	<5.3
1,1-Dichloroethene	940,000	51,000	10,000	<64	<5.5	<5.4	<5.3
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<64	<5.5	<5.4	<5.3
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<64	<5.5	<5.4	<5.3
Chloroform	28,000	19,000	1,000	<64	<5.5	<5.4	6.6
1,2-Dichloroethane	24,000	6,000	1,000	<64	<5.5	<5.4	<5.3
2-Butanone	1,000,000	1,000,000	50,000	<130	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<64	<5.5	<5.4	<5.3
Carbon tetrachloride	4,000	2,000	1,000	<64	<5.5	17	<5.3
Vinyl acetate	NA	NA	NA	<130	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<64	<5.5	<5.4	<5.3
1,2-Dichloropropane	NA	NA	NA	<64	<5.5	<5.4	<5.3
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<64	<5.5	<5.4	<5.3
Trichloroethene	100,000	23,000	1,000	<64	<5.5	2.1 J	1.4 J
Dibromochloromethane	1,000,000	110,000	1,000	<64	<5.5	<5.4	<5.3
1,1,2-Trichloroethane	420,000	23,000	1,000	<64	<5.5	<5.4	<5.3
Benzene	13,000	3,000	1,000	<64	<5.5	<5.4	<5.3
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<64	<5.5	<5.4	<5.3
Bromoform	370,000	86,000	1,000	<64	<5.5	<5.4	<5.3
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<130	<11	<11	<11
2-Hexanone	NA	NA	NA	<130	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<64	<5.5	<5.4	<5.3
Tetrachloroethene	37,000	9,000	1,000	<64	<5.5	<5.4	<5.3
Toluene	1,000,000	1,000,000	500,000	<64	<5.5	<5.4	<5.3
Chlorobenzene	690,000	37,000	1,000	<64	<5.5	<5.4	<5.3
Ethylbenzene	1,000,000	1,000,000	100,000	56 J	<5.5	<5.4	<5.3
Styrene	97,000	23,000	100,000	<64	<5.5	<5.4	<5.3
Xylenes (total)	6,300,000	360,000	10,000	230	<5.5	<5.4	<5.3
Total VOCs:	1,000,000	1,000,000	1,000,000	816	7.7	20.6	8

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-58B	B-59B	B-60B	B-61B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	9/3/91	8/22/91	8/22/91	8/22/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<12	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<12	<11	<11
Chloroethane	NA	NA	NA	<11	<12	<11	<11
Methylene chloride	170,000	49,000	10,000	1.8 JB	3.2 JB	3.1 JB	1.5 JB
Acetone	1,000,000	1,000,000	50,000	<11	9.5 JB	6.7 JB	40 B
Carbon disulfide	NA	NA	NA	<5.4	<5.8	<5.7	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.8	<5.7	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.8	<5.7	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.8	<5.7	<5.6
Chloroform	28,000	19,000	1,000	<5.4	<5.8	<5.7	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.8	<5.7	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.8	<5.7	<5.6
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.8	<5.7	<5.6
Vinyl acetate	NA	NA	NA	<11	<12	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.8	<5.7	<5.6
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.8	<5.7	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.8	<5.7	<5.6
Trichloroethene	100,000	23,000	1,000	1.6 J	26	<5.7	<5.6
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.8	<5.7	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.8	<5.7	<5.6
Benzene	13,000	3,000	1,000	<5.4	<5.8	<5.7	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.8	<5.7	<5.6
Bromoform	370,000	86,000	1,000	<5.4	<5.8	<5.7	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<11	<11
2-Hexanone	NA	NA	NA	<11	<12	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.4	<5.8	<5.7	<5.6
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.8	<5.7	<5.6
Toluene	1,000,000	1,000,000	500,000	<5.4	<5.8	<5.7	<5.6
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.8	<5.7	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.8	<5.7	<5.6
Styrene	97,000	23,000	100,000	<5.4	<5.8	<5.7	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.8	<5.7	<5.6
Total VOCs:	1,000,000	1,000,000	1,000,000	3.4	38.7	9.8	41.5

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-62B	B-63B	B-64B	B-65B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	8/23/91	8/23/91	8/23/91	8/26/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<12	<12	<12	<11
Bromomethane	1,000,000	790,000	1,000	<12	<12	<12	<11
Vinyl chloride	7,000	2,000	1,000	<12	<12	<12	<11
Chloroethane	NA	NA	NA	<12	<12	<12	<11
Methylene chloride	170,000	49,000	10,000	1.7 JB	1.4 JB	1.4 JB	1.4 JB
Acetone	1,000,000	1,000,000	50,000	13 B	9.3 JB	11 JB	6.3 J
Carbon disulfide	NA	NA	NA	<6.1	<5.9	<6.2	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<6.1	<5.9	<6.2	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<6.1	<5.9	<6.2	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<6.1	<5.9	<6.2	<5.6
Chloroform	28,000	19,000	1,000	<6.1	<5.9	<6.2	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<6.1	<5.9	<6.2	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<12	<12	<12	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<6.1	<5.9	<6.2	<5.6
Carbon tetrachloride	4,000	2,000	1,000	<6.1	<5.9	<6.2	<5.6
Vinyl acetate	NA	NA	NA	<12	<12	<12	<11
Bromodichloromethane	22,000	5,000	1,000	<6.1	<5.9	<6.2	<5.6
1,2-Dichloropropane	NA	NA	NA	<6.1	<5.9	<6.2	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<6.1	<5.9	<6.2	<5.6
Trichloroethene	100,000	23,000	1,000	<6.1	<5.9	<6.2	<5.6
Dibromochloromethane	1,000,000	110,000	1,000	<6.1	<5.9	<6.2	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<6.1	<5.9	<6.2	<5.6
Benzene	13,000	3,000	1,000	<6.1	<5.9	<6.2	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<6.1	<5.9	<6.2	<5.6
Bromoform	370,000	86,000	1,000	<6.1	<5.9	<6.2	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<12	<12	<12	<11
2-Hexanone	NA	NA	NA	<12	<12	<12	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<6.1	<5.9	<6.2	<5.6
Tetrachloroethene	37,000	9,000	1,000	<6.1	<5.9	<6.2	<5.6
Toluene	1,000,000	1,000,000	500,000	<6.1	<5.9	<6.2	<5.6
Chlorobenzene	690,000	37,000	1,000	<6.1	<5.9	<6.2	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<6.1	<5.9	<6.2	<5.6
Styrene	97,000	23,000	100,000	<6.1	<5.9	<6.2	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<6.1	<5.9	<6.2	<5.6
Total VOCs:	1,000,000	1,000,000	1,000,000	14.7	10.7	12.4	7.7

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-66B	B-67B	B-70B	B-71B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	8/26/91	8/26/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<10
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<10
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<10
Chloroethane	NA	NA	NA	<11	<11	<11	<10
Methylene chloride	170,000	49,000	10,000	<5.4	<5.5	3.2 JB	2.1 JB
Acetone	1,000,000	1,000,000	50,000	<11	<11	<11	<10
Carbon disulfide	NA	NA	NA	<5.4	<5.5	<5.3	<5.2
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.5	<5.3	<5.2
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.5	<5.3	<5.2
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.5	<5.3	<5.2
Chloroform	28,000	19,000	1,000	<5.4	<5.5	2.2 J	<5.2
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.5	<5.3	<5.2
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.5	<5.3	<5.2
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.5	<5.3	9.5
Vinyl acetate	NA	NA	NA	<11	<11	<11	<10
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.5	<5.3	<5.2
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.5	<5.3	<5.2
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.5	<5.3	<5.2
Trichloroethene	100,000	23,000	1,000	<5.4	<5.5	6.7	2.3 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.5	<5.3	<5.2
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.5	<5.3	<5.2
Benzene	13,000	3,000	1,000	<5.4	<5.5	<5.3	<5.2
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.5	<5.3	<5.2
Bromoform	370,000	86,000	1,000	<5.4	<5.5	<5.3	<5.2
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<10
2-Hexanone	NA	NA	NA	<11	<11	<11	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.4	<5.5	<5.3	<5.2
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.5	<5.3	<5.2
Toluene	1,000,000	1,000,000	500,000	<5.4	1.1 J	2.3 J	<5.2
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.5	<5.3	<5.2
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.5	1.4 J	<5.2
Styrene	97,000	23,000	100,000	<5.4	<5.5	<5.3	<5.2
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.5	<5.3	<5.2
Total VOCs:	1,000,000	1,000,000	1,000,000	0	1.1	15.8	13.9

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-72B	B-73B	B-74B	B-75B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	9/3/91	9/3/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<53	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<53	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<53	<11	<11	<11
Chloroethane	NA	NA	NA	<53	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	7.4 J	1.5 J	1.3 J	1.4 J
Acetone	1,000,000	1,000,000	50,000	<53	<11	<11	<11
Carbon disulfide	NA	NA	NA	<27	<5.4	<5.4	<5.5
1,1-Dichloroethene	940,000	51,000	10,000	<27	<5.4	<5.4	<5.5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<27	<5.4	<5.4	<5.5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	6.9 J	<5.4	<5.4	<5.5
Chloroform	28,000	19,000	1,000	380	9.3	4.9 J	<5.5
1,2-Dichloroethane	24,000	6,000	1,000	<27	<5.4	<5.4	<5.5
2-Butanone	1,000,000	1,000,000	50,000	<53	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<27	<5.4	<5.4	<5.5
Carbon tetrachloride	4,000	2,000	1,000	<27	<5.4	<5.4	<5.5
Vinyl acetate	NA	NA	NA	<53	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<27	<5.4	<5.4	<5.5
1,2-Dichloropropane	NA	NA	NA	<27	<5.4	<5.4	<5.5
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<27	<5.4	<5.4	<5.5
Trichloroethene	100,000	23,000	1,000	<27	1.3 J	1.3 J	<5.5
Dibromochloromethane	1,000,000	110,000	1,000	<27	<5.4	<5.4	<5.5
1,1,2-Trichloroethane	420,000	23,000	1,000	<27	<5.4	<5.4	<5.5
Benzene	13,000	3,000	1,000	<27	<5.4	<5.4	<5.5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<27	<5.4	<5.4	<5.5
Bromoform	370,000	86,000	1,000	<27	<5.4	<5.4	<5.5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<53	<11	<11	<11
2-Hexanone	NA	NA	NA	<53	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<27	<5.4	<5.4	<5.5
Tetrachloroethene	37,000	9,000	1,000	<27	<5.4	<5.4	<5.5
Toluene	1,000,000	1,000,000	500,000	<27	<5.4	<5.4	<5.5
Chlorobenzene	690,000	37,000	1,000	<27	<5.4	<5.4	<5.5
Ethylbenzene	1,000,000	1,000,000	100,000	<27	<5.4	<5.4	<5.5
Styrene	97,000	23,000	100,000	<27	<5.4	<5.4	<5.5
Xylenes (total)	6,300,000	360,000	10,000	<27	<5.4	<5.4	<5.5
Total VOCs:	1,000,000	1,000,000	1,000,000	394.3	12.1	7.5	1.4

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-76B	B-77B	B-78B	B-79B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	9/3/91	9/3/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	4.0 J	<5.4	1.3 JB	2.0 J
Acetone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
Carbon disulfide	NA	NA	NA	<5.5	7.1	<5.4	<5.4
1,1-Dichloroethene	940,000	51,000	10,000	<5.5	<5.4	<5.4	<5.4
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.5	<5.4	<5.4	<5.4
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.5	<5.4	<5.4	<5.4
Chloroform	28,000	19,000	1,000	<5.5	7.1	<11	1.7 J
1,2-Dichloroethane	24,000	6,000	1,000	<5.5	<5.4	<5.4	<5.4
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.5	<5.4	<5.4	<5.4
Carbon tetrachloride	4,000	2,000	1,000	<5.5	<5.4	<5.4	<5.4
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.5	<5.4	<5.4	<5.4
1,2-Dichloropropane	NA	NA	NA	<5.5	<5.4	<5.4	<5.4
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.4	<5.4	<5.4
Trichloroethene	100,000	23,000	1,000	1.6 J	1.6 J	3.5 J	2.0 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.5	<5.4	<5.4	<5.4
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.5	<5.4	<5.4	<5.4
Benzene	13,000	3,000	1,000	<5.5	<5.4	<5.4	<5.4
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.4	<5.4	<5.4
Bromoform	370,000	86,000	1,000	<5.5	<5.4	<5.4	<5.4
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.5	<5.4	<5.4	<5.4
Tetrachloroethene	37,000	9,000	1,000	<5.5	<5.4	<5.4	2.1 J
Toluene	1,000,000	1,000,000	500,000	<5.5	<5.4	<5.4	1.1 J
Chlorobenzene	690,000	37,000	1,000	<5.5	<5.4	<5.4	<5.4
Ethylbenzene	1,000,000	1,000,000	100,000	<5.5	<5.4	<5.4	<5.4
Styrene	97,000	23,000	100,000	<5.5	<5.4	<5.4	<5.4
Xylenes (total)	6,300,000	360,000	10,000	<5.5	<5.4	<5.4	<5.4
Total VOCs:	1,000,000	1,000,000	1,000,000	5.6	15.8	4.8	8.9

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-80B	B-81B	B-82B	B-83B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	9/3/91	9/3/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	1.3 J	1.1 J	3.5 JB	1.7 J
Acetone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
Carbon disulfide	NA	NA	NA	<5.3	<5.4	<5.3	<5.3
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.4	<5.3	<5.3
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.4	<5.3	<5.3
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	<5.4	<5.3	<5.3
Chloroform	28,000	19,000	1,000	1.5 J	<5.4	<5.3	<5.3
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.4	<5.3	<5.3
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.4	<5.3	<5.3
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.4	<5.3	<5.3
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.4	<5.3	<5.3
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.4	<5.3	<5.3
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.4	<5.3	<5.3
Trichloroethene	100,000	23,000	1,000	1.6 J	<5.4	2.2 J	<5.3
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.4	<5.3	<5.3
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.4	<5.3	<5.3
Benzene	13,000	3,000	1,000	<5.3	<5.4	<5.3	<5.3
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.4	<5.3	<5.3
Bromoform	370,000	86,000	1,000	<5.3	<5.4	<5.3	<5.3
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	<5.4	<5.3	<5.3
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.4	<5.3	<5.3
Toluene	1,000,000	1,000,000	500,000	<5.3	<5.4	<5.3	<5.3
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.4	<5.3	<5.3
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.4	<5.3	<5.3
Styrene	97,000	23,000	100,000	<5.3	<5.4	<5.3	<5.3
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.4	<5.3	<5.3
Total VOCs:	1,000,000	1,000,000	1,000,000	4.4	1.1	5.7	1.7

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-84B	B-85B	B-86B	B-87B
			Sample Depth*(Inches):	18-24	18-24	18-24	18-24
			Sample Date:	9/3/91	9/3/91	9/3/91	9/3/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<110	<11	<11	<10
Bromomethane	1,000,000	790,000	1,000	<110	<11	<11	<10
Vinyl chloride	7,000	2,000	1,000	<110	<11	<11	<10
Chloroethane	NA	NA	NA	<110	<11	<11	<10
Methylene chloride	170,000	49,000	10,000	17 JB	1.1 JB	1.3 J	<5.2
Acetone	1,000,000	1,000,000	50,000	<110	<11	<11	<10
Carbon disulfide	NA	NA	NA	<54	11	<5.4	<5.2
1,1-Dichloroethene	940,000	51,000	10,000	<54	<5.5	<5.4	<5.2
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<54	<5.5	<5.4	<5.2
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<54	<5.5	<5.4	<5.2
Chloroform	28,000	19,000	1,000	18 J	<5.5	<5.4	<5.2
1,2-Dichloroethane	24,000	6,000	1,000	<54	<5.5	<5.4	<5.2
2-Butanone	1,000,000	1,000,000	50,000	<110	<11	<11	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<54	<5.5	<5.4	<5.2
Carbon tetrachloride	4,000	2,000	1,000	33 J	<5.5	<5.4	<5.2
Vinyl acetate	NA	NA	NA	<110	<11	<11	<10
Bromodichloromethane	22,000	5,000	1,000	<54	<5.5	<5.4	<5.2
1,2-Dichloropropane	NA	NA	NA	<54	<5.5	<5.4	<5.2
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<54	<5.5	<5.4	<5.2
Trichloroethene	100,000	23,000	1,000	160	<5.5	<5.4	<5.2
Dibromochloromethane	1,000,000	110,000	1,000	<54	<5.5	<5.4	<5.2
1,1,2-Trichloroethane	420,000	23,000	1,000	<54	<5.5	<5.4	<5.2
Benzene	13,000	3,000	1,000	<54	<5.5	<5.4	<5.2
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<54	<5.5	<5.4	<5.2
Bromoform	370,000	86,000	1,000	<54	<5.5	<5.4	<5.2
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<110	<11	<11	<10
2-Hexanone	NA	NA	NA	<110	<11	<11	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<54	<5.5	<5.4	<5.2
Tetrachloroethene	37,000	9,000	1,000	1,200	<5.5	<5.4	<5.2
Toluene	1,000,000	1,000,000	500,000	<54	<5.5	<5.4	<5.2
Chlorobenzene	690,000	37,000	1,000	<54	<5.5	<5.4	<5.2
Ethylbenzene	1,000,000	1,000,000	100,000	<54	<5.5	<5.4	<5.2
Styrene	97,000	23,000	100,000	<54	<5.5	<5.4	<5.2
Xylenes (total)	6,300,000	360,000	10,000	<54	<5.5	<5.4	<5.2
Total VOCs:	1,000,000	1,000,000	1,000,000	1,428	12.1	1.3	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-88B	B-88C	B-89B	B-89C
			Sample Depth*(inches):	18-24	24-48	18-24	24-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<10	<11	<11	<12
Bromomethane	1,000,000	790,000	1,000	<10	<11	<11	<12
Vinyl chloride	7,000	2,000	1,000	<10	<11	<11	<12
Chloroethane	NA	NA	NA	<10	<11	<11	<12
Methylene chloride	170,000	49,000	10,000	2.4 J	<5.7	2.0 J	<5.8
Acetone	1,000,000	1,000,000	50,000	5.2 JB	<11	<11	4.8 J
Carbon disulfide	NA	NA	NA	<5.2	<5.7	<5.4	<5.8
1,1-Dichloroethene	940,000	51,000	10,000	<5.2	<5.7	<5.4	<5.8
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.2	<5.7	<5.4	<5.8
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.2	<5.7	<5.4	<5.8
Chloroform	28,000	19,000	1,000	<5.2	<5.7	<5.4	<5.8
1,2-Dichloroethane	24,000	6,000	1,000	<5.2	<5.7	<5.4	<5.8
2-Butanone	1,000,000	1,000,000	50,000	<10	<11	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.2	1.4 J	<5.4	<5.8
Carbon tetrachloride	4,000	2,000	1,000	<5.2	<5.7	<5.4	<5.8
Vinyl acetate	NA	NA	NA	<10	<11	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<5.2	<5.7	<5.4	<5.8
1,2-Dichloropropane	NA	NA	NA	<5.2	<5.7	<5.4	<5.8
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.2	<5.7	<5.4	<5.8
Trichloroethene	100,000	23,000	1,000	<5.2	110	<5.4	<5.8
Dibromochloromethane	1,000,000	110,000	1,000	<5.2	<5.7	<5.4	<5.8
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.2	<5.7	<5.4	<5.8
Benzene	13,000	3,000	1,000	<5.2	<5.7	<5.4	<5.8
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.2	<5.7	<5.4	<5.8
Bromoform	370,000	86,000	1,000	<5.2	<5.7	<5.4	<5.8
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<10	<11	<11	<12
2-Hexanone	NA	NA	NA	<10	<11	<11	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.2	<5.7	<5.4	<5.8
Tetrachloroethene	37,000	9,000	1,000	<5.2	<5.7	<5.4	<5.8
Toluene	1,000,000	1,000,000	500,000	<5.2	<5.7	<5.4	<5.8
Chlorobenzene	690,000	37,000	1,000	<5.2	<5.7	<5.4	<5.8
Ethylbenzene	1,000,000	1,000,000	100,000	<5.2	<5.7	<5.4	<5.8
Styrene	97,000	23,000	100,000	<5.2	<5.7	<5.4	<5.8
Xylenes (total)	6,300,000	360,000	10,000	<5.2	<5.7	<5.4	<5.8
Total VOCs:	1,000,000	1,000,000	1,000,000	7.6	111.4	2	4.8

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-90B	B-90C	B-91B	B-91C
			Sample Depth*(inches):	18-24	24-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	1.9 J	1.9 J	2.3 J	2.6 J
Acetone	1,000,000	1,000,000	50,000	<11	8.7 J	<11	9.9 J
Carbon disulfide	NA	NA	NA	<5.4	<5.6	<5.3	<5.5
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.6	<5.3	<5.5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.6	<5.3	<5.5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.6	<5.3	<5.5
Chloroform	28,000	19,000	1,000	<5.4	<5.6	1.5 J	<5.5
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.6	<5.3	<5.5
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.6	1.4 J	1.6 J
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.6	<5.3	<5.5
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.6	<5.3	<5.5
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.6	<5.3	<5.5
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.6	<5.3	<5.5
Trichloroethene	100,000	23,000	1,000	<5.4	<5.6	<5.3	2.4 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.6	<5.3	<5.5
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.6	<5.3	<5.5
Benzene	13,000	3,000	1,000	<5.4	<5.6	<5.3	<5.5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.6	<5.3	<5.5
Bromoform	370,000	86,000	1,000	<5.4	<5.6	<5.3	<5.5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.4	<5.6	1.5 J	<5.5
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.6	<5.3	<5.5
Toluene	1,000,000	1,000,000	500,000	<5.4	<5.6	<5.3	<5.5
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.6	<5.3	<5.5
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.6	<5.3	<5.5
Styrene	97,000	23,000	100,000	<5.4	<5.6	<5.3	<5.5
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.6	<5.3	<5.5
Total VOCs:	1,000,000	1,000,000	1,000,000	1.9	10.6	6.7	16.5

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-92B	B-92C	B-93B	B-93C
			Sample Depth*(Inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<110	<57	<10	<11
Bromomethane	1,000,000	790,000	1,000	<110	<57	<10	<11
Vinyl chloride	7,000	2,000	1,000	<110	<57	<10	<11
Chloroethane	NA	NA	NA	<110	<57	<10	<11
Methylene chloride	170,000	49,000	10,000	16 J	9.1 J	1.7 J	1.5 J
Acetone	1,000,000	1,000,000	50,000	140 B	17 J	<10	5.2 JB
Carbon disulfide	NA	NA	NA	<53	<28	<5.2	<5.7
1,1-Dichloroethene	940,000	51,000	10,000	<53	<28	<5.2	<5.7
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<53	<28	<5.2	<5.7
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<53	<28	<5.2	<5.7
Chloroform	28,000	19,000	1,000	<53	<28	2.1 J	<5.7
1,2-Dichloroethane	24,000	6,000	1,000	30 J	16 J	<5.2	<5.7
2-Butanone	1,000,000	1,000,000	50,000	<110	<57	<10	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	1,600	740	1.4 J	<5.7
Carbon tetrachloride	4,000	2,000	1,000	<53	<28	<5.2	<5.7
Vinyl acetate	NA	NA	NA	<110	<57	<10	<11
Bromodichloromethane	22,000	5,000	1,000	<53	<28	<5.2	<5.7
1,2-Dichloropropane	NA	NA	NA	<53	<28	<5.2	<5.7
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<53	<28	<5.2	<5.7
Trichloroethene	100,000	23,000	1,000	14 J	<28	<5.2	<5.7
Dibromochloromethane	1,000,000	110,000	1,000	<53	<28	<5.2	<5.7
1,1,2-Trichloroethane	420,000	23,000	1,000	<53	8.4 J	<5.2	<5.7
Benzene	13,000	3,000	1,000	<53	<28	<5.2	<5.7
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<53	<28	<5.2	<5.7
Bromoform	370,000	86,000	1,000	<53	<28	<5.2	<5.7
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<110	<57	<10	<11
2-Hexanone	NA	NA	NA	<110	<57	<10	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<53	<28	<5.2	13
Tetrachloroethene	37,000	9,000	1,000	<53	<28	<5.2	<5.7
Toluene	1,000,000	1,000,000	500,000	<53	<28	<5.2	<5.7
Chlorobenzene	690,000	37,000	1,000	<53	<28	<5.2	<5.7
Ethylbenzene	1,000,000	1,000,000	100,000	<53	<28	<5.2	<5.7
Styrene	97,000	23,000	100,000	<53	<28	<5.2	<5.7
Xylenes (total)	6,300,000	360,000	10,000	<53	<28	<5.2	<5.7
Total VOCs.	1,000,000	1,000,000	1,000,000	1,800	790.5	5.2	19.7

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-94B	B-94C	B-95B	B-95C
			Sample Depth*(Inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	1.4 J	1.8 J	1.4 J	<5.5
Acetone	1,000,000	1,000,000	50,000	<11	8.6 J	<11	<11
Carbon disulfide	NA	NA	NA	<5.3	<5.6	<5.3	<5.5
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.6	<5.3	<5.5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.6	<5.3	<5.5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	<5.6	<5.3	<5.5
Chloroform	28,000	19,000	1,000	<5.3	<5.6	<5.3	<5.5
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.6	<5.3	<5.5
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.6	<5.3	<5.5
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.6	<5.3	<5.5
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.6	<5.3	<5.5
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.6	<5.3	<5.5
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.6	<5.3	<5.5
Trichloroethene	100,000	23,000	1,000	<5.3	<5.6	<5.3	<5.5
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.6	<5.3	<5.5
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.6	<5.3	<5.5
Benzene	13,000	3,000	1,000	<5.3	<5.6	<5.3	<5.5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.6	<5.3	<5.5
Bromoform	370,000	86,000	1,000	<5.3	<5.6	<5.3	<5.5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	10	<5.3	<5.5
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.6	<5.3	<5.5
Toluene	1,000,000	1,000,000	500,000	<5.3	<5.6	<5.3	<5.5
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.6	<5.3	<5.5
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.6	<5.3	<5.5
Styrene	97,000	23,000	100,000	<5.3	<5.6	<5.3	<5.5
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.6	<5.3	<5.5
Total VOCs:	1,000,000	1,000,000	1,000,000	1.4	20.4	1.4	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-96B	B-96C	B-97B	B-97C
			Sample Depth*(inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<12	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<12	<11	<11
Chloroethane	NA	NA	NA	<11	<12	<11	<11
Methylene chloride	170,000	49,000	10,000	1.2 J	1.5 J	<5.5	1.6 J
Acetone	1,000,000	1,000,000	50,000	3.6 JB	9.6 JB	4.7 JB	8.0 JB
Carbon disulfide	NA	NA	NA	<5.5	<5.9	<5.5	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<5.5	<5.9	<5.5	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.5	<5.9	<5.5	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.5	<5.9	<5.5	<5.6
Chloroform	28,000	19,000	1,000	<5.5	<5.9	<5.5	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<5.5	<5.9	<5.5	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.5	<5.9	<5.5	1.1 J
Carbon tetrachloride	4,000	2,000	1,000	<5.5	<5.9	<5.5	<5.6
Vinyl acetate	NA	NA	NA	<11	<12	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.5	<5.9	<5.5	<5.6
1,2-Dichloropropane	NA	NA	NA	<5.5	<5.9	<5.5	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.5	<5.6
Trichloroethene	100,000	23,000	1,000	<5.5	<5.9	<5.5	<5.6
Dibromochloromethane	1,000,000	110,000	1,000	<5.5	<5.9	<5.5	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.5	<5.9	<5.5	<5.6
Benzene	13,000	3,000	1,000	<5.5	<5.9	<5.5	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.5	<5.6
Bromoform	370,000	86,000	1,000	<5.5	<5.9	<5.5	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<11	<11
2-Hexanone	NA	NA	NA	<11	<12	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.5	2.1 J	<5.5	<5.6
Tetrachloroethene	37,000	9,000	1,000	<5.5	<5.9	<5.5	<5.6
Toluene	1,000,000	1,000,000	500,000	<5.5	<5.9	<5.5	<5.6
Chlorobenzene	690,000	37,000	1,000	<5.5	<5.9	<5.5	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<5.5	<5.9	<5.5	<5.6
Styrene	97,000	23,000	100,000	<5.5	<5.9	<5.5	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<5.5	<5.9	<5.5	<5.6
Total VOCs:	1,000,000	1,000,000	1,000,000	4.8	13.2	4.7	10.7

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-98B	B-98C	B-99B	B-99C
			Sample Depth*(inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<57	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<57	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<57	<11	<11
Chloroethane	NA	NA	NA	<11	<57	<11	<11
Methylene chloride	170,000	49,000	10,000	1.7 J	<29	1.4 J	1.8 J
Acetone	1,000,000	1,000,000	50,000	14 B	140 B	8.5 J	14
Carbon disulfide	NA	NA	NA	<5.4	<29	<5.4	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<29	<5.4	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<29	<5.4	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<29	<5.4	<5.6
Chloroform	28,000	19,000	1,000	2.2 J	<29	<5.4	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<29	<5.4	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<11	<57	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<29	<5.4	<5.6
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<29	<5.4	<5.6
Vinyl acetate	NA	NA	NA	<11	<57	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.4	<29	<5.4	<5.6
1,2-Dichloropropane	NA	NA	NA	<5.4	<29	<5.4	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<29	<5.4	<5.6
Trichloroethene	100,000	23,000	1,000	1.6 J	<29	1.9 J	2.0 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<29	<5.4	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<29	<5.4	<5.6
Benzene	13,000	3,000	1,000	<5.4	<29	<5.4	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<29	<5.4	<5.6
Bromoform	370,000	86,000	1,000	<5.4	<29	<5.4	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<57	<11	<11
2-Hexanone	NA	NA	NA	<11	<57	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	13	12 J	9.7	<5.6
Tetrachloroethene	37,000	9,000	1,000	<5.4	<29	<5.4	<5.6
Toluene	1,000,000	1,000,000	500,000	<5.4	<29	<5.4	<5.6
Chlorobenzene	690,000	37,000	1,000	<5.4	<29	<5.4	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<29	<5.4	<5.6
Styrene	97,000	23,000	100,000	<5.4	<29	<5.4	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<29	<5.4	<5.6
Total VOCs	1,000,000	1,000,000	1,000,000	32.5	152	21.5	17.8

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-100B	B-100C	B-101B	B-101C
			Sample Depth*(Inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/4/91	9/4/91	9/5/91	9/5/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<11	<12
Bromomethane	1,000,000	790,000	1,000	<11	<12	<11	<12
Vinyl chloride	7,000	2,000	1,000	<11	<12	<11	<12
Chloroethane	NA	NA	NA	<11	<12	<11	<12
Methylene chloride	170,000	49,000	10,000	1.5 J	1.7 J	2.1 J	2.7 J
Acetone	1,000,000	1,000,000	50,000	<11	17	<11	11 J
Carbon disulfide	NA	NA	NA	<5.4	<5.8	<5.6	<6.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.8	<5.6	<6.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.8	<5.6	<6.0
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.8	<5.6	<6.0
Chloroform	28,000	19,000	1,000	<5.4	<5.8	<5.6	<6.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.8	<5.6	<6.0
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.8	<5.6	<6.0
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.8	<5.6	<6.0
Vinyl acetate	NA	NA	NA	<11	<12	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.8	<5.6	<6.0
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.8	<5.6	<6.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.8	<5.6	<6.0
Trichloroethene	100,000	23,000	1,000	<5.4	2.6 J	2.4 J	2.1 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.8	<5.6	<6.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.8	<5.6	<6.0
Benzene	13,000	3,000	1,000	<5.4	<5.8	<5.6	<6.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.8	<5.6	<6.0
Bromoform	370,000	86,000	1,000	<5.4	<5.8	<5.6	<6.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
2-Hexanone	NA	NA	NA	<11	<12	<11	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.4	<5.8	<5.6	2.8 J
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.8	<5.6	<6.0
Toluene	1,000,000	1,000,000	500,000	<5.4	<5.8	1.3 J	<6.0
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.8	<5.6	<6.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.8	<5.6	<6.0
Styrene	97,000	23,000	100,000	<5.4	<5.8	<5.6	<6.0
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.8	<5.6	<6.0
Total VOCs:	1,000,000	1,000,000	1,000,000	1.5	21.3	5.8	18.6

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-102B	B-102C	B-103B	B-103C
			Sample Depth*(inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<1100	<12
Bromomethane	1,000,000	790,000	1,000	<11	<11	<1100	<12
Vinyl chloride	7,000	2,000	1,000	<11	<11	<1100	<12
Chloroethane	NA	NA	NA	<11	<11	<1100	<12
Methylene chloride	170,000	49,000	10,000	1.9 J	2.3 J	140 JB	2.8 J
Acetone	1,000,000	1,000,000	50,000	12	8.2 J	410 J	14 J
Carbon disulfide	NA	NA	NA	<5.5	<5.7	<530	<6.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.5	<5.7	<530	<6.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.5	<5.7	<530	<6.0
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.5	<5.7	<530	<6.0
Chloroform	28,000	19,000	1,000	<5.5	<5.7	<530	<6.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.5	<5.7	<530	<6.0
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<2700	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.5	<5.7	<530	<6.0
Carbon tetrachloride	4,000	2,000	1,000	<5.5	<5.7	<530	<6.0
Vinyl acetate	NA	NA	NA	<11	<11	<1100	<12
Bromodichloromethane	22,000	5,000	1,000	<5.5	<5.7	<530	<6.0
1,2-Dichloropropane	NA	NA	NA	<5.5	<5.7	<530	<6.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.7	<530	<6.0
Trichloroethene	100,000	23,000	1,000	1.7 J	1.6 J	1,000	2.4 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.5	<5.7	<530	<6.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.5	<5.7	<530	<6.0
Benzene	13,000	3,000	1,000	<5.5	<5.7	<530	<6.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.7	<530	<6.0
Bromoform	370,000	86,000	1,000	<5.5	<5.7	<530	<6.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<1100	<12
2-Hexanone	NA	NA	NA	<11	<11	<1100	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.5	74	14,000	<6.0
Tetrachloroethene	37,000	9,000	1,000	<5.5	<5.7	<530	<6.0
Toluene	1,000,000	1,000,000	500,000	<5.5	<5.7	<530	<6.0
Chlorobenzene	690,000	37,000	1,000	<5.5	<5.7	<530	<6.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.5	<5.7	<530	<6.0
Styrene	97,000	23,000	100,000	<5.5	<5.7	<530	<6.0
Xylenes (total)	6,300,000	360,000	10,000	<5.5	<5.7	<530	<6.0
Total VOCs	1,000,000	1,000,000	1,000,000	15.6	86.1	15,550	19.2

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-104B	B-104C	B-105B	B-105C
			Sample Depth*(Inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<110	<110	<11	<12
Bromomethane	1,000,000	790,000	1,000	<110	<110	<11	<12
Vinyl chloride	7,000	2,000	1,000	<110	<110	<11	<12
Chloroethane	NA	NA	NA	<110	<110	<11	<12
Methylene chloride	170,000	49,000	10,000	21 J	21 J	2.2 J	2.3 J
Acetone	1,000,000	1,000,000	50,000	<110	150 B	16 B	16
Carbon disulfide	NA	NA	NA	<53	<57	<5.5	1.2 J
1,1-Dichloroethene	940,000	51,000	10,000	<53	<57	<5.5	<5.8
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<53	<57	<5.5	<5.8
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<53	<57	<5.5	<5.8
Chloroform	28,000	19,000	1,000	<53	<57	<5.5	<5.8
1,2-Dichloroethane	24,000	6,000	1,000	<53	16 J	<5.5	<5.8
2-Butanone	1,000,000	1,000,000	50,000	<110	<110	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<53	<57	<5.5	<5.8
Carbon tetrachloride	4,000	2,000	1,000	<53	<57	<5.5	<5.8
Vinyl acetate	NA	NA	NA	<110	<110	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<53	<57	<5.5	<5.8
1,2-Dichloropropane	NA	NA	NA	<53	<57	<5.5	<5.8
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<53	<57	<5.5	<5.8
Trichloroethene	100,000	23,000	1,000	15 J	27 J	<5.5	3.4 J
Dibromochloromethane	1,000,000	110,000	1,000	<53	<57	<5.5	<5.8
1,1,2-Trichloroethane	420,000	23,000	1,000	<53	<57	<5.5	<5.8
Benzene	13,000	3,000	1,000	<53	<57	<5.5	<5.8
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<53	<57	<5.5	<5.8
Bromoform	370,000	86,000	1,000	<53	<57	<5.5	<5.8
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<110	<110	<11	<12
2-Hexanone	NA	NA	NA	<110	<110	<11	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	990	1,900	6.7	23
Tetrachloroethene	37,000	9,000	1,000	<53	<57	<5.5	<5.8
Toluene	1,000,000	1,000,000	500,000	<53	<57	<5.5	<5.8
Chlorobenzene	690,000	37,000	1,000	<53	<57	<5.5	<5.8
Ethylbenzene	1,000,000	1,000,000	100,000	<53	<57	<5.5	<5.8
Styrene	97,000	23,000	100,000	<53	<57	<5.5	<5.8
Xylenes (total)	6,300,000	360,000	10,000	<53	<57	<5.5	<5.8
Total VOCs.	1,000,000	1,000,000	1,000,000	1,026	2,114	24.9	45.9

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-106B	B-106C	B-107B	B-107C
			Sample Depth*(inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<10	<11	<11	<1,200
Bromomethane	1,000,000	790,000	1,000	<10	<11	<11	<1,200
Vinyl chloride	7,000	2,000	1,000	<10	<11	<11	<1,200
Chloroethane	NA	NA	NA	<10	<11	<11	<1,200
Methylene chloride	170,000	49,000	10,000	1.4 J	3.8 J	1.5 J	150 JB
Acetone	1,000,000	1,000,000	50,000	<10	9.1 JB	<11	<1,200
Carbon disulfide	NA	NA	NA	<5.1	<5.5	<5.3	<610
1,1-Dichloroethene	940,000	51,000	10,000	<5.1	<5.5	<5.3	<610
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.1	<5.5	<5.3	<610
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.1	<5.5	<5.3	<610
Chloroform	28,000	19,000	1,000	<5.1	<5.5	<5.3	<610
1,2-Dichloroethane	24,000	6,000	1,000	<5.1	<5.5	<5.3	<610
2-Butanone	1,000,000	1,000,000	50,000	<10	<11	<11	<3,000
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.1	<5.5	<5.3	<610
Carbon tetrachloride	4,000	2,000	1,000	<5.1	<5.5	<5.3	<610
Vinyl acetate	NA	NA	NA	<10	<11	<11	<1,200
Bromodichloromethane	22,000	5,000	1,000	<5.1	<5.5	<5.3	<610
1,2-Dichloropropane	NA	NA	NA	<5.1	<5.5	<5.3	<610
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.1	<5.5	<5.3	<610
Trichloroethene	100,000	23,000	1,000	<5.1	1.6 J	1.6 J	2,000
Dibromochloromethane	1,000,000	110,000	1,000	<5.1	<5.5	<5.3	<610
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.1	<5.5	<5.3	<610
Benzene	13,000	3,000	1,000	<5.1	<5.5	<5.3	<610
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.1	<5.5	<5.3	<610
Bromoform	370,000	86,000	1,000	<5.1	<5.5	<5.3	<610
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<10	<11	<11	<1,200
2-Hexanone	NA	NA	NA	<10	<11	<11	<1,200
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.1	2.6 J	3.0 J	11,000
Tetrachloroethene	37,000	9,000	1,000	<5.1	<5.5	<5.3	14,000
Toluene	1,000,000	1,000,000	500,000	<5.1	<5.5	<5.3	<610
Chlorobenzene	690,000	37,000	1,000	<5.1	<5.5	<5.3	<610
Ethylbenzene	1,000,000	1,000,000	100,000	<5.1	<5.5	<5.3	<610
Styrene	97,000	23,000	100,000	<5.1	<5.5	<5.3	<610
Xylenes (total)	6,300,000	360,000	10,000	<5.1	<5.5	<5.3	<610
Total VOCs:	1,000,000	1,000,000	1,000,000	1.4	17.1	6.1	27,150

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-108B	B-108C	B-109B	B-109C
			Sample Depth*(Inches):	18-24	42-48	18-24	42-48
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<11	<12
Bromomethane	1,000,000	790,000	1,000	<11	<12	<11	<12
Vinyl chloride	7,000	2,000	1,000	<11	<12	<11	<12
Chloroethane	NA	NA	NA	<11	<12	<11	<12
Methylene chloride	170,000	49,000	10,000	2.6 J	4.7 J	1.4 J	4.0 J
Acetone	1,000,000	1,000,000	50,000	<11	18 B	4.8 J	18 B
Carbon disulfide	NA	NA	NA	<5.5	<5.9	<5.7	<5.9
1,1-Dichloroethene	940,000	51,000	10,000	<5.5	<5.9	<5.7	<5.9
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.5	<5.9	<5.7	<5.9
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.5	8.2	<5.7	<5.9
Chloroform	28,000	19,000	1,000	<5.5	2.3 J	<5.7	<5.9
1,2-Dichloroethane	24,000	6,000	1,000	<5.5	<5.9	<5.7	<5.9
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.5	<5.9	<5.7	<5.9
Carbon tetrachloride	4,000	2,000	1,000	<5.5	<5.9	<5.7	<5.9
Vinyl acetate	NA	NA	NA	<11	<12	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<5.5	<5.9	<5.7	<5.9
1,2-Dichloropropane	NA	NA	NA	<5.5	<5.9	<5.7	<5.9
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.7	<5.9
Trichloroethene	100,000	23,000	1,000	10	13	<5.7	<5.9
Dibromochloromethane	1,000,000	110,000	1,000	<5.5	<5.9	<5.7	<5.9
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.5	1.3 J	<5.7	<5.9
Benzene	13,000	3,000	1,000	<5.5	<5.9	<5.7	<5.9
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.7	<5.9
Bromoform	370,000	86,000	1,000	<5.5	<5.9	<5.7	<5.9
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
2-Hexanone	NA	NA	NA	<11	<12	<11	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	180	790	10	25
Tetrachloroethene	37,000	9,000	1,000	2.3 J	1.6 J	<5.7	<5.9
Toluene	1,000,000	1,000,000	500,000	<5.5	<5.9	<5.7	<5.9
Chlorobenzene	690,000	37,000	1,000	<5.5	<5.9	<5.7	<5.9
Ethylbenzene	1,000,000	1,000,000	100,000	<5.5	<5.9	<5.7	<5.9
Styrene	97,000	23,000	100,000	<5.5	<5.9	<5.7	<5.9
Xylenes (total)	6,300,000	360,000	10,000	<5.5	<5.9	<5.7	<5.9
Total VOCs:	1,000,000	1,000,000	1,000,000	194.9	839.1	16.2	47

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-110B	B-110C	B-117B	B-118B
			Sample Depth*(inches):	18-24	42-48	18-24	18-24
			Sample Date:	9/5/91	9/5/91	8/28/91	8/28/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<12	<11
Bromomethane	1,000,000	790,000	1,000	<11	<12	<12	<11
Vinyl chloride	7,000	2,000	1,000	<11	<12	<12	<11
Chloroethane	NA	NA	NA	<11	<12	<12	<11
Methylene chloride	170,000	49,000	10,000	3.7 J	5.2 J	1.4 JB	1.2 JB
Acetone	1,000,000	1,000,000	50,000	9.4 JB	13 B	<12	3.8 JB
Carbon disulfide	NA	NA	NA	<5.3	<5.8	<5.8	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.8	<5.8	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.8	<5.8	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	<5.8	<5.8	<5.6
Chloroform	28,000	19,000	1,000	<5.3	<5.8	<5.8	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.8	<5.8	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<12	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.8	<5.8	<5.6
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.8	<5.8	<5.6
Vinyl acetate	NA	NA	NA	<11	<12	<12	<11
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.8	<5.8	<5.6
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.8	<5.8	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.8	<5.8	<5.6
Trichloroethene	100,000	23,000	1,000	<5.3	1.6 J	<5.8	<5.6
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.8	<5.8	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.8	<5.8	<5.6
Benzene	13,000	3,000	1,000	<5.3	<5.8	<5.8	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.8	<5.8	<5.6
Bromoform	370,000	86,000	1,000	<5.3	<5.8	<5.8	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<12	<11
2-Hexanone	NA	NA	NA	<11	<12	<12	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	<5.8	<5.8	<5.6
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.8	<5.8	<5.6
Toluene	1,000,000	1,000,000	500,000	<5.3	<5.8	<5.8	<5.6
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.8	<5.8	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.8	<5.8	<5.6
Styrene	97,000	23,000	100,000	<5.3	<5.8	<5.8	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.8	<5.8	<5.6
Total VOCs:	1,000,000	1,000,000	1,000,000	13.1	19.8	1.4	5

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-119B	B-126B	B-127B	B-128B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	8/28/91	8/29/91	8/29/91	8/29/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<13	<12	<11
Bromomethane	1,000,000	790,000	1,000	<11	<13	<12	<11
Vinyl chloride	7,000	2,000	1,000	<11	<13	<12	<11
Chloroethane	NA	NA	NA	<11	<13	<12	<11
Methylene chloride	170,000	49,000	10,000	<5.6	2.1 JB	1.3 JB	<5.4
Acetone	1,000,000	1,000,000	50,000	<11	79	34	<11
Carbon disulfide	NA	NA	NA	<5.6	3.9 J	<5.8	<5.4
1,1-Dichloroethene	940,000	51,000	10,000	<5.6	<6.4	<5.8	<5.4
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.6	<6.4	<5.8	<5.4
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.6	<6.4	<5.8	<5.4
Chloroform	28,000	19,000	1,000	<5.6	<6.4	<5.8	<5.4
1,2-Dichloroethane	24,000	6,000	1,000	<5.6	<6.4	<5.8	<5.4
2-Butanone	1,000,000	1,000,000	50,000	<11	<13	<12	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.6	<6.4	<5.8	<5.4
Carbon tetrachloride	4,000	2,000	1,000	<5.6	<6.4	<5.8	<5.4
Vinyl acetate	NA	NA	NA	<11	<13	<12	<11
Bromodichloromethane	22,000	5,000	1,000	<5.6	<6.4	<5.8	<5.4
1,2-Dichloropropane	NA	NA	NA	<5.6	<6.4	<5.8	<5.4
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.6	<6.4	<5.8	<5.4
Trichloroethene	100,000	23,000	1,000	<5.6	<6.4	<5.8	<5.4
Dibromochloromethane	1,000,000	110,000	1,000	<5.6	<6.4	<5.8	<5.4
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.6	<6.4	<5.8	<5.4
Benzene	13,000	3,000	1,000	<5.6	<6.4	<5.8	<5.4
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.6	<6.4	<5.8	<5.4
Bromoform	370,000	86,000	1,000	<5.6	<6.4	<5.8	<5.4
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<13	<12	<11
2-Hexanone	NA	NA	NA	<11	<13	<12	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.6	<6.4	<5.8	<5.4
Tetrachloroethene	37,000	9,000	1,000	<5.6	<6.4	<5.8	<5.4
Toluene	1,000,000	1,000,000	500,000	<5.6	2.3 J	<5.8	<5.4
Chlorobenzene	690,000	37,000	1,000	<5.6	<6.4	<5.8	<5.4
Ethylbenzene	1,000,000	1,000,000	100,000	<5.6	<6.4	<5.8	<5.4
Styrene	97,000	23,000	100,000	<5.6	<6.4	<5.8	<5.4
Xylenes (total)	6,300,000	360,000	10,000	<5.6	<6.4	<5.8	<5.4
Total VOCs:	1,000,000	1,000,000	1,000,000	0	87.3	35.3	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-129B	B-130B	B-131B	B-132B
			Sample Depth*(inches):	18-24	18-24	18-24	18-24
			Sample Date:	8/29/91	8/29/91	8/29/91	9/4/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	1.5 JB	1.2 JB	1.7 JB	1.3 J
Acetone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
Carbon disulfide	NA	NA	NA	<5.3	<5.5	<5.7	<5.5
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.5	<5.7	<5.5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.5	<5.7	<5.5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	4.5 J	<5.7	<5.5
Chloroform	28,000	19,000	1,000	<5.3	<5.5	<5.7	<5.5
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.5	<5.7	<5.5
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.5	<5.7	<5.5
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.5	<5.7	<5.5
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.5	<5.7	<5.5
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.5	<5.7	<5.5
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.5	<5.7	<5.5
Trichloroethene	100,000	23,000	1,000	<5.3	<5.5	<5.7	2.0 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.5	<5.7	<5.5
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.5	<5.7	<5.5
Benzene	13,000	3,000	1,000	<5.3	<5.5	<5.7	<5.5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.5	<5.7	<5.5
Bromoform	370,000	86,000	1,000	<5.3	<5.5	<5.7	<5.5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	<5.5	<5.7	<5.5
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.5	<5.7	<5.5
Toluene	1,000,000	1,000,000	500,000	<5.3	<5.5	<5.7	1.1 J
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.5	<5.7	<5.5
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.5	<5.7	<5.5
Styrene	97,000	23,000	100,000	<5.3	<5.5	<5.7	<5.5
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.5	<5.7	3.2 J
Total VOCs	1,000,000	1,000,000	1,000,000	1.5	5.7	1.7	7.6

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-133B	B-134B	B-310B	B-310C
			Sample Depth*(inches):	18-24	18-24	18-24	24-48
			Sample Date:	9/4/91	9/4/91	10/15/91	10/15/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<53	<2,000
Bromomethane	1,000,000	790,000	1,000	<11	<11	<53	<2,000
Vinyl chloride	7,000	2,000	1,000	<11	<11	<53	<2,000
Chloroethane	NA	NA	NA	<11	<11	<53	<2,000
Methylene chloride	170,000	49,000	10,000	1.7 J	1.5 J	10 J	670 BJ
Acetone	1,000,000	1,000,000	50,000	<11	12	<53	<2,000
Carbon disulfide	NA	NA	NA	<5.3	<5.4	<26	<1,000
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.4	<26	<1,000
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.4	<26	<1,000
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	<5.4	<26	<1,000
Chloroform	28,000	19,000	1,000	<5.3	<5.4	<26	<1,000
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.4	<26	<1,000
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<53	<1,000
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.4	<26	<1,000
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.4	<26	<1,000
Vinyl acetate	NA	NA	NA	<11	<11	<53	<2,000
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.4	<26	<1,000
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.4	<26	<1,000
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.4	<26	<1,000
Trichloroethene	100,000	23,000	1,000	2.3 J	<5.4	<26	630 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.4	<26	<1,000
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.4	<26	<1,000
Benzene	13,000	3,000	1,000	<5.3	<5.4	<26	<1,000
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.4	<26	<1,000
Bromoform	370,000	86,000	1,000	<5.3	<5.4	<26	<1,000
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<53	<2,000
2-Hexanone	NA	NA	NA	<11	<11	<53	<2,000
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	<5.4	90	7,700 J
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.4	5.9 J	830 J
Toluene	1,000,000	1,000,000	500,000	1.1 J	<5.4	<26	<1,000
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.4	<26	<1,000
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.4	<26	<1,000
Styrene	97,000	23,000	100,000	<5.3	<5.4	<26	<1,000
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.4	<26	<1,000
Total VOCs:	1,000,000	1,000,000	1,000,000	5.1	13.5	105.9	9,830

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-311B	B-311C	B-312B	B-312C
			Sample Depth*(inches):	18-24	24-48	18-24	24-48
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	3.3 J	4.1 J	<5.5	<5.6
Acetone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
Carbon disulfide	NA	NA	NA	<5.4	<5.4	<5.5	<5.6
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.4	<5.5	<5.6
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.4	<5.5	<5.6
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.4	<5.5	<5.6
Chloroform	28,000	19,000	1,000	<5.4	<5.4	<5.5	<5.6
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.4	<5.5	<5.6
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.4	<5.5	<5.6
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.4	<5.5	<5.6
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.4	<5.5	<5.6
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.4	<5.5	<5.6
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.4	<5.5	<5.6
Trichloroethene	100,000	23,000	1,000	<5.4	<5.4	<5.5	<5.6
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.4	<5.5	<5.6
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.4	<5.5	<5.6
Benzene	13,000	3,000	1,000	<5.4	<5.4	<5.5	<5.6
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.4	<5.5	<5.6
Bromoform	370,000	86,000	1,000	<5.4	<5.4	<5.5	<5.6
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	8.1	8.8	2.7 J	<5.6
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.4	<5.5	<5.6
Toluene	1,000,000	1,000,000	500,000	<5.4	<5.4	<5.5	<5.6
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.4	<5.5	<5.6
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.4	<5.5	<5.6
Styrene	97,000	23,000	100,000	<5.4	<5.4	<5.5	<5.6
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.4	<5.5	<5.6
Total VOCs	1,000,000	1,000,000	1,000,000	11.4	12.9	2.7	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-313B	B-313C	B-314B	B-314C
			Sample Depth*(Inches):	18-24	24-48	18-24	24-48
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<1,200
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<1,200
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<1,200
Chloroethane	NA	NA	NA	<11	<11	<11	<1,200
Methylene chloride	170,000	49,000	10,000	<5.4	<5.5	<5.4	2,900
Acetone	1,000,000	1,000,000	50,000	<11	7.8 J	<11	<1,200
Carbon disulfide	NA	NA	NA	<5.4	<5.5	<5.4	<580
1,1-Dichloroethene	940,000	51,000	10,000	<5.4	<5.5	<5.4	<580
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.4	<5.5	<5.4	<580
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.4	<5.5	<5.4	4,100
Chloroform	28,000	19,000	1,000	<5.4	<5.5	<5.4	630
1,2-Dichloroethane	24,000	6,000	1,000	<5.4	<5.5	<5.4	360 J
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<1,200
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.4	<5.5	<5.4	<580
Carbon tetrachloride	4,000	2,000	1,000	<5.4	<5.5	<5.4	<580
Vinyl acetate	NA	NA	NA	<11	<11	<11	<1,200
Bromodichloromethane	22,000	5,000	1,000	<5.4	<5.5	<5.4	<580
1,2-Dichloropropane	NA	NA	NA	<5.4	<5.5	<5.4	<580
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.5	<5.4	<580
Trichloroethene	100,000	23,000	1,000	2.4 J	<5.5	4.1 J	6,500
Dibromochloromethane	1,000,000	110,000	1,000	<5.4	<5.5	<5.4	<580
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.4	<5.5	<5.4	870
Benzene	13,000	3,000	1,000	<5.4	<5.5	<5.4	<580
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.4	<5.5	<5.4	<580
Bromoform	370,000	86,000	1,000	<5.4	<5.5	<5.4	<580
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<1,200
2-Hexanone	NA	NA	NA	<11	<11	<11	<1,200
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	150	2.3 J	37	360,000
Tetrachloroethene	37,000	9,000	1,000	<5.4	<5.5	2.3 J	8,500
Toluene	1,000,000	1,000,000	500,000	<5.4	<5.5	<5.4	<580
Chlorobenzene	690,000	37,000	1,000	<5.4	<5.5	<5.4	<580
Ethylbenzene	1,000,000	1,000,000	100,000	<5.4	<5.5	<5.4	<580
Styrene	97,000	23,000	100,000	<5.4	<5.5	<5.4	<580
Xylenes (total)	6,300,000	360,000	10,000	<5.4	<5.5	<5.4	<580
Total VOCs:	1,000,000	1,000,000	1,000,000	152.4	10.1	43.4	383,860

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-315B	B-315C	B-316B	B-316C
			Sample Depth*(inches):	18-24	24-48	18-24	24-48
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<12	<11	<12
Bromomethane	1,000,000	790,000	1,000	<11	<12	<11	<12
Vinyl chloride	7,000	2,000	1,000	<11	<12	<11	<12
Chloroethane	NA	NA	NA	<11	<12	<11	<12
Methylene chloride	170,000	49,000	10,000	1.5 J	6.5	4.5 J	7.2
Acetone	1,000,000	1,000,000	50,000	12	110	<11	<12
Carbon disulfide	NA	NA	NA	<5.5	6.6	<5.6	<6.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.5	<5.9	<5.6	<6.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.5	<5.9	<5.6	<6.0
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.5	43	<5.6	<6.0
Chloroform	28,000	19,000	1,000	<5.5	18	<5.6	<6.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.5	4.5 J	<5.6	<6.0
2-Butanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.5	<5.9	<5.6	<6.0
Carbon tetrachloride	4,000	2,000	1,000	<5.5	<5.9	<5.6	<6.0
Vinyl acetate	NA	NA	NA	<11	<12	<11	<12
Bromodichloromethane	22,000	5,000	1,000	<5.5	<5.9	<5.6	<6.0
1,2-Dichloropropane	NA	NA	NA	<5.5	<5.9	<5.6	<6.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.6	<6.0
Trichloroethene	100,000	23,000	1,000	4.4 J	35	<5.6	<6.0
Dibromochloromethane	1,000,000	110,000	1,000	<5.5	<5.9	<5.6	<6.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.5	15	<5.6	<6.0
Benzene	13,000	3,000	1,000	<5.5	<5.9	<5.6	<6.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.5	<5.9	<5.6	<6.0
Bromoform	370,000	86,000	1,000	<5.5	<5.9	<5.6	<6.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<12	<11	<12
2-Hexanone	NA	NA	NA	<11	<12	<11	<12
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	190	2,400	24	8.8
Tetrachloroethene	37,000	9,000	1,000	<5.5	3.5 J	<5.6	<6.0
Toluene	1,000,000	1,000,000	500,000	<5.5	<5.9	<5.6	<6.0
Chlorobenzene	690,000	37,000	1,000	<5.5	<5.9	<5.6	<6.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.5	<5.9	<5.6	<6.0
Styrene	97,000	23,000	100,000	<5.5	<5.9	<5.6	<6.0
Xylenes (total)	6,300,000	360,000	10,000	<5.5	<5.9	<5.6	<6.0
Total VOCs:	1,000,000	1,000,000	1,000,000	207.9	2,642.1	28.5	16

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-317B	B-317C	B-318B	B-318C
			Sample Depth*(inches):	18-24	24-48	18-24	24-48
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<1,100	<1,900	<110	<110
Bromomethane	1,000,000	790,000	1,000	<1,100	<1,900	<110	<110
Vinyl chloride	7,000	2,000	1,000	<1,100	<1,900	<110	<110
Chloroethane	NA	NA	NA	<1,100	<1,900	<110	<110
Methylene chloride	170,000	49,000	10,000	300 BJ	650 J	<56	<56
Acetone	1,000,000	1,000,000	50,000	<1,100	<1,900	<110	<110
Carbon disulfide	NA	NA	NA	<550	<950	<56	<56
1,1-Dichloroethene	940,000	51,000	10,000	<550	<950	<56	<56
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<550	<950	<56	<56
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<550	3,700	<56	24 J
Chloroform	28,000	19,000	1,000	<550	<950	<56	<56
1,2-Dichloroethane	24,000	6,000	1,000	<550	1,100	<56	<56
2-Butanone	1,000,000	1,000,000	50,000	<1,100	<1,900	<110	<110
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<550	<950	<56	<56
Carbon tetrachloride	4,000	2,000	1,000	<550	<950	<56	<56
Vinyl acetate	NA	NA	NA	<1,100	<1,900	<110	<110
Bromodichloromethane	22,000	5,000	1,000	<550	<950	<56	<56
1,2-Dichloropropane	NA	NA	NA	<550	<950	<56	<56
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<550	<950	<56	<56
Trichloroethene	100,000	23,000	1,000	1,600	8,400	93	650
Dibromochloromethane	1,000,000	110,000	1,000	<550	<950	<56	<56
1,1,2-Trichloroethane	420,000	23,000	1,000	<550	1,500	<56	<56
Benzene	13,000	3,000	1,000	<550	<950	<56	<56
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<550	<950	<56	<56
Bromoform	370,000	86,000	1,000	<550	<950	<56	<56
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<1,100	<1,900	<110	<110
2-Hexanone	NA	NA	NA	<1,100	<1,900	<110	<110
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	11,000	860,000	1,900	3,700
Tetrachloroethene	37,000	9,000	1,000	580	1,400	<56	94
Toluene	1,000,000	1,000,000	500,000	<550	<950	<56	<56
Chlorobenzene	690,000	37,000	1,000	<550	<950	<56	<56
Ethylbenzene	1,000,000	1,000,000	100,000	<550	<950	<56	<56
Styrene	97,000	23,000	100,000	<550	<950	<56	<56
Xylenes (total)	6,300,000	360,000	10,000	<550	<950	<56	<56
Total VOCs:	1,000,000	1,000,000	1,000,000	13,480	876,750	1,993	4,468

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	4	4
			Sample Designation:	B-319B	B-319C	B-111B	B-112B
			Sample Depth*(inches):	18-24	24-48	18-24	18-24
			Sample Date:	10/15/91	10/15/91	8/29/91	8/29/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<59	<130	<11	<11
Bromomethane	1,000,000	790,000	1,000	<59	<130	<11	<11
Vinyl chloride	7,000	2,000	1,000	<59	<130	<11	<11
Chloroethane	NA	NA	NA	<59	<130	<11	<11
Methylene chloride	170,000	49,000	10,000	18 J	<65	1.2 JB	2.1 JB
Acetone	1,000,000	1,000,000	50,000	85	180	<11	<11
Carbon disulfide	NA	NA	NA	<29	<65	<5.7	<5.4
1,1-Dichloroethene	940,000	51,000	10,000	<29	<65	<5.7	<5.4
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<29	<65	<5.7	<5.4
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<29	14 J	<5.7	<5.4
Chloroform	28,000	19,000	1,000	<29	<65	<5.7	<5.4
1,2-Dichloroethane	24,000	6,000	1,000	<29	<65	<5.7	<5.4
2-Butanone	1,000,000	1,000,000	50,000	<59	<130	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<29	<65	<5.7	<5.4
Carbon tetrachloride	4,000	2,000	1,000	<29	<65	<5.7	<5.4
Vinyl acetate	NA	NA	NA	<59	<130	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<29	<65	<5.7	<5.4
1,2-Dichloropropane	NA	NA	NA	<29	<65	<5.7	<5.4
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<29	<65	<5.7	<5.4
Trichloroethene	100,000	23,000	1,000	<29	21 J	<5.7	<5.4
Dibromochloromethane	1,000,000	110,000	1,000	<29	<65	<5.7	<5.4
1,1,2-Trichloroethane	420,000	23,000	1,000	<29	<65	<5.7	<5.4
Benzene	13,000	3,000	1,000	<29	<65	<5.7	<5.4
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<29	<65	<5.7	<5.4
Bromoform	370,000	86,000	1,000	<29	<65	<5.7	<5.4
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<59	<130	<11	<11
2-Hexanone	NA	NA	NA	<59	<130	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	270	770	<5.7	<5.4
Tetrachloroethene	37,000	9,000	1,000	<29	33 J	<5.7	<5.4
Toluene	1,000,000	1,000,000	500,000	<29	<65	<5.7	<5.4
Chlorobenzene	690,000	37,000	1,000	<29	<65	<5.7	<5.4
Ethylbenzene	1,000,000	1,000,000	100,000	<29	<65	<5.7	<5.4
Styrene	97,000	23,000	100,000	<29	<65	<5.7	<5.4
Xylenes (total)	6,300,000	360,000	10,000	<29	<65	<5.7	<5.4
Total VOCs	1,000,000	1,000,000	1,000,000	373	1,018	1.2	2.1

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	4	4	4	4
			Sample Designation:	B-113B	B-114B	B-115B	B-116B
			Sample Depth*(Inches):	18-24	18-24	18-24	18-24
			Sample Date:	8/29/91	8/29/91	8/29/91	8/29/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<11	<11	<11	<11
Bromomethane	1,000,000	790,000	1,000	<11	<11	<11	<11
Vinyl chloride	7,000	2,000	1,000	<11	<11	<11	<11
Chloroethane	NA	NA	NA	<11	<11	<11	<11
Methylene chloride	170,000	49,000	10,000	1.5 JB	1.6 JB	1.8 JB	1.5 JB
Acetone	1,000,000	1,000,000	50,000	6.2 JB	4.3 JB	<11	<11
Carbon disulfide	NA	NA	NA	<5.3	<5.5	<5.6	<5.5
1,1-Dichloroethene	940,000	51,000	10,000	<5.3	<5.5	<5.6	<5.5
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.3	<5.5	<5.6	<5.5
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<5.3	<5.5	<5.6	<5.5
Chloroform	28,000	19,000	1,000	<5.3	<5.5	<5.6	<5.5
1,2-Dichloroethane	24,000	6,000	1,000	<5.3	<5.5	<5.6	<5.5
2-Butanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.3	<5.5	<5.6	<5.5
Carbon tetrachloride	4,000	2,000	1,000	<5.3	<5.5	<5.6	<5.5
Vinyl acetate	NA	NA	NA	<11	<11	<11	<11
Bromodichloromethane	22,000	5,000	1,000	<5.3	<5.5	<5.6	<5.5
1,2-Dichloropropane	NA	NA	NA	<5.3	<5.5	<5.6	<5.5
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.5	<5.6	<5.5
Trichloroethene	100,000	23,000	1,000	<5.3	<5.5	<5.6	1.7 J
Dibromochloromethane	1,000,000	110,000	1,000	<5.3	<5.5	<5.6	<5.5
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.3	<5.5	<5.6	<5.5
Benzene	13,000	3,000	1,000	<5.3	<5.5	<5.6	<5.5
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.3	<5.5	<5.6	<5.5
Bromoform	370,000	86,000	1,000	<5.3	<5.5	<5.6	<5.5
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<11	<11	<11	<11
2-Hexanone	NA	NA	NA	<11	<11	<11	<11
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.3	<5.5	<5.6	<5.5
Tetrachloroethene	37,000	9,000	1,000	<5.3	<5.5	16	1.1 J
Toluene	1,000,000	1,000,000	500,000	<5.3	<5.5	1.4 J	1.9 J
Chlorobenzene	690,000	37,000	1,000	<5.3	<5.5	<5.6	<5.5
Ethylbenzene	1,000,000	1,000,000	100,000	<5.3	<5.5	<5.6	<5.5
Styrene	97,000	23,000	100,000	<5.3	<5.5	<5.6	<5.5
Xylenes (total)	6,300,000	360,000	10,000	<5.3	<5.5	<5.6	<5.5
Total VOCs:	1,000,000	1,000,000	1,000,000	7.7	5.9	19.2	6.2

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6
			Sample Designation:	SS-3	SS-10
			Sample Depth*(inches):	0-6	0-6
			Sample Date:	10/18/91	10/18/91
			Units:	ug/kg	ug/kg
	Surface Soil Standards (1)		Subsurface Soil		
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)		
Chloromethane	1,000,000	520,000	10,000	<40	<16
Bromomethane	1,000,000	790,000	1,000	<40	<16
Vinyl chloride	7,000	2,000	1,000	<40	<16
Chloroethane	NA	NA	NA	<40	<16
Methylene chloride	170,000	49,000	10,000	28	<8.2
Acetone	1,000,000	1,000,000	50,000	<40	52
Carbon disulfide	NA	NA	NA	<20	<8.2
1,1-Dichloroethene	940,000	51,000	10,000	<20	<8.2
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<20	<8.2
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	1300	<8.2
Chloroform	28,000	19,000	1,000	110	<8.2
1,2-Dichloroethane	24,000	6,000	1,000	200	<8.2
2-Butanone	1,000,000	1,000,000	50,000	<40	<16
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<20	<8.2
Carbon tetrachloride	4,000	2,000	1,000	<20	<8.2
Vinyl acetate	NA	NA	NA	<40	<16
Bromodichloromethane	22,000	5,000	1,000	<20	<8.2
1,2-Dichloropropane	NA	NA	NA	<20	<8.2
cis-1,3-Dichloropropene	5,000+	4,000+	1,000+	<20	<8.2
Trichloroethene	100,000	23,000	1,000	120	<8.2
Dibromochloromethane	1,000,000	110,000	1,000	<20	<8.2
1,1,2-Trichloroethane	420,000	23,000	1,000	21	<8.2
Benzene	13,000	3,000	1,000	<20	<8.2
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<20	<8.2
Bromoform	370,000	86,000	1,000	<20	<8.2
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<40	<16
2-Hexanone	NA	NA	NA	<40	<16
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	4,700	<8.2
Tetrachloroethene	37,000	9,000	1,000	100	<8.2
Toluene	1,000,000	1,000,000	500,000	5.2 J	<8.2
Chlorobenzene	690,000	37,000	1,000	<20	<8.2
Ethylbenzene	1,000,000	1,000,000	100,000	<20	<8.2
Styrene	97,000	23,000	100,000	<20	<8.2
Xylenes (total)	6,300,000	360,000	10,000	<20	<8.2
Total VOCs	1,000,000	1,000,000	1,000,000	6,584.2	52

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	QA/QC Field	QA/QC Field	QA/QC Field
			Sample Designation:	SS-11	Blank	Blank	Blank
			Sample Depth*(inches):	0-6			
			Sample Date:	10/18/91	8/22/91	8/23/91	8/26/91
			Units:	ug/kg	ug/L	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<63	<10	<10	<10
Bromomethane	1,000,000	790,000	1,000	<63	<10	<10	<10
Vinyl chloride	7,000	2,000	1,000	<63	<10	<10	<10
Chloroethane	NA	NA	NA	<63	<10	<10	<10
Methylene chloride	170,000	49,000	10,000	13 J	2.0 J	5.6	<5.0
Acetone	1,000,000	1,000,000	50,000	<63	<10	12	<10
Carbon disulfide	NA	NA	NA	9.1 J	<5.0	<5.0	<5.0
1,1-Dichloroethene	940,000	51,000	10,000	<31	<5.0	<5.0	<5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<31	<5.0	<5.0	<5.0
1,2-Dichloroethene	11,500,000	1,039,000	100,000	89	<5.0	<5.0	<5.0
Chloroform	28,000	19,000	1,000	29 J	<5.0	<5.0	<5.0
1,2-Dichloroethane	24,000	6,000	1,000	<31	<5.0	<5.0	<5.0
2-Butanone	1,000,000	1,000,000	50,000	<63	<10	<10	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<31	<5.0	<5.0	<5.0
Carbon tetrachloride	4,000	2,000	1,000	<31	<5.0	<5.0	<5.0
Vinyl acetate	NA	NA	NA	<63	<10	<10	<10
Bromodichloromethane	22,000	5,000	1,000	<31	<5.0	<5.0	<5.0
1,2-Dichloropropane	NA	NA	NA	<31	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000	<31	<5.0	<5.0	<5.0
Trichloroethene	100,000	23,000	1,000	12,000	<5.0	<5.0	<5.0
Dibromochloromethane	1,000,000	110,000	1,000	<31	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	6.8 J	<5.0	<5.0	<5.0
Benzene	13,000	3,000	1,000	<31	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<31	<5.0	<5.0	<5.0
Bromoform	370,000	86,000	1,000	<31	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<31	<10	<10	<10
2-Hexanone	NA	NA	NA	<31	<10	<10	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	8,800	<5.0	<5.0	<5.0
Tetrachloroethene	37,000	9,000	1,000	610	<5.0	<5.0	<5.0
Toluene	1,000,000	1,000,000	500,000	<31	<5.0	<5.0	<5.0
Chlorobenzene	690,000	37,000	1,000	<31	<5.0	<5.0	<5.0
Ethylbenzene	1,000,000	1,000,000	100,000	<31	<5.0	<5.0	<5.0
Styrene	97,000	23,000	100,000	<31	<5.0	<5.0	<5.0
Xylenes (total)	6,300,000	360,000	10,000	<31	<5.0	<5.0	<5.0
Total VOCs:	1,000,000	1,000,000	1,000,000	21,556.9	2	17.6	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	QA/QC Field	QA/QC Field	QA/QC Field	QA/QC Field
			Sample Designation:	Blank	Blank	Blank	Blank
			Sample Depth*(inches):				
			Sample Date:	8/27/91	8/28/91	8/29/91	9/3/91
			Units:	ug/L	ug/L	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<10	<10	<10	<10
Bromomethane	1,000,000	790,000	1,000	<10	<10	<10	<10
Vinyl chloride	7,000	2,000	1,000	<10	<10	<10	<10
Chloroethane	NA	NA	NA	<10	<10	<10	<10
Methylene chloride	170,000	49,000	10,000	1.1 J	2.0 J	<5.0	<5.0
Acetone	1,000,000	1,000,000	50,000	2.9 J	5.0 J	2.7 J	<10
Carbon disulfide	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	11,500,000	1,039,000	100,000	<5.0	<5.0	<5.0	<5.0
Chloroform	28,000	19,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.0	<5.0	<5.0	<5.0
2-Butanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	4,000	2,000	1,000	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	NA	NA	NA	<10	<10	<10	<10
Bromodichloromethane	22,000	5,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000	<5.0	<5.0	<5.0	<5.0
Trichloroethene	100,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	1,000,000	110,000	1,000	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Benzene	13,000	3,000	1,000	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.0	<5.0	<5.0	<5.0
Bromoform	370,000	86,000	1,000	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
2-Hexanone	NA	NA	NA	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	37,000	9,000	1,000	<5.0	<5.0	<5.0	<5.0
Toluene	1,000,000	1,000,000	500,000	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	690,000	37,000	1,000	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.0	<5.0	<5.0	<5.0
Styrene	97,000	23,000	100,000	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	6,300,000	360,000	10,000	<5.0	<5.0	<5.0	<5.0
Total VOCs:	1,000,000	1,000,000	1,000,000	4	7	2.7	0

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	QA/QC Field	QA/QC Field	QA/QC Field	QA/QC Trip
			Sample Designation:	Blank	Blank	Blank	Blank
			Sample Depth*(Inches):				
			Sample Date:	9/4/91	9/5/91	10/15/91	8/23/91
			Units:	ug/L	ug/L	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<10	<10	<10	<10
Bromomethane	1,000,000	790,000	1,000	<10	<10	<10	<10
Vinyl chloride	7,000	2,000	1,000	<10	<10	<10	<10
Chloroethane	NA	NA	NA	<10	<10	<10	<10
Methylene chloride	170,000	49,000	10,000	<5.0	<5.0	<5.0	2.0 J
Acetone	1,000,000	1,000,000	50,000	<10	<10	<10	5.6 J
Carbon disulfide	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	11,500,000	1,039,000	100,000	<5.0	<5.0	<5.0	<5.0
Chloroform	28,000	19,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.0	<5.0	<5.0	<5.0
2-Butanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	4,000	2,000	1,000	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	NA	NA	NA	<10	<10	<10	<10
Bromodichloromethane	22,000	5,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000	<5.0	<5.0	<5.0	<5.0
Trichloroethene	100,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	1,000,000	110,000	1,000	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Benzene	13,000	3,000	1,000	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.0	<5.0	<5.0	<5.0
Bromoform	370,000	86,000	1,000	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
2-Hexanone	NA	NA	NA	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	37,000	9,000	1,000	<5.0	<5.0	<5.0	<5.0
Toluene	1,000,000	1,000,000	500,000	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	690,000	37,000	1,000	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.0	<5.0	<5.0	<5.0
Styrene	97,000	23,000	100,000	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	6,300,000	360,000	10,000	<5.0	<5.0	<5.0	<5.0
Total VOCs:	1,000,000	1,000,000	1,000,000	0	0	0	7.6

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	QA/QC Trip	QA/QC Trip	QA/QC Trip	QA/QC Trip
			Sample Designation:	Blank	Blank	Blank	Blank
			Sample Depth*(inches):				
			Sample Date:	8/26/91	8/27/91	8/28/91	8/29/91
			Units:	ug/L	ug/L	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	<10	<10	<10	<10
Bromomethane	1,000,000	790,000	1,000	<10	<10	<10	<10
Vinyl chloride	7,000	2,000	1,000	<10	<10	<10	<10
Chloroethane	NA	NA	NA	<10	<10	<10	<10
Methylene chloride	170,000	49,000	10,000	<5.0	1.3 J	1.7 J	1.0 J
Acetone	1,000,000	1,000,000	50,000	<10	7.4 J	9.7 J	<10
Carbon disulfide	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	940,000	51,000	10,000	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	11,500,000	1,039,000	100,000	<5.0	<5.0	<5.0	<5.0
Chloroform	28,000	19,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	24,000	6,000	1,000	<5.0	<5.0	<5.0	<5.0
2-Butanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	4,000	2,000	1,000	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	NA	NA	NA	<10	<10	<10	<10
Bromodichloromethane	22,000	5,000	1,000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	NA	NA	NA	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5,000+	4,000+	1,000	<5.0	<5.0	<5.0	<5.0
Trichloroethene	100,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	1,000,000	110,000	1,000	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<5.0	<5.0	<5.0	<5.0
Benzene	13,000	3,000	1,000	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5,000+	4,000+	1,000+	<5.0	<5.0	<5.0	<5.0
Bromoform	370,000	86,000	1,000	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	<10	<10	<10	<10
2-Hexanone	NA	NA	NA	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	37,000	9,000	1,000	<5.0	<5.0	<5.0	<5.0
Toluene	1,000,000	1,000,000	500,000	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	690,000	37,000	1,000	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	1,000,000	1,000,000	100,000	<5.0	<5.0	<5.0	<5.0
Styrene	97,000	23,000	100,000	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	6,300,000	360,000	10,000	<5.0	<5.0	<5.0	<5.0
Total VOCs:	1,000,000	1,000,000	1,000,000	0	8.7	11.4	1

See last page for footnotes.

Table 3-2. Volatile Organic Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	QA/QC Trip	QA/QC Trip	QA/QC Trip	QA/QC Trip
			Sample Designation:	Blank	Blank	Blank	Blank
			Sample Depth*(inches):				
			Sample Date:	9/3/91	9/4/91	9/5/91	10/15/91
			Units:	ug/L	ug/L	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
	Non-Residential	Residential	Standards (2)				
Parameter	(ug/kg)	(ug/kg)	(ug/kg)				
Chloromethane	1,000,000	520,000	10,000	< 10	< 10	< 10	< 10
Bromomethane	1,000,000	790,000	1,000	< 10	< 10	< 10	< 10
Vinyl chloride	7,000	2,000	1,000	< 10	< 10	< 10	< 10
Chloroethane	NA	NA	NA	< 10	< 10	< 10	< 10
Methylene chloride	170,000	49,000	10,000	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	1,000,000	1,000,000	50,000	< 10	< 10	< 10	< 10
Carbon disulfide	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	940,000	51,000	10,000	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethene	11,500,000	1,039,000	100,000	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	28,000	19,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	24,000	6,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	1,000,000	1,000,000	50,000	< 10	< 10	< 10	< 10
1,1,1-Trichloroethane	3,800,000	210,000	50,000	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	4,000	2,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	NA	NA	NA	< 10	< 10	< 10	< 10
Bromodichloromethane	22,000	5,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5,000 +	4,000 +	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	100,000	23,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	1,000,000	110,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	13,000	3,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,3-Dichloropropene	5,000 +	4,000 +	1,000 +	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	370,000	86,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000	< 10	< 10	< 10	< 10
2-Hexanone	NA	NA	NA	< 10	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	37,000	9,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	1,000,000	1,000,000	500,000	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	690,000	37,000	1,000	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	1,000,000	1,000,000	100,000	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	97,000	23,000	100,000	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	6,300,000	360,000	10,000	< 5.0	< 5.0	< 5.0	< 5.0
Total VOCs:	1,000,000	1,000,000	1,000,000	0	0	0	0

See last page for footnotes.

*	Depth below bottom of asphalt, gravel, and/or construction debris.
ug/kg	Micrograms per kilogram.
J	Result is detected below the reporting limit or is an estimated concentration.
B	Analyte was found in the blank as well as the sample.
VOCs	Volatile organic compounds.
QA/QC	Quality assurance/quality control.
ug/L	Micrograms per liter.
(1)	Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2)	Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA	No standard given.
+	Value for total cis-1,3-Dichloropropene and trans-1,3-Dichloropropene.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

Parameter	Surface Soil Standards(1) Non-Residential (ug/kg)	Surface Soil Standards(1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)				
			Area:	1	1	1	1
			Sample Designation:	B-50A	B-50B	B-50C	B-51A
			Sample Depth*(inches):	0-6	18-24	60-66	0-6
			Sample Date:	8/27/91	8/27/91	8/27/91	8/27/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<1900	<4100	<2700	<3700
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<1900	<4100	<2700	<3700
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<1900	<4100	<2700	<3700
Benzyl alcohol	10,000,000	10,000,000	50,000	<3800	<8300	<5400	<7400
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<1900	<4100	<2700	<3700
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<1900	<4100	<2700	<3700
N-Nitroso-di-n-propylamine	660	660	1,000	<1900	<4100	<2700	<3700
Hexachloroethane	10,000,000	1,700,000	100,000	<1900	<4100	<2700	<3700
Nitrobenzene	520,000	1,000	50,000	<1900	<4100	<2700	<3700
Isophorone	10,000,000	1,100,000	10,000	<1900	<4100	<2700	<3700
bis(2-Chloroethoxy)methane	NA	NA	NA	<1900	<4100	<2700	<3700
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<1900	<4100	<2700	<3700
Naphthalene	4,200,000	230,000	100,000	<1900	<4100	<2700	<3700
4-Chloroaniline	NA	NA	NA	<1900	<4100	<2700	<3700
Hexachlorobutadiene	210,000	11,000	50,000	<1900	<4100	<2700	<3700
2-Methylnaphthalene	NA	NA	NA	<1900	<4100	<2700	420 J
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<1900	<4100	<2700	<3700
2-Chloronaphthalene	NA	NA	NA	<1900	<4100	<2700	<3700
2-Nitroaniline	NA	NA	NA	<9200	<20000	<13000	<18000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<1900	<4100	<2700	1,200 J
Acenaphthylene	NA	NA	NA	<1900	<4100	<2700	<3700
3-Nitroaniline	NA	NA	NA	<9200	<20000	<13000	<3700
Acenaphthene	10,000,000	3,400,000	100,000	<1900	<4100	<2700	<3700
Dibenzofuran	NA	NA	NA	<1900	<4100	<2700	<3700
2,4-Dinitrotoluene	4,000	1,000	10,000	<1900	<4100	<2700	<3700
2,6-Dinitrotoluene	NA	NA	NA	<1900	<4100	<2700	<3700
Diethyl phthalate	10,000,000	10,000,000	50,000	<1900	<4100	<2700	<3700
4-Chlorophenyl phenyl ether	NA	NA	NA	<1900	<4100	<2700	<3700
Fluorene	10,000,000	2,300,000	100,000	<1900	<4100	<2700	<3700
4-Nitroaniline	NA	NA	NA	<9200	<20000	<13000	<18000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<1900	<4100	<2700	<3700
4-Bromophenyl phenyl ether	NA	NA	NA	<1900	<4100	<2700	<3700
Hexachlorobenzene	2,000	420	50,000	<1900	<4100	<2700	29,000
Phenanthrene	NA	NA	NA	<1900	<4100	<2700	1,000 J
Anthracene	10,000,000	10,000	500,000	<1900	<4100	<2700	520 J
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<1900	<4100	<2700	1,700 J
Fluoranthene	10,000,000	2,300,000	500,000	<1900	<4100	<2700	2,400 J
Pyrene	10,000,000	1,700,000	500,000	<1900	<4100	<2700	3,400 J
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<1900	<4100	<2700	1,500 J
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<3800	<8300	<5400	<7400
Benzo(a)anthracene	2,500	660	500,000	<1900	<4100	<2700	1,100 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<1900	<4100	<2700	2,200 J
Chrysene	2,500	660	500,000	<1900	<4100	<2700	1,200 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<1900	<4100	<2700	<3700
Benzo(b)fluoranthene	2,500	660	500,000	<1900	<4100	<2700	3,000 J
Benzo(k)fluoranthene	2,500	660	500,000	<1900	<4100	<2700	<3700
Benzo(a)pyrene	660	660	100,000	<1900	<4100	<2700	1,300 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<1900	<4100	<2700	800 J
Dibenz(a,h)anthracene	660	660	500,000	<1900	<4100	<2700	<3700
Benzo(g,h,i)perylene	2,500	660	500,000	<1900	<4100	<2700	720 J
Total Base-Neutrals:	NA	NA	NA	0	0	0	51,460

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

Parameter	Surface Soil Standards(1) Non-Residential (ug/kg)	Surface Soil Standards(1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)				
			Area:	1	1	1	1
			Sample Designation:	B-51B	B-51C	B-300A	B-300B
			Sample Depth*(inches):	18-24	60-66	0-6	18-24
			Sample Date:	8/27/91	8/27/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<38000	<39000	<3500	<360
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<38000	<39000	<3500	<360
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<38000	<39000	<3500	<360
Benzyl alcohol	10,000,000	10,000,000	50,000	<75000	<78000	<7000	<720
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<38000	<39000	<3500	<360
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<38000	<39000	<3500	<360
N-Nitroso-di-n-propylamine	660	660	1,000	<38000	<39000	<3500	<360
Hexachloroethane	10,000,000	1,700,000	100,000	<38000	<39000	<3500	<360
Nitrobenzene	520,000	1,000	50,000	<38000	<39000	<3500	<360
Isophorone	10,000,000	1,100,000	10,000	<38000	<39000	<3500	<360
bis(2-Chloroethoxy)methane	NA	NA	NA	<38000	<39000	<3500	<360
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<38000	<39000	<3500	<360
Naphthalene	4,200,000	230,000	100,000	<38000	14,000 J	<3500	<360
4-Chloroaniline	NA	NA	NA	<38000	<39000	<3500	<360
Hexachlorobutadiene	210,000	11,000	50,000	<38000	<39000	<3500	<360
2-Methylnaphthalene	NA	NA	NA	7,100 J	40,000	<3500	<360
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<38000	<39000	<3500	<360
2-Chloronaphthalene	NA	NA	NA	<38000	<39000	<3500	<360
2-Nitroaniline	NA	NA	NA	<180000	<190000	<17000	<1700
Dimethyl phthalate	10,000,000	10,000,000	50,000	<38000	<39000	<3500	<360
Acenaphthylene	NA	NA	NA	<38000	<39000	<3500	<360
3-Nitroaniline	NA	NA	NA	<180000	<190000	<17000	<1700
Acenaphthene	10,000,000	3,400,000	100,000	<38000	<39000	<3500	<360
Dibenzofuran	NA	NA	NA	<38000	<39000	<3500	<360
2,4-Dinitrotoluene	4,000	1,000	10,000	<38000	<39000	<3500	<360
2,6-Dinitrotoluene	NA	NA	NA	<38000	<39000	<3500	<360
Diethyl phthalate	10,000,000	10,000,000	50,000	<38000	<39000	<3500	<360
4-Chlorophenyl phenyl ether	NA	NA	NA	<38000	<39000	<3500	<360
Fluorene	10,000,000	2,300,000	100,000	4,100 J	6,500 J	<3500	<360
4-Nitroaniline	NA	NA	NA	<180000	<190000	<17000	<1700
N-Nitrosodiphenylamine	590,000	140,000	100,000	<38000	<39000	<3500	<360
4-Bromophenyl phenyl ether	NA	NA	NA	<38000	<39000	<3500	<360
Hexachlorobenzene	2,000	420	50,000	9,300 J	14,000 J	<3500	<360
Phenanthrene	NA	NA	NA	1,100 J	9,400 J	<3500	56
Anthracene	10,000,000	10,000	500,000	3,900 J	<39000	<3500	<360
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<38000	<39000	<3500	<360
Fluoranthene	10,000,000	2,300,000	500,000	14,000 J	<39000	<3500	110
Pyrene	10,000,000	1,700,000	500,000	11,000 J	4,200 J	<3500	73
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<38000	<39000	<3500	<360
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<75000	<78000	<7000	<720
Benzo(a)anthracene	2,500	660	500,000	5,600 J	<39000	<3500	<360
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<38000	<39000	<3500	<360
Chrysene	2,500	660	500,000	5,500 J	<39000	<3500	<360
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<38000	<39000	<3500	<360
Benzo(b)fluoranthene	2,500	660	500,000	8,100 J	<39000	<3500	45
Benzo(k)fluoranthene	2,500	660	500,000	<38000	<39000	<3500	<360
Benzo(a)pyrene	660	660	100,000	5,800 J	<39000	<3500	<360
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<38000	<39000	<3500	<360
Dibenz(a,h)anthracene	660	660	500,000	<38000	<39000	<3500	<360
Benzo(g,h,i)perylene	2,500	660	500,000	<38000	<39000	<3500	<360
Total Base-Neutrals:	NA	NA	NA	75,500	88,100	0	284

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	1	1
			Sample Designation:	B-300C	B-301A	B-301B	B-301C
			Sample Depth*(inches):	24-48	0-6	18-24	24-48
			Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		*Subsurface Soil*				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<360	<360	<370	<360
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<360	<360	<370	<360
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<360	<360	<370	<360
Benzyl alcohol	10,000,000	10,000,000	50,000	<720	<720	<730	<710
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<360	<360	<370	<360
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<360	<360	<370	<360
N-Nitroso-di-n-propylamine	660	660	1,000	<360	<360	<370	<360
Hexachloroethane	10,000,000	1,700,000	100,000	<360	<360	<370	<360
Nitrobenzene	520,000	1,000	50,000	<360	<360	<370	<360
Isophorone	10,000,000	1,100,000	10,000	<360	<360	<370	<360
bis(2-Chloroethoxy)methane	NA	NA	NA	<360	<360	<370	<360
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<360	<360	<370	<360
Naphthalene	4,200,000	230,000	100,000	<360	<360	<370	<360
4-Chloroaniline	NA	NA	NA	<360	<360	<370	<360
Hexachlorobutadiene	210,000	11,000	50,000	<360	<360	<370	<360
2-Methylnaphthalene	NA	NA	NA	<360	<360	<370	<360
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<360	<360	<370	<360
2-Chloronaphthalene	NA	NA	NA	<360	<360	<370	<360
2-Nitroaniline	NA	NA	NA	<1700	<1700	<1800	<1700
Dimethyl phthalate	10,000,000	10,000,000	50,000	<360	<360	<370	<360
Acenaphthylene	NA	NA	NA	<360	<360	<370	<360
3-Nitroaniline	NA	NA	NA	<1700	<1700	<1800	<1700
Acenaphthene	10,000,000	3,400,000	100,000	<360	<360	<370	<360
Dibenzofuran	NA	NA	NA	<360	<360	<370	<360
2,4-Dinitrotoluene	4,000	1,000	10,000	<360	<360	<370	<360
2,6-Dinitrotoluene	NA	NA	NA	<360	<360	<370	<360
Diethyl phthalate	10,000,000	10,000,000	50,000	<360	<360	<370	<360
4-Chlorophenyl phenyl ether	NA	NA	NA	<360	<360	<370	<360
Fluorene	10,000,000	2,300,000	100,000	<360	<360	<370	<360
4-Nitroaniline	NA	NA	NA	<1700	<1700	<1800	<1700
N-Nitrosodiphenylamine	590,000	140,000	100,000	<360	<360	<370	<360
4-Bromophenyl phenyl ether	NA	NA	NA	<360	<360	<370	<360
Hexachlorobenzene	2,000	420	50,000	<360	<360	<370	<360
Phenanthrene	NA	NA	NA	<360	42 J	<370	<360
Anthracene	10,000,000	10,000	500,000	<360	<360	<370	<360
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<360	<360	<370	<360
Fluoranthene	10,000,000	2,300,000	500,000	<360	53 J	<370	<360
Pyrene	10,000,000	1,700,000	500,000	<360	<360	<370	<360
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<360	<360	<370	<360
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<720	<720	<730	<710
Benzo(a)anthracene	2,500	660	500,000	<360	<360	<370	<360
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<360	<360	<370	<360
Chrysene	2,500	660	500,000	<360	<360	<370	<360
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<360	<360	<370	<360
Benzo(b)fluoranthene	2,500	660	500,000	<360	51 J	<370	<360
Benzo(k)fluoranthene	2,500	660	500,000	<360	<360	<370	<360
Benzo(a)pyrene	660	660	100,000	<360	<360	<370	<360
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<360	<360	<370	<360
Dibenz(a,h)anthracene	660	660	500,000	<360	<360	<370	<360
Benzo(g,h,i)perylene	2,500	660	500,000	<360	<360	<370	<360
Total Base-Neutrals:	NA	NA	NA	0	146	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	1	1
			Sample Designation:	B-302A	B-302B	B-302C	B-303A
			Sample Depth*(inches):	0-6	18-24	24-48	0-6
			Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<360	<360	<3900	<740
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<360	<360	<3900	<740
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<360	<360	<3900	<740
Benzyl alcohol	10,000,000	10,000,000	50,000	<720	<710	<7700	<1500
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<360	<360	<3900	<740
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<360	<360	<3900	<740
N-Nitroso-di-n-propylamine	660	660	1,000	<360	<360	<3900	<740
Hexachloroethane	10,000,000	1,700,000	100,000	<360	<360	<3900	<740
Nitrobenzene	520,000	1,000	50,000	<360	<360	<3900	<740
Isophorone	10,000,000	1,100,000	10,000	<360	<360	<3900	<740
bis(2-Chloroethoxy)methane	NA	NA	NA	<360	<360	<3900	<740
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<360	<360	<3900	<740
Naphthalene	4,200,000	230,000	100,000	<360	<360	<3900	740
4-Chloroaniline	NA	NA	NA	<360	<360	<3900	<740
Hexachlorobutadiene	210,000	11,000	50,000	<360	<360	<3900	<740
2-Methylnaphthalene	NA	NA	NA	<360	<360	<3900	540
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<360	<360	<3900	<740
2-Chloronaphthalene	NA	NA	NA	<360	<360	<3900	<740
2-Nitroaniline	NA	NA	NA	<1700	<1700	<19000	<3600
Dimethyl phthalate	10,000,000	10,000,000	50,000	<360	<360	<3900	<740
Acenaphthylene	NA	NA	NA	<360	<360	<3900	300
3-Nitroaniline	NA	NA	NA	<1700	<1700	<19000	<3600
Acenaphthene	10,000,000	3,400,000	100,000	<360	<360	<3900	1,600
Dibenzofuran	NA	NA	NA	<360	<360	<3900	1,100
2,4-Dinitrotoluene	4,000	1,000	10,000	<360	<360	<3900	<740
2,6-Dinitrotoluene	NA	NA	NA	<360	<360	<3900	<740
Diethyl phthalate	10,000,000	10,000,000	50,000	<360	<360	<3900	<740
4-Chlorophenyl phenyl ether	NA	NA	NA	<360	<360	<3900	<740
Fluorene	10,000,000	2,300,000	100,000	<360	<360	<3900	1,300
4-Nitroaniline	NA	NA	NA	<1700	<1700	<19000	<3600
N-Nitrosodiphenylamine	590,000	140,000	100,000	<360	<360	<3900	<740
4-Bromophenyl phenyl ether	NA	NA	NA	<360	<360	<3900	<740
Hexachlorobenzene	2,000	420	50,000	<360	<360	<3900	<740
Phenanthrene	NA	NA	NA	<360	<360	<3900	3,300
Anthracene	10,000,000	10,000	500,000	41 J	<360	<3900	2,700
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<360	<360	<3900	<740
Fluoranthene	10,000,000	2,300,000	500,000	<360	<360	<3900	2,500
Pyrene	10,000,000	1,700,000	500,000	<360	<360	<3900	6,800
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<360	<360	<3900	<740
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<720	<710	<7700	<1500
Benzo(a)anthracene	2,500	660	500,000	<360	<360	<3900	<740
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	46 J	<360	<3900	90
Chrysene	2,500	660	500,000	<360	<360	<3900	2,200
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<360	<360	<3900	<740
Benzo(b)fluoranthene	2,500	660	500,000	79 J	<360	<3900	1,800
Benzo(k)fluoranthene	2,500	660	500,000	<360	<360	<3900	660
Benzo(a)pyrene	660	660	100,000	<360	<360	<3900	860
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<360	<360	<3900	<740
Dibenz(a,h)anthracene	660	660	500,000	<360	<360	<3900	<740
Benzo(g,h,i)perylene	2,500	660	500,000	49 J	<360	<3900	350
Total Base-Neutrals:	NA	NA	NA	215	0	0	26,840

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	1	1
			Sample Designation:	B-303B	B-303C	B-400A	B-400B
			Sample Depth*(inches):	18-24	24-48	0-6	18-24
			Sample Date:	10/16/91	10/16/91	12/9/91	12/9/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	*Non-Residential* (ug/kg)	*Residential* (ug/kg)	*Standards (2)* (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<710	<1800	<450	<440
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<710	<1800	<450	<440
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<710	<1800	<450	<440
Benzyl alcohol	10,000,000	10,000,000	50,000	<1400	<3600	<450	<440
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<710	<1800	<450	<440
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<710	<1800	<450	<440
N-Nitroso-di-n-propylamine	660	660	1,000	<710	<1800	<450	<440
Hexachloroethane	10,000,000	1,700,000	100,000	<710	<1800	<450	<440
Nitrobenzene	520,000	1,000	50,000	<710	<1800	<450	<440
Isophorone	10,000,000	1,100,000	10,000	<710	<1800	<450	<440
bis(2-Chloroethoxy)methane	NA	NA	NA	<710	<1800	<450	<440
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<710	<1800	<450	<440
Naphthalene	4,200,000	230,000	100,000	2,100	1,300 J	<450	<440
4-Chloroaniline	NA	NA	NA	<710	<1800	<450	<440
Hexachlorobutadiene	210,000	11,000	50,000	<710	<1800	<450	<440
2-Methylnaphthalene	NA	NA	NA	1,500	1,100 J	<450	<440
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<710	<1800	<450	<440
2-Chloronaphthalene	NA	NA	NA	<710	<1800	<450	<440
2-Nitroaniline	NA	NA	NA	<3400	<8700	<450	<2100
Dimethyl phthalate	10,000,000	10,000,000	50,000	<710	<1800	<450	<440
Acenaphthylene	NA	NA	NA	81 J	<1800	47 J	<440
3-Nitroaniline	NA	NA	NA	<3400	<8700	<2200	<2100
Acenaphthene	10,000,000	3,400,000	100,000	2,800	4,000	<450	<440
Dibenzofuran	NA	NA	NA	1,800	3,200	<450	<440
2,4-Dinitrotoluene	4,000	1,000	10,000	<710	<1800	<450	<440
2,6-Dinitrotoluene	NA	NA	NA	<710	<1800	<450	<440
Diethyl phthalate	10,000,000	10,000,000	50,000	<710	<1800	<450	<440
4-Chlorophenyl phenyl ether	NA	NA	NA	<710	<1800	<450	<440
Fluorene	10,000,000	2,300,000	100,000	2,100	5,000	<450	<440
4-Nitroaniline	NA	NA	NA	<3400	<8700	<2200	<2100
N-Nitrosodiphenylamine	590,000	140,000	100,000	<710	<1800	<450	<440
4-Bromophenyl phenyl ether	NA	NA	NA	<710	<1800	<450	<440
Hexachlorobenzene	2,000	420	50,000	<710	<1800	<450	<440
Phenanthrene	NA	NA	NA	4,700	15,000	240 J	160
Anthracene	10,000,000	10,000	500,000	1,500	3,400	52 J	<440
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<710	<1800	<450	<440
Fluoranthene	10,000,000	2,300,000	500,000	2,900	9,500	520	320
Pyrene	10,000,000	1,700,000	500,000	2,400	6,300	470	250
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<710	<1800	92 J	<440
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<1400	<3600	<890	<870
Benzo(a)anthracene	2,500	660	500,000	510 J	1,300 J	220	120
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	75 J	<1800	140 J	65
Chrysene	2,500	660	500,000	500 J	1,200 J	300 J	160
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<710	<1800	<450	<440
Benzo(b)fluoranthene	2,500	660	500,000	480 J	880 J	380 J	220
Benzo(k)fluoranthene	2,500	660	500,000	<710	<1800	130 J	<440
Benzo(a)pyrene	660	660	100,000	190 J	340 J	240 J	130
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<710	<1800	150 J	69
Dibenz(a,h)anthracene	660	660	500,000	<710	<1800	<450	<440
Benzo(g,h,i)perylene	2,500	660	500,000	<710	<1800	160 J	65
Total Base-Neutrals:	NA	NA	NA	23,636	52,520	3,141	1,559

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	1	1	1	1
			Sample Designation:	B-400C	B-401A	B-401B	B-401C
			Sample Depth*(inches):	36-41	0-6	18-24	36-41
			Sample Date:	12/9/91	12/9/91	12/9/91	12/9/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<430	<400	<800	<390
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<430	<400	<800	<390
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<430	<400	<800	<390
Benzyl alcohol	10,000,000	10,000,000	50,000	<430	<400	<800	<390
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<430	<400	<800	<390
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<430	<400	<800	<390
N-Nitroso-di-n-propylamine	660	660	1,000	<430	<400	<800	<390
Hexachloroethane	10,000,000	1,700,000	100,000	<430	<400	<800	<390
Nitrobenzene	520,000	1,000	50,000	<430	<400	<800	<390
Isophorone	10,000,000	1,100,000	10,000	<430	<400	<800	<390
bis(2-Chloroethoxy)methane	NA	NA	NA	<430	<400	<800	<390
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<430	<400	<800	<390
Naphthalene	4,200,000	230,000	100,000	<430	<400	<800	54
4-Chloroaniline	NA	NA	NA	<430	<400	<800	<390
Hexachlorobutadiene	210,000	11,000	50,000	<430	<400	<800	<390
2-Methylnaphthalene	NA	NA	NA	<430	<400	<800	<390
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<430	<400	<800	<390
2-Chloronaphthalene	NA	NA	NA	<430	<400	<800	<390
2-Nitroaniline	NA	NA	NA	<2100	<1900	<3900	<1900
Dimethyl phthalate	10,000,000	10,000,000	50,000	<430	<400	<800	<390
Acenaphthylene	NA	NA	NA	57 J	<400	<800	<390
3-Nitroaniline	NA	NA	NA	<2100	<1900	<3900	<1900
Acenaphthene	10,000,000	3,400,000	100,000	<430	67 J	<800	100
Dibenzofuran	NA	NA	NA	<430	<400	<800	45
2,4-Dinitrotoluene	4,000	1,000	10,000	<430	<400	<800	<390
2,6-Dinitrotoluene	NA	NA	NA	<430	<400	<800	<390
Diethyl phthalate	10,000,000	10,000,000	50,000	<430	<400	<800	<390
4-Chlorophenyl phenyl ether	NA	NA	NA	<430	<400	<800	<390
Fluorene	10,000,000	2,300,000	100,000	<430	68 J	<800	110
4-Nitroaniline	NA	NA	NA	<2100	<1900	<3900	<1900
N-Nitrosodiphenylamine	590,000	140,000	100,000	<430	<400	<800	<390
4-Bromophenyl phenyl ether	NA	NA	NA	<430	<400	<800	<390
Hexachlorobenzene	2,000	420	50,000	<430	<400	<800	<390
Phenanthrene	NA	NA	NA	310 J	630	580 J	1,000
Anthracene	10,000,000	10,000	500,000	92 J	190 J	190 J	680
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<430	44 J	<800	<390
Fluoranthene	10,000,000	2,300,000	500,000	530	990	1,100	2,500
Pyrene	10,000,000	1,700,000	500,000	480	960	1,100	2,700
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	69 J	96 J	110 J	100
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<860	<800	<1600	<790
Benzo(a)anthracene	2,500	660	500,000	250 J	480	600 J	990
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	200 J	1000	190 J	250
Chrysene	2,500	660	500,000	340 J	580	780 J	1,300
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<430	<400	<800	<390
Benzo(b)fluoranthene	2,500	660	500,000	360 J	570	800	1,300
Benzo(k)fluoranthene	2,500	660	500,000	130 J	210 J	320 J	470
Benzo(a)pyrene	660	660	100,000	230 J	340 J	500 J	830
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	130 J	150 J	180 J	300
Dibenz(a,h)anthracene	660	660	500,000	<430	<400	<800	95
Benzo(g,h,i)perylene	2,500	660	500,000	130 J	150 J	190 J	310
Total Base-Neutrals:	NA	NA	NA	3,308	6,525	6,640	13,134

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	2	2	2	2
			Sample Designation:	B-52A	B-52B	B-53A	B-53B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/26/91	8/26/91	8/26/91	8/26/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<37000	<3700	<3600	<3600
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<37000	<3700	<3600	<3600
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<37000	<3700	<3600	<3600
Benzyl alcohol	10,000,000	10,000,000	50,000	<73000	<7500	<7200	<7200
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<37000	<3700	<3600	<3600
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<37000	<3700	<3600	<3600
N-Nitroso-di-n-propylamine	660	660	1,000	<37000	<3700	<3600	<3600
Hexachloroethane	10,000,000	1,700,000	100,000	<37000	<3700	<3600	<3600
Nitrobenzene	520,000	1,000	50,000	<37000	<3700	<3600	<3600
Isophorone	10,000,000	1,100,000	10,000	<37000	<3700	<3600	<3600
bis(2-Chloroethoxy)methane	NA	NA	NA	<37000	<3700	<3600	<3600
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<37000	<3700	<3600	<3600
Naphthalene	4,200,000	230,000	100,000	<37000	<3700	<3600	<3600
4-Chloroaniline	NA	NA	NA	<37000	<3700	<3600	<3600
Hexachlorobutadiene	210,000	11,000	50,000	<37000	<3700	<3600	<3600
2-Methylnaphthalene	NA	NA	NA	<37000	510 J	480 J	1,000
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<37000	<3700	<3600	<3600
2-Chloronaphthalene	NA	NA	NA	<37000	<3700	<3600	<3600
2-Nitroaniline	NA	NA	NA	<180000	<18000	<18000	<18000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<37000	<3700	<3600	<3600
Acenaphthylene	NA	NA	NA	<37000	<3700	<3600	<3600
3-Nitroaniline	NA	NA	NA	<180000	<18000	<18000	<18000
Acenaphthene	10,000,000	3,400,000	100,000	<37000	<3700	<3600	490
Dibenzofuran	NA	NA	NA	<37000	<3700	<3600	<3600
2,4-Dinitrotoluene	4,000	1,000	10,000	<37000	<3700	<3600	<3600
2,6-Dinitrotoluene	NA	NA	NA	<37000	<3700	<3600	<3600
Diethyl phthalate	10,000,000	10,000,000	50,000	<37000	<3700	<3600	<3600
4-Chlorophenyl phenyl ether	NA	NA	NA	<37000	<3700	<3600	<3600
Fluorene	10,000,000	2,300,000	100,000	<37000	<3700	390 J	690
4-Nitroaniline	NA	NA	NA	<180000	<18000	<18000	<18000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<37000	<3700	<3600	<3600
4-Bromophenyl phenyl ether	NA	NA	NA	<37000	<3700	<3600	<3600
Hexachlorobenzene	2,000	420	50,000	<37000	<3700	<3600	<3600
Phenanthrene	NA	NA	NA	<37000	790 J	710 J	1,200
Anthracene	10,000,000	10,000	500,000	<37000	<3700	<3600	600
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<37000	<3700	<3600	<3600
Fluoranthene	10,000,000	2,300,000	500,000	<37000	<3700	<3600	<3600
Pyrene	10,000,000	1,700,000	500,000	<37000	520 J	<3600	1,000
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<37000	<3700	<3600	<3600
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<73000	<7500	<7200	<7200
Benzo(a)anthracene	2,500	660	500,000	<37000	<3700	<3600	<3600
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<37000	<3700	<3600	<3600
Chrysene	2,500	660	500,000	<37000	<3700	390 J	<3600
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<37000	<3700	<3600	<3600
Benzo(b)fluoranthene	2,500	660	500,000	<37000	<3700	<3600	<3600
Benzo(k)fluoranthene	2,500	660	500,000	<37000	<3700	<3600	<3600
Benzo(a)pyrene	660	660	100,000	<37000	<3700	<3600	<3600
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<37000	<3700	<3600	<3600
Dibenz(a,h)anthracene	660	660	500,000	<37000	<3700	<3600	<3600
Benzo(g,h,i)perylene	2,500	660	500,000	<37000	<3700	<3600	<3600
Total Base-Neutrals:	NA	NA	NA	0	1,820	1,970	4,980

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	2	2	2	2
			Sample Designation:	B-54A	B-55A	B-304A	B-304B
			Sample Depth*(inches):	0-6	0-6	0-6	18-24
			Sample Date:	8/26/91	8/26/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<37000	<3700	<18000	<34000
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<37000	<3700	<18000	<34000
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<37000	<3700	<18000	<34000
Benzyl alcohol	10,000,000	10,000,000	50,000	<74000	<3700	<36000	<69000
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<37000	<3700	<18000	<34000
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<37000	<3700	<18000	<34000
N-Nitroso-di-n-propylamine	660	660	1,000	<37000	<3700	<18000	<34000
Hexachloroethane	10,000,000	1,700,000	100,000	<37000	<3700	<18000	<34000
Nitrobenzene	520,000	1,000	50,000	<37000	<3700	<18000	<34000
Isophorone	10,000,000	1,100,000	10,000	<37000	<3700	<18000	<34000
bis(2-Chloroethoxy)methane	NA	NA	NA	<37000	<3700	<18000	<34000
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<37000	<3700	<18000	<34000
Naphthalene	4,200,000	230,000	100,000	<37000	<3700	<18000	<34000
4-Chloroaniline	NA	NA	NA	<37000	<3700	<18000	<34000
Hexachlorobutadiene	210,000	11,000	50,000	<37000	<3700	<18000	<34000
2-Methylnaphthalene	NA	NA	NA	25,000 J	4,100 J	<18000	<34000
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<37000	<3700	<18000	<34000
2-Chloronaphthalene	NA	NA	NA	<37000	<3700	<18000	<34000
2-Nitroaniline	NA	NA	NA	<180000	<180000	<86000	<170000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<37000	<3700	<18000	<34000
Acenaphthylene	NA	NA	NA	<37000	<3700	<18000	<34000
3-Nitroaniline	NA	NA	NA	<180000	<180000	<86000	<170000
Acenaphthene	10,000,000	3,400,000	100,000	4,600 J	<3700	<18000	<34000
Dibenzofuran	NA	NA	NA	<37000	<3700	<18000	<34000
2,4-Dinitrotoluene	4,000	1,000	10,000	<37000	<3700	<18000	<34000
2,6-Dinitrotoluene	NA	NA	NA	<37000	<3700	<18000	<34000
Diethyl phthalate	10,000,000	10,000,000	50,000	<37000	<3700	<18000	<34000
4-Chlorophenyl phenyl ether	NA	NA	NA	<37000	<3700	<18000	<34000
Fluorene	10,000,000	2,300,000	100,000	7,400 J	<3700	<18000	<34000
4-Nitroaniline	NA	NA	NA	<180000	<180000	<86000	<170000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<37000	<3700	<18000	<34000
4-Bromophenyl phenyl ether	NA	NA	NA	<37000	<3700	<18000	<34000
Hexachlorobenzene	2,000	420	50,000	<37000	<3700	<18000	<34000
Phenanthrene	NA	NA	NA	16,000 J	4,100 J	<18000	<34000
Anthracene	10,000,000	10,000	500,000	<37000	<3700	<18000	<34000
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<37000	<3700	<18000	<34000
Fluoranthene	10,000,000	2,300,000	500,000	<37000	<3700	<18000	<34000
Pyrene	10,000,000	1,700,000	500,000	6,700 J	<3700	<18000	<34000
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<37000	<3700	<18000	<34000
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<74000	<7400	<36000	<69000
Benzo(a)anthracene	2,500	660	500,000	<37000	<3700	<18000	<34000
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<37000	<3700	<18000	<34000
Chrysene	2,500	660	500,000	<37000	<3700	<18000	<34000
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<37000	<3700	<18000	<34000
Benzo(b)fluoranthene	2,500	660	500,000	<37000	<3700	<18000	<34000
Benzo(k)fluoranthene	2,500	660	500,000	<37000	<3700	<18000	<34000
Benzo(a)pyrene	660	660	100,000	<37000	<3700	<18000	<34000
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<37000	<3700	<18000	<34000
Dibenz(a,h)anthracene	660	660	500,000	<37000	<3700	<18000	<34000
Benzo(g,h,i)perylene	2,500	660	500,000	<37000	<3700	<18000	<34000
Total Base-Neutrals:	NA	NA	NA	59,700	8,200	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	2	2	2	2
			Sample Designation:	B-305A	B-305B	B-306A	B-306B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<8700	<7100	<7100	<6900
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<8700	<7100	<7100	<6900
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<8700	<7100	<7100	<6900
Benzyl alcohol	10,000,000	10,000,000	50,000	<17000	<14000	<14000	<14000
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<8700	<7100	<7100	<6900
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<8700	<7100	<7100	<6900
N-Nitroso-di-n-propylamine	660	660	1,000	<8700	<7100	<7100	<6900
Hexachloroethane	10,000,000	1,700,000	100,000	<8700	<7100	<7100	<6900
Nitrobenzene	520,000	1,000	50,000	<8700	<7100	<7100	<6900
Isophorone	10,000,000	1,100,000	10,000	<8700	<7100	<7100	<6900
bis(2-Chloroethoxy)methane	NA	NA	NA	<8700	<7100	<7100	<6900
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<8700	<7100	<7100	<6900
Naphthalene	4,200,000	230,000	100,000	<8700	<7100	<7100	<6900
4-Chloroaniline	NA	NA	NA	<8700	<7100	<7100	<6900
Hexachlorobutadiene	210,000	11,000	50,000	<8700	<7100	<7100	<6900
2-Methylnaphthalene	NA	NA	NA	<8700	<7100	<7100	<6900
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<8700	<7100	<7100	<6900
2-Chloronaphthalene	NA	NA	NA	<8700	<7100	<7100	<6900
2-Nitroaniline	NA	NA	NA	<42000	<35000	<34000	<34000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<8700	<7100	<7100	<6900
Acenaphthylene	NA	NA	NA	<8700	<7100	<7100	<6900
3-Nitroaniline	NA	NA	NA	<42000	<35000	<34000	<34000
Acenaphthene	10,000,000	3,400,000	100,000	<8700	810 J	<7100	<6900
Dibenzofuran	NA	NA	NA	<8700	<7100	<7100	<6900
2,4-Dinitrotoluene	4,000	1,000	10,000	<8700	<7100	<7100	<6900
2,6-Dinitrotoluene	NA	NA	NA	<8700	<7100	<7100	<6900
Diethyl phthalate	10,000,000	10,000,000	50,000	<8700	<7100	<7100	<6900
4-Chlorophenyl phenyl ether	NA	NA	NA	<8700	<7100	<7100	<6900
Fluorene	10,000,000	2,300,000	100,000	<8700	<7100	<7100	<6900
4-Nitroaniline	NA	NA	NA	<42000	<35000	<34000	<34000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<8700	<7100	<7100	<6900
4-Bromophenyl phenyl ether	NA	NA	NA	<8700	<7100	<7100	<6900
Hexachlorobenzene	2,000	420	50,000	<8700	2,500 J	<7100	<6900
Phenanthrene	NA	NA	NA	<8700	720 J	870 J	720
Anthracene	10,000,000	10,000	500,000	<8700	<7100	<7100	<6900
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<8700	1,600 J	<7100	<6900
Fluoranthene	10,000,000	2,300,000	500,000	<8700	1,900 J	<7100	960
Pyrene	10,000,000	1,700,000	500,000	<8700	<7100	870 J	1,400
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<8700	<14000	<7100	<6900
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<17000	<7100	<14000	<14000
Benzo(a)anthracene	2,500	660	500,000	<8700	<7100	<7100	<6900
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<8700	<7100	<7100	860
Chrysene	2,500	660	500,000	<8700	<7100	<7100	<6900
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<8700	<7100	<7100	<6900
Benzo(b)fluoranthene	2,500	660	500,000	<8700	<7100	<7100	<6900
Benzo(k)fluoranthene	2,500	660	500,000	<8700	<7100	<7100	<6900
Benzo(a)pyrene	660	660	100,000	<8700	<7100	<7100	<6900
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<8700	<7100	<7100	<6900
Dibenz(a,h)anthracene	660	660	500,000	<8700	<7100	<7100	<6900
Benzo(g,h,i)perylene	2,500	660	500,000	<8700	<7100	<7100	<6900
Total Base-Neutrals:	NA	NA	NA	0	7,530	1,740	3,940

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	2	2	2	2
			Sample Designation:	B-307A	B-307B	B-309A	B-309B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<8500	<8600	<1900	<3700
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<8500	<8600	<1900	<3700
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<8500	<8600	<1900	<3700
Benzyl alcohol	10,000,000	10,000,000	50,000	<17000	<17000	<3700	<7500
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<8500	<8600	<1900	<3700
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<8500	<8600	<1900	<3700
N-Nitroso-di-n-propylamine	660	660	1,000	<8500	<8600	<1900	<3700
Hexachloroethane	10,000,000	1,700,000	100,000	<8500	<8600	<1900	<3700
Nitrobenzene	520,000	1,000	50,000	<8500	<8600	<1900	<3700
Isophorone	10,000,000	1,100,000	10,000	<8500	<8600	<1900	<3700
bis(2-Chloroethoxy)methane	NA	NA	NA	<8500	<8600	<1900	<3700
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<8500	<8600	<1900	<3700
Naphthalene	4,200,000	230,000	100,000	<8500	<8600	<1900	<3700
4-Chloroaniline	NA	NA	NA	<8500	<8600	<1900	<3700
Hexachlorobutadiene	210,000	11,000	50,000	<8500	<8600	<1900	<3700
2-Methylnaphthalene	NA	NA	NA	<8500	<8600	<1900	<3700
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<8500	<8600	<1900	<3700
2-Chloronaphthalene	NA	NA	NA	<8500	<8600	<1900	<3700
2-Nitroaniline	NA	NA	NA	<41000	<42000	<9000	<18000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<8500	<8600	<1900	<3700
Acenaphthylene	NA	NA	NA	<8500	<8600	300 J	<3700
3-Nitroaniline	NA	NA	NA	<41000	<42000	<9000	<18000
Acenaphthene	10,000,000	3,400,000	100,000	<8500	<8600	<1900	<3700
Dibenzofuran	NA	NA	NA	<8500	<8600	<1900	<3700
2,4-Dinitrotoluene	4,000	1,000	10,000	<8500	<8600	<1900	<3700
2,6-Dinitrotoluene	NA	NA	NA	<8500	<8600	<1900	<3700
Diethyl phthalate	10,000,000	10,000,000	50,000	<8500	<8600	<1900	<3700
4-Chlorophenyl phenyl ether	NA	NA	NA	<8500	<8600	<1900	<3700
Fluorene	10,000,000	2,300,000	100,000	<8500	<8600	<1900	<3700
4-Nitroaniline	NA	NA	NA	<41000	<42000	<9000	<18000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<8500	<8600	<1900	<3700
4-Bromophenyl phenyl ether	NA	NA	NA	<8500	<8600	<1900	<3700
Hexachlorobenzene	2,000	420	50,000	<8500	<8600	<1900	<3700
Phenanthrene	NA	NA	NA	<8500	<8600	830 J	600
Anthracene	10,000,000	10,000	500,000	<8500	<8600	480 J	<3700
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<8500	<8600	<1900	<3700
Fluoranthene	10,000,000	2,300,000	500,000	<8500	<8600	3,900	740
Pyrene	10,000,000	1,700,000	500,000	<8500	<8600	3,600	630
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<8500	<8600	<1900	<3700
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<17000	<17000	<3700	<7500
Benzo(a)anthracene	2,500	660	500,000	<8500	<8600	2,700	<3700
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<8500	<8600	520 J	830
Chrysene	2,500	660	500,000	<8500	<8600	2,900	<3700
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<8500	<8600	<1900	<3700
Benzo(b)fluoranthene	2,500	660	500,000	<8500	<8600	3,300	740
Benzo(k)fluoranthene	2,500	660	500,000	<8500	<8600	<1900	<3700
Benzo(a)pyrene	660	660	100,000	<8500	<8600	1,100 J	<3700
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<8500	<8600	590 J	<3700
Dibenz(a,h)anthracene	660	660	500,000	<8500	<8600	<1900	<3700
Benzo(g,h,i)perylene	2,500	660	500,000	<8500	<8600	690 J	<3700
Total Base-Neutrals:	NA	NA	NA	0	0	20,910	3,540

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-12A	B-12B	B-59A	B-59B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/23/91	8/23/91	8/22/91	8/22/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<360	<370	<380
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<370	<360	<370	<380
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<360	<370	<380
Benzyl alcohol	10,000,000	10,000,000	50,000	<740	<730	<750	<770
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<360	<370	<380
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<360	<370	<380
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<360	<370	<380
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<360	<370	<380
Nitrobenzene	520,000	1,000	50,000	<370	<360	<370	<380
Isophorone	10,000,000	1,100,000	10,000	<370	<360	<370	<380
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<360	<370	<380
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<360	<370	<380
Naphthalene	4,200,000	230,000	100,000	<370	<360	<370	<380
4-Chloroaniline	NA	NA	NA	<370	<360	<370	<380
Hexachlorobutadiene	210,000	11,000	50,000	<370	<360	<370	<380
2-Methylnaphthalene	NA	NA	NA	<370 J	<360	<370	<380
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<360	<370	<380
2-Chloronaphthalene	NA	NA	NA	<370	<360	<370	<380
2-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1900
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<360	<370	<380
Acenaphthylene	NA	NA	NA	<370	<360	<370	<380
3-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1900
Acenaphthene	10,000,000	3,400,000	100,000	<370	<360	<370	<380
Dibenzofuran	NA	NA	NA	<370	<360	<370	<380
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<360	<370	<380
2,6-Dinitrotoluene	NA	NA	NA	<370	<360	<370	<380
Diethyl phthalate	10,000,000	10,000,000	50,000	<370	<360	<370	<380
4-Chlorophenyl phenyl ether	NA	NA	NA	<370	<360	<370	<380
Fluorene	10,000,000	2,300,000	100,000	<370	<360	<370	<380
4-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1900
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<360	<370	<380
4-Bromophenyl phenyl ether	NA	NA	NA	<370	<360	<370	<380
Hexachlorobenzene	2,000	420	50,000	<370	<360	<370	<380
Phenanthrene	NA	NA	NA	<370 J	<360	<370	<380
Anthracene	10,000,000	10,000	500,000	<370	<360	<370	<380
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<370	<360	<370	<380
Fluoranthene	10,000,000	2,300,000	500,000	<370	<360	<370	<380
Pyrene	10,000,000	1,700,000	500,000	<370	<360	<370	<380
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<370	<360	<370	<380
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<740	<730	<750	<770
Benzo(a)anthracene	2,500	660	500,000	<370	<360	<370	<380
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<370	<360	<370	<380
Chrysene	2,500	660	500,000	<370	<360	<370	<380
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<360	<370	<380
Benzo(b)fluoranthene	2,500	660	500,000	<370	<360	<370	<380
Benzo(k)fluoranthene	2,500	660	500,000	<370	<360	<370	<380
Benzo(a)pyrene	660	660	100,000	<370	<360	<370	<380
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<370	<360	<370	<380
Dibenz(a,h)anthracene	660	660	500,000	<370	<360	<370	<380
Benzo(g,h,i)perylene	2,500	660	500,000	<370	<360	<370	<380
Total Base-Neutrals:	NA	NA	NA	0	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-60A	B-60B	B-61A	B-61B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/22/91	8/22/91	8/22/91	8/22/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<350	<380	<370	<1900
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<350	<380	<370	<1900
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<350	<380	<370	<1900
Benzyl alcohol	10,000,000	10,000,000	50,000	<710	<750	<750	<3700
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<350	<380	<370	<1900
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<350	<380	<370	<1900
N-Nitroso-di-n-propylamine	660	660	1,000	<350	<380	<370	<1900
Hexachloroethane	10,000,000	1,700,000	100,000	<350	<380	<370	<1900
Nitrobenzene	520,000	1,000	50,000	<350	<380	<370	<1900
Isophorone	10,000,000	1,100,000	10,000	<350	<380	<370	<1900
bis(2-Chloroethoxy)methane	NA	NA	NA	<350	<380	<370	<1900
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<350	<380	<370	<1900
Naphthalene	4,200,000	230,000	100,000	<350	<380	<370	340
4-Chloroaniline	NA	NA	NA	<350	<380	<370	<1900
Hexachlorobutadiene	210,000	11,000	50,000	<350	<380	<370	<1900
2-Methylnaphthalene	NA	NA	NA	<350	<380	<370	340
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<350	<380	<370	<1900
2-Chloronaphthalene	NA	NA	NA	<350	<380	<370	<1900
2-Nitroaniline	NA	NA	NA	<1700	<1800	<1800	<9000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<350	<380	<370	<1900
Acenaphthylene	NA	NA	NA	<350	<380	<370	<1900
3-Nitroaniline	NA	NA	NA	<1700	<1800	<1800	<9000
Acenaphthene	10,000,000	3,400,000	100,000	<350	<380	<370	1,100
Dibenzofuran	NA	NA	NA	<350	<380	<370	380
2,4-Dinitrotoluene	4,000	1,000	10,000	<350	<380	<370	<1900
2,6-Dinitrotoluene	NA	NA	NA	<350	<380	<370	<1900
Diethyl phthalate	10,000,000	10,000,000	50,000	<350	<380	<370	<1900
4-Chlorophenyl phenyl ether	NA	NA	NA	<350	<380	<370	<1900
Fluorene	10,000,000	2,300,000	100,000	<350	<380	<370	690
4-Nitroaniline	NA	NA	NA	<1700	<1800	<1800	<9000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<350	<380	<370	<1900
4-Bromophenyl phenyl ether	NA	NA	NA	<350	<380	<370	<1900
Hexachlorobenzene	2,000	420	50,000	<350	<380	<370	<1900
Phenanthrene	NA	NA	NA	<350	<380	280 J	3,700
Anthracene	10,000,000	10,000	500,000	<350	<380	77 J	870
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<350	<380	<370	<1900
Fluoranthene	10,000,000	2,300,000	500,000	<350	<380	510	3,800
Pyrene	10,000,000	1,700,000	500,000	<350	<380	450	2,700
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<350	<380	<370	350
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<710	<750	<750	<3700
Benzo(a)anthracene	2,500	660	500,000	<350	<380	270 J	1,500
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<350	<380	<370	570
Chrysene	2,500	660	500,000	<350	<380	320 J	1,500
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<350	<380	<370	<1900
Benzo(b)fluoranthene	2,500	660	500,000	<350	<380	580	2300
Benzo(k)fluoranthene	2,500	660	500,000	<350	<380	<370	<1900
Benzo(a)pyrene	660	660	100,000	<350	<380	290 J	1,100
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<350	<380	150 J	610
Dibenz(a,h)anthracene	660	660	500,000	<350	<380	54 J	200
Benzo(g,h,i)perylene	2,500	660	500,000	<350	<380	140 J	550
Total Base-Neutrals:	NA	NA	NA	0	0	3,121	22,600

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

Parameter	Surface Soil Standards(1) Non-Residential (ug/kg)	Surface Soil Standards(1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)				
			Area:	3	3	3	3
			Sample Designation:	B-62A	B-62B	B-63A	B-63B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/23/91	8/23/91	8/23/91	8/23/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<430	<400	<410	<390
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<430	<400	<410	<390
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<430	<400	<410	<390
Benzyl alcohol	10,000,000	10,000,000	50,000	<860	<810	<810	<780
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<430	<400	<410	<390
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<430	<400	<410	<390
N-Nitroso-di-n-propylamine	660	660	1,000	<430	<400	<410	<390
Hexachloroethane	10,000,000	1,700,000	100,000	<430	<400	<410	<390
Nitrobenzene	520,000	1,000	50,000	<430	<400	<410	<390
Isophorone	10,000,000	1,100,000	10,000	<430	<400	<410	<390
bis(2-Chloroethoxy)methane	NA	NA	NA	<430	<400	<410	<390
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<430	<400	<410	<390
Naphthalene	4,200,000	230,000	100,000	190 J	65 J	<410	<390
4-Chloroaniline	NA	NA	NA	<430	<400	<410	<390
Hexachlorobutadiene	210,000	11,000	50,000	<430	<400	<410	<390
2-Methylnaphthalene	NA	NA	NA	<430	<400	<410	<390
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<430	<400	<410	<390
2-Chloronaphthalene	NA	NA	NA	<430	<400	<410	<390
2-Nitroaniline	NA	NA	NA	<2100	<2000	<2000	<1900
Dimethyl phthalate	10,000,000	10,000,000	50,000	<430	<400	<410	<390
Acenaphthylene	NA	NA	NA	<430	<400	46 J	<390
3-Nitroaniline	NA	NA	NA	<2100	<2000	<2000	<1900
Acenaphthene	10,000,000	3,400,000	100,000	<430	<400	73 J	49
Dibenzofuran	NA	NA	NA	<430	<400	<410	<390
2,4-Dinitrotoluene	4,000	1,000	10,000	<430	<400	<410	<390
2,6-Dinitrotoluene	NA	NA	NA	<430	<400	<410	<390
Diethyl phthalate	10,000,000	10,000,000	50,000	<430	<400	<410	<390
4-Chlorophenyl phenyl ether	NA	NA	NA	<430	<400	<410	<390
Fluorene	10,000,000	2,300,000	100,000	<430	<400	<410	<390
4-Nitroaniline	NA	NA	NA	<2100	<2000	<2000	<1900
N-Nitrosodiphenylamine	590,000	140,000	100,000	<430	<400	<410	<390
4-Bromophenyl phenyl ether	NA	NA	NA	<430	<400	<410	<390
Hexachlorobenzene	2,000	420	50,000	<430	<400	<410	<390
Phenanthrene	NA	NA	NA	160 J	<400	110 J	<390
Anthracene	10,000,000	10,000	500,000	89 J	<400	85 J	<390
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	140 J	<400	<410	<390
Fluoranthene	10,000,000	2,300,000	500,000	89 J	<400	160 J	<390
Pyrene	10,000,000	1,700,000	500,000	75 J	<400	150 J	39
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	65 J	55 J	<410	<390
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<860	<810	<810	<780
Benzo(a)anthracene	2,500	660	500,000	<430	<400	94 J	<390
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	340 J	200 J	160 J	50
Chrysene	2,500	660	500,000	84 J	<400	160 J	57
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<430	<400	<410	<390
Benzo(b)fluoranthene	2,500	660	500,000	54 J	<400	150 J	40
Benzo(k)fluoranthene	2,500	660	500,000	<430	<400	<410	<390
Benzo(a)pyrene	660	660	100,000	<430	<400	89 J	<390
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<430	<400	43 J	<390
Dibenz(a,h)anthracene	660	660	500,000	<430	<400	<410	<390
Benzo(g,h,i)perylene	2,500	660	500,000	<430	<400	43 J	<390
Total Base-Neutrals:	NA	NA	NA	1,286	320	1,363	235

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

Parameter	Surface Soil Standards(1) Non-Residential (ug/kg)	Surface Soil Standards(1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)				
			Area:	3	3	3	3
			Sample Designation:	B-64A	B-64B	B-65A	B-65B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/23/91	8/23/91	8/26/91	8/26/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<410	<410	<370	<370
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<410	<410	<370	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<410	<410	<370	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<830	<820	<730	<740
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<410	<410	<370	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<410	<410	<370	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<410	<410	<370	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<410	<410	<370	<370
Nitrobenzene	520,000	1,000	50,000	<410	<410	<370	<370
Isophorone	10,000,000	1,100,000	10,000	<410	<410	<370	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<410	<410	<370	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<410	<410	<370	<370
Naphthalene	4,200,000	230,000	100,000	<410	<410	<370	<370
4-Chloroaniline	NA	NA	NA	<410	<410	<370	<370
Hexachlorobutadiene	210,000	11,000	50,000	<410	<410	<370	<370
2-Methylnaphthalene	NA	NA	NA	<410	<410	<370	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<410	<410	<370	<370
2-Chloronaphthalene	NA	NA	NA	<410	<410	<370	<370
2-Nitroaniline	NA	NA	NA	<2000	<2000	<1800	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<410	<410	<370	<370
Acenaphthylene	NA	NA	NA	<410	57 J	<370	<370
3-Nitroaniline	NA	NA	NA	<2000	<2000	<1800	<1800
Acenaphthene	10,000,000	3,400,000	100,000	70 J	69 J	<370	<370
Dibenzofuran	NA	NA	NA	<410	<410	<370	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<410	<410	<370	<370
2,6-Dinitrotoluene	NA	NA	NA	<410	<410	<370	<370
Diethyl phthalate	10,000,000	10,000,000	50,000	<410	<410	<370	<370
4-Chlorophenyl phenyl ether	NA	NA	NA	<410	<410	<370	<370
Fluorene	10,000,000	2,300,000	100,000	<410	<410	<370	<370
4-Nitroaniline	NA	NA	NA	<2000	<2000	<1800	<1800
N-Nitrosodiphenylamine	590,000	140,000	100,000	<410	<410	<370	<370
4-Bromophenyl phenyl ether	NA	NA	NA	<410	<410	<370	<370
Hexachlorobenzene	2,000	420	50,000	<410	<410	<370	<370
Phenanthrene	NA	NA	NA	<410	48 J	<370	<370
Anthracene	10,000,000	10,000	500,000	<410	61 J	<370	<370
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<410	<410	<370	<370
Fluoranthene	10,000,000	2,300,000	500,000	60 J	220 J	<370	<370
Pyrene	10,000,000	1,700,000	500,000	70 J	300 J	<370	<370
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	43 J	40 J	<370	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<830	<820	<730	<740
Benzo(a)anthracene	2,500	660	500,000	<410	160 J	<370	<370
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<410	42 J	<370	<370
Chrysene	2,500	660	500,000	80 J	170 J	<370	<370
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<410	<410	<370	<370
Benzo(b)fluoranthene	2,500	660	500,000	46 J	220 J	<370	<370
Benzo(k)fluoranthene	2,500	660	500,000	<410	<410	<370	<370
Benzo(a)pyrene	660	660	100,000	<410	160 J	<370	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<410	78 J	<370	<370
Dibenz(a,h)anthracene	660	660	500,000	<410	52 J	<370	<370
Benzo(g,h,i)perylene	2,500	660	500,000	<410	89 J	<370	<370
Total Base-Neutrals:	NA	NA	NA	369	1,766	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-66A	B-66B	B-67A	B-67B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/26/91	8/26/91	8/26/91	8/26/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<360	<380	<370
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<370	<360	<380	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<360	<380	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<730	<720	<760	<730
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<360	<380	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<360	<380	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<360	<380	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<360	<380	<370
Nitrobenzene	520,000	1,000	50,000	<370	<360	<380	<370
Isophorone	10,000,000	1,100,000	10,000	<370	<360	<380	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<360	<380	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<360	<380	<370
Naphthalene	4,200,000	230,000	100,000	<370	<360	<380	<370
4-Chloroaniline	NA	NA	NA	<370	<360	<380	<370
Hexachlorobutadiene	210,000	11,000	50,000	<370	<360	<380	<370
2-Methylnaphthalene	NA	NA	NA	<370	<360	<380	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<360	<380	<370
2-Chloronaphthalene	NA	NA	NA	<370	<360	<380	<370
2-Nitroaniline	NA	NA	NA	<1800	<1700	<1900	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<360	<380	<370
Acenaphthylene	NA	NA	NA	<370	<360	<380	<370
3-Nitroaniline	NA	NA	NA	<1800	<1700	<1900	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<370	<360	<380	<370
Dibenzofuran	NA	NA	NA	<370	<360	<380	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<360	<380	<370
2,6-Dinitrotoluene	NA	NA	NA	<370	<360	<380	<370
Diethyl phthalate	10,000,000	10,000,000	50,000	<370	<360	<380	<370
4-Chlorophenyl phenyl ether	NA	NA	NA	<370	<360	<380	<370
Fluorene	10,000,000	2,300,000	100,000	<370	<360	<380	<370
4-Nitroaniline	NA	NA	NA	<1800	<1700	<1900	<1800
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<360	<380	<370
4-Bromophenyl phenyl ether	NA	NA	NA	<370	<360	<380	<370
Hexachlorobenzene	2,000	420	50,000	<370	<360	<380	<370
Phenanthrene	NA	NA	NA	<370	<360	<380	<370
Anthracene	10,000,000	10,000	500,000	40 J	<360	<380	<370
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<370	<360	<380	<370
Fluoranthene	10,000,000	2,300,000	500,000	<370	50 J	<380	<370
Pyrene	10,000,000	1,700,000	500,000	<370	47 J	<380	<370
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<370	<360	<380	<370
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<730	<720	<760	<730
Benzo(a)anthracene	2,500	660	500,000	<370	<360	<380	<370
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<370	<360	<380	<370
Chrysene	2,500	660	500,000	<370	83 J	<380	<370
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<360	<380	<370
Benzo(b)fluoranthene	2,500	660	500,000	72 J	85 J	<380	<370
Benzo(k)fluoranthene	2,500	660	500,000	<370	<360	<380	<370
Benzo(a)pyrene	660	660	100,000	<370	36 J	<380	<370
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<370	<360	<380	<370
Dibenz(a,h)anthracene	660	660	500,000	<370	<360	<380	<370
Benzo(g,h,i)perylene	2,500	660	500,000	<370	<360	<380	<370
Total Base-Neutrals:	NA	NA	NA	112	301	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-68A	B-68B	B-69A	B-69B
			Sample Depth*(inches):	0-6	18-24	0-6	18-24
			Sample Date:	8/28/91	8/28/91	8/28/91	8/28/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<370	<370	<370
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<370	<370	<370	<370
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<370	<370	<370
Benzyl alcohol	10,000,000	10,000,000	50,000	<740	<740	<730	<740
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<370	<370	<370
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<370	<370	<370
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<370	<370	<370
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<370	<370	<370
Nitrobenzene	520,000	1,000	50,000	<370	<370	<370	<370
Isophorone	10,000,000	1,100,000	10,000	<370	<370	<370	<370
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<370	<370	<370
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<370	<370	<370
Naphthalene	4,200,000	230,000	100,000	<370	<370	<370	<370
4-Chloroaniline	NA	NA	NA	<370	<370	<370	<370
Hexachlorobutadiene	210,000	11,000	50,000	<370	<370	<370	<370
2-Methylnaphthalene	NA	NA	NA	<370	<370	<370	<370
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<370	<370	<370
2-Chloronaphthalene	NA	NA	NA	<370	<370	<370	<370
2-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<370	<370	<370
Acenaphthylene	NA	NA	NA	<370	<370	<370	<370
3-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<370	<370	<370	<370
Dibenzofuran	NA	NA	NA	<370	<370	<370	<370
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<370	<370	<370
2,6-Dinitrotoluene	NA	NA	NA	<370	<370	<370	<370
Diethyl phthalate	10,000,000	10,000,000	50,000	<370	<370	<370	<370
4-Chlorophenyl phenyl ether	NA	NA	NA	<370	<370	<370	<370
Fluorene	10,000,000	2,300,000	100,000	<370	<370	<370	<370
4-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<370	<370	<370
4-Bromophenyl phenyl ether	NA	NA	NA	<370	<370	<370	<370
Hexachlorobenzene	2,000	420	50,000	<370	<370	<370	<370
Phenanthrene	NA	NA	NA	<370	<370	<370	<370
Anthracene	10,000,000	10,000	500,000	<370	<370	<370	<370
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<370	<370	<370	<370
Fluoranthene	10,000,000	2,300,000	500,000	<370	<370	<370	<370
Pyrene	10,000,000	1,700,000	500,000	<370	<370	<370	<370 J
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<370	<370	<370	<370 J
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<740	<740	<730	<740 J
Benzo(a)anthracene	2,500	660	500,000	<370	<370	<370	<370 J
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<370	<370	<370	<370 J
Chrysene	2,500	660	500,000	<370	<370	<370	<370 J
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<370	<370	<370 J
Benzo(b)fluoranthene	2,500	660	500,000	<370	<370	<370	<370 J
Benzo(k)fluoranthene	2,500	660	500,000	<370	<370	<370	<370 J
Benzo(a)pyrene	660	660	100,000	<370	<370	<370	<370 J
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<370	<370	<370	<370 J
Dibenz(a,h)anthracene	660	660	500,000	<370	<370	<370	<370 J
Benzo(g,h,i)perylene	2,500	660	500,000	<370	<370	<370	<370 J
Total Base-Neutrals:	NA	NA	NA	0	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-103B	B-117A	B-117B	B-118A
			Sample Depth*(inches):	18-24	0-6	18-24	0-6
			Sample Date:	9/5/91	8/28/91	8/28/91	8/28/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<1800	<370	<390	<360
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<1800	<370	<390	<360
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<1800	<370	<390	<360
Benzyl alcohol	10,000,000	10,000,000	50,000	<1800	<740	<770	<720
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<1800	<370	<390	<360
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<1800	<370	<390	<360
N-Nitroso-di-n-propylamine	660	660	1,000	<1800	<370	<390	<360
Hexachloroethane	10,000,000	1,700,000	100,000	260 J	<370	<390	<360
Nitrobenzene	520,000	1,000	50,000	<1800	<370	<390	<360
Isophorone	10,000,000	1,100,000	10,000	<1800	<370	<390	<360
bis(2-Chloroethoxy)methane	NA	NA	NA	<1800	<370	<390	<360
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<1800	<370	<390	<360
Naphthalene	4,200,000	230,000	100,000	<1800	<370	<390	<360
4-Chloroaniline	NA	NA	NA	<1800	<370	<390	<360
Hexachlorobutadiene	210,000	11,000	50,000	<1800	<370	<390	<360
2-Methylnaphthalene	NA	NA	NA	<1800	<370	<390	<360
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<1800	<370	<390	<360
2-Chloronaphthalene	NA	NA	NA	<1800	<370	<390	<360
2-Nitroaniline	NA	NA	NA	<8500	<1800	<1900	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<1800	<370	<390	<360
Acenaphthylene	NA	NA	NA	<1800	<370	<390	<360
3-Nitroaniline	NA	NA	NA	<8500	<1800	<1900	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<1800	<370	<390	<360
Dibenzofuran	NA	NA	NA	<1800	<370	<390	<360
2,4-Dinitrotoluene	4,000	1,000	10,000	<1800	<370	<390	<360
2,6-Dinitrotoluene	NA	NA	NA	<1800	<370	<390	<360
Diethyl phthalate	10,000,000	10,000,000	50,000	<1800	<370	<390	<360
4-Chlorophenyl phenyl ether	NA	NA	NA	<1800	<370	<390	<360
Fluorene	10,000,000	2,300,000	100,000	<1800	<370	<390	<360
4-Nitroaniline	NA	NA	NA	<8500	<1800	<1900	<1800
N-Nitrosodiphenylamine	590,000	140,000	100,000	<1800	<370	<390	<360
4-Bromophenyl phenyl ether	NA	NA	NA	<1800	<370	<390	<360
Hexachlorobenzene	2,000	420	50,000	1,600 J	<370	<390	<360
Phenanthrene	NA	NA	NA	<1800	<370	<390	<360
Anthracene	10,000,000	10,000	500,000	<1800	<370	<390	<360
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<1800	<370	<390	<360
Fluoranthene	10,000,000	2,300,000	500,000	<1800	<370	<390	<360
Pyrene	10,000,000	1,700,000	500,000	<1800	<370	<390	<360
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<1800	<370	<390	<360
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<3500	<740	<770	<720
Benzo(a)anthracene	2,500	660	500,000	<1800	<370	<390	<360
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<1800	<370	<390	<360
Chrysene	2,500	660	500,000	<1800	<370	<390	<360
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<1800	<370	<390	<360
Benzo(b)fluoranthene	2,500	660	500,000	<1800	<370	<390	<360
Benzo(k)fluoranthene	2,500	660	500,000	<1800	<370	<390	<360
Benzo(a)pyrene	660	660	100,000	<1800	<370	<390	<360
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<1800	<370	<390	<360
Dibenz(a,h)anthracene	660	660	500,000	<1800	<370	<390	<360
Benzo(g,h,i)perylene	2,500	660	500,000	<1800	<370	<390	<360
Total Base-Neutrals:	NA	NA	NA	1,860	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-118B	B-119A	B-119B	B-120A
			Sample Depth*(inches):	18-24	0-6	18-24	0-6
			Sample Date:	8/28/91	8/28/91	8/28/91	8/29/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<370	<370	<370	<360
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<370	<370	<370	<360
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<370	<370	<370	<360
Benzyl alcohol	10,000,000	10,000,000	50,000	<740	<740	<740	<720
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<370	<370	<370	<360
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<370	<370	<370	<360
N-Nitroso-di-n-propylamine	660	660	1,000	<370	<370	<370	<360
Hexachloroethane	10,000,000	1,700,000	100,000	<370	<370	<370	<360
Nitrobenzene	520,000	1,000	50,000	<370	<370	<370	<360
Isophorone	10,000,000	1,100,000	10,000	<370	<370	<370	<360
bis(2-Chloroethoxy)methane	NA	NA	NA	<370	<370	<370	<360
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<370	<370	<370	<360
Naphthalene	4,200,000	230,000	100,000	<370	<370	<370	<360
4-Chloroaniline	NA	NA	NA	<370	<370	<370	<360
Hexachlorobutadiene	210,000	11,000	50,000	<370	<370	<370	<360
2-Methylnaphthalene	NA	NA	NA	<370	<370	<370	<360
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<370	<370	<370	<360
2-Chloronaphthalene	NA	NA	NA	<370	<370	<370	<360
2-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
Dimethyl phthalate	10,000,000	10,000,000	50,000	<370	<370	<370	<360
Acenaphthylene	NA	NA	NA	<370	<370	<370	<360
3-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
Acenaphthene	10,000,000	3,400,000	100,000	<370	<370	<370	<360
Dibenzofuran	NA	NA	NA	<370	<370	<370	<360
2,4-Dinitrotoluene	4,000	1,000	10,000	<370	<370	<370	<360
2,6-Dinitrotoluene	NA	NA	NA	<370	<370	<370	<360
Diethyl phthalate	10,000,000	10,000,000	50,000	<370	<370	<370	<360
4-Chlorophenyl phenyl ether	NA	NA	NA	<370	<370	<370	<360
Fluorene	10,000,000	2,300,000	100,000	<370	<370	<370	<360
4-Nitroaniline	NA	NA	NA	<1800	<1800	<1800	<1800
N-Nitrosodiphenylamine	590,000	140,000	100,000	<370	<370	<370	<360
4-Bromophenyl phenyl ether	NA	NA	NA	<370	<370	<370	<360
Hexachlorobenzene	2,000	420	50,000	<370	<370	<370	<360
Phenanthrene	NA	NA	NA	<370	<370	<370	<360
Anthracene	10,000,000	10,000	500,000	<370	<370	<370	<360
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<370	<370	<370	<360
Fluoranthene	10,000,000	2,300,000	500,000	<370	<370	<370	<360
Pyrene	10,000,000	1,700,000	500,000	<370	<370	<370	<360
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<370	<370	<370	<360
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<740	<740	<740	<720
Benzo(a)anthracene	2,500	660	500,000	<370	<370	<370	<360
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<370	<370	<370	<360
Chrysene	2,500	660	500,000	<370	<370	<370	<360
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<370	<370	<370	<360
Benzo(b)fluoranthene	2,500	660	500,000	<370	<370	<370	<360
Benzo(k)fluoranthene	2,500	660	500,000	<370	<370	<370	<360
Benzo(a)pyrene	660	660	100,000	<370	<370	<370	<360
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<370	<370	<370	<360
Dibenz(a,h)anthracene	660	660	500,000	<370	<370	<370	<360
Benzo(g,h,i)perylene	2,500	660	500,000	<370	<370	<370	<360
Total Base-Neutrals:	NA	NA	NA	0	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-120B	B-121A	B-121B	B-126A
			Sample Depth*(inches):	18-24	0-6	18-24	0-6
			Sample Date:	8/29/91	8/29/91	8/29/91	8/29/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<390 J	<370 J	<360 J	<3700
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<390 J	<370 J	<360 J	<3700
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<390 J	<370 J	<360 J	<3700
Benzyl alcohol	10,000,000	10,000,000	50,000	<770 J	<740 J	<720 J	<7400
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<390 J	<370 J	<360 J	<3700
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<390 J	<370 J	<360 J	<3700
N-Nitroso-di-n-propylamine	660	660	1,000	<390 J	<370 J	<360 J	<3700
Hexachloroethane	10,000,000	1,700,000	100,000	<390 J	<370 J	<360 J	<3700
Nitrobenzene	520,000	1,000	50,000	<390 J	<370 J	<360 J	<3700
Isophorone	10,000,000	1,100,000	10,000	<390 J	<370 J	<360 J	<3700
bis(2-Chloroethoxy)methane	NA	NA	NA	<390 J	<370 J	<360 J	<3700
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<390 J	<370 J	<360 J	<3700
Naphthalene	4,200,000	230,000	100,000	<390 J	<370 J	<360 J	<3700
4-Chloroaniline	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Hexachlorobutadiene	210,000	11,000	50,000	<390 J	<370 J	<360 J	<3700
2-Methylnaphthalene	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<390 J	<370 J	<360 J	<3700
2-Chloronaphthalene	NA	NA	NA	<390 J	<370 J	<360 J	<3700
2-Nitroaniline	NA	NA	NA	<1900 J	<1800 J	<1800 J	<18000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<390 J	<370 J	<360 J	<3700
Acenaphthylene	NA	NA	NA	<390 J	<370 J	<360 J	<3700
3-Nitroaniline	NA	NA	NA	<1900 J	<1800 J	<1800 J	<18000
Acenaphthene	10,000,000	3,400,000	100,000	<390 J	<370 J	<360 J	<3700
Dibenzofuran	NA	NA	NA	<390 J	<370 J	<360 J	<3700
2,4-Dinitrotoluene	4,000	1,000	10,000	<390 J	<370 J	<360 J	<3700
2,6-Dinitrotoluene	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Diethyl phthalate	10,000,000	10,000,000	50,000	<390 J	<370 J	<360 J	<3700
4-Chlorophenyl phenyl ether	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Fluorene	10,000,000	2,300,000	100,000	<390 J	<370 J	<360 J	<3700
4-Nitroaniline	NA	NA	NA	<1900 J	<1800 J	<1800 J	<18000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<390 J	<370 J	<360 J	<3700
4-Bromophenyl phenyl ether	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Hexachlorobenzene	2,000	420	50,000	<390 J	<370 J	<360 J	<3700
Phenanthrene	NA	NA	NA	<390 J	<370 J	<360 J	<3700
Anthracene	10,000,000	10,000	500,000	<390 J	<370 J	<360 J	<3700
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<390 J	<370 J	<360 J	<3700
Fluoranthene	10,000,000	2,300,000	500,000	<390 J	<370 J	<360 J	<3700
Pyrene	10,000,000	1,700,000	500,000	<390 J	<370 J	<360 J	<3700
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<390 J	<370 J	<360 J	<3700
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<770 J	<740 J	<720 J	<7400
Benzo(a)anthracene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<390 J	<370 J	<360 J	<3700
Chrysene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<390 J	<370 J	<360 J	<3700
Benzo(b)fluoranthene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
Benzo(k)fluoranthene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
Benzo(a)pyrene	660	660	100,000	<390 J	<370 J	<360 J	<3700
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
Dibenz(a,h)anthracene	660	660	500,000	<390 J	<370 J	<360 J	<3700
Benzo(g,h,i)perylene	2,500	660	500,000	<390 J	<370 J	<360 J	<3700
Total Base-Neutrals:	NA	NA	NA	0	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	3	3	3	3
			Sample Designation:	B-126B	B-127A	B-127B	SS-3
			Sample Depth*(inches):	18-24	0-6	18-24	0-6
			Sample Date:	8/29/91	8/29/91	8/29/91	10/18/91
			Units:	ug/kg	ug/kg	ug/kg	ug/kg
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<4200 J	<360 J	<380	<6600
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<4200 J	<360 J	<380	<6600
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<4200 J	<360 J	<380	<6600
Benzyl alcohol	10,000,000	10,000,000	50,000	<8400 J	<720 J	<770	<13000
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<4200 J	<360 J	<380	<6600
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<4200 J	<360 J	<380	<6600
N-Nitroso-di-n-propylamine	660	660	1,000	<4200 J	<360 J	<380	<6600
Hexachloroethane	10,000,000	1,700,000	100,000	<4200 J	<360 J	<380	<6600
Nitrobenzene	520,000	1,000	50,000	<4200 J	<360 J	<380	<6600
Isophorone	10,000,000	1,100,000	10,000	<4200 J	<360 J	<380	<6600
bis(2-Chloroethoxy)methane	NA	NA	NA	<4200 J	<360 J	<380	<6600
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<4200 J	<360 J	<380	<6600
Naphthalene	4,200,000	230,000	100,000	<4200 J	<360 J	<380	<6600
4-Chloroaniline	NA	NA	NA	<4200 J	<360 J	<380	<6600
Hexachlorobutadiene	210,000	11,000	50,000	<4200 J	<360 J	<380	<6600
2-Methylnaphthalene	NA	NA	NA	<4200 J	<360 J	<380	<6600
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<4200 J	<360 J	<380	<6600
2-Chloronaphthalene	NA	NA	NA	<4200 J	<360 J	<380	<6600
2-Nitroaniline	NA	NA	NA	<20000 J	<1700 J	<1900	<32000
Dimethyl phthalate	10,000,000	10,000,000	50,000	<4200 J	<360 J	<380	<6600
Acenaphthylene	NA	NA	NA	<4200 J	<360 J	<380	<6600
3-Nitroaniline	NA	NA	NA	<20000 J	<1700 J	<1900	<32000
Acenaphthene	10,000,000	3,400,000	100,000	<4200 J	<360 J	<380	<6600
Dibenzofuran	NA	NA	NA	<4200 J	<360 J	<380	<6600
2,4-Dinitrotoluene	4,000	1,000	10,000	<4200 J	<360 J	<380	<6600
2,6-Dinitrotoluene	NA	NA	NA	<4200 J	<360 J	<380	<6600
Diethyl phthalate	10,000,000	10,000,000	50,000	<4200 J	<360 J	<380	<6600
4-Chlorophenyl phenyl ether	NA	NA	NA	<4200 J	<360 J	<380	<6600
Fluorene	10,000,000	2,300,000	100,000	<4200 J	<360 J	<380	<6600
4-Nitroaniline	NA	NA	NA	<20000 J	<1700 J	<1900	<32000
N-Nitrosodiphenylamine	590,000	140,000	100,000	<4200 J	<360 J	<380	<6600
4-Bromophenyl phenyl ether	NA	NA	NA	<4200 J	<360 J	<380	<6600
Hexachlorobenzene	2,000	420	50,000	<4200 J	<360 J	<380	<6600
Phenanthrene	NA	NA	NA	<4200 J	120 J	<380	<6600
Anthracene	10,000,000	10,000	500,000	<4200 J	<360 J	<380	<6600
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<4200 J	<360 J	<380	<6600
Fluoranthene	10,000,000	2,300,000	500,000	<4200 J	<360 J	<380	<6600
Pyrene	10,000,000	1,700,000	500,000	<4200 J	99 J	50 J	<6600
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<4200 J	<360 J	<380	<6600
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<8400 J	<720 J	<770	<13000
Benzo(a)anthracene	2,500	660	500,000	<4200 J	<360 J	<380	<6600
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<4200 J	110 J	100 J	880
Chrysene	2,500	660	500,000	480 J	50 J	<380	<6600
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<4200 J	<360 J	<380	<6600
Benzo(b)fluoranthene	2,500	660	500,000	<4200 J	<360 J	<380	<6600
Benzo(k)fluoranthene	2,500	660	500,000	<4200 J	<360 J	<380	<6600
Benzo(a)pyrene	660	660	100,000	<4200 J	<360 J	<380	<6600
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<4200 J	<360 J	<380	<6600
Dibenz(a,h)anthracene	660	660	500,000	<4200 J	<360 J	<380	<6600
Benzo(g,h,i)perylene	2,500	660	500,000	<4200 J	<360 J	<380	<6600
Total Base-Neutrals:	NA	NA	NA	480	379	150	880

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	6	6	6	QA/QC
			Sample Designation:	SS-10	SS-11	SS-12	Field Blank
			Sample Depth*(inches):	0-6	0-6	0-6	
			Sample Date:	10/18/91	10/18/91	10/21/91	8/22/91
			Units:	ug/kg	ug/kg	ug/kg	ug/L
	Surface Soil Standards(1)		Subsurface Soil				
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<2700	<10000	<2500	<20
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<2700	<10000	<2500	<20
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<2700	<10000	<2500	<20
Benzyl alcohol	10,000,000	10,000,000	50,000	<5400	<21000	<5000	<20
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<2700	<10000	<2500	<20
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<2700	<10000	<2500	<20
N-Nitroso-di-n-propylamine	660	660	1,000	<2700	<10000	<2500	<20
Hexachloroethane	10,000,000	1,700,000	100,000	<2700	<10000	<2500	<20
Nitrobenzene	520,000	1,000	50,000	<2700	<10000	<2500	<20
Isophorone	10,000,000	1,100,000	10,000	<2700	<10000	<2500	<20
bis(2-Chloroethoxy)methane	NA	NA	NA	<2700	<10000	<2500	<20
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<2700	<10000	<2500	<20
Naphthalene	4,200,000	230,000	100,000	<2700	<10000	<2500	<20
4-Chloroaniline	NA	NA	NA	<2700	<10000	<2500	<20
Hexachlorobutadiene	210,000	11,000	50,000	<2700	<10000	<2500	<20
2-Methylnaphthalene	NA	NA	NA	<2700	<10000	<2500	<20
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<2700	<10000	<2500	<20
2-Chloronaphthalene	NA	NA	NA	<2700	<10000	<2500	<20
2-Nitroaniline	NA	NA	NA	<13000	<50000	<12000	<100
Dimethyl phthalate	10,000,000	10,000,000	50,000	<2700	<10000	<2500	<20
Acenaphthylene	NA	NA	NA	<2700	<10000	<2500	<20
3-Nitroaniline	NA	NA	NA	<13000	<50000	<12000	<100
Acenaphthene	10,000,000	3,400,000	100,000	<2700	<10000	<2500	<20
Dibenzofuran	NA	NA	NA	<2700	<10000	<2500	<20
2,4-Dinitrotoluene	4,000	1,000	10,000	<2700	<10000	<2500	<20
2,6-Dinitrotoluene	NA	NA	NA	<2700	<10000	<2500	<20
Diethyl phthalate	10,000,000	10,000,000	50,000	<2700	<10000	<2500	<20
4-Chlorophenyl phenyl ether	NA	NA	NA	<2700	<10000	<2500	<20
Fluorene	10,000,000	2,300,000	100,000	<2700	<10000	<2500	<20
4-Nitroaniline	NA	NA	NA	<13000	<50000	<12000	<100
N-Nitrosodiphenylamine	590,000	140,000	100,000	<2700	<10000	<2500	<20
4-Bromophenyl phenyl ether	NA	NA	NA	<2700	<10000	<2500	<20
Hexachlorobenzene	2,000	420	50,000	<2700	2,400 J	<2500	<20
Phenanthrene	NA	NA	NA	<2700	<10000	<2500	<20
Anthracene	10,000,000	10,000	500,000	<2700	<10000	<2500	<20
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<2700	<10000	<2500	<20
Fluoranthene	10,000,000	2,300,000	500,000	<2700	<10000	320 J	<20
Pyrene	10,000,000	1,700,000	500,000	<2700	<10000	310 J	<20
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<2700	<10000	<2500	<20
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<5400	<21000	<5000	<40
Benzo(a)anthracene	2,500	660	500,000	<2700	<10000	<2500	<20
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<2700	1,300 J	7,500	<20
Chrysene	2,500	660	500,000	<2700	<10000	<2500	<20
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<2700	<10000	<2500	<20
Benzo(b)fluoranthene	2,500	660	500,000	<2700	<10000	340 J	<20
Benzo(k)fluoranthene	2,500	660	500,000	<2700	<10000	<2500	<20
Benzo(a)pyrene	660	660	100,000	<2700	<10000	<2500	<20
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<2700	<10000	<2500	<20
Dibenz(a,h)anthracene	660	660	500,000	<2700	<10000	<2500	<20
Benzo(g,h,i)perylene	2,500	660	500,000	<2700	<10000	<2500	<20
Total Base-Neutrals:	NA	NA	NA	0	3,700	8,470	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

Parameter	Surface Soil Standards(1) Non-Residential (ug/kg)	Surface Soil Standards(1) Residential (ug/kg)	Subsurface Soil Standards (2) (ug/kg)	QA/QC Field Blank	QA/QC Field Blank	QA/QC Field Blank	QA/QC Field Blank
Area:				QA/QC	QA/QC	QA/QC	QA/QC
Sample Designation:				Field Blank	Field Blank	Field Blank	Field Blank
Sample Depth*(inches):							
Sample Date:				8/23/91	8/26/91	8/28/91	8/29/91
Units:				ug/L	ug/L	ug/L	ug/L
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<20	<20	<10	<10
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<20	<20	<10	<10
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<20	<20	<10	<10
Benzyl alcohol	10,000,000	10,000,000	50,000	<20	<20	<10	<10
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<20	<20	<10	<10
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<20	<20	<10	<10
N-Nitroso-di-n-propylamine	660	660	1,000	<20	<20	<10	<10
Hexachloroethane	10,000,000	1,700,000	100,000	<20	<20	<10	<10
Nitrobenzene	520,000	1,000	50,000	<20	<20	<10	<10
Isophorone	10,000,000	1,100,000	10,000	<20	<20	<10	<10
bis(2-Chloroethoxy)methane	NA	NA	NA	<20	<20	<10	<10
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<20	<20	<10	<10
Naphthalene	4,200,000	230,000	100,000	<20	<20	<10	<10
4-Chloroaniline	NA	NA	NA	<20	<20	<10	<10
Hexachlorobutadiene	210,000	11,000	50,000	<20	<20	<10	<10
2-Methylnaphthalene	NA	NA	NA	<20	<20	<10	<10
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<20	<20	<10	<10
2-Chloronaphthalene	NA	NA	NA	<20	<20	<10	<10
2-Nitroaniline	NA	NA	NA	<100	<100	<50	<50
Dimethyl phthalate	10,000,000	10,000,000	50,000	<20	<20	<10	<10
Acenaphthylene	NA	NA	NA	<20	<20	<10	<10
3-Nitroaniline	NA	NA	NA	<100	<100	<50	<50
Acenaphthene	10,000,000	3,400,000	100,000	<20	<20	<10	<10
Dibenzofuran	NA	NA	NA	<20	<20	<10	<10
2,4-Dinitrotoluene	4,000	1,000	10,000	<20	<20	<10	<10
2,6-Dinitrotoluene	NA	NA	NA	<20	<20	<10	<10
Diethyl phthalate	10,000,000	10,000,000	50,000	<20	<20	<10	<10
4-Chlorophenyl phenyl ether	NA	NA	NA	<20	<20	<10	<10
Fluorene	10,000,000	2,300,000	100,000	<20	<20	<10	<10
4-Nitroaniline	NA	NA	NA	<100	<100	<50	<50
N-Nitrosodiphenylamine	590,000	140,000	100,000	<20	<20	<10	<10
4-Bromophenyl phenyl ether	NA	NA	NA	<20	<20	<10	<10
Hexachlorobenzene	2,000	420	50,000	<20	<20	<10	<10
Phenanthrene	NA	NA	NA	<20	<20	<10	<10
Anthracene	10,000,000	10,000	500,000	<20	<20	<10	<10
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<20	<20	<10	<10
Fluoranthene	10,000,000	2,300,000	500,000	<20	<20	<10	<10
Pyrene	10,000,000	1,700,000	500,000	<20	<20	<10	<10
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<20	<20	<10	<10
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<40	<40	<20	<20
Benzo(a)anthracene	2,500	660	500,000	<20	<20	<10	<10
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	<20	<20	<10	<10
Chrysene	2,500	660	500,000	<20	<20	<10	<10
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	<20	<20	<10	<10
Benzo(b)fluoranthene	2,500	660	500,000	<20	<20	<10	<10
Benzo(k)fluoranthene	2,500	660	500,000	<20	<20	<10	<10
Benzo(a)pyrene	660	660	100,000	<20	<20	<10	<10
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	<20	<20	<10	<10
Dibenz(a,h)anthracene	660	660	500,000	<20	<20	<10	<10
Benzo(g,h,i)perylene	2,500	660	500,000	<20	<20	<10	<10
Total Base-Neutrals:	NA	NA	NA	0	0	0	0

See last page for footnotes.

Table 3-3. Base-Neutral Compound Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, N.J.

			Area:	QA/QC	QA/QC	QA/QC
			Sample Designation:	Field Blank	Field Blank	Field Blank
			Sample Depth*(inches):			
			Sample Date:	9/5/91	10/16/91	12/9/91
			Units:	ug/L	ug/L	ug/L
	Surface Soil Standards(1)		Subsurface Soil			
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
bis(2-Chloroethyl)ether	3,000	1,000	1,000	< 10	< 11	< 10
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	< 10	< 11	< 10
1,4-Dichlorobenzene	1,200,000	280,000	100,000	< 10	< 11	< 10
Benzyl alcohol	10,000,000	10,000,000	50,000	< 10	< 11	< 10
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	< 10	< 11	< 10
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	< 10	< 11	< 10
N-Nitroso-di-n-propylamine	660	660	1,000	< 10	< 11	< 10
Hexachloroethane	10,000,000	1,700,000	100,000	< 10	< 11	< 10
Nitrobenzene	520,000	1,000	50,000	< 10	< 11	< 10
Isophorone	10,000,000	1,100,000	10,000	< 10	< 11	< 10
bis(2-Chloroethoxy)methane	NA	NA	NA	< 10	< 11	< 10
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	< 10	< 11	< 10
Naphthalene	4,200,000	230,000	100,000	< 10	< 11	< 10
4-Chloroaniline	NA	NA	NA	< 10	< 11	< 10
Hexachlorobutadiene	210,000	11,000	50,000	< 10	< 11	< 10
2-Methylnaphthalene	NA	NA	NA	< 10	< 11	< 10
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	< 10	< 11	< 10
2-Chloronaphthalene	NA	NA	NA	< 10	< 11	< 10
2-Nitroaniline	NA	NA	NA	< 50	< 54	< 50
Dimethyl phthalate	10,000,000	10,000,000	50,000	< 10	< 11	< 10
Acenaphthylene	NA	NA	NA	< 10	< 11	< 10
3-Nitroaniline	NA	NA	NA	< 50	< 54	< 50
Acenaphthene	10,000,000	3,400,000	100,000	< 10	< 11	< 10
Dibenzofuran	NA	NA	NA	< 10	< 11	< 10
2,4-Dinitrotoluene	4,000	1,000	10,000	< 10	< 11	< 10
2,6-Dinitrotoluene	NA	NA	NA	< 10	< 11	< 10
Diethyl phthalate	10,000,000	10,000,000	50,000	< 10	< 11	< 10
4-Chlorophenyl phenyl ether	NA	NA	NA	< 10	< 11	< 10
Fluorene	10,000,000	2,300,000	100,000	< 10	< 11	< 10
4-Nitroaniline	NA	NA	NA	< 50	< 54	< 50
N-Nitrosodiphenylamine	590,000	140,000	100,000	< 10	< 11	< 10
4-Bromophenyl phenyl ether	NA	NA	NA	< 10	< 11	< 10
Hexachlorobenzene	2,000	420	50,000	< 10	< 11	< 10
Phenanthrene	NA	NA	NA	< 10	< 11	< 10
Anthracene	10,000,000	10,000	500,000	< 10	< 11	< 10
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	< 10	< 11	< 10
Fluoranthene	10,000,000	2,300,000	500,000	< 10	< 11	< 10
Pyrene	10,000,000	1,700,000	500,000	< 10	< 11	< 10
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	< 10	< 11	< 10
3,3'-Dichlorobenzidine	7,000	2,000	100,000	< 20	< 21	< 20
Benzo(a)anthracene	2,500	660	500,000	< 10	< 11	< 10
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	< 10	< 11	< 10
Chrysene	2,500	660	500,000	< 10	< 11	< 10
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	< 10	< 11	< 10
Benzo(b)fluoranthene	2,500	660	500,000	< 10	< 11	< 10
Benzo(k)fluoranthene	2,500	660	500,000	< 10	< 11	< 10
Benzo(a)pyrene	660	660	100,000	< 10	< 11	< 10
Indeno(1,2,3-cd)pyrene	2,500	660	500,000	< 10	< 11	< 10
Dibenz(a,h)anthracene	660	660	500,000	< 10	< 11	< 10
Benzo(g,h,i)perylene	2,500	660	500,000	< 10	< 11	< 10
Total Base-Neutrals:	NA	NA	NA	0	0	0

See last page for footnotes.

*	Depth below bottom of asphalt, gravel, and/or construction debris.
ug/kg	Micrograms per kilogram.
J	Result is detected below the reporting limit or is an estimated concentration.
ug/L	Micrograms per liter.
QA/QC	Quality assurance/quality control.
(1)	Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2)	Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA	No standard given.

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	1	1	3	3	3	3	3	3	3
			Sample Designation:	B-46	B-47	B-12A	B-12B	B-59A	B-59B	B-60A	B-60B	B-61A
			Sample Depth* (inches):	0-24	0-24	0-6	18-24	0-6	18-24	0-6	18-24	0-6
			Sample Date:	8/27/91	8/27/91	8/23/91	8/23/91	8/22/91	8/22/91	8/23/91	8/23/91	8/23/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	98.6	55.0	<5.6	<5.5	<5.7	<5.8	<5.4	<5.7	<5.6
Arsenic	20	20	NA	23.8	17.4	1.9	1.9	1.8	2.1	1.2	3.5	5.8
Beryllium	2	2	NA	4.5	4.1	<0.23	<0.22	0.48	<0.23	0.35	0.47	<0.23
Cadmium	100	1	NA	1.1	0.68	<0.56	<0.55	<0.57	<0.58	<0.54	<0.57	<0.56
Chromium	NA	NA	NA	127	110	8.3	7.4	16.1	9.0	15.7	14.8	23.4
Copper	600	600	NA	300	274	6.3	8.7	17.7	7.0	32.5	6.4	68.4
Lead	600	100	NA	397	311	<5.6	<5.5	8.4	<5.8	<5.4	8.4	36.8
Mercury	260	14	NA	1.5	0.40	<0.11	<0.11	<0.11	<0.12	<0.11	<0.11	0.21
Nickel	2,400	250	NA	146	119	<4.5	<4.4	10.9	<4.6	10.4	9.9	10.4
Selenium	1,000	1	NA	0.80	<1.1	<0.56	<0.55	<0.57	<0.58	<0.54	<0.57	<0.56
Silver	2,000	40	NA	<1.1	<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<1.1
Thallium	2	2	NA	<0.56	<0.53	<0.56	<0.55	<0.57	<0.58	<0.54	<0.57	<0.56
Zinc	1,500	1,500	NA	984	774	5.5	7.2	19.4	7.1	13.4	26.6	18.9

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880368

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-61B	B-62A	B-62B	B-63A	B-63B	B-64A	B-64B	B-65A	B-65B
			Sample Depth* (inches):	18-24	0-6	18-24	0-6	18-24	0-6	18-24	0-6	18-24
			Sample Date:	8/23/91	8/23/91	8/23/91	8/23/91	8/23/91	8/23/91	8/23/91	8/26/91	8/26/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	7.2	<6.5	<6.1	<6.2	<5.9	<6.3	<6.2	<5.5	<5.6
Arsenic	20	20	NA	2.0	2.5	2.9	7.1	4.2	10.0	4.1	2.8	4.5
Beryllium	2	2	NA	<0.23	0.34	0.41	0.36	0.58	0.48	0.59	0.40	0.41
Cadmium	100	1	NA	<0.56	<0.65	<0.61	<0.62	<0.59	0.64	1.0	<0.55	<0.56
Chromium	NA	NA	NA	16.2	49.4	14.7	40.1	23.7	29.4	55.8	10.5	10.0
Copper	600	600	NA	34.7	19.3	25.7	42.3	48.8	59.5	80.4	5.9	3.7
Lead	600	100	NA	67.1	129	12.0	59.0	22.4	29.6	54.4	6.4	<5.6
Mercury	260	14	NA	0.59	<0.13	<0.12	0.57	<0.12	<0.13	<0.12	<0.11	<0.11
Nickel	2,400	250	NA	<4.5	10.0	11.3	15.8	20.6	11.6	13.2	5.7	<4.5
Selenium	1,000	1	NA	<0.56	<0.65	<0.61	<0.62	<0.59	<0.63	<0.62	<0.55	<0.56
Silver	2,000	40	NA	<1.1	<1.3	<1.2	<1.2	<1.2	<1.3	<1.2	<1.1	<1.1
Thallium	2	2	NA	<0.56	<0.65	<0.61	<0.62	<0.59	<0.63	<0.62	<0.55	<0.56
Zinc	1,500	1,500	NA	12.9	28.9	33.0	61.1	57.3	136	134	12.8	11.1

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880369

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-66A	B-66B	B-67A	B-67B	B-68A	B-68B	B-69A	B-69B	B-84A
			Sample Depth* (inches):	0-6	18-24	0-6	18-24	0-6	18-24	0-6	18-24	0-6
			Sample Date:	8/26/91	8/26/91	8/26/91	8/26/91	8/26/91	8/28/91	8/28/91	8/28/91	9/3/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.5	<5.4	<5.8	16.2	<5.6	<5.6	<5.5	<5.6	894
Arsenic	20	20	NA	2.3	3.0	6.8	4.2	0.72	3.2	0.80	3.1	429
Beryllium	2	2	NA	0.60	0.47	0.33	0.40	0.42	0.31	0.42	0.69	2.0
Cadmium	100	1	NA	<0.55	<0.54	<0.58	<0.55	<0.56	<0.56	<0.55	<0.56	5.3
Chromium	NA	NA	NA	31.9	14.1	6.3	9.8	6.5	6.5	6.9	16.9	180
Copper	600	600	NA	5.9	8.8	3.3	8.9	5.2	3.7	3.3	3.8	371
Lead	600	100	NA	11.8	14.4	7.2	11.0	<5.6	<5.6	<5.5	6.0	354
Mercury	260	14	NA	<0.11	<0.11	<0.12	<0.11	<0.11	<0.11	<0.11	<0.11	0.84
Nickel	2,400	250	NA	6.1	6.3	<4.6	6.9	4.6	<4.5	4.4	5.4	112
Selenium	1,000	1	NA	<0.55	<0.54	<0.58	<0.55	<0.56	<0.56	<0.55	<0.56	<1.1
Silver	2,000	40	NA	<1.1	<1.1	<1.2	<1.1	<1.1	<1.1	<1.1	<1.1	1.1
Thallium	2	2	NA	<0.55	<0.54	<0.58	<0.55	<0.56	<0.56	<0.55	<0.56	<0.54
Zinc	1,500	1,500	NA	22.4	21.3	31.8	46.8	31.0	35.7	15.6	18.6	879

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880370

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-84B	B-88A	B-88A	B-88C	B-89A	B-89B	B-89C	B-90A	B-90B
			Sample Depth* (inches):	16-24	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/3/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	43.5	<5.3	<5.2	<5.7	<5.4	<5.4	<5.8	<5.4	<5.4
Arsenic	20	20	NA	2.4	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	<0.22	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	2.8	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	8.1	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	17.7	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	5.7	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	<0.11	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	24.0	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	<1.1	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	<1.1	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	<0.54	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	75.7	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880371

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-90C	B-91A	B-91B	B-91C	B-92A	B-92B	B-92C	B-93A	B-93B
			Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.6	<5.7	<5.3	<5.5	<5.3	<5.3	<5.7	<5.6	<5.2
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880372

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

		Area:	3	3	3	3	3	3	3	3	3	3
		Sample Designation:	B-93C	B-94A	B-94B	B-94C	B-95A	B-95B	B-95C	B-96A	B-96B
		Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
		Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91
		Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.7	<5.3	<5.3	<5.6	<5.3	<5.3	<5.5	<5.4	<5.5
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880373

Table . . . Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

		Area:	3	3	3	3	3	3	3	3	3	3
		Sample Designation:	B-96C	B-97A	B-97B	B-97C	B-98A	B-98B	B-98C	B-99A	B-99B
		Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
		Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91	9/4/91
		Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.9	<5.6	<5.5	<5.6	11.4	12.5	<5.7	<5.3	51.3
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880374

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-99C	B-100A	B-100B	B-100C	B-101A	B-101B	B-101C	B-102A	B-102B
			Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/4/91	9/4/91	9/4/91	9/4/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.6	<5.3	<5.4	<5.8	<5.5	<5.6	<6.0	23.5	<5.5
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880375

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-102C	B-103A	B-103B	B-103C	B-104A	B-104B	B-104C	B-105A	B-105B
			Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.7	14.9	104	<6.0	289	<5.3	<5.7	<5.6	6.5
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880376

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-105C	B-106A	B-106B	B-106C	B-107A	B-107B	B-107C	B-108A	B-108B
			Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	<5.8	<5.2	<5.1	<5.5	101	35.5	815	14.5	126
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880377

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-108C	B-109A	B-109B	B-109C	B-110A	B-110B	B-110C	B-120A	B-120B
			Sample Depth* (inches):	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6	18-24
			Sample Date:	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	9/5/91	8/29/91	8/29/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	6.4	14.4	<5.7	<5.9	12.3	<5.3	<5.8	29.5	12.3
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	1.1	1.4
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	<0.22	<0.23
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	<0.55	<0.59
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5	5.6
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	3.4	4.1
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	<5.5	<5.9
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	<0.11	<0.12
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	5.0	5.3
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	<0.55	<0.59
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	<1.1	<1.2
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	<0.55	<0.59
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	13.6	14.4

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880378

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Parameter	Surface Soil Standards (1) Non-Residential (mg/kg)	Surface Soil Standards (1) Residential (mg/kg)	Subsurface Soil Standards (2) (mg/kg)									
Area:				3	3	3	3	3	3	3	3	3
Sample Designation:				B-121A	B-121B	B-310A	B-301B	B-310C	B-311A	B-311B	B-311C	B-312A
Sample Depth* (inches):				0-6	18-24	0-6	18-24	24-48	0-6	18-24	24-48	0-6
Sample Date:				8/29/91	8/29/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91
Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Antimony	340	14	NA	9.2	7.8	420	13.6	23.0	7.0	<5.4	<5.4	<5.3
Arsenic	20	20	NA	2.0	2.1	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	<0.22	<0.22	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	<0.56	<0.55	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.3	4.7	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	16.8	18.3	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	6.8	<5.5	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	0.11	<0.11	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	8.5	6.2	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	<0.56	<0.55	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	<1.1	<1.1	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	<0.56	<0.55	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	31.0	32.9	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-312B	B-312C	B-313A	B-313B	B-313C	B-314A	B-314B	B-314C	B-315A
			Sample Depth* (inches):	18-24	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	6.5	<5.6	47.6	38.7	<5.5	68.5	20.2	147	408
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

9208880380

Table 3-4 Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	3	3	3	3
			Sample Designation:	B-315B	B-315C	B-316A	B-316B	B-316C	B-317A	B-317B	B-317C	B-318A
			Sample Depth* (inches):	18-24	24-48	0-6	18-24	24-48	0-6	18-24	24-48	0-6
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	51.3	6.3	29.8	<5.6	<6.0	1340	1660	18.7	243
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880381

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	3	3	3	3	3	6	6	6	6
			Sample Designation:	B-318B	B-318C	B-319A	B-319B	B-319C	SS-3	SS-10	SS-11	SS-12
			Sample Depth* (inches):	18-24	24-48	0-6	18-24	24-48	0-6	0.6	0.6	0.6
			Sample Date:	10/15/91	10/15/91	10/15/91	10/15/91	10/15/91	10/18/91	10/18/91	10/18/91	10/21/91
			Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Surface Soil Standards (1)		Subsurface Soil									
	Non-Residential	Residential	Standards (2)									
Parameter	(mg/kg)	(mg/kg)	(mg/kg)									
Antimony	340	14	NA	370	71.4	146	554	7.0	< 19.9	162	106	< 7.6
Arsenic	20	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.7
Beryllium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.31
Cadmium	100	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.8
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.7
Copper	600	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	166
Lead	600	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	308
Mercury	260	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5
Nickel	2,400	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.6
Selenium	1,000	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.5
Silver	2,000	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.5
Thallium	2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.76
Zinc	1,500	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	271

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

Table 3-4. Metal Analyses of Soil and Sediment Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC
				Field	Field	Field	Field	Field	Field	Field	Field
			Sample Designation:	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
			Sample Depth* (inches):								
			Sample Date:	8/22/91	8/23/91	8/26/91	8/29/91	9/3/91	9/4/91	9/5/91	10/15/91
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Surface Soil Standards (1)		Subsurface Soil								
	Non-Residential	Residential	Standards (2)								
Parameter	(mg/kg)	(mg/kg)	(mg/kg)								
Antimony	340	14	NA	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	20	20	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NA	NA	NA
Beryllium	2	2	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
Cadmium	100	1	NA	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA
Chromium	NA	NA	NA	<0.010	0.014	<0.010	<0.010	<0.010	NA	NA	NA
Copper	600	600	NA	<0.050	<0.050	<0.050	<0.050	<0.050	NA	NA	NA
Lead	600	100	NA	<0.040	<0.040	<0.040	<0.040	<0.040	NA	NA	NA
Mercury	260	14	NA	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA
Nickel	2,400	250	NA	0.033	<0.020	<0.020	<0.020	<0.020	NA	NA	NA
Selenium	1,000	1	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
Silver	2,000	40	NA	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	NA	NA	NA
Thallium	2	2	NA	<0.0050	<0.0050	<0.010	<0.010	<0.0050	NA	NA	NA
Zinc	1,500	1,500	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	NA

mg/kg Milligrams per kilogram.
mg/L Milligrams per liter.
* Depth below bottom of asphalt, gravel, and/or construction debris.
QA/QC Quality assurance/quality control.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
NA No standard given.

920880383

Table 3-5. Petroleum Hydrocarbon Analyses of Soil Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Area:	1	1	1	1	1	1	1	1	1	1
Sample Designation:	B-46C	B-47C	B-48C	B-49C	B-50A	B-50B	B-50C	B-51A	B-51B	B-51C
Sample Depth*(inches):	(96-120)	(96-120)	(60-84)	(60-84)	(0-6)	(18-24)	(60-84)	(0-6)	(18-24)	(60-84)
Sample Date:	8/27/91	8/27/91	8/28/91	8/28/91	8/27/91	8/27/91	8/27/91	8/27/91	8/27/91	8/27/91
TPHCs (mg/kg)	7,200	290	<24	<25	210	100	670	11,000	23,000	8,100

Area:	1	1	1	1	1	1	1	1	1	1
Sample Designation:	B-122C	B-123C	B-300A	B-300B	B-300C	B-301A	B301B	B-301C	B-302A	B-302B
Sample Depth*(inches):	(96-120)	(96-120)	(0-6)	(18-24)	(24-48)	(0-6)	(18-24)	(24-48)	(0-6)	(18-24)
Sample Date:	8/30/91	8/30/91	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91
TPHCs (mg/kg)	<23	<25	1,200	65	62	<22	<22	49	220	4,000

Area:	1	1	1	1	1	1	1	1	1	1
Sample Designation:	B-302C	B-303A	B-303B	B-303C	B-400A	B-400B	B-400C	B-401A	B-401B	B-401C
Sample Depth*(inches):	(24-48)	(0-6)	(18-24)	(24-48)	(0-6)	(18-24)	(36-41)	(0-6)	(18-24)	(36-41)
Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91	12/9/91	12/9/91	12/9/91	12/9/91	12/9/91	12/9/91
TPHCs (mg/kg)	10,000	200	310	190	<27	<26	33	1,200	270	61

Area:	2	2	2	2	2	2	2	2	2	2
Sample Designation:	B-52A	B-52B	B-53A	B-53B	B-54A	B-55A	B-304A	B-304B	B-305A	B-305B
Sample Depth*(inches):	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)	(0-6)	(0-6)	(18-24)	(0-6)	(18-24)
Sample Date:	8/26/91	8/26/91	8/26/91	8/26/91	8/26/91	8/26/91	10/16/91	10/16/91	10/16/91	10/16/91
TPHCs (mg/kg)	11,000	38	3,100	47	12,000	15,000	56,000	70,000	21,000	33,000

* Depth below bottom of asphalt, gravel, and/or construction debris.
TPHCs Total petroleum hydrocarbons.
mg/kg Milligrams per kilogram.
QA/QC Quality assurance/quality control.
mg/L Milligrams per liter.
ND Not detected.

Note Soil action level for TPHCs is 1000 mg/kg.

Table 3-5. Petroleum Hydrocarbon Analyses of Soil Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Area:	2	2	2	2	2	2	3	3	3	3
Sample Designation:	B-306A	B-306B	B-307A	B-307B	B-309A	B-309B	B-65A	B-65B	B-66A	B-66B
Sample Depth*(inches):	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)
Sample Date:	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91	10/16/91	8/26/91	8/26/91	8/26/91	8/26/91
TPHCs (mg/kg)	16,000	34,000	37,000	15,000	560	1,500	<22	<23	<22	<22

Area:	3	3	3	3	3	3	3	3	3	3
Sample Designation:	B-67A	B-67B	B-68A	B-68B	B-106B	B-117A	B-117B	B-118A	B-118B	B-119A
Sample Depth*(inches):	(0-6)	(18-24)	(0-6)	(18-24)	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)
Sample Date:	8/26/91	8/26/91	8/26/91	8/28/91	9/5/91	8/28/91	8/28/91	8/28/91	8/28/91	8/28/91
TPHCs (mg/kg)	<23	<22	<23	<22	25	<23	<23	<22	<22	<22

Area:	3	3	3	3	3	3	3
Sample Designation:	B-119B	B126A	B-126B	B-127A	B-127B	B-310A	B-310B
Sample Depth*(inches):	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)	(0-6)	(18-24)
Sample Date:	8/28/91	8/29/91	8/29/91	8/29/91	8/29/91	10/15/91	10/15/91
TPHCs (mg/kg)	<22	7,700	12,000	4,100	660	70	<21

	QA/QC (concentrations in mg/L)								
Sample Designation:	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Sample Depth*(inches):									
Sample Date:	8/26/91	8/27/91	8/28/91	8/29/91	8/30/91	9/5/91	10/15/91	10/15/91	12/9/91
TPHCs	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

* Depth below bottom of asphalt, gravel, and/or construction debris.
TPHCs *Total petroleum hydrocarbons.*
mg/kg Milligrams per kilogram.
QA/QC Quality assurance/quality control.
mg/L *Milligrams per liter.*
ND Not detected.

Note Soil action level for TPHCs is 1000 mg/kg.

Table 3-6. Summary of Construction Details of Monitoring Wells Located at the Allied-Signal Inc. Facility, Elizabeth, New Jersey.

Monitoring Well Designation	Date Completed	Well Diameter (inches)	Elevation of Measuring Point (feet relative to mean sea level)	Total Depth of Well (feet below land surface)	Screen Setting (feet below land surface)
W-1	1/29/86	2	9.74	15.5	5.5 to 15.5
W-1D	7/25/89	4	9.67	30.08	20.08 to 30.8
W-2	1/29/86	2	12.39	15.74	5.74 to 15.74
W-3	1/30/86	2	9.71	14.5	4.5 to 14.5
W-4	2/12/86	2	12.72	16.63	6.63 to 16.63
W-5	1/30/86	2	12.50	22.73	12.73 to 22.73
W-15S	7/17/89	4	10.60	12.02	2.02 to 12.02
W-15D	7/24/89	4	10.65	29.40	19.40 to 29.40
W-16S	7/24/89	4	10.04	13.70	3.70 to 13.70
W-17S	7/18/89	4	12.39	14.03	4.03 to 14.03
W-17D	7/24/89	4	12.00	28.10	18.10 to 28.10
W-18S	7/25/89	4	12.69	15.00	5.00 to 15.00
W-19S	7/24/89	4	12.48	12.55	2.55 to 2.55
W-20S	7/25/89	4	11.12	13.85	3.85 to 13.85
W-21S	7/25/89	4	14.11	13.07	3.07 to 13.07
W-21D	7/25/89	4	15.57	34.45	24.45 to 34.45
W-22S	10/2/91	4	10.03	12.0	2.0 to 12.0
W-23S	9/25/91	4	10.06	14.0	4.0 to 14.0
W-24S	10/2/91	4	10.49	13.0	3.0 to 13.0
W-25S	9/25/91	4	10.13	14.0	4.0 to 14.0
W-27S	9/25/91	4	8.89	14.0	4.0 to 14.0

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

						—Replicate—	
Sample Designation:	W-1	W-2	W-3	W-4	W-5	W-15S	W-15S
Sample Date:	10/22/91	10/22/91	10/22/91	10/22/91	91	10/21/91	10/21/91
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameter							
Chloromethane	<10	<10	<100	<10	<10	<10	<10
Bromomethane	<10	<10	<100	<10	<10	<10	<10
Vinyl chloride	<10	13	<100	2.8 J	<10	<10	<10
Chloroethane	<10	<10	<100	<10	<10	<10	<10
Methylene chloride	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Acetone	15	11	2400	8.1 J	<10	<10	<10
Carbon disulfide	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	1.0 J	<50	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	<5.0	23	110	7.6	<5.0	1.3 J	<5.0
Chloroform	<5.0	5.7	57	<5.0	<5.0	94	94
1,2-Dichloroethane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
2-Butanone	<10	<10	<100	<10	<10	<10	<10
1,1,1-Trichloroethane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	<10	<10	<100	<10	<10	<10	<10
Bromodichloromethane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	49	24 J	14	<5.0	2.1 J	1.9 J
Dibromochloromethane	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	1.6 J	<50	<5.0	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<50	5.4	1.3 J	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<10	<10	<100	<10	<10	<10	<10
2-Hexanone	<10	<10	<100	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	<5.0	18	<50	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	<5.0	11	180	<5.0	<5.0	4.5 J	4.2 J
Toluene	<5.0	1.8 J	30 J	1.5 J	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	<5.0	1.9 J	<50	3.4 J	1.3 J	1.0 J	<5.0
Total VOCs:	15	137	2801	42.8	2.6	102.9	100.1

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

		Replicate						
	Sample Designation:	W-16S	W-16S	W-17S	W-18S	W-19S	W-20S	W-21S
	Sample Date:	10/23/91	10/23/91	10/23/91	10/18/91	10/18/91	10/21/91	10/21/91
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameter								
Chloromethane		<1000	<1000	<2000	<10	<10	<10	<10
Bromomethane		<1000	<1000	<2000	<10	<10	<10	<10
Vinyl chloride		<1000	<1000	<2000	<10	<10	<10	<10
Chloroethane		<1000	<1000	<2000	<10	<10	<10	<10
Methylene chloride		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Acetone		1300	1000	<2000	<10	<10	<10	<10
Carbon disulfide		210 J	240 J	<1000	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Chloroform		6200	6100	850 J	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane		<500	<500	2000	<5.0	<5.0	<5.0	<5.0
2-Butanone		<1000	<1000	<2000	<10	<10	<10	<10
1,1,1-Trichloroethane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Vinyl acetate		<1000	<1000	<2000	<10	<10	<10	<10
Bromodichloromethane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Trichloroethene		<500	<500	380 J	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Benzene		<500	<500	<1000	3.3 J	<5.0	<5.0	9.4
cis-1,3-Dichloropropene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Bromoform		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<1000	<1000	<2000	<10	<10	<10	<10
2-Hexanone		<1000	<1000	<2000	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane		<500	<500	10000	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Toluene		<500	<500	<1000	1.3 J	<5.0	<5.0	<5.0
Chlorobenzene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Ethylbenzene		<500	<500	<1000	2.3 J	<5.0	<5.0	<5.0
Styrene		<500	<500	<1000	<5.0	<5.0	<5.0	<5.0
Xylenes (total)		<500	<500	<1000	9.1	<5.0	<5.0	9.5
Total VOCs:		7710	7340	13230	16	0	0	18.9

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation; Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	W-22S	W-23S	W-24S	W-25S	W-27S	SW-3	SW-3
Sample Date:	10/22/91	10/23/91	10/22/91	10/23/91	10/23/91	10/18/91	11/7/91
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameter							
Chloromethane	<25	<1000	<10	<10	<10	<10	<10
Bromomethane	<25	<1000	<10	<10	<10	<10	<10
Vinyl chloride	<25	<1000	<10	21	<10	<10	<10
Chloroethane	<25	<1000	<10	<10	<10	<10	<10
Methylene chloride	3.6 J	900	<5.0	<5.0	12	1.2 J	1.3 JB
Acetone	37	<1000	11	<10	74	38	53 B
Carbon disulfide	<12	2300	2.6 J	<5.0	49	<5.0	<5.0
1,1-Dichloroethene	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<12	<500	<5.0	<5.0	4.8 J	<5.0	<5.0
1,2-Dichloroethene	<12	<500	<5.0	68	2.3 J	6.8	<5.0
Chloroform	9.0 J	46000	<5.0	20	4.6 J	1.8 J	1.5 J
1,2-Dichloroethane	<12	<500	1.3 J	1.2 J	<5.0	4.2 J	3.1 J
2-Butanone	<25	<1000	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<12	21000	<5.0	2.4 J	<5.0	<5.0	<5.0
Vinyl acetate	<25	<1000	<10	<10	<10	<10	<10
Bromodichloromethane	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<12	<500	<5.0	130	1.3 J	2.3 J	<5.0
Dibromochloromethane	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<12	<500	<5.0	<5.0	5.4	<5.0	<5.0
Benzene	180	<500	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
Bromoform	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<25	<1000	<10	<10	<10	<10	<10
2-Hexanone	<25	<1000	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	<12	<500	<5.0	34	4.8 J	110	97
Tetrachloroethene	<12	<500	<5.0	23	2.1 J	<5.0	<5.0
Toluene	21	<500	<5.0	<5.0	1.5 J	<5.0	<5.0
Chlorobenzene	<12	<500	<5.0	<5.0	2.2 J	<5.0	<5.0
Ethylbenzene	60	<500	<5.0	<5.0	4.4 J	<5.0	<5.0
Styrene	<12	<500	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	200	<500	<5.0	2.3 J	20	<5.0	<5.0
Total VOCs:	510.6	70200	14.9	301.9	188.4	164.3	155.9

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	SW-4	SW-4	SW-7	SW-7	SW-10	SW-10	SW-11
Sample Date:	10/21/91	11/7/91	10/21/91	11/7/91	10/18/91	11/7/91	10/18/91
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameter							
Chloromethane	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10
Methylene chloride	8.5	20 B	20	61 B	<5.0	<5.0	<5.0
Acetone	<10	<10	20	<10	8.0 J	<10	9.4 J
Carbon disulfide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	16	53	35	150	<5.0	<5.0	7.9
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.2 J
2-Butanone	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	6.8	2.0 J	15	6.5	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	<5.0	<5.0	1.8 J	3.0 J	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	140	70	470	<5.0	<5.0	150
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	8.0	1200	13	2300	2.0 J	<5.0	84
Tetrachloroethene	7.9	1.9 J	16	5.0	<5.0	<5.0	8.2
Toluene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total VOCs	47.2	1416.9	190.8	2995.5	10	0	260.7

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	SW-12	SW-12	Field Blank	Field Blank	Field Blank	Field Blank	Trip Blank
Sample Date:	10/21/91	11/7/91	10/18/91	10/21/91	10/22/91	10/23/91	10/18/91
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameter							
Chloromethane	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone	5.6 J	19 B	<10	<10	<10	<10	<10
Carbon disulfide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone	<10	<10	<10	<10	<10	<10	<10
1,1,1-Trichloroethane	<5.0	5	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	<10	<10	<10	<10	<10	<10	<10
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total VOCs	5.6	24	0	0	0	0	0

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-7. Results of Volatile Organic Compound Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Sample Date:	10/21/91	10/22/91	10/23/91	11/7/91
Units:	ug/L	ug/L	ug/L	ug/L
Parameter				
Chloromethane	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10
Methylene chloride	<5.0	<5.0	<5.0	29
Acetone	<10	<10	<10	59
Carbon disulfide	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0
2-Butanone	<10	<10	<10	<10
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0
Vinyl acetate	<10	<10	<10	<10
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Benzene	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<10	<10	<10	<10
2-Hexanone	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	<5.0	<5.0	<5.0	<5.0
Total VOCs:	0	0	0	88

ug/L Micrograms per liter.
J Result is detected below reporting limit or is an estimated concentration.
VOCs Volatile organic compounds.
B Analyte was found in the blank as well as the sample.

Table 3-8. Results of Base-Neutral Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	W-3	SW-3	SW-3	SW-10	SW-10	SW-11	SW-12
Sample Date:	10/22/91	10/18/91	11/7/91	10/18/91	11/7/91	10/18/91	10/21/91
Parameters (concentrations in ug/L)							
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
Benzyl alcohol	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10	<10
bis(2-Chloroethoxy)-methane	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10
Naphthalene	130	<10	<10	<10	<10	<10	<10
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	78	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10	<10
2-Nitroaniline	<50	<50	<50	<50	<50	<50	<50
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10
3-Nitroaniline	<50	<50	<50	<50	<50	<50	<50
Acenaphthene	37	<10	<10	<10	<10	<10	<10
Dibenzofuran	22	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
Fluorene	19	<10	<10	<10	<10	<10	<10
4-Nitroaniline	<50	<50	<50	<50	<50	<50	<50
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	4.3 J	<10	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10	<10	<10	<10	<10
3,3'-Dichlorobenzidine	<20	<20	<10	<20	<10	<20	<20
Benzo(a)anthracene	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	3.2 J	<10	2 J	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10	<10	<10
Di-n-octyl phthalate	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10	<10	<10
Total Base-Neutrals	293.5	0	2	0	0	0	0

ug/L Micrograms per liter.
J Result is detected below the reporting limit or is an estimated concentration.

BASE-NET.XLS

Table 3-8. Results of Base-Neutral Analyses of Ground-Water and Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	SW-12	Field Blank
Sample Date:	11/7/91	10/22/91
Parameters (concentrations in ug/L)		
bis(2-Chloroethyl)ether	< 10	< 10
1,3-Dichlorobenzene	< 10	< 10
1,4-Dichlorobenzene	< 10	< 10
Benzyl alcohol	< 10	< 10
1,2-Dichlorobenzene	< 10	< 10
bis(2-Chloroisopropyl)ether	< 10	< 10
N-Nitroso-di-n-propylamine	< 10	< 10
Hexachloroethane	< 10	< 10
Nitrobenzene	< 10	< 10
Isophorone	< 10	< 10
bis(2-Chloroethoxy)-methane	< 10	< 10
1,2,4-Trichlorobenzene	< 10	< 10
Naphthalene	< 10	< 10
4-Chloroaniline	< 10	< 10
Hexachlorobutadiene	< 10	< 10
2-Methylnaphthalene	< 10	< 10
Hexachlorocyclopentadiene	< 10	< 10
2-Chloronaphthalene	< 10	< 10
2-Nitroaniline	< 50	< 50
Dimethyl phthalate	< 10	< 10
Acenaphthylene	< 10	< 10
3-Nitroaniline	< 50	< 50
Acenaphthene	< 10	< 10
Dibenzofuran	< 10	< 10
2,4-Dinitrotoluene	< 10	< 10
2,6-Dinitrotoluene	< 10	< 10
Diethyl phthalate	< 10	< 10
4-Chlorophenyl phenyl ether	< 10	< 10
Fluorene	< 10	< 10
4-Nitroaniline	< 50	< 50
N-Nitrosodiphenylamine	< 10	< 10
4-Bromophenyl phenyl ether	< 10	< 10
Hexachlorobenzene	< 10	< 10
Phenanthrene	< 10	< 10
Anthracene	< 10	< 10
Di-n-butyl phthalate	< 10	< 10
Fluoranthene	< 10	< 10
Pyrene	< 10	< 10
Butyl benzyl phthalate	< 10	< 10
3,3'-Dichlorobenzidine	< 20	< 20
Benzo(a)anthracene	< 10	< 10
bis(2-Ethylhexyl)phthalate	2.9 J	< 10
Chrysene	< 10	< 10
Di-n-octyl phthalate	< 10	< 10
Benzo(b)fluoranthene	< 10	< 10
Benzo(k)fluoranthene	< 10	< 10
Benzo(a)pyrene	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10
Dibenz(a,h)anthracene	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 10
Total Base-Neutrals	2.9	0

ug/L Micrograms per liter.
J Result is detected below the reporting limit or is an estimated concentration.

BASE-NET.XLS

Table 3-9. Results of Petroleum Hydrocarbon Analyses of Ground-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Parameter	Sample Designation: W-22S Sample Date: 10/22/91	Field Blank 10/22/91
TPHCs (mg/L)	4.0	<0.50

TPHCs Total petroleum hydrocarbons.
mg/L Milligrams per liter.

PETROL.XLS

Table 3-10 Results of Metal Analyses of Surface-Water Samples, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Sample Designation:	SW-3	SW-3	SW-10	SW-10	SW-11	SW-12	SW-12
Sample Date:	10/18/91	11/7/91	10/18/91	11/7/91	10/18/91	10/21/91	11/7/91
Parameter (concentrations in mg/L)							
Antimony	<0.050	0.14	<0.050	<0.050	<0.050	<0.050	<0.050
Beryllium	NA	NA	NA	NA	NA	<0.0020	NA
Cadmium	NA	NA	NA	NA	NA	<0.0050	NA
Chromium	NA	NA	NA	NA	NA	<0.010	NA
Copper	NA	NA	NA	NA	NA	0.015 B	NA
Nickel	NA	NA	NA	NA	NA	<0.040	NA
Silver	NA	NA	NA	NA	NA	<0.010	NA
Zinc	NA	NA	NA	NA	NA	<0.020	NA
Arsenic	NA	NA	NA	NA	NA	<0.0050	NA
Lead	NA	NA	NA	NA	NA	<0.0050	NA
Mercury	NA	NA	NA	NA	NA	<0.00020	NA
Selenium	NA	NA	NA	NA	NA	<0.0050	NA
Thallium	NA	NA	NA	NA	NA	<0.010	NA

mg/L Milligrams per liter

NA Not analyzed.

B Analyte was found in the blank as well as the sample.

920880396

Table 3-11. Water-Level Elevation Data, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Well Designation	Measuring Point Elevation (feet above mean sea level)	11/7/91 Depth to Water (feet below measuring point)	Water-Level Elevation (feet above mean sea level)
W-1	9.74	3.10	6.64
W-1D	9.67	6.98	2.69
W-2	12.39	5.44	6.95
W-3	9.71	3.63	6.08
W-4	12.72	6.19	6.53
W-5	12.50	7.25	5.25
W-6S	25.81	19.72	6.09
W-6D	25.70	21.65	4.05
W-7	25.14	19.38	5.76
W-8	24.85	18.96	5.89
W-9	25.40	19.36	6.04
W-10	23.01	16.76	6.25 *
W-11	20.54	14.99	5.55
W-12	24.39	18.80	5.59
W-13	23.73	17.79	5.94
W-14	25.47	19.44	6.03
W-15S	10.60	5.38	5.22
W-15D	10.65	7.73	2.92
W-16S	10.04	3.57	6.47
W-17S	12.39	5.95	6.44
W-17D	12.00	8.56	3.44
W-18S	12.69	7.56	5.13
W-19S	12.48	6.45	6.03
W-20S	11.12	8.09	3.03
W-21S	14.11	5.61	8.50
W-21D	15.57	13.77	1.80
W-22S	10.03	3.89	6.14
W-23S	10.06	3.10	6.96
W-24S	10.49	4.68	5.81
W-25S	10.13	3.33	6.80
W-27S	8.89	2.34	6.55

* Monitoring Well W-10 produced an anomalously high water-level elevation that was not incorporated into the water-level contour map.

– Water level not collected.

Table 3-11. Water-Level Elevation Data, Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

Well Designation	Measuring Point Elevation (feet above mean sea level)	11/26/91 Depth to Water (feet below measuring point)	Water-Level Elevation (feet above mean sea level)
W-1	9.74	3.32	6.42
W-1D	9.67	7.35	2.32
W-2	12.39	5.09	7.30
W-3	9.71	3.49	6.22
W-4	12.72	6.06	6.66
W-5	12.50	7.37	5.13
W-6S	25.81	19.74	6.07
W-6D	25.70	21.78	3.92
W-7	25.14	19.44	5.70
W-8	24.85	18.97	5.88
W-9	25.40	19.34	6.06
W-10	23.01	17.02	5.99*
W-11	20.54	15.01	5.53
W-12	24.39	18.79	5.60
W-13	23.73	17.87	5.86
W-14	25.47	19.46	6.01
W-15S	10.60	4.67	5.93
W-15D	10.65	7.89	2.76
W-16S	10.04	2.89	7.15
W-17S	12.39	5.32	7.07
W-17D	12.00	9.20	2.80
W-18S	12.69	7.66	5.03
W-19S	12.48	6.51	5.97
W-20S	11.12	8.26	2.86
W-21S	14.11	–	–
W-21D	15.57	–	–
W-22S	10.03	3.41	6.62
W-23S	10.06	2.49	7.57
W-24S	10.49	4.00	6.49
W-25S	10.13	3.15	6.98
W-27S	8.89	2.88	6.01
Staff Gauge			
SG-1	8.18	2.75	5.43
SG-2	7.84	2.40	5.44
SG-3	8.12	2.70	5.42
SG-4	7.77	2.30	5.47
SG-5	9.70	2.71	6.99

* Monitoring Well W-10 produced an anomalously high water-level elevation that was not incorporated into the water-level contour map.

– Water level not collected.

Table 5-1. New Jersey Department of Environmental Protection and Energy Proposed Cleanup Standards for Soil.

Compounds	Non-Residential Surface Soil Standards (1) (mg/kg)	Residential Surface Soil Standards (1) (mg/kg)	Subsurface Soil Standards (2) (mg/kg)
Metals			
Antimony	340	14	NA
Arsenic (total)	20	20	NA
Beryllium	2	2	NA
Cadmium	100	1	NA
Chromium (total)	NA	NA	NA
Copper	600	600	NA
Lead (total)	600	100	NA
Mercury (total)	260	14	NA
Nickel (soluble salts)	2,400	250	NA
Selenium (total)	1,000	1	NA
Silver	2,000	40	NA
Thallium	2	2	NA
Zinc	1,500	1,500	NA

See last page for footnotes.

Table 5-1. New Jersey Department of Environmental Protection and Energy Proposed Cleanup Standards for Soil.

Compounds	Non-Residential Surface Soil Standards (1) (ug/kg)	Residential Surface Soil Standards (1) (ug/kg)	Subsurface Soil Standards (2) (ug/kg)
VOCs			
Chloromethane	1,000,000	520,000	10,000
Bromomethane	1,000,000	790,000	1,000
Vinyl chloride	7,000	2,000	1,000
Chloroethane	NA	NA	NA
Methylene chloride	170,000	49,000	10,000
Acetone	1,000,000	1,000,000	50,000
Carbon disulfide	NA	NA	NA
1,1-Dichloroethene	940,000	51,000	10,000
1,1-Dichloroethane	1,000,000	1,000,000	1,000
trans-1,2-Dichloroethene	10,000,000	960,000	50,000
cis-1,2-Dichloroethene	1,500,000	79,000	50,000
Chloroform	28,000	19,000	1,000
1,2-Dichloroethane	24,000	6,000	1,000
2-Butanone	1,000,000	1,000,000	50,000
1,1,1-Trichloroethane	3,800,000	210,000	50,000
Carbon tetrachloride	4,000	2,000	1,000
Vinyl acetate	NA	NA	NA
Bromodichloromethane	22,000	5,000	1,000
1,2-Dichloropropane	NA	NA	NA
1,3-Dichloropropene (total)	5,000	4,000	1,000
Trichloroethene	100,000	23,000	1,000
Dibromochloromethane	1,000,000	110,000	1,000
1,1,2-Trichloroethane	420,000	23,000	1,000
Benzene	13,000	3,000	1,000
Bromoform	370,000	86,000	1,000
4-Methyl-2-pentanone	1,000,000	1,000,000	50,000
2-Hexanone	NA	NA	NA
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000
Tetrachloroethene	37,000	9,000	1,000
Toluene	1,000,000	1,000,000	500,000
Chlorobenzene	690,000	37,000	1,000
Ethylbenzene	1,000,000	1,000,000	100,000
Styrene	97,000	23,000	100,000
Xylenes (total)	6,300,000	360,000	10,000
Total organic compounds	10,000,000	10,000,000	10,000,000
Total VOCs	1,000,000	1,000,000	1,000,000
Acrylonitrile	5,000	1,000	100,000
Acrolein	NA	NA	NA
2-Chloroethyl vinyl ether	NA	NA	NA

See last page for footnotes.

Table 5-1. New Jersey Department of Environmental Protection and Energy Proposed Cleanup Standards for Soil.

Compounds	Non-Residential Surface Soil Standards (1) (ug/kg)	Residential Surface Soil Standards (1) (ug/kg)	Subsurface Soil Standards (2) (ug/kg)
Base/Neutrals			
bis(2-Chloroethyl)ether	3,000	1,000	1,000
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000
1,4-Dichlorobenzene	1,200,000	280,000	100,000
Benzyl alcohol	10,000,000	10,000,000	50,000
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000
N-Nitroso-di-n-propylamine	660	660	1,000
Hexachloroethane	10,000,000	1,700,000	100,000
Nitrobenzene	520,000	1,000	50,000
Isophorone	10,000,000	1,100,000	10,000
bis(2-Chloroethoxy)methane	NA	NA	NA
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000
Naphthalene	4,200,000	230,000	100,000
4-Chloroaniline	NA	NA	NA
Hexachlorobutadiene	210,000	11,000	50,000
2-Methylnaphthalene	NA	NA	NA
Hexachlorocyclopentadiene	7,300,000	400,000	100,000
2-Chloronaphthalene	NA	NA	NA
2-Nitroaniline	NA	NA	NA
Dimethyl phthalate	10,000,000	10,000,000	50,000
Acenaphthylene	NA	NA	NA
3-Nitroaniline	NA	NA	NA
Acenaphthene	10,000,000	3,400,000	100,000
Dibenzofuran	NA	NA	NA
2,4-Dinitrotoluene	4,000	1,000	10,000
2,6-Dinitrotoluene	NA	NA	NA
Diethyl phthalate	10,000,000	10,000,000	50,000
4-Chlorophenyl phenyl ether	NA	NA	NA
Fluorene	10,000,000	2,300,000	100,000
4-Nitroaniline	NA	NA	NA
2,4-Dinitrophenol	2,100,000	110,000	10,000
4-Nitrophenol	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA
Pentachlorophenol	10,000,000	1,700,000	100,000
4-Methylphenol	NA	NA	NA
2-Methylphenol	NA	NA	NA

See last page for footnotes.

Table 5-1. New Jersey Department of Environmental Protection and Energy Proposed Cleanup Standards for Soil.

Compounds	Non-Residential Surface Soil Standards (1) (ug/kg)	Residential Surface Soil Standards (1) (ug/kg)	Subsurface Soil Standards (2) (ug/kg)
Base/Neutrals (cont.)			
N-Nitrosodiphenylamine	590,000	140,000	100,000
4-Bromophenyl phenyl ether	NA	NA	NA
Hexachlorobenzene	2,000	420	50,000
Phenanthrene	NA	NA	NA
Anthracene	10,000,000	10,000	500,000
Di-n-butyl phthalate	10,000,000	5,700,000	100,000
Fluoranthene	10,000,000	2,300,000	500,000
Pyrene	10,000,000	1,700,000	500,000
Butyl benzyl phthalate	10,000,000	10,000,000	100,000
3,3'-Dichlorobenzidine	7,000	2,000	100,000
Benzo(a)anthracene	2,500	660	500,000
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000
Chrysene	2,500	660	500,000
Di-n-octyl phthalate	10,000,000	1,100,000	100,000
Benzo(b)fluoranthene	2,500	660	500,000
Benzo(k)fluoranthene	2,500	660	500,000
Benzo(a)pyrene (BaP)	660	660	100,000
Indeno(1,2,3-cd)pyrene	2,500	660	500,000
Dibenz(a,h)anthracene	660	660	500,000
Benzo(g,h,i)perylene	2,500	660	500,000
2-Chlorophenol	5,200,000	280,000	50,000
Benzidine	NA	NA	NA
2-Nitrophenol	NA	NA	NA
2,4-Dimethylphenol	10,000,000	1,100,000	50,000
2,4-Dichlorophenol	5,200,000	170,000	10,000
4-Chloro-3-methyl phenol	10,000,000	10,000,000	100,000
2,4,6-Trichlorophenol	260,000	62,000	50,000

See last page for footnotes.

Table 5-1. New Jersey Department of Environmental Protection and Energy Proposed Cleanup Standards for Soil.

Compounds	Non-Residential Surface Soil Standards (1) (ug/kg)	Residential Surface Soil Standards (1) (ug/kg)	Subsurface Soil Standards (2) (ug/kg)
Organochlorine Pesticides, PCBs, Cyanide and Phenols			
alpha-BHC	NA	NA	NA
beta-BHC	NA	NA	NA
delta-BHC	NA	NA	NA
gamma-BHC (Lindane)	2,200	520	1,000
Heptachlor	650	150	500,000
Aldrin	170	40	50,000
Heptachlor epoxide	NA	NA	NA
Endosulfan	52,000	3,000	50,000
Dieldrin	180	42	50,000
4,4'-DDE	9,000	2,000	100,000
Endrin	310,000	17,000	50,000
4,4'-DDD (p,p'-TDE)	12,000	3,000	100,000
Endosulfan sulfate	NA	NA	NA
4,4'-DDT	9,000	2,000	100,000
Endrin aldehyde	NA	NA	NA
Methoxychlor	5,200,000	280,000	500,000
Chlordane	NA	NA	NA
Toxaphene	2,700	620	100,000
PCBs	2,000	450	100,000
Cyanide (total)	5,200,000	280,000	NA
Phenols	10,000,000	10,000,000	50,000

mg/kg Milligrams per kilogram.
ug/kg Micrograms per kilogram.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standard).
. No standard given.
VOCs Volatile organic compounds.
PCBs Polychlorinated biphenyls.

Total organic compounds include all volatile organic compounds, semivolatile organic compounds and petroleum hydrocarbons.

Table 5-2. Results of Priority Pollutant Volatile Organic Compound Analyses of Composite Soil Samples Collected During Phase II, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	1	1	QA/QC	QA/QC
			Sample Designation:	B-46	B-47	Field	Trip
			Sample Depth*(inches):	(0-24)	(0-24)	Blank	Blank
			Sample Date:	8/27/91	8/27/91	8/27/91	8/27/91
			Units:	ug/kg	ug/kg	ug/L	ug/L
	Surface Soil Standards (1)		Subsurface Soil				
Parameters	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)				
Acrylonitrile	5,000	1,000	100,000	<280	<53	<50	<50
Acrolein	NA	NA	NA	<280	<53	<50	<50
cis-1,2-Dichloroethene	1,500,000	79,000	50,000	<28	<5.3	<5.0	<5.0
Chloromethane	1,000,000	520,000	10,000	<56	<11	<10	<10
Bromomethane	1,000,000	790,000	1,000	<56	<11	<10	<10
Vinyl chloride	7,000	2,000	1,000	<56	<11	<10	<10
Chloroethane	NA	NA	NA	<56	<11	<10	<10
Methylene chloride	170,000	49,000	10,000	6.9 J	1.9 J	1.1 J	1.3 J
1,1-Dichloroethene	940,000	51,000	10,000	<28	<5.3	<5.0	<5.0
1,1-Dichloroethane	1,000,000	1,000,000	1,000	<28	<5.3	<5.0	<5.0
1,2-Dichloroethene (total)	11,500,000	1,039,000	100,000	<28	<5.3	<5.0	<5.0
Chloroform	28,000	19,000	1,000	<28	<5.3	<5.0	<5.0
1,2-Dichloroethane	24,000	6,000	1,000	<28	<5.3	<5.0	<5.0
1,1,1-Trichloroethane	3,800,000	210,000	50,000	<28	<5.3	<5.0	<5.0
Carbon tetrachloride	4,000	2,000	1,000	<28	<5.3	<5.0	<5.0
Bromodichloromethane	22,000	5,000	1,000	<28	<5.3	<5.0	<5.0
1,2-Dichloropropane	NA	NA	NA	<28	<5.3	<5.0	<5.0
trans-1,3-Dichloropropene	5,000 +	4,000 +	1,000 +	<28	<5.3	<5.0	<5.0
Trichloroethene	100,000	23,000	1,000	<28	<5.3	<5.0	<5.0
Dibromochloromethane	1,000,000	110,000	1,000	<28	<5.3	<5.0	<5.0
1,1,2-Trichloroethane	420,000	23,000	1,000	<28	<5.3	<5.0	<5.0
Benzene	13,000	3,000	1,000	20 J	1.6 J	<5.0	<5.0
cis-1,3-Dichloropropene	5,000 +	4,000 +	1,000 +	<28	<5.3	<5.0	<5.0
2-Chloroethyl vinyl ether	NA	NA	NA	<56	<11	<10	<10
Bromoform	370,000	86,000	1,000	<28	<5.3	<5.0	<5.0
1,1,2,2-Tetrachloroethane	70,000	34,000	1,000	<28	<5.3	<5.0	<5.0
Tetrachloroethene	37,000	9,000	1,000	11 J	1.8 J	<5.0	<5.0
Toluene	1,000,000	1,000,000	500,000	30	2.3 J	<5.0	<5.0
Chlorobenzene	690,000	37,000	1,000	<28	<5.3	<5.0	<5.0
Ethylbenzene	1,000,000	1,000,000	100,000	230	15	<5.0	<5.0
Total VOCs	1,000,000	1,000,000	1,000,000	297.9	22.6	1.1	1.3

QA/QC Quality assurance/quality control.
* Depth below bottom of asphalt, grave, and/or construction debris.
ug/kg Micrograms per kilogram.
ug/L Micrograms per liter.
J Result is detected below the reporting limit or is an estimated concentration.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Soil Standard).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standards).
NA No standard given.
\+ Value for total 1,3-Dichloropropene.
VOCs Volatile organic compounds.

PRI-VOC.XLS

Table 5-3. Results of Priority Pollutant Semivolatile Organic Compound Analyses of Composite Soil Samples Collected During the Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	1	1	QA/QC
			Sample Designation:	B-46	B-47	Field
			Sample Depth*(inches):	(0-24)	(0-24)	Blank
			Sample Date:	8/27/91	8/27/91	8/27/91
			Units:	ug/kg	ug/kg	ug/L
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
Benzidine	NA	NA	NA	<3700	<3500	<10
Phenol	10,000,000	10,000,000	50,000	<3700	<3500	<10
bis(2-Chloroethyl)ether	3,000	1,000	1,000	<3700	<3500	<10
2-Chlorophenol	5,200,000	280,000	50,000	<3700	<3500	<10
1,3-Dichlorobenzene	10,000,000	5,100,000	100,000	<3700	<3500	<10
1,4-Dichlorobenzene	1,200,000	280,000	100,000	<3700	<3500	<10
1,2-Dichlorobenzene	10,000,000	5,100,000	50,000	<3700	<3500	<10
bis(2-Chloroisopropyl)ether	10,000,000	2,300,000	10,000	<3700	<3500	<10
N-Nitroso-di-n-propylamine	660	660	1,000	<3700	<3500	<10
Hexachloroethane	10,000,000	1,700,000	100,000	<3700	<3500	<10
Nitrobenzene	520,000	1,000	50,000	<3700	<3500	<10
Isophorone	10,000,000	1,100,000	10,000	<3700	<3500	<10
2-Nitrophenol	NA	NA	NA	<3700	<3500	<10
2,4-Dimethylphenol	10,000,000	1,100,000	50,000	<3700	<3500	<10
bis(2-Chloroethoxy)methane	NA	NA	NA	<3700	<3500	<10
2,4-Dichlorophenol	5,200,000	170,000	10,000	<3700	<3500	<10
1,2,4-Trichlorobenzene	10,000,000	1,100,000	100,000	<3700	<3500	<10
Naphthalene	4,200,000	230,000	100,000	460 J	1500 J	<10
Hexachlorobutadiene	210,000	11,000	50,000	<3700	<3500	<10
4-Chloro-3-methylphenol	10,000,000	10,000,000	100,000	<3700	<3500	<10
Hexachlorocyclopentadiene	7,300,000	400,000	100,000	<3700	<3500	<10
2,4,6-Trichlorophenol	260,000	62,000	50,000	<3700	<3500	<10
2-Chloronaphthalene	NA	NA	NA	<3700	<3500	<10
Dimethyl phthalate	10,000,000	10,000,000	50,000	<3700	<3500	<10
Acenaphthylene	NA	NA	NA	<3700	<3500	<10
Acenaphthene	10,000,000	3,400,000	100,000	<3700	400 J	<10
2,4-Dinitrophenol	2,100,000	110,000	10,000	<18000	<17000	<50
4-Nitrophenol	NA	NA	NA	<18000	<17000	<50
2,4-Dinitrotoluene	4,000	1,000	10,000	<3700	<3500	<10
2,6-Dinitrotoluene	NA	NA	NA	<3700	<3500	<10
Diethyl phthalate	10,000,000	10,000	50,000	<3700	<3500	<10
4-Chlorophenyl phenyl ether	NA	NA	NA	<3700	<3500	<10
Fluorene	10,000,000	2,300,000	100,000	<3700	610 J	<10
4,6-Dinitro-2-methylphenol	NA	NA	NA	<18000	<17000	<50
1,2-Diphenylhydrazine	NA	NA	NA	<3700	<3500	<10
N-Nitrosodiphenylamine	590,000	140,000	100,000	<3700	<3500	<10
4-Bromophenyl phenyl ether	NA	NA	NA	<3700	<3500	<10
Hexachlorobenzene	2,000	420	50,000	22000	<3500	<10
Pentachlorophenol	10,000,000	1,700,000	100,000	<18000	<17000	<50
Phenanthrene	NA	NA	NA	1400 J	1300 J	<10
Anthracene	10,000,000	10,000	500,000	820 J	<3500	<10
Di-n-butyl phthalate	10,000,000	5,700,000	100,000	<3700	<3500	<10
Fluoranthene	10,000,000	230,000,000	500,000	1700 J	960 J	<10
Pyrene	10,000,000	1,700,000	500,000	1300 J	950 J	<10
Butyl benzyl phthalate	10,000,000	10,000,000	100,000	<3700	<3500	<10

See page 2 for footnotes.

Table 5-3. Results of Priority Pollutant Semivolatile Organic Compound Analyses of Composite Soil Samples Collected During the Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

			Area:	1	1	QA/QC
			Sample Designation:	B-46	B-47	Field
			Sample Depth*(inches):	(0-24)	(0-24)	Blank
			Sample Date:	8/27/91	8/27/91	8/27/91
			Units:	ug/kg	ug/kg	ug/L
	Surface Soil Standards (1)		Subsurface Soil			
Parameter	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
3,3'-Dichlorobenzidine	7,000	2,000	100,000	<7300	<7100	<20
Benzo(a)anthracene	2,500	660	500,000	670 J	<3500	<10
bis(2-Ethylhexyl)phthalate	210,000	49,000	100,000	1200 J	1100 J	<10
Chrysene	2,500	660	500,000	790 J	450 J	<10
Di-n-octyl phthalate	10,000,000	1,100,000	100,000	480 J	<3500	<10
Benzo(b)fluoranthene	2,500	660	500,000	1300 J	820 J	<10
Benzo(k)fluoranthene	2,500	660	500,000	<3700	<3500	<10
Benzo(a)pyrene	660	660	100,000	610 J	<3500	<10
Indeno (1,2,3-cd)pyrene	2,500	660	500,000	400 J	<3500	<10
Dibenz(a,h)anthracene	660	660	500,000	<3700	<3500	<10
Benzo(g,h,i)perylene	2,500	660	500,000	410 J	<3500	<10
Total Semivolatiles:	NA	NA	NA	33,540	8,090	0

QA/QC Quality assurance/quality control.
* Depth below bottom of asphalt, gravel, and/or construction debris.
ug/kg Micrograms per kilogram.
ug/L Micrograms per liter.
J Result is detected below the reporting limit or is an estimated concentration.
(1) Surface soil is the top two feet of soil below grade (proposed New Jersey Soil Cleanup Standards).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (proposed New Jersey Soil Cleanup Standards).
NA No standard given.

Table 5-4. Results of Priority Pollutant Organochlorine Pesticide, PCB, Cyanide, and Phenolic Analyses of Composite Soil Samples Collected During the Phase II Investigation, Allied-Signal Inc., Elizabeth, New Jersey.

						QA/QC
			Area:	1	1	Field
			Sample Designation:	B-46	B-47	Blank
			Sample Depth*(inches):	(0-24)	(0-24)	
			Sample Date:	8/27/91	8/27/91	8/27/91
			Units:	ug/kg	ug/kg	ug/L
	Surface Soil Standards (1)		Subsurface Soil			
Parameters	Non-Residential (ug/kg)	Residential (ug/kg)	Standards (2) (ug/kg)			
alpha-BHC	NA	NA	NA	<8.9	<8.5	<0.050
beta-BHC	NA	NA	NA	<8.9	<8.5	<0.050
delta-BHC	NA	NA	NA	<8.9	<8.5	<0.050
gamma-BHC (Lindane)	2,200	520	1,000	5.8 J	<8.5	<0.050
Heptachlor	650	150	500,000	7.0 J	9.4	<0.050
Aldrin	170	40	50,000	<8.9	<8.5	<0.050
Heptachlor epoxide	NA	NA	NA	<8.9	<8.5	<0.050
Endosulfan I	52000+	3000+	50000+	<8.9	<8.5	<0.050
Dieldrin	180	42	50,000	<18	<17	<0.10
4,4'-DDE	9,000	2,000	100,000	<18	<17	<0.10
Endrin	310,000	17,000	50,000	<18	<17	<0.10
Endosulfan II	52,000+	3,000+	50,000+	<18	<17	<0.10
4,4'-DDD	12,000	3,000	100,000	60	25	<0.10
Endosulfan sulfate	NA	NA	NA	<18	<17	<0.10
4,4'-DDT	9,000	2,000	100,000	<18	<17	<0.10
Endrin aldehyde	NA	NA	NA	<18	<17	<0.10
Methoxychlor	5,200,000	280,000	500,000	<89	<85	<0.50
Chlordane	NA	NA	NA	<89	<85	<0.50
Toxaphene	2,700	620	100,000	<180	<170	<1.0
Aroclor 1016	2,000++	450++	100,000++	<89	<85	<0.50
Aroclor 1221	2,000++	450++	100,000++	<89	<85	<0.50
Aroclor 1232	2,000++	450++	100,000++	<89	<85	<0.50
Aroclor 1242	2,000++	450++	100,000++	<89	<85	<0.50
Aroclor 1248	2,000++	450++	100,000++	<89	<85	<0.50
Aroclor 1254	2,000++	450++	100,000++	<180	<170	<0.50
Aroclor 1260	2,000++	450++	100,000++	<180	<170	<0.50
Cyanide (total)	5,200,000	280,000	NA	<0.560 J	0.640 J	<0.010 J
Phenolics	10,000,000	10,000,000	50,000	1.800	0.550	<0.010

PCBs Polychlorinated biphenyls.
QA/QC Quality assurance/quality control.
* Depth below bottom of asphalt, gravel, and/or construction debris.
ug/kg Micrograms per kilograms.
ug/L Micrograms per liter.
J Result is detected below the reporting limit or is an estimated concentration.
(1) Surface soil is the top two feet of soil below grade (Proposed New Jersey Soil Cleanup Standards).
(2) Subsurface soil is the soil more than two feet below grade and extending downward to the top of the seasonally high water table (*proposed New Jersey Soil Cleanup Standards*).
\+ Total endosulfan.
\+\+ Total PCBs.

ELIZPEST.XLS

Table 5-5. Summary of ER-L and ER-M Concentrations for Selected Constituents in Sediment (dry weight), Allied-Signal Inc., Elizabeth, New Jersey.

Chemical Analyte	ER-L Concentrations	ER-M Concentrations	Subjective Degree of Confidence in ER-L/ER-M Values
Trace Elements (mg/kg)			
Antimony	2	25	Moderate/moderate
Arsenic	33	85	Low/moderate
Cadmium	5	9	High/high
Chromium	80	145	Moderate/moderate
Copper	70	390	High/high
Lead	35	110	Moderate/high
Mercury	0.15	1.3	Moderate/high
Nickel	30	50	Moderate/moderate
Silver	1	2.2	Moderate/moderate
Zinc	120	270	High/high
Pesticides (mg/kg)			
Chlordane	0.5	6	Low/low
Polynuclear Aromatic Hydrocarbons (ug/kg)			
Acenapthene	150	650	Low/low
Anthracene	85	960	Low/moderate
Benzo(a)anthracene	230	1600	Low/moderate
Benzo(a)pyrene	400	2500	Moderate/moderate
Chrysene	400	2800	Moderate/moderate
Dibenz(a,h)anthracene	60	260	Moderate/moderate
Fluoranthene	600	3600	High/high
2-Methylnaphthalene	65	670	Low/moderate
Naphthalene	340	2100	Moderate/high
Phenanthrene	225	1380	Moderate/moderate
Pyrene	350	2200	Moderate/moderate
Total PAH	4000	35000	Low/low

mg/kg Milligrams per kilogram.
ug/kg Micrograms per kilogram.
ER-L Effects range - low.
ER-M Effects range - medium.
PAH Polynuclear aromatic hydrocarbons.

The ER-L and ER-M are reference numbers used to identify the presence of contamination exceeding levels potentially harmful to aquatic life. Specific cleanup objectives are to be developed on a case-by-case basis.

Source NOAA 1990.

Table 8-1. Former Underground Storage Tank Survey, Allied-Signal Inc., Elizabeth, New Jersey.

Location	Tank Designation	Construction Material	Capacity (gallons)	Contents	Date Installed	Date Removed
Area 1						
Halon Warehouse	Gas Tank	Carbon Steel	2000	Gasoline	1957	1986
Area 1						
Halon Warehouse	Diesel Tank	Carbon Steel	6000	Diesel Oil	1957	1982
Area 1						
Administration Building	Heating Oil Tank	Carbon Steel	1000	No. 2 Fuel Oil	1957	1986
Area 4						
Monomer	Still Dump Tank	Carbon Steel	2250	VOCs	1963	10/30/90

VOCs Volatile organic compounds.

Table 8-2. Date of Construction for Containment Dikes Located at the Allied-Signal Inc. Facility, Elizabeth, New Jersey.

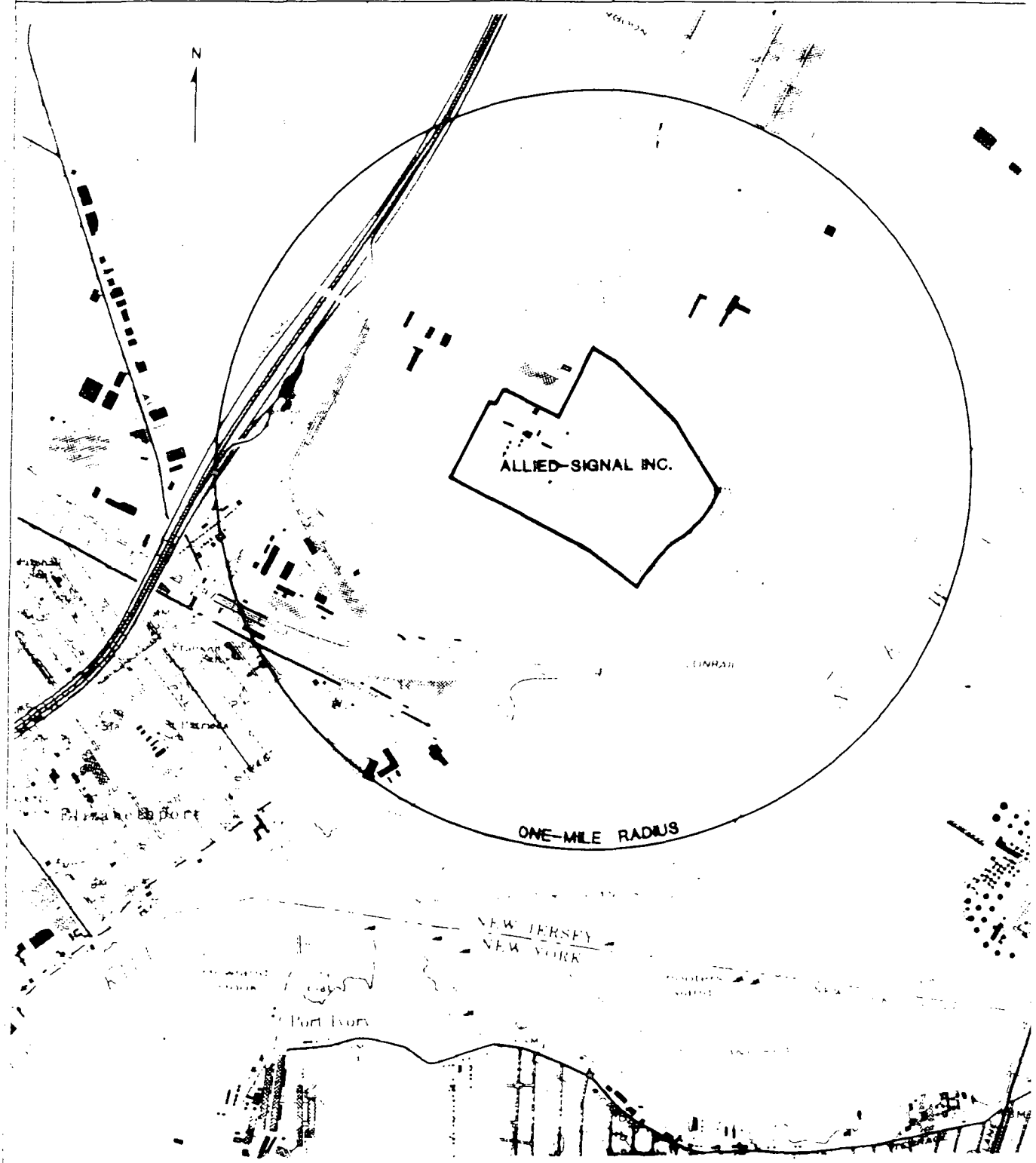
Tank	Date of Construction
101 ST	1971
128 ST	1971
Sulfuric Fuel Oil Tanks	~1975
Monomer Fuel Oil Tanks	1965
H102, H103 Chloroform Tanks	1978
Blends Area	1990
Halar Effluent Tank	1981
Monomer Caustic/Acid	1978
Genetron Spent Sodium Hydroxide Tanks	~1981
Hazardous Waste Drum Storage Pads	1983
Diesel Oil Tank New Fire Tank	1980
Heating Oil Tank at Garage	1989
Chloroform Tanks (Railroad Tracks)	1978

DATEDIKE.XLS

FIGURES

920880411

GERAGHTY & MILLER, INC. Ground-Water Consultants	COMPILED BY: S. GLASH	DATE: 5-89	SCALE: SHOWN	PREPARED FOR: ALLIED-SIGNAL INC. Elizabeth, New Jersey
	PREPARED BY: G. SCHAFFNER	FILE NO: NY100EZ1-1126		
	PROJECT MGR.: D. NEWTON			



SOURCE: USGS 7.5 MIN. TOPOGRAPHIC QUADRANGLE; ELIZABETH, NY-NJ, PHOTOREVISED 1981
40°40' LATITUDE, 74°10' LONGITUDE, APPROXIMATE LOCATION OF ALLIED-SIGNAL INC. PROPERTY
CONTOUR INTERVAL 10 FEET

0 2000 FT

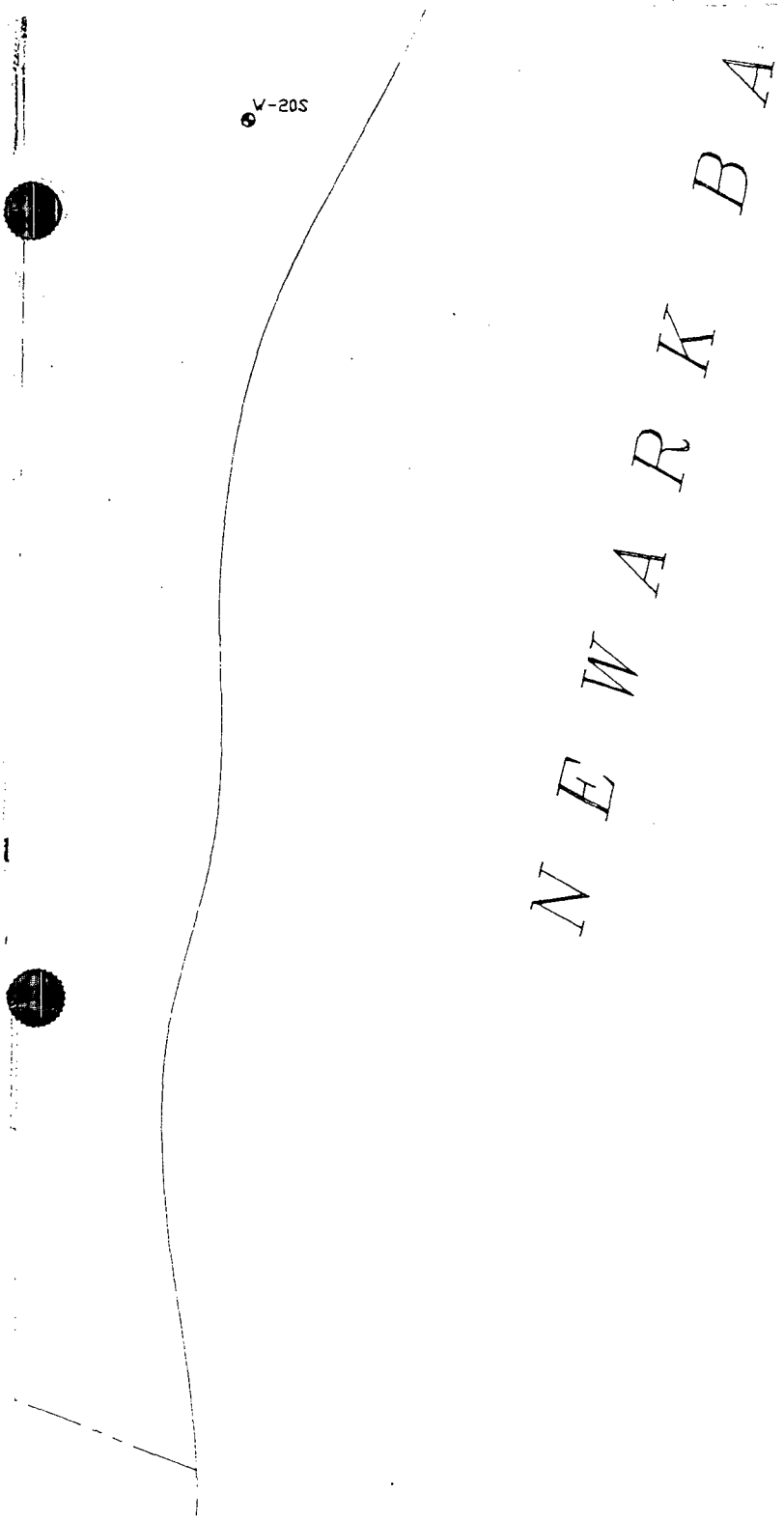
SUBJECT

SITE LOCATION

FIGURE 1-1

14-1991

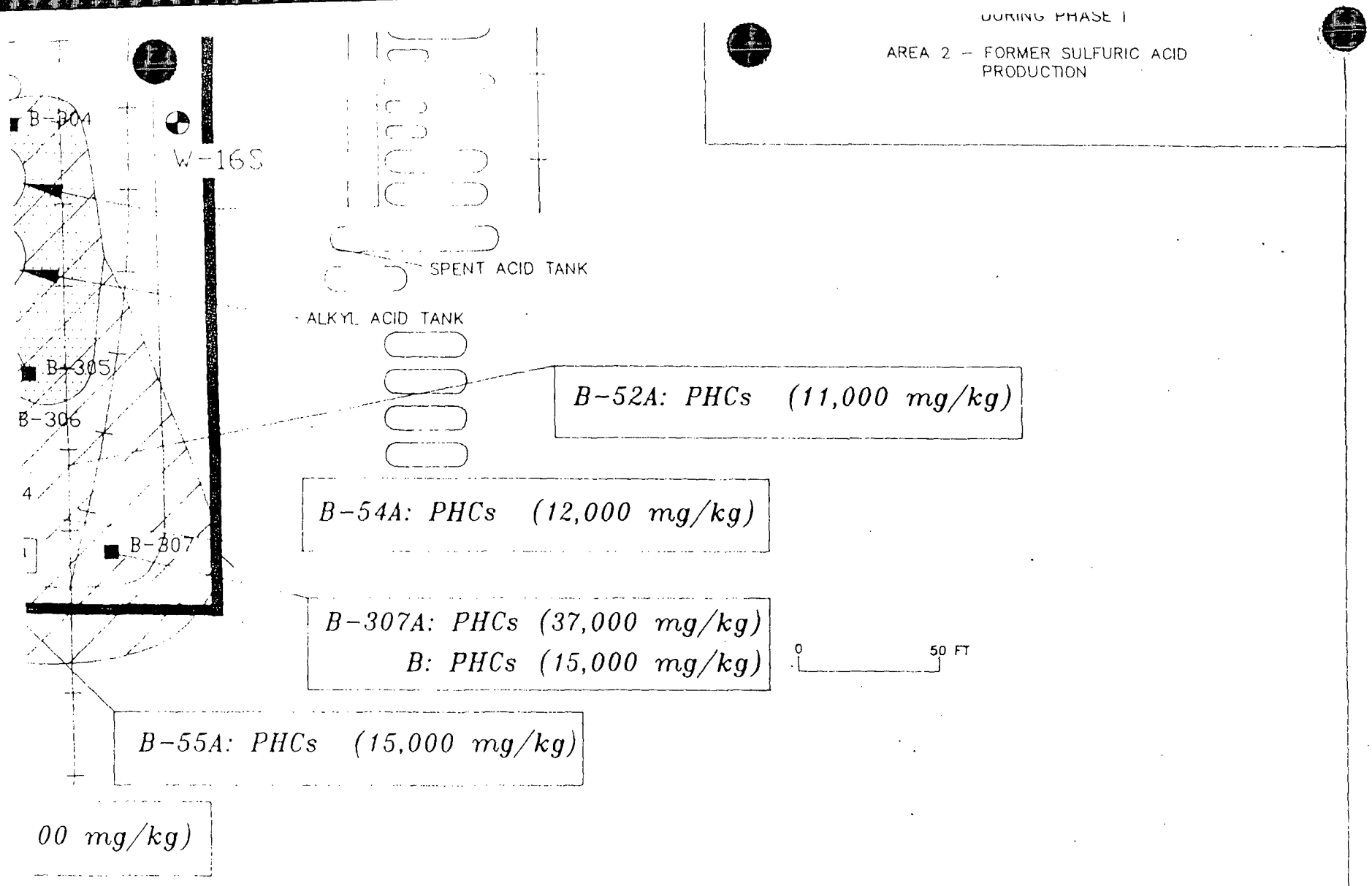
920880412



AREAS OF CONCERN AND LOCATIONS OF MONITORING WELLS
AND STAFF GAUGES AT THE
ALLIED-SIGNAL INC. FACILITY, ELIZABETH, NEW JERSEY

2-1

920880413



SUBJECT:

LOCATIONS OF PHASE I AND PHASE II SOIL BORINGS – AREA 2

FIGURE 2-3

920880414

B-108A: Antimony (14.5 mg/kg)
B: Antimony (126 mg/kg)

B-109A: Antimony (14.4 mg/kg)

B-316A: Antimony (29.8 mg/kg)

B-315A: Antimony (408 mg/kg)
B: Antimony (51.3 mg/kg)
C: 1,1,2,2-Tetrachloroethane (2,400 ug/kg)

ıtimony (146 mg/kg)
ıtimony (554 mg/kg)

)0 ug/kg)

'00 ug/kg)

LOCATIONS OF PHASE I AND PHASE II SOIL BORINGS
DRILLED NEAR THE FORMER LAGOON – AREA 3

ALLIED SIGNAL, INC.
ELIZABETH, NEW JERSEY

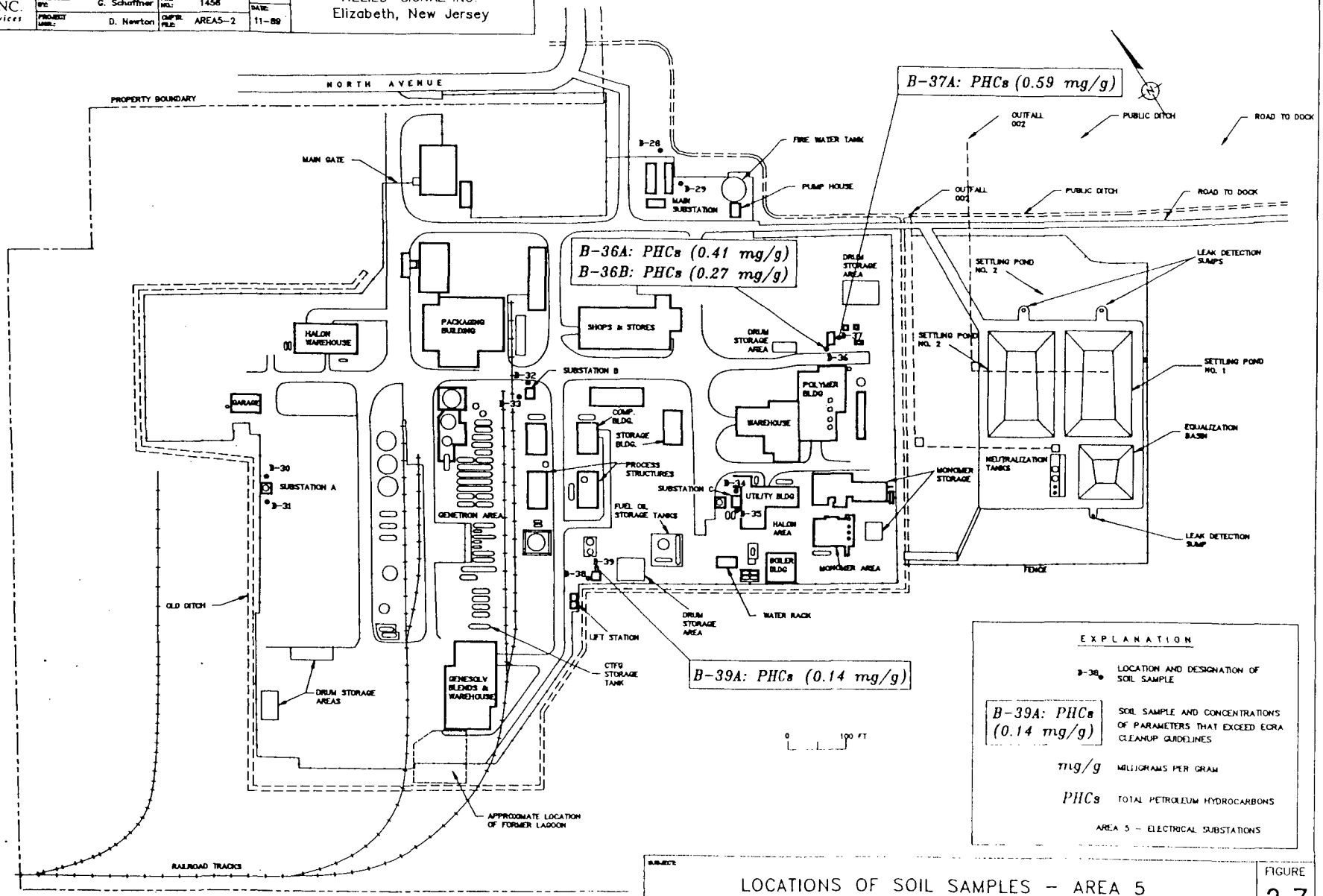
FIGURE
2-5

920880415

920880416

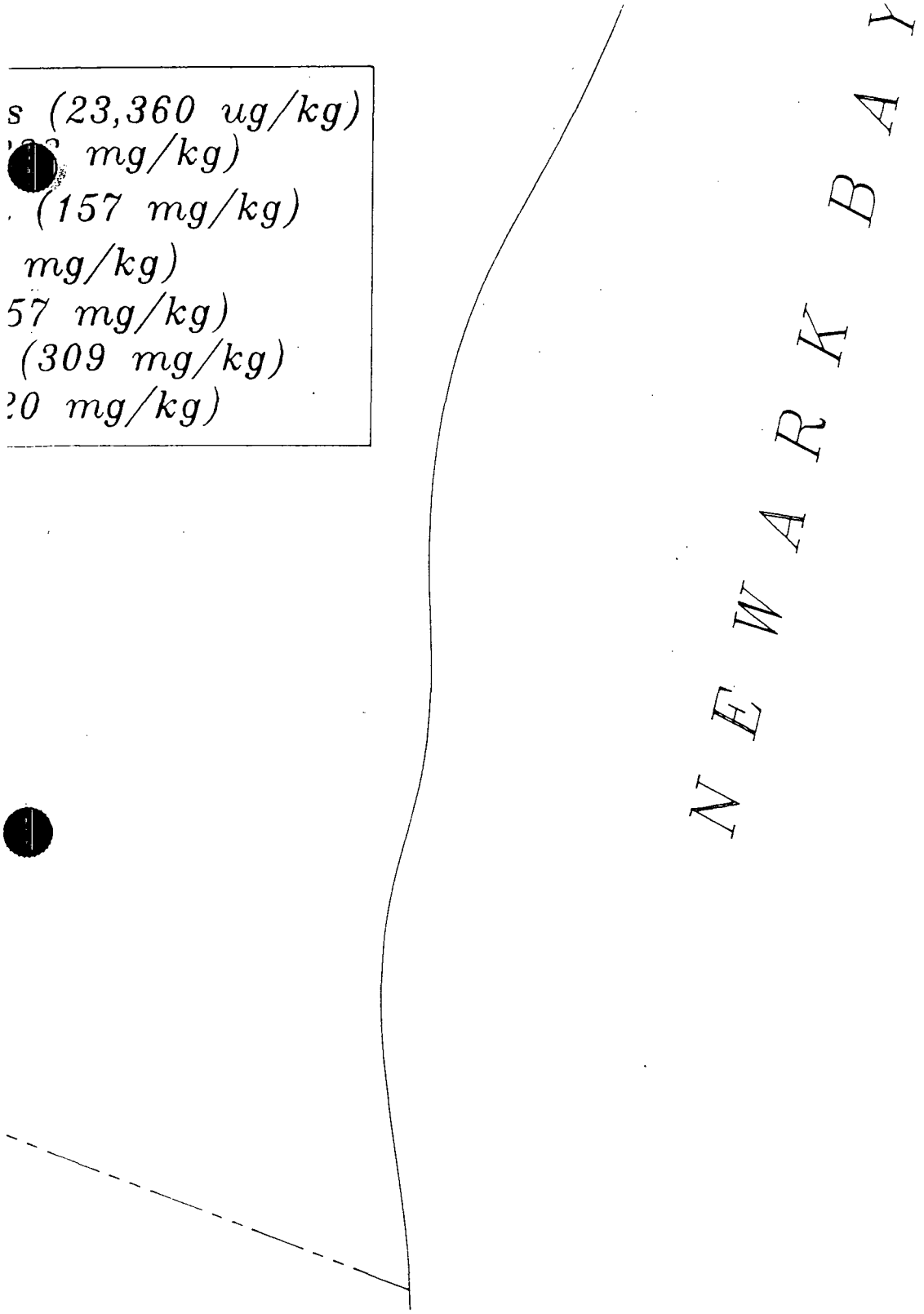
GERAGHTY & MILLER, INC.
Environmental Services

PREPARED BY: G. Schaffner	FILE NO.: 1456	DATE: 11-89	ALLIED- SIGNAL INC. Elizabeth, New Jersey
PROJECT MGR.: D. Newton	CMPTR. FILE: AREA5-2		



SUBJECT: LOCATIONS OF SOIL SAMPLES - AREA 5

FIGURE 2-7

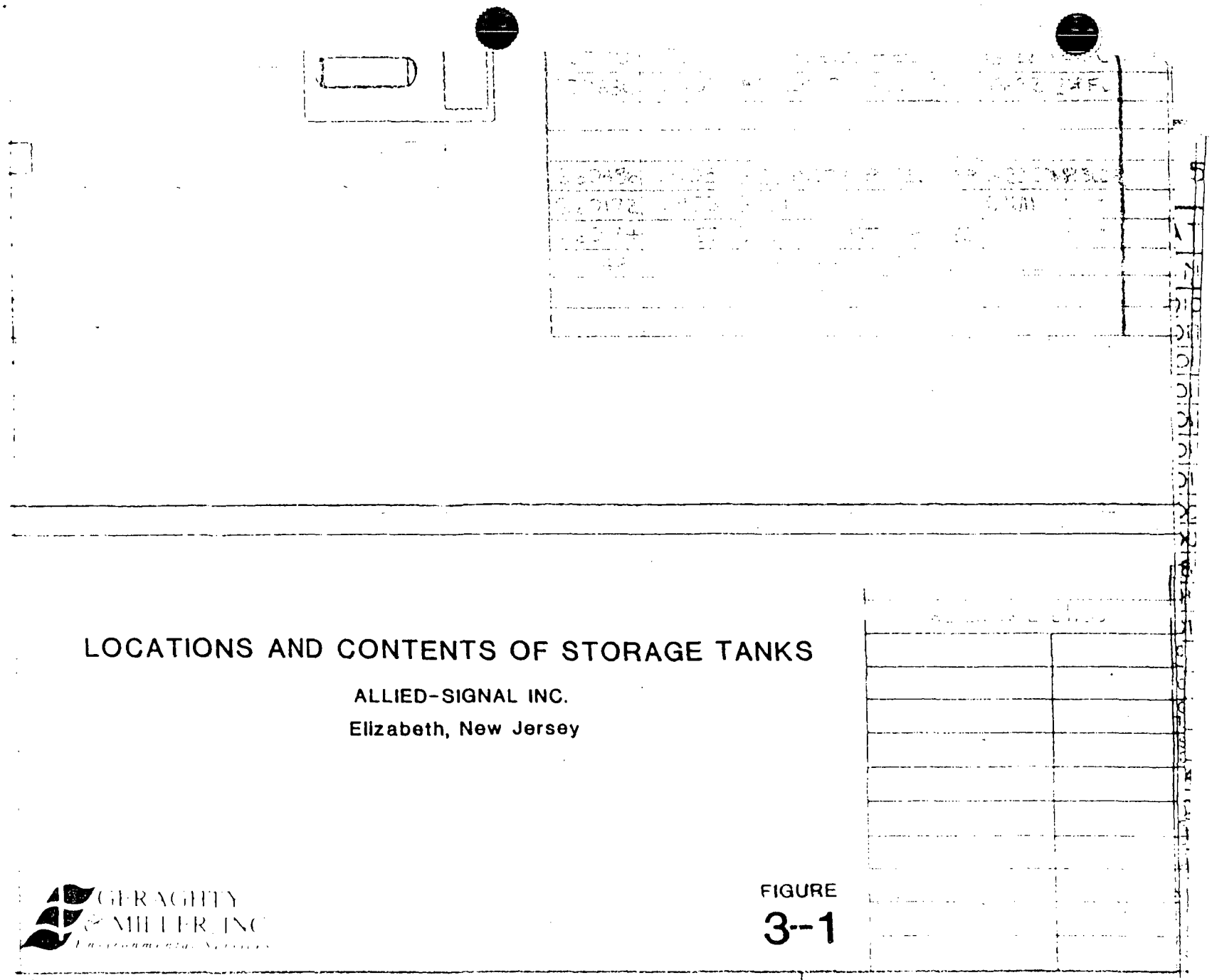


LOCATIONS OF PHASE I SURFACE-WATER, SEDIMENT, BACKGROUND, AND RANDOM SOIL SAMPLES – AREAS 6 AND 7

ALLIED-SIGNAL INC.
Elizabeth, New Jersey

FIGURE
2-8

920880417



LOCATIONS AND CONTENTS OF STORAGE TANKS

ALLIED-SIGNAL INC.

Elizabeth, New Jersey

GERAGHTY & MILLER, INC.

FIGURE

3-1

920880418

660894		FM DRYER E.	
"		FM DRYER W.	
666465	U-10E	PLANT AIR REC.	
666470	U-10B	INSTR AIR REC.	
660561	F-101A	BLR FW SAND FLT.	BOILER HSE
660562	F-101B	BLR FW SAND FLT.	
	F-101C	BLR. FW. SAND FLT.	
660557	F-102A	BLR FW SOFTENER	
660558	F-102B	BLR FW SOFTENER	
660554	E-101	DEAERATOR	
666945	U-3A	PROD. STGE. TANK	MONOMER
666946	U-3B	PROD. STGE TANK	
666947	U-3C	PROD STGE TANK	

REFERENCE DWGS	

LOCATIONS AND CONTENTS OF STORAGE TANKS

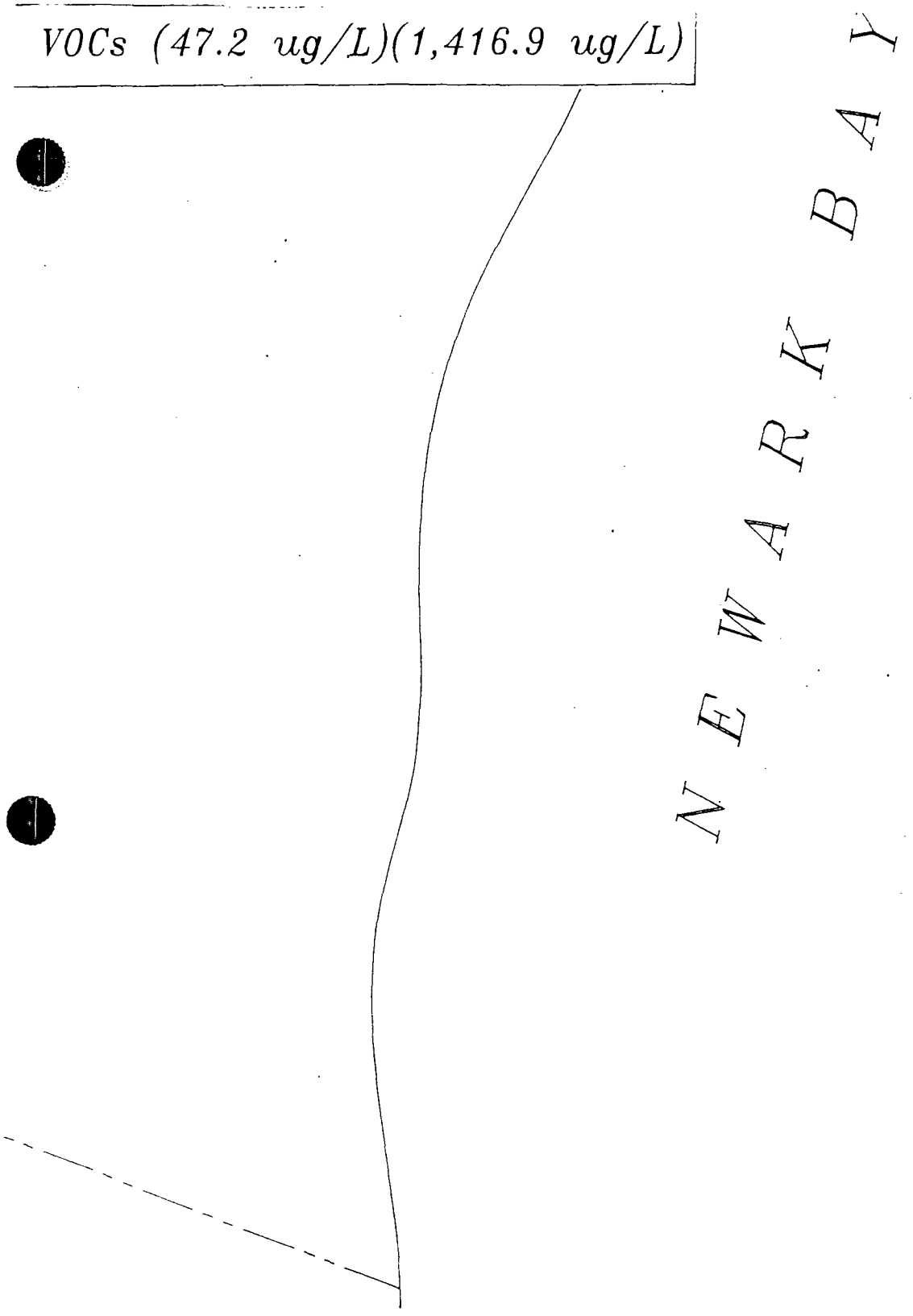
ALLIED-SIGNAL INC.

Elizabeth, New Jersey

GERAGHTY & MILLER, INC.
Environmental Services

FIGURE
3-2

920880419

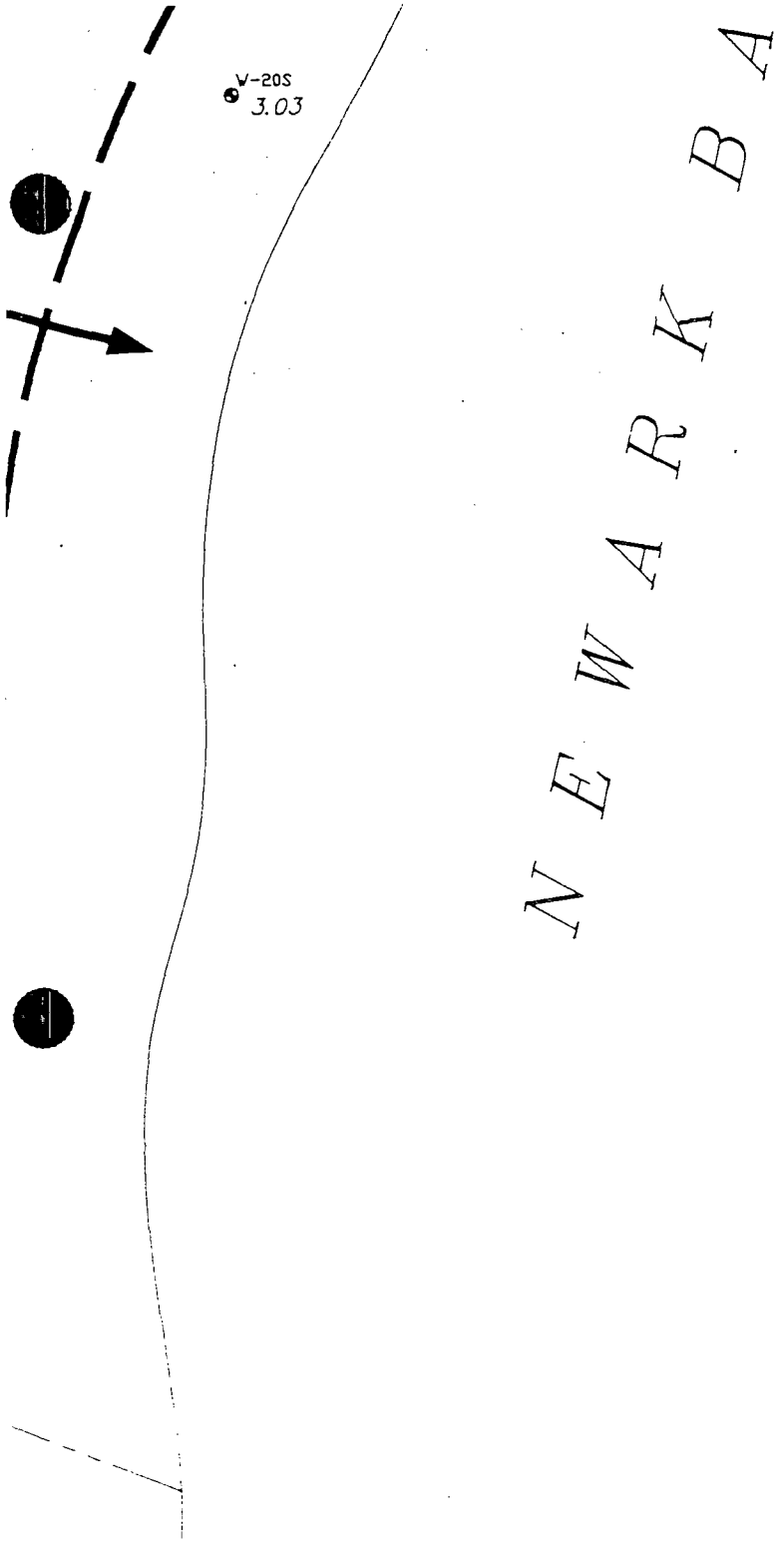


LOCATIONS OF PHASE II SURFACE-WATER AND SEDIMENT SAMPLES
AREA 6

ALLIED-SIGNAL INC.
Elizabeth, New Jersey

FIGURE
3-3

920880420



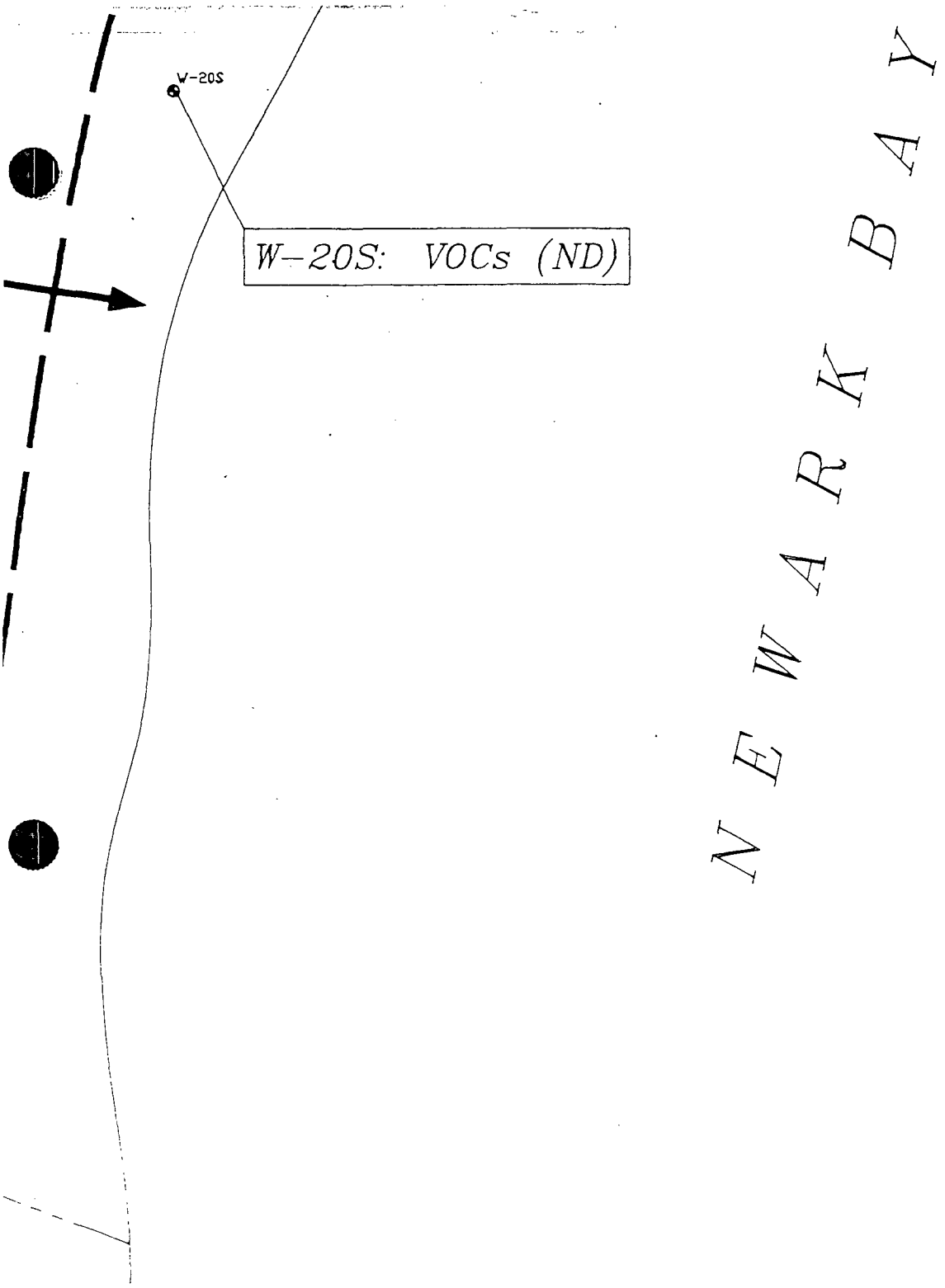
WATER-TABLE CONFIGURATION AND GROUND-WATER FLOW DIRECTION ON NOVEMBER 7, 1991

ALLIED-SIGNAL INC.
ELIZABETH, NEW JERSEY

FIGURE

4-1

920880421



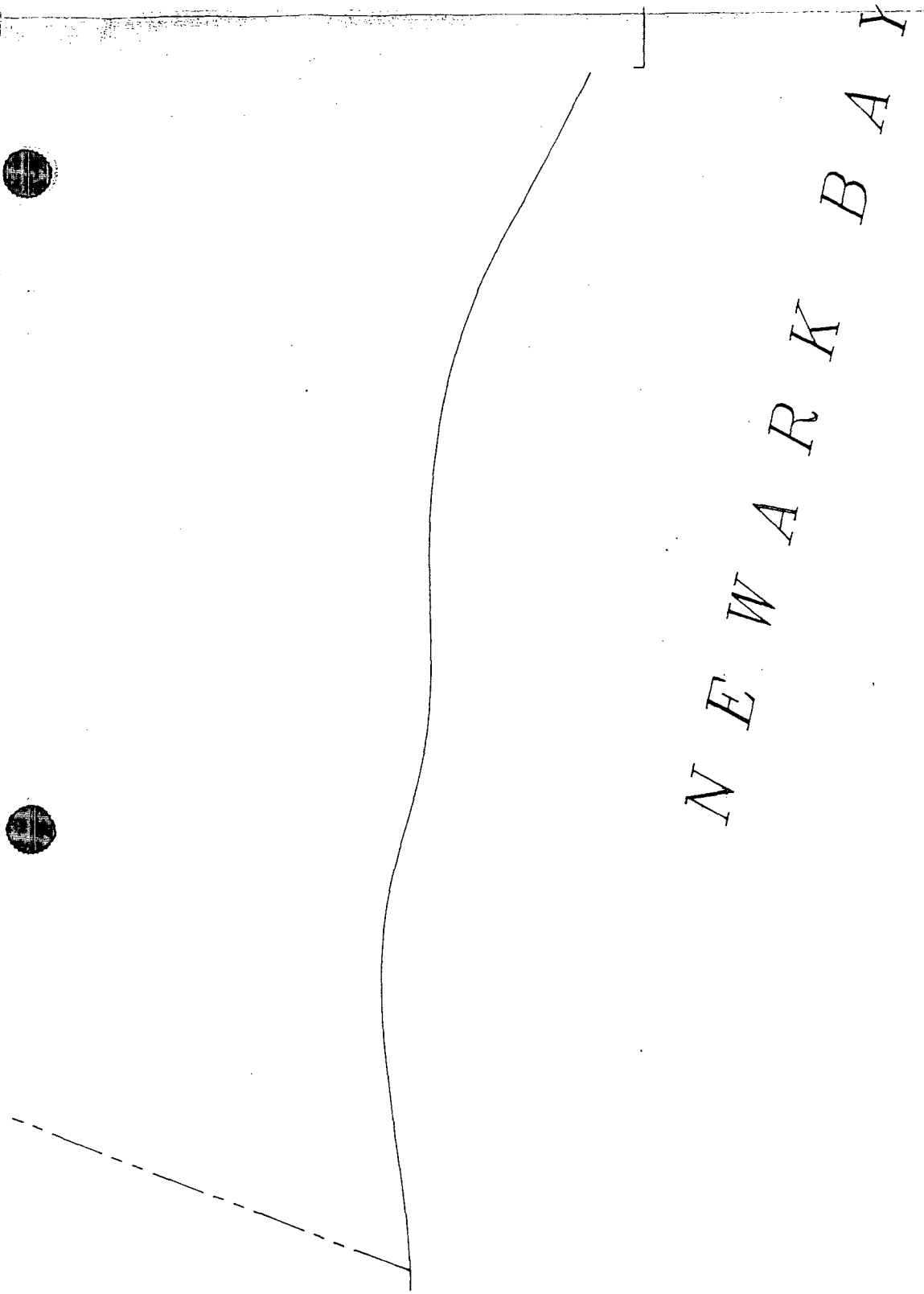
DISTRIBUTION OF SELECTED VOLATILE ORGANIC COMPOUNDS IN THE WATER-TABLE ZONE - OCTOBER, 1991

ALLIED-SIGNAL INC.
ELIZABETH, NEW JERSEY

FIGURE

5-1

920880422



PAVING HISTORY AND CONSTRUCTION OF CONTAINMENT DIKES

ALLIED–SIGNAL
Elizabeth, New Jersey

FIGURE
8-1

920880423

ALLIED CHEMICAL CORPORATION
AKA: ALLIED-SIGNAL INCORPORATED
100 NORTH AVENUE EAST
ELIZABETH, UNION COUNTY, NEW JERSEY
EPA ID# NJD002451490

I. FACILITY DESCRIPTION/BACKGROUND

OWNERSHIP HISTORY

The Allied Chemical Corporation (Allied) property was owned by various individuals until 1951, when it was acquired by the New Jersey Turnpike Authority. In 1954, the property was bought by Esso Standard Oil Company and in 1956 was purchased by Allied, the current owner of the property. A review of aerial photographs revealed that this site was undeveloped and unoccupied prior to Allied's development of the property.

The Allied facility occupies 177.3 acres with 39 acres used for manufacturing. The remainder of the site is currently undeveloped. The site is located on Block 1, Lot 1314, in the City of Elizabeth, Union County, New Jersey.

In 1986, Allied sold a portion of their property, including its Halar manufacturing process to Ausimont Compo Industries. Halar is a copolymer of 80% chlorotrifluoroethylene and 20% ethylene produced by an aqueous suspension reaction. In 1989, Allied repurchased this property and process. The initial sale triggered a New Jersey Environmental Cleanup Responsibility Act (ECRA) investigation for the entire facility. This investigation is currently in progress.

OPERATIONS

The facility consists of twelve buildings that are used for manufacturing, warehousing and offices. Allied built the first facility to occupy this property in 1957 with the construction of a high temperature decomposition sulfuric acid plant. This process operated until approximately 1981. Subsequent operations included the manufacture of monochlorodifluoromethane products such as Refrigerant 22 and Genetron-22 (G-22), both of which have been discontinued, and specialty fluoropolymer resins. Other activities included the blending and packaging of chlorofluorocarbon solvents and the sale of by-product hydrochloric acid. Currently, the fluoropolymer resins and the chlorofluorocarbon solvents are the only operations conducted at the site.

There were 82 storage tanks at the facility, the majority of which were used to store raw materials and finished product. Many of these tanks were associated with discontinued processes such as G-22 production and sulfuric acid reclamation and were removed from the site (Attachment N).

Raw materials stored at the site have included a variety of organic compounds, corrosives and antimony pentachloride, which was used as a catalyst in the production of G-22 (Attachment O).

Also in July 1989, as part of the ECRA investigation, seven shallow monitoring wells (W-15S through W-21S) and four deep wells (W-1D, W-15D, W-17D and W-21D) were installed at the the site. These wells were installed at the following locations: W-15S and W-15D, at the former fluorisobutylmonomer (FIBM) production area; W-16S, downgradient of the former FIBM and sulfuric acid production areas; W-17S, southeast of a backfilled lagoon; W-18S and and W-19S, at the undeveloped eastern portion of the property; and W-20S, W-20D, W-21S and W-21D, at the southern portion of the plant.

Sampling of these wells took place in August and September 1989. The results above NJDEP recommended guideline levels are as follows:

PARAMETER (ppb)	SAMPLE ID		
	W-16S	W-17S	W-22S
chloroform	50,000	ND	560
1,2-dichloroethane	2,100	ND	ND
1,1,2,2-tetrachloroethane	15,000	13,000	ND
napthalene	100	ND	ND
arsenic	105	ND	83
methyl ethyl ketone	ND	3,300	ND

ND=Not Detected

The NJDEP recommended guideline level for arsenic is 50 ppb (Attachment C).

SURFACE WATER

The northeastern and souteastern boundries of the site border on Newark Bay. Presently, Newark Bay is used for industrial purposes only.

There are Estuarine Intertidal Open Water, Palustrine Open Water and Palustrine Emergent wetlands surrounding the site. In addition, the ditch surrounding the site is classified as Riverine Lower Perennial Open Water and Estuarine Subtidal Open Water wetland.

SPILL HISTORY

Spills involving units not regulated under the Resource Conservation and Recovery Act (RCRA) include a small gas/oil spill in September 1982, the result of a forklift being driven into Newark Bay, and an oil spill in 1985 along the railroad tracks on Allied property. Both of these incidents were investigated and cleaned up by Allied (Attachment D).

There have also been two malfunctions at the plant that resulted in releases to the atmosphere. In 1981, a tank release valve disk ruptured resulting in the release of an undetermined amount of sulfur trioxide (SO_3). Approximately 70 people were treated for eye and respiratory irritation. In 1982, a 1 1/2 inch hose ruptured, causing the release of an undetermined amount of anhydrous hydrofluoric acid which vaporized to the atmosphere (Attachment D). The NJDEP investigated both incidents and determined that there would be no lasting adverse health effects (Attachment E).

ENFORCEMENT STATUS

From 1985 to 1987 Allied had been cited by the NJDEP/DHWM for: various record keeping violations; failure to properly handle five leaking 55-gallon containers; failure to maintain aisle space for movement of personnel, fire protection, spill control and decontamination equipment; and failure to comply with groundwater monitoring provisions of their New Jersey Pollution Discharge Elimination System (NJPDES) permit (Attachment F).

II. PERMITS

RCRA

Allied first submitted a RCRA Part A permit application in November 1980 for the interim status covering seven hazardous waste storage tanks, two hazardous waste drum storage areas and an equalization basin that accepted hazardous waste. In November 1987, this application was revised to reflect the sale of Allied's fluoropolymer resin production facilities, which include one hazardous waste storage tank and one hazardous waste drum storage area.

In October 1989, another revision was submitted to delete six hazardous waste storage tanks. Allied submitted the original Part B permit submission in November 1987 and a revision in October 1989. Allied has been issued a Hazardous Waste Facility permit # 2004L1HP01 by the NJDEP, Bureau of Hazardous Waste Engineering (BHWE). Currently, the NJDEP, BHWE has issued a draft permit, which is in the public comment stage. This permit is expected to be finalized by the first week of November 1990.

AIR

The Allied facility, NJDEP Air Pollution Control (APC) ID # 40021, has eighteen APC permits for atmosheric vents, scrubber stacks and particulate control equipment.

The company had 49 other APC permits, mostly for storage tanks, that were removed from the site, thereby causing the permits to be deleted from the NJDEP, APC active file (Attachment G).

DISCHARGE TO SURFACE WATER AND GROUNDWATER

In 1984, the NJDEP issued to Allied their (NJPDES) permit, # NJ003166 for an industrial discharge into Newark Bay. This permit was modified in 1987 to incorporate conditions for the closure of the equalization basin as a hazardous waste treatment unit and to include controls of discharges to groundwater (Attachment B).

OTHER PERMITS

The other permits at the site include United States Environmental Protection Agency (USEPA) permit # 11-NJ-004 for ocean dumping of effluent from the G-22 process. This permit expired in 1988 when the USEPA outlawed ocean dumping. The facility also has a NJDEP, Bureau of Radiation Protection permit # NJSL-10166 and a Nuclear Regulatory Commission (NRC) permit # 2919552-01, both for sealed radium source flow gauges (Attachment A).

III. SOLID WASTE MANAGEMENT UNITS (SWMUs)

A total of 16 SWMUs were identified at the Allied facility. Eleven of these units are RCRA regulated and five are not RCRA regulated.

RCRA REGULATED UNITS

1. Co-Product HCL Tanks (2):

These two co-product HCL aboveground storage tanks (AGSTs), # 101 and # 128, were installed in 1961 and 1964, respectively. Both tanks are constructed of 0.3 inch thick carbon steel with a rubber liner, installed on a concrete pad and surrounded by a concrete dike. Tank # 101 is 40 feet high by 41 feet in diameter with a capacity of 390,000 gallons and is located at the north end of the former Genetron Tank Farm. Tank # 128 is 40 feet high by 48 feet in diameter with a capacity of 540,000 gallons and is located at the south end of the former Genetron Tank Farm. The co-product HCL was part of the waste stream generated by the production of G-22 (Attachment H).

2/

As part of the ECRA investigation, four soil samples were collected in the area of these tanks. Sample results revealed contamination in sample B-16A with 106 ppm chromium, which is above the NJDEP action level of 100 ppm.

A visual site inspection (VSI), conducted on October 4,1990 by the NJDEP, Bureau of Planning and Assessment (BPA), revealed that these tanks are empty. There was no visible evidence of any releases from these tanks and there were no apparent cracks in the concrete pads or dikes. In addition, the file review conducted by BPA revealed no history of leaks or spills from these tanks. Because chromium contamination is not indicative of the past usage of these tanks, it is likely due to metals in the dredge material used as fill throughout the site as evidenced by the high levels of metals found in background soil samples collected throughout the site, or from some other source at the site.

In October 1989, Allied submitted a Soil Sampling Analytical Plan (SSAP) to the NJDEP, Bureau of Hazardous Waste Engineering (BHWE), for the closure of these tanks (Attachment I). In May 1990, Allied submitted modifications to this SSAP; however, in September 1990, the NJDEP, BHWE, directed Allied to expand the sampling around each tank (Attachment J).

Based on the documentation reviewed and the findings of the VSI, an RCRA Facility Investigation (RFI) is not warranted at this time.

2. Spent Caustic Tanks (2):

There are two spent caustic AGSTs, both constructed of 5/16 inch thick reinforced fiberglass, installed on concrete pads and surrounded by concrete dikes. Each tank is 12 feet high by 12 feet in diameter and each has a capacity of 10,000 gallons. These tanks were used to store spent sodium hydroxide (NAOH) and are located at the south end of the G-22 process structure (Attachment H).

4

As part of the ECRA investigation, two soil samples were collected in the area of these tanks. Sample results revealed contamination in sample B-20A with 71 ppm antimony, which is above the NJDEP action level of 2 ppm.

The VSI conducted on October 4, 1990 by the BPA revealed that these tanks are empty. There was no visible evidence of any releases from these tanks and there were no apparent cracks in the concrete pads or dikes. The file review conducted by BPA revealed no history of leaks or spills from these tanks. However, because sample results indicate contamination with antimony which was used along with the caustic solution in the production of G-22, further investigation is warranted. A limited RFI consisting of additional soil sampling is recommended.

These tanks are included in the October 1989 SSAP submitted by Allied to the NJDEP,BHWE.

3. Spent Catalyst Tanks (2):
One of the spent catalyst AGSTs is constructed of 0.80 inch thick carbon steel, approximately 10 feet high by 10 feet in diameter, with a capacity of 5,500 gallons. This tank was installed in 1963 and is located on a concrete floor inside the G-22 process structure. This tank is not diked, but is surrounded by drains that lead to the on-site WWTP.

The other tank is constructed of 0.375 inch thick carbon steel, and is 23 feet long by 7 feet in diameter with a capacity of 6,500 gallons. This tank was installed in 1976 and is located on the edge of the road at the west end of the G-22 process structure. This tank is not diked, but is surrounded by drains that lead to the on-site WWTP. These tanks were used to store spent antimony pentachloride catalyst (Attachment H).

As part of the ECRA investigation, two soil samples (B-18A and B-18b), were taken in the area of these tanks. Sample results indicate contamination in sample B-18A with 224 ppm copper and 89 ppm arsenic. These results are above the NJDEP action levels of 170 ppm copper and 20 ppm arsenic.

The VSI conducted by BPA, on October 4, 1990 revealed that these tanks are empty. There was no visual evidence of leakage or spills from these tanks. In addition, the file review revealed no past history of leakage or spills from these tanks. Because arsenic and copper contamination is not indicative of the past usage of these tanks, it is likely due to the high background levels found in the dredge material or from some other source at the site.

These tanks are also included in the October 1989 SSAP submitted by Allied to the NJDEP, BHWE. Based on the documentation reviewed and the findings of the VSI, an RFI is not warranted at this time.

4. Drum Storage Area:
This drum storage area is located adjacent to the spent caustic tanks and was used to store caustic salts and coated plastic rings, along with spent halogenated solvents, paint residuals and waste lubricating oils. The drum area, approximately 50 feet by 100 feet in size

consists of a concrete pad with concrete diking that directs any spills to a 5 gallon sump. This area is designed to hold a maximum of 600 drums (Attachment B). In 1988, due to the shut-down of the G-22 process, this area no longer received any caustic salts or coated plastic rings.

As part of the ECRA investigation, soil samples were collected in this area. Sample results revealed 670 ppm PHCs and 2,100 ppm PHCs in samples B-21A and B-21B, respectively The NJDEP Action Level is 100 ppm. 10,000 for PHC's VOC's SVOC's BN's

The VSI conducted by BPA on October 4, 1990 revealed no visible leakage or spills in this area. There were no apparent cracks in the pad or dike. In addition, the file review revealed no past history of leakage or spillage in this area. However, since sampling results indicate contamination by PHCs which are stored on the pad, further investigation is warranted. A limited RFI consisting of additional soil sampling is recommended.

5. North Drum Storage Area:
This drum storage area is approximately 50 feet by 50 feet in size and is located in the field just east of the main maintenance shop. This area consists of crushed stone on dirt and was designed to hold a maximum of 100 55-gallon drums (Attachment K). Alphapinene, carbon granules (which contained small amounts of adsorbed chloroform, methanol and trichlorotrifluoroethane) and crank case oils were stored in this area.

In 1986, this SWMU was included in the sale to Ausimont. In 1988, Ausimont submitted a closure plan to the NJDEP, BHWE. In October 1988, the NJDEP, BHWE approved the closure plan. Closure of this unit took place between November 4, 1988 and November 15, 1988 (Attachment L).

On November 4, 9, 14 and 15, 1988, soil samples were collected from this area. Sample results indicated that contamination of 550 ppm PHCs and 1.1 ppm beryllium was present. The NJDEP action levels are 100 ppm for PHCs and 1 ppm for beryllium. All contaminated soil was removed from this area, and post excavation samples were negative for PHCs and beryllium.

The VSI revealed that all the drums were removed from this area. There was no visible evidence of leakage or spillage in this area. The file review revealed no past history of leakage or spills from this area.

Based on the documentation reviewed, the VSI findings and the fact that the contaminated soil was removed from this area during the closure, an RFI is not warranted at this time.

6. Halar Effluent Tank:
The Halar Effluent Tank is a 7,100 gallon steel structure, 8 foot in diameter, supported by concrete saddles. The original tank was installed in 1973 and replaced with the existing tank in 1981. This tank is constructed on a concrete base surrounded by a concrete dike

and is located east of the polymer production building. The contents of this tank consisted solely of Halar effluent which was made up of water, methanol, chloroform and trichlorotrifluoroethane (Attachment K).

This SWMU was included in the sale to Ausimont and in the closure plan submitted to the NJDEP, BHWE. On November 4, 9, 14 and 15, 1988, soil and rinse water samples were collected. The results indicated that 6.6 ppm trichlorotrifluoroethane was present in one soil sample. This is above the NJDEP action level of 1 ppm VOCs. All contaminated soil was removed from the area and post excavation samples were negative for VOCs.

The VSI revealed that the tank was empty and there was no visible evidence of leakage or spillage from this unit. The file review revealed no past history of leakage or spills from this unit.

Based on the documentation reviewed, the VSI findings and the fact that the contaminated soil was removed from this area during the closure, an RFI is not warranted at this time.

8. Equalization Basin:
The eqalization basin is located at the northeast portion of the property, and is 105 feet long by 105 feet wide and 10 feet deep at the center with side slopes of 3:1. It is lined with ethylene propylene diene monomer (EPDM) rubber and has a leak detection system composed of pipes and a collection sump. The basin was installed in 1975 and has received discharges from the former sulfuric acid plant, G-22 and Halar production areas. In 1981, with the shut-down of the sulfuric acid plant, the potential source of corrosive waste for which the basin was regulated under RCRA, was eliminated.

In addition, the potential for corrosive waste discharges from other operating processes was eliminated when two existing neutralization tanks were moved upstream of the basin.

In November 1986, Allied submitted closure and post closure plans for the equalization basin to the NJDEP, Division of Water Resources (DWR), Bureau of Groundwater Pollution Abatement (BGWPA) (Attachment M).

In accordance with an Administrative Order issued by the NJDEP, BGWPA, dated June 4, 1987, five monitoring wells (W-6 through W-10) were installed in the vicinity of the equalization basin. From November 1987 to February 1990 these wells were sampled on a quarterly basis.

The results above the NJDEP recommended guideline level of 5 to 50 ppb VOCs are 22 ppb and 25 ppb methylene chloride in W-9 and W-10, respectively.

The VSI conducted by BPA on October 4, 1990 revealed no evidence of leakage from this unit. The file review revealed no past history of leakage from this unit. Based on the documentation reviewed and the findings of the VSI, an RFI is not warranted at this time.

9. Proposed Drum Storage Area:
This drum storage area is to be located southwest of the former sulfuric acid plant and is to be 30 feet by 80 feet in size with a maximum capacity of 200 55-gallon drums. This area will be surrounded by a 6 inch curb and will have a 3 cubic foot sump. Chlorinated and fluorinated spent solvents from outside vendors will be stored here (Attachment B). No further investigation is required in this area to make a no release determination.

NON RCRA REGULATED UNITS

1. Backfilled Unlined Lagoon:
This lagoon was located south of the former sulfuric acid plant and was used for the neutralization of acidic wastes, by the addition of lime. The dimensions of this lagoon are not known.

Soil samples collected in this area as part of the ECRA investigation were below the NJDEP Action Levels. However, a second phase of sampling is proposed for this area. There is a potential for a release from this unit because it was unlined. Further investigation is required for a no release determination. The second phase of sampling as part of the ECRA investigation should be reviewed to determine if an RFI is warranted.

2. Unlined Drainage Ditches (2): These drainage ditches surround the site and were used for the neutralization of wastes using sodium hydroxide. As part of the ECRA investigation, soil and sediment samples were collected at various locations along the ditches. The following contaminants were found that exceeded the NJDEP action levels:

	SAMPLE ID			
PARAMETER (PPM)	SS-1	SS-4	SS-6	SS-7
arsenic	ND	ND	10.4	223
antimony	18.1	ND	ND	ND
chloroform	ND	23.4	ND	1.7
chromium	ND	ND	ND	157
copper	225	ND	ND	ND
polychlorinated biphenyls	ND	ND	6.3	ND
tetrachloroethane	ND	ND	ND	2.0
1,1,1-trichloroethane	ND	ND	ND	1.5
trichloroethane	ND	ND	ND	1.5
zinc	687	ND	ND	460

ND=NOT DETECTED

The NJDEP action levels are 20 ppm arsenic, 2 ppm antimony, 1 ppm VOCs, 100 ppm chromium, 170 ppm copper, 1-5 ppm polychlorinated biphenyls (PCBs) and 350 ppm zinc.

The NJDEP, Bureau of Environmental Evaluation and Risk Assessment (BEERA), has reviewed this sampling data and has advised that the contaminated soil and sediment must be removed.

The ECRA investigation sampling data revealed soil contamination within the ditches indicating that a release has occurred. An RFI is recommended for the unlined drainage ditches.

A review of existing and any future data from the ongoing ECRA investigation of these units is recommended to determine it it meets the requirements of the RFI.

3. Settling Ponds (2):
These two settling ponds are located at the northeast portion of the property. They are each 1 million gallons in size with rubber lining, however, the dimensions of these units are not known.

In accordance with NJPDES permit # 0003166 Allied installed four monitoring wells (W-11 through W-14) in the vicinity of the two settling ponds. From November 1987 to February 1990, these wells were sampled on a quarterly basis. The results above the NJDEP recommended guideline level of 5 to 50 ppb VOCs are W-12, 57 ppb methylene chloride and W-14, 2,100 ppb dichlorodifluoromethane.

The VSI conducted by BPA on October 4, 1990 revealed no visible evidence of leakage from these units. The file review revealed very limited information regarding these units. However, since groundwater sampling results indicate contamination by dichlorodifluoromethane which may have been associated with the production of monochlorodifluoromethane products such as G-22 and Refrigerant 22, further investigation is warranted. A limited RFI consisting of additional soil and groundwater sampling is recommended.

GENERAL FACILITY FINDINGS
Based on a file review, five areas of environmental concern (AECS) have been identified; the former fluorisobutylmonomer (FIBM) production area, the former sulfuric acid production area, the former genetron process and tank farm, the fluoropolymers production area and the six electrical substations.

Soil sampling of these areas revealed the following contaminants above the NJDEP action levels:

	PARAMETER (PPM)					
SAMPLE ID	CHROMIUM	COPPER	MERCURY	PCB	PHC	ZINC
B-2A	ND	ND	ND	ND	120	ND
B-2B	ND	ND	ND	ND	740	ND
B-5A	ND	ND	ND	ND	210	ND
B-5B	ND	ND	ND	ND	300	ND
B-17A	749	679	1.2	ND	ND	1,830
B-21A	ND	ND	ND	ND	670	ND
B-21B	ND	ND	ND	ND	1,200	ND
B-25A	100	ND	ND	ND	ND	ND
B-32A	ND	ND	ND	1.9	ND	ND
B-32B	ND	ND	ND	2.5	ND	ND
B-33A	ND	ND	ND	2.6	ND	ND
B-36A	ND	ND	ND	ND	410	ND
B-36B	ND	ND	ND	ND	270	ND
B-37A	ND	ND	ND	ND	590	ND
B-39A	ND	ND	ND	ND	140	ND

ND=NOT DETECTED

The NJDEP action levels are 100 ppm PHCs, 100 ppm chromium, 170 ppm copper, 1 ppm mercury and 1 to 5 ppm PCBs.

The former sulfuric acid plant was sampled for sulfate and pH only. Currently, there are no NJDEP Action Levels for these parameters; however, sulfates were found ranging in concentration from 5.1 ppm to 71,000 ppm. The pH in the area ranged from 3.84 to 9.02 (Attachment C).

All AECS are being addressed by the NJDEP, Bureau of Industrial Site Evaluation (BISE), as part of the ECRA investigation.

IV. RECOMMENDATION SUMMARY

A. SWMUs which have a "No Release" determination and do not require a RFI.

Co-product HCL tanks
Spent catalyst tanks
Halar effluent tank
North drum storage area
Proposed drum storage area
Equalization basin

B. SWMUs which have had a documented release to the environment and require a RFI.

Spent caustic tanks
Drum storage area
Drainage ditches (2)
Settling ponds (2)

C. SWMUs which require further investigation for a "No Release" determination.

Backfilled lagoon

All actions taken by the USEPA should be integrated with previous and ongoing actions taken by the NJDEP.

Submitted by:

Michael DiGiore
HSMS IV
NJDEP/Bureau of Planning and Assessment
October, 1990

CONCLUSIONS AND RECOMENDATIONS

I. CONCLUSIONS

01 Identify all SWMU's which have a "No Release" determination and do not require a RFI.

Co-product HCL tanks
Spent catalyst tanks
Halar Effluent tank
North drum storage area
Equalization Basin
Proposed drum storage area

02 Identify all SWMU's which have had documented releases to the environment and require a RFI.

Spent caustic tanks
Drum storage area
Drainage ditches (2)
Settling ponds (2)

03 Identify all SWMU's which require further investigation for a "No Release" determination.

Backfilled lagoon

The above conclusions and recomendations are accepted for the purpose of the completion of a RCRA Facility Assessment requirements.

SIGNED: DATE:

Michael DeGroie 12/10/90
PREPARER

DHWM/BHWE

DHWM/BME

DWR

920880435

INTERSTATE SANITATION COMMISSION

10 COLUMBUS CIRCLE • NEW YORK, N. Y. 10019

AREA CODE 212-582-0380

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DIRECTOR-CHIEF ENGINEER

July 5, 1973

Mr. Robert W. Riedel
Superintendent of Environmental Control
Allied Chemical Corporation
100 North Avenue, East
Elizabeth, New Jersey - 07201

Dear Mr. Riedel:

Enclosed is a copy of the results of the analyses performed on the samples taken at Allied Chemical Company on June 6, 1973.

Following is a description of the sampling point:

Point 1 (eff.)	Drainage ditch discharging into Newark Bay -- sampled at the flow measuring weir.

If you have any questions concerning these results, please contact me.

Very truly yours,

Alan I. Myteika, Ph.D.
Assistant Chief Engineer

AIM:rym
Enclosure

BAA000018

cc: NJSDEP

920880437

SUMMARY OF THE ANALYSES OF SAMPLES TAKEN AT
ALLIED CHEMICAL COMPANY
100 NORTH AVENUE EAST
ELIZABETH NEW JERSEY

DISCHARGE WATERWAY: NEWARK BAY I.S.C. WATER CLASSIFICATION: B2

DATE OF SAMPLING: 6/ 6/73 NUMBER OF POINTS SAMPLED: 1

SAMPLED BY: INT SANIT COMM
ANALYSES PERFORMED BY: INT SANIT COMM
I.S.C. INVESTIGATION NUMBER: 453

PARAMETER	POINT 1 EFFLUENT
TOTAL SUSPENDED SOLIDS	266
SETTLEABLE SOLIDS	248
COLIFORM DENSITY (1)	9
BIOCHEMICAL OXYGEN DEMAND	25
TEMPERATURE	28.5
PH	6.5
CHLORIDES	491
TOTAL CARBON	53
TOTAL ORGANIC CARBON	29
OIL AND GREASE	0.9
TURBIDITY (UNSETTLED SAMPLE)	77
TURBIDITY (SETTLED SAMPLE)	25
ORTHO PHOSPHATE - P	<0.01
AMMONIA - N	6.30
NITRITE - N	0.05
NITRATE - N	0.89
COPPER	0.03
ZINC	0.16
CHROMIUM	<0.01
LEAD	<0.10
NICKEL	0.10
CADMIUM	<0.01
MANGANESE	1.60
MERCURY	0.0005

NOTES:

(1) ALL UNITS ARE MILLIGRAMS PER LITER EXCEPT PH AND THE FOLLOWING:
TEMPERATURE - DEGREES CENTIGRADE
COLIFORM DENSITY - FECAL COLIFORM ORGANISMS PER 100 MILLILITERS
TURBIDITY - JACKSON TURBIDITY UNITS

(2)

POINT	TYPE OF SAMPLE	FLOW (APPROXIMATE)
1	COMPOSITE	50000 GALLONS PER DAY

920880438

Allied Chemical Corporation

SPECIALTY CHEMICALS DIVISION

MORRIS TOWNSHIP CENTER • P.O. BOX 70 • MORRISTOWN, NEW JERSEY 07960
TEL. (201) 538-8000

November 19, 1968

Mr. Christian T. Hoffman, Jr.
Principal Public Health Engineer
State of New Jersey Dept. of Health
John Fitch Plaza, P.O. Box 1540
Trenton, New Jersey 08625

NOV 21

Subject: Analysis - Waste Samples
Elizabeth Works
September 19, 1968

Dear Mr. Hoffman:

Reference is made to your letter of September 24, 1968, to our Mr. W. Stocker and a subsequent telephone conversation with Mr. R. Harrison of your office on November 15, 1968, concerning subject matter. Attached is a copy of the analytical results as reported by the Works' laboratory. As we have discussed previously, there are still some minor variations in the analytical results which may be a result of individual technique.

As indicated in our discussions, steps have been taken by the Works to insure more adequate control through improved facilities. Modifications are in progress on our neutralization equipment. Within the next two weeks all neutralization will be made with virgin caustic or its equivalent. It is expected that use of this quality material will reduce the contaminants in the plant effluent to acceptable limits.

We have completed the clean-out of the effluent ditch and the installation of the pH recorder at the monitoring station. The installation of [illegible] files for better mixing is being designed by our engineering [illegible].

Samples [illegible] [illegible] have been [illegible] for test [illegible] [illegible] [illegible] [illegible] [illegible] for [illegible].

We trust our efforts will meet with your favorable consideration.

Very truly yours,

[illegible]

[illegible] Specialist, Air & Water Control

BAA000024

17

920880440

	Sample #1	Sample #2
	2:05 p.m. 9/19/68	2:15 p.m. 9/19/68
pH	7.6	8.2
Total Solids	16005	16089
Total Solid Ash	14558	14744
Suspended Solids	382	372
Suspended Solids Ash	300	246
Dissolved Solids	15623	15717
Dissolved Solids Ash	14258	14498
Pet. Ether Solubles	222	238
Iron	15[illegible]	36
[illegible]	36[illegible]	36[illegible]
[illegible]	1782	1648
Phenols	25[illegible]	27[illegible]
Color	greenish black	reddish green
Odor	phenolic	phenolic

Note: Spent caustic being used for neutralization when samples were taken.

920880441

920880442

TS 8/13/79 pg

Allied Chemical

(Confidential)

Specialty Chemicals Division
100 North Avenue East
Elizabeth, New Jersey 07201

July 30, 1979

Confidential info in PAB sub.

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

No check

AUG 10 8 15 AM '79
ENVIRONMENTAL PROTECTION AGENCY
NEW YORK, N.Y. 10007

Mr. Eckhard C. Beck
Regional Administrator
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10007

Subject: Reapplication for NPDES Permit NJ 0003166
Allied Chemical Corporation
Specialty Chemicals Division
Elizabeth, New Jersey

Dear Mr. Beck:

As specified in the subject NPDES permit, attached is our application (Standard Form C) for renewal.

As suggested by Mr. John Frisco, Chief, Toxic and Inorganic Waste Section, Water Facilities Branch, USEPA II, we conducted a single scan for the USEPA-designated "129 Priority Pollutants." Analytical results are appended to the application (Attachment B). It is our understanding that such data may be required for our point source sub-category in applications for BAT permits to be issued under the NPDES program.

The Elizabeth Works handles materials which have been or may be in the future classified as hazardous substances under Section 311 of the Federal Water Pollution Control Act. The potential exists for discharge of these materials during startup, shutdown, equipment malfunction or other events occurring within the scope of the plant's operation or treatment. During the course of the interim permit, we will endeavor to develop best engineering estimates of these potential discharges which are excluded from the provisions of Section 311 of the Act, such that a specific identification may be provided in our subsequent application for a BAT NPDES permit.

BAA000029

920880443

We are submitting a list of raw materials, intermediates, products, by-products, additives, oils and chemical supplies used in the plant as Attachment C to the application. Although many of these chemicals are not routinely monitored for and are not normally present in our discharge, they could appear at times in the discharge as a result of events beyond our control.

As instructed, confidential information has been included on a separate sheet entitled "Confidential Answers" and is enclosed in a separate sealed envelope marked "Allied Chemical Confidential." This section contains trade secrets and other information of a confidential and business-related nature over which Allied Chemical Corporation claims a privilege as its release could adversely affect our business position in the marketplace. We request timely prior notification should the U.S. Environmental Protection Agency propose to release this information.

Please contact me if you have questions regarding this submittal.

Very truly yours,

ALLIED CHEMICAL CORPORATION

T. P. Seweryn/df

T. P. Seweryn
Plant Manager

TPS/jp
cc: Director
Division of Water Resources
NJ Department of Environmental Protection
Labor and Industry Building
P. O. Box 1390
Trenton, NJ 08625

FORM APPROVED
OMB No. 158-R0100

Reapplication for NPDES Permit NJ0003166

FOR AGENCY USE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

NPDES PERMIT RENEWAL APPLICATION

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

Call NJDEP for public [illegible]

SECTION I APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate 'NA.'

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type

1. Legal Name of Applicant (see instructions)	101	Allied Chemical Corporation Specialty Chemicals Division
2. Mailing Address of Applicant (see instructions) Number & Street	102a	Park Ave., & Columbia Road, P. O. Box 1087R
City	102b	Morristown
State	102c	New Jersey
Zip Code	102d	07960
3. Applicant's Authorized Agent (see instructions) Name and Title	103a	Thomas P. Seweryn Plant Manager
Number & Street Address	103b	100 North Avenue, East
City	103c	Elizabeth
State	103d	New Jersey
Zip Code	103e	07201
Telephone	103f	(201) 354-3215 Area Code / Number
4. Previous Application If a previous application for a National or Federal discharge permit has been made, give the date of application. Use numeric designation for date.	104	71 07 15 YR MO DAY (Revised & updated: 72/05/19, 73/05/15 & 74/01/07)

AUG 10 8 35 AM '79
ENVIRONMENTAL PROTECTION AGENCY
NEW YORK, N.Y. 10007

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete, and accurate.

A. C. Johnson Printed Name of Person Signing	102e	President, Specialty Chemicals Div. Title
[signature] Signature of Applicant or Authorized Agent	102f	1979 7 19 YR MO DAY Date Application Signed

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

FOR AGENCY USE

OFFICE: ____ EPA Region Number

920880445

FOR AGENCY USE

5. Facility/Activity (see instructions) Give the name, ownership, and physical location of the plant or other operating facility where discharge(s) does or will occur.

Name	105a	Allied Chemical Corporation Specialty Chemicals Division Elizabeth Works, Elizabeth, New Jersey
Ownership (Public, Private or Both Public and Private)	105b	☐ PUB ☒ PRV ☐ BPP
Check block if Federal Facility	105c	☐ FED
and give GSA Inventory Control Number	105d	N/A
Location		
Street & Number	105e	100 North Avenue, East
City	105f	Elizabeth
County	105g	Union
State	105h	New Jersey

6. Nature of Business State the nature of the business conducted at the plant or operating facility.

	106a	Manufacture of organic and inorganic chemicals and specialty plastic resins.
	106b	AGENCY USE

7. Facility Intake Water (see instructions) Indicate water intake volume per day by sources. Estimate average volume per day in thousand gallons per day.

Municipal or private water system	107a	994.6	thousand gallons per day
Surface water	107b	0	thousand gallons per day
Groundwater	107c	0	thousand gallons per day
Other*	107d	0	thousand gallons per day
Total Item 7	107e	994.6	thousand gallons per day
*If there is intake water from 'other,' specify the source.	107f		

8. Facility Water Use Estimate average volume per day in thousand gallons per day for the following types of water usage at the facility. (see instructions)

Noncontact cooling water	108a	573.0	thousand gallons per day
Boiler feed water	108b	273.3	thousand gallons per day
Process water (including contact cooling water)	108c	134.7	thousand gallons per day
Sanitary water	108d	13.6	thousand gallons per day
Other*	108e		thousand gallons per day
Total Item 8	108f	994.6	thousand gallons per day
*If there are discharges to 'other,' specify.	108g		
If there is 'Sanitary' water use, give the number of people served.	108h	260	people served

920880446

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

9. All Facility Discharges and other Losses; Number and Discharge (see Instructions) Volume Specify the number of discharge points and the volume of water discharged or lost from the facility according to the categories below. Estimate average volume per day in thousand gallons per day.

		Number of Discharge Points		Total Volume Used or Discharged, Thousand Gal/Day
Surface Water	109a1	1	109a2	467.2
Sanitary wastewater transport system	109b1	1	109b2	13.6
Storm water transport system	109c1		109c2	
Combined sanitary and storm water transport system	109d1		109d2	
Surface impoundment with no effluent	109e1		109e2	
Underground percolation	109f1		109f2	
Well Injection	109g1		109g2	
Waste acceptance firm	109h1	2	109h2	10.7
Evaporation	109i1	6	109i2	465.7
Consumption	109j1	2	109j2	26.1 *
Other*	109k1	1	109k2	11.3 **
Facility discharges and volume Total Item 9.	109l1	13	109l2	994.6
*If there are discharges to 'other,' specify.	109m1	(See additional information below)		

10. Permits, Licenses and Applications
List all existing, pending or denied permits, licenses and applications related to discharges from this facility (see instructions).

110	Issuing Agency (a)	For Agency Use (b)	Type of Permit or License (c)	ID Number (d)	Date Filed YR/MO/DA (e)	Date Issued YR/MO/DA (f)	Date Denied YR/MO/DA (g)	Expiration Date YR/MO/DA (h)
1.	USEPA II		Ocean Dumping	NJ-004	78/07/07	79/01/15*	-	82/01/14
	USEPA II		NPDES	NJ-0003166	71/07/15	75/01/31*	-	80/01/31
2.	NJDEP		IND	R-751216	76/07/-	77/07/18	-	None
3.								

*Effective date

11. Maps and Drawings
Attach all required maps and drawings to the back of this application. (see instructions)

12. Additional Information

112 Item Number	Information
9	*City water in by-product HCl sold and in sulfuric acid product.
	**City water in by-product HCl ocean dumped under provisions of ocean dumping permit NJ-004.

920880447

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Note: Numbers in parentheses refer to supplementary information in Item 26, Page II-9.

1. Discharge Serial No. and Name		
a. Discharge Serial No. (see instructions)	201a	002 (1)
b. Discharge Name Give name of discharge, if any. (see instructions)	201b	Main outfall - treated process wastewater
c. Previous Discharge Serial No. If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number.	201c	N/A
2. Discharge Operating Dates		
a. Discharge Began Date If the discharge described below is in operation, give the date (within best estimate) the discharge began.	202a	77 (YR) 05 (MO) (2)
b. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin.	202b	N/A (YR) (MO)
c. Discharge to End Date If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end.	202c	N/A (YR) (MO)
3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions)	203	☒ (3)
4. Discharge Location Name the political boundaries within which the point of discharge is located.		
State	204a	New Jersey
County	204b	Union
(if applicable) City or Town	204c	Elizabeth
Agency Use	204d	
Agency Use	204e	
Agency Use	204f	
5. Discharge Point Description Discharge is into (check one): (see instructions)		
Stream (includes ditches, arroyos, and other intermittent watercourses)	205a	☒ STR (Newark Bay via public drainage ditch)
Lake		☐ LKE
Ocean		☐ OCE
Municipal Sanitary Wastewater Transport System		☐ MTS
Municipal Combined Sanitary and Storm Transport System		☐ MCS

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DISCHARGE SERIAL NUMBER

002

FOR AGENCY USE

Municipal Storm Water Transport System ☐ STS

Well (Injection) ☐ WEL

Other ☐ OTH

If 'other' is checked, specify 205b _____

6. Discharge Point — Lat/Long Give the precise location of the point of discharge to the nearest second.

Latitude 206a 40 DEG 39 MIN 49 SEC

Longitude 206b 74 DEG 09 MIN 54 SEC

7. Discharge Receiving Water Name Name the waterway at the point of discharge.(see instructions) 207a Newark Bay

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8.

207b

For Agency Use		
Major	Minor	Sub

207c

For Agency Use
303c

8. *Offshore Discharge*

a. Discharge Distance from Shore 208a N/A feet

b. *Discharge Depth Below Water Surface* 208b N/A feet

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous or intermittent. (see instructions) 209a ☒ (con) Continuous ☐ (int) Intermittent

b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge, this discharge occurs. 209b 7 days per week

c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions) 209c ☐ JAN ☐ FEB ☐ MAR ☐ APR ☐ MAY ☐ JUN ☐ JUL ☐ AUG ☐ SEP ☐ OCT ☐ NOV ☐ DEC N/A

Complete Items 10 and 11 if "intermittent" is checked in Item 9.a. Otherwise, proceed to Item 12.

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons. 210 N/A thousand gallons per discharge occurrence.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating. 211a N/A hours per day

b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging. 211b N/A discharge occurrences per day

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12. Maximum Flow Period Give the time period in which the maximum 212 From 01 to 12 (Dependent on monthly precipitation)

DISCHARGE SERIAL NUMBER

002

FORM APPROVED
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FOR AGENCY USE

13. Activity Description Give a narrative description of activity producing this discharge.(see instructions)

213a Manufacture of sulfuric acid by contact process using various grades of spent sludge, and alkyl sulfuric acids and sulfur. The facility also manufactures refrigerant 22 (Genetron® 22), monochlorodifluoromethane, and specialty fluoropolymer resins.

14. Activity Causing Discharge For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. Raw Materials

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214a	(1)	(2)	(3)	(4)	(5)
		(See Attachment "A" - Confidential Answers)			

b. Products

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214b	(1)	(2)	(3)	(4)	(5)

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DISCHARGE SERIAL NUMBER

002

FOR AGENCY USE

15. Waste Abatement

a. Waste Abatement Practices
Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

215a Narrative: Principal waste abatement practices include use of curbing and sumps for spill and leak control. Collected contaminated stormwater from process areas discharges into effluent treatment facility. Effluent treatment of strongly acidic wastes includes equalization, neutralization with caustic soda and settling for suspended solids removal. Less acidic wastes are treated for floating solids removal and neutralized with caustic soda. Both treated waste streams are combined, monitored, and discharged at Outfall 002. Sanitary wastes are discharged to the municipal treatment system. Excess by-product hydrochloric acid that cannot be sold is ocean dumped under the provisions of USEPA ocean dumping permit NJ-004. The former effluent ditch surrounding the Plant may receive runoff from the adjacent Corps of Engineers dredge spoils, City of Elizabeth dumpsite, several industrial sites above this facility and stormwater runoff from non-contaminated plant areas.

b. Waste Abatement Codes
Using the codes listed in Table II of the Instruction Booklet, describe the waste abatement processes for this discharge in the order in which they occur if possible.

215b

(1) ESEGRE	(2) LOCALS	(3) OMONIT
(4) EPUMPS	(5) PEQUAL	(6) PSEDIM
(7) RECOVE	(8) PSKIMC	(9) CNEUTR
(10) RUSEOR	(11) CPHADJ	(12) SLANDD
(13) SEADIS	(14) MUNDIS	(15)
(16)	(17)	(18)
(19)	(20)	(21)
(22)	(23)	(24)
(25)		

920880451

DISCHARGE SERIAL NUMBER

002

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE							

16. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate.(see instructions)

Parameter 216	Present	Parameter 216	Present	
Color 00080	X	Copper 01042	X	
Ammonia 00610	X	Iron 01045	X	
Organic nitrogen 00605	X	Lead 01051	X	
Nitrate 00620	X	Magnesium 00927	X	
Nitrite 00615	X	Manganese 01055	X	
Phosphorus 00665	X	Mercury 71900	X	
Sulfate 00945	X	Molybdenum 01062	X	
Sulfide 00745	X	Nickel 01067	X	
Sulfite 00740	X	Selenium 01147	X	
Bromide 71870	X	Silver 01077	X	
Chloride 00940	X	Potassium 00937	X	
Cyanide 00720	X	Sodium 00929	X	
Fluoride 00951	X	Thallium 01059	X	
Aluminum 01105	X	Titanium 01152	X	
Antimony 01097	X	Tin 01102	X	
Arsenic 01002	X	Zinc 01092	X	
Beryllium 01012	X	Algicides* 74051	X	(4)
Barium 01007	X	Chlorinated organic compounds* 74052	X	(5)
Boron 01022	X	Pesticides* 74053	X	(5a)
Cadmium 01027	X	Oil and grease 00550	X	
Calcium 00916	X	Phenols 32730	X	
Cobalt 01037	X	Surfactants 38260	X	
Chromium 01034	X	Chlorine 50060	X	(5a)
Fecal coliform bacteria 74055	X	Radioactivity* 74050	X	(5a)

*Specify substances, compounds and/or elements in Item 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

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*7. Description of Intake and Discharge

For each of the parameters listed below, enter in the appropriate box the value or code letter answer called for.(see instructions)

In addition, enter the parameter name and code and all required values for any of the following parameters *if they were checked in Item 16*; ammonia, cyanide, aluminum, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual).

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Flow* (1978 Data) Gallons per day ~~00336~~ 50050	0.995	NA	0.467	0.055	1.008	Cont.	-	NA
pH Units 00400	6.0-9.0	NA	X	2.0 (See Note 8a, Item 26)	12.0	Cont.	-	NA
Temperature (winter) (Notes 6,7) °F 74028	41	NA	Not Available		72	Cont.	-	NA
Temperature (summer) (Notes 6,7) °F 74027	61	NA	Not Available		93	Cont.	-	NA
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	1.3	NA	8.6	2.0	26.0	Note 9 Item 26	10	C
Chemical Oxygen Demand (COD) mg/l 00340	4.2	NA	43.9	12.5	104.4	2/30	24	C
Total Suspended (nonfilterable) Solids mg/l 00530	LT 1	NA	9.1	4.0	17.0	2/30	24	C
Specific Conductance micromhos/cm at 25° C 00095	Note 7	NA	X	5800	12,600	Note 9 Item 26	5	C
Settleable Matter (residue) ml/l 00545	LT 0.1	NA	See Note 8, Item 26					

*Other discharges sharing intake flow (serial numbers).(see instructions)

C = Indicates composite flow proportional sample.

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17. (Cont'd.)

Parameter and Code 217a	Influent: Untreated Intake Water (Daily Average) (1)	Influent: In-Plant Treated Intake Water (Daily Average) (2)	Effluent: Daily Average (3)	Effluent: Minimum Value Observed or Expected During Discharge Activity (4)	Effluent: Maximum Value Observed or Expected During Discharge Activity (5)	Effluent: Frequency of Analysis (6)	Effluent: Number of Analyses (7)	Effluent: Sample Type (8)
Ammonia (As N) (00610)	0.06	NA	1.1	0.45	2.9	Note 9	10	C
Cyanide (Total) (00720)	0.015	NA	LT 0.063	0.02	LT 0.1	Note 9	10	G
Aluminum (01105)	0.18	NA	1.64	0.2	5.1	Note 9	10	C
Arsenic (01002)	LT 0.01	NA	LT 0.002	LT 0.002	LT 0.002	Note 9	5	C
Beryllium (01012)	LT 0.002	NA	LT 0.005	LT 0.005	LT 0.005	Note 9	10	C
Cadmium (01027)	0.003	NA	LT 0.002	LT 0.002	LT 0.002	Note 9	5	C
Chromium (01034)	NEG*	NA	LT 0.051	LT 0.01	0.23	2/30	24	C

*Reported by Wanaque Laboratory, North Jersey District Water Supply Commission, as negligible in finished water.

18. Plant Controls Check if the following plant controls are available for this discharge. 218

Alternate power source for major pumping facility. ☐ APS

Alarm or emergency procedure for power or equipment failure ☒ ALM Lift station has alternate power circuit in the event of a localized power outage.

Complete item 19 if discharge is from cooling and/or steam water generation and water treatment additives are used. (See Note 11)

19. Water Treatment Additives If the discharge is treated with any conditioner, inhibitor, or algicide, answer the following:

a. Name of Material(s) 219a CL-70, CL-85, H-212 (Calgon); Drewspense 738, Drewgard 193, Biosperse 230, Amercor 8750, Amerclean 22, Amertrol 1125, Drewplex 505 (Drew Chemical)

b. Name and address of manufacturer 219b Calgon Corp., 111 Central Ave., Teterboro, NJ 07608
Drew Chemical Corp., 522 Fifth Ave., NY, NY 10036

c. Quantity (pounds added per million gallons of water treated). 219c 81.9 (Total for boilers and cooling towers)

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17. (Cont'd.)

Parameter and Code	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Color (00080)	10	NA	LT 7.2	LT 5	20	Note 9	10	C
Org.Nit.(As N)(00605)	2.19	NA	0.29	0.10	0.5	Note 9	5	C
Nitrate (As N)(00620)	0.07	NA	1.85	0.29	4.1	Note 9	10	C
Nitrite (As N)(00615)	0.06	NA	LT 0.1	LT 0.1	LT 0.1	Note 9	10	C
Phosphorus-P(00665)	0.04	NA	2.3	0.07	6.8	Note 9	10	C
Sulfate (00945)	14.8	NA	2867	1900	4200	Note 9	10	C
Sulfide (00745)	0.32	NA	LT 1.89	LT 0.3	5.1	Note 9	10	C
Sulfite (00740)	-	NA	1.67	1.3	2.1	Note 9	10	C
Bromide (71870)	LT 0.1	NA	LT 0.1	LT 0.1	LT 0.1	Note 9	10	C
Chloride (00940)	16.0	NA	223	190	270	Note 9	10	C
Fluoride (00951)	0.14	NA	2.46	1.1	4.0	2/30	24	C
Antimony (01097)	LT 0.07	NA	0.25	0.1	0.35	Note 9	5	C
Oil & Grease (00550)	5.5	NA	3.93	0.6	10.4	1/30	12	G
TOC (00680)	-	NA	20.5	7.0	48.0	2/30	24	C
Iron (01045)	0.06	NA	0.72	0.03	2.40	2/30	24	C
Lead (01051)	0.009	NA	LT 0.02	LT 0.01	0.12	2/30	24	C
Copper (01042)	0.027	NA	LT 0.02	LT 0.01	0.07	2/30	24	C
Barium (01007)	LT 0.02	NA	LT 0.58	LT 0.03	1.2	Note 9	10	C
Boron (01022)	LT 1.0	NA	LT 0.31	LT 0.1	LT 0.1	Note 9	10	C
Calcium (00916)	8.4	NA	34.6	18	60	Note 9	10	C
Cobalt (01037)	0.02	NA	LT 0.40	0.02	0.07	Note 9	10	C
Fecal Coliform(74055)	0	NA	LT 64.7	0	460	Note 9	10	C
Magnesium (00927)	37.2	NA	12.0	9.5	16	Note 9	10	C
Manganese (01055)	0.04	NA	0.32	0.16	0.55	Note 9	10	C
Mercury (71900)	LT 0.001	NA	LT 0.002	LT 0.002	LT 0.002	Note 9	5	C
Molybdenum (01062)	LT 0.02	NA	LT 0.1	LT 0.1	LT 0.1	Note 9	10	C
Nickel (01067)	NEG*	NA	0.14	0.1	0.2	Note 9	5	C

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17. (Cont'd.)

Parameter and Code	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Selenium (01147)	LT 0.005	NA	LT 0.002	LT 0.002	LT 0.002	Note 9	5	C
Silver (01077)	0.002	NA	0.010	Note 10, Item 26			1	C
Potassium (00939)	0.77	NA	14	12	19	Note 9	10	C
Sodium (00929)	6.5	NA	1449	1000	2000	Note 9	10	C
Thallium (01059)	LT 0.02	NA	LT 0.1	LT 0.1	LT 0.1	Note 9	5	C
Titanium (01152)	LT 0.03	NA	LT 0.3	LT 0.3	LT 0.3	Note 9	10	C
Tin (01102)	LT 0.02	NA	LT 0.8	LT 0.8	LT 0.8	Note 9	10	C
Zinc (01092)	0.04	NA	0.10	0.04	0.19	Note 9	5	C
Phenols (32730)	LT 0.002	NA	0.009	0.002	0.016	Note 9	10	G
Surfactants (38260)	0.03	NA	1.75	1.4	2.1	Note 9	10	C
Total Solids (00500)	81.2	NA	4615	3000	6800	Note 9	10	C
Total Dissolved Solids (70300)	73.0	NA	4470	2989	6795	Note 9	5	C

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d. Chemical composition of these additives (see Instructions). 219d See 26 Item 19

Complete Items 20-25 if there is a thermal discharge (e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery, or any other manufacturing process) and the total discharge flow is 10 million gallons per day or more. (see instructions)

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions) 220

- Boiler Blowdown ☐ BLBD
- Boiler Chemical Cleaning ☐ BCCL
- Ash Pond Overflow ☐ APOF
- Boiler Water Treatment — Evaporator Blowdown ☐ EPBD
- Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices ☐ OCFP
- Condense Cooling Water ☐ COND
- Cooling Tower Blowdown ☐ CTBD
- Manufacturing Process ☐ MFPR
- Other ☐ OTHR

(Not applicable)

21. Discharge/Receiving Water Temperature Difference

Give the maximum temperature difference between the discharge and receiving waters for summer and winter operating conditions. (see instructions)

Summer 221a _____ °F.

Winter 221b _____ °F.

(Not applicable)

22. Discharge Temperature, Rate of Change Per Hour 222 _____ °F./hour

Give the maximum possible rate of temperature change per hour of discharge under operating conditions. (see Instructions)

23. Water Temperature, Percentile Report (Frequency of Occurrence)

In the table below, enter the temperature which is exceeded 10% of the year, 5% of the year, 1% of the year and not at all (maximum yearly temperature). (see instructions)

Frequency of occurrence

		10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes)	223a	°F	°F	°F	°F
b. Discharge Water Temperature	223b	°F	°F	°F	°F

N/A

24. Water Intake Velocity (see Instructions) 224 _____ feet/sec.

25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions) 225 _____ minutes

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26. Additional Information

226

Item	Information
1	Note(1): Current NPDES Permit NJ 0003166 (page 5 of 16) provides for discharge of non-contact cooling water and condensate into former effluent ditch surrounding plant. The sum of these discharges was to be reported as Outfall 001. These discharges were redirected into sewers that discharge through Outfall 002. USEPA II was notified of these changes (letter: J. P. Tourish/E. C. Beck, 9/8/77) and modification of NPDES Permit NJ 0003166 was requested to delete reference to Outfall 001. No permit modification has been received to date.
2(a)	Note(2): Discharge of treated process effluents through Outfall 002 was initiated approximately May, 1977 after completion of construction of treatment facility required to meet final effluent limitations specified in NPDES Permit No. NJ 0003166.
3	Note(3): An engineering report covering final plans and specifications for the planned waste treatment facility was submitted to USEPA II (letter: F. G. Karasek/G. M. Hansler, dated December 18, 1975) to comply with the requirements of Section 11(b) of NPDES Permit NJ 0003166.
16	Note(4): "Presence" based on analytical results of special ten-day analytical survey. Results, reported as biocides 19 include aldrin, dieldrin, endrin, heptachlor, heptachlor epoxide, DDT (mixed isomers), p,p'DDE, p,p'TDE, chlordane, methoxychlor, toxaphene, trobane, lindane, mirex, hexachlorophene, hexachlorobenzene, dacthal, perthane, and polychlorinated biphenyl (PCB). Specific values for "biocide 19" were:

Date	Value, mg/l	Date	Value, mg/l
10/16-17/78	<0.01	3/12-13/79	ND
10/17-18/78	<0.01	3/13-14/79	ND
10/18-19/78	<0.01	3/14-15/79	ND
10/19-20/78	<0.01	3/15-16/79	ND
10/20-21/78	<0.01	3/25-26/79	ND

ND = None detected above limit of analytical method which is lower than 0.01 mg/l

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26. Additional Information

226

Item	Information
16	Note(5): Based on single scan (gc/ms) for 129 "priority pollutants" (Attachment B), the following chlorinated hydrocarbons were detected:

Compound	Intake City Water, µg/l	Effluent Outfall 002, µg/l
Chloroform	36	182
Dibromochloromethane	2	2
Trichloroethylene	ND	0.5
Trichlorofluoromethane	ND	36

Note(5a): Pesticides, chlorine, and radioactivity are not believed to be present in effluent under normal conditions. However, their presence as well as the presence of other chemical compounds could be present in the intake finished water or from other sources within the plant.

17 Note(6): Values cited for temperature of effluent, discharged from Outfall 002 are maximum observed values based on continuous temperature recorder. Minimum monthly (daily) values are not recorded.

Outfall 002 Effluent Temperature, °F

Period (1978)	Maximum Observed Temp., °F
January	53
February	58
March	60
April	64
May	74
June	89
July	90
August	93
September	90
October	82
November	72
December	68

Note: Permit limitation is 35.0°C or 95°F maximum.

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26. Additional Information

226

Item	Information
17	Note(7): Data for plant intake water extracted from "Monthly Averages for 1978," a data compilation supplied by the Wanaque Laboratory, North Jersey District Water Supply Commission, Statement of Water Treatment at Raymond Dam, Wanaque Reservoir and 24-hour plant influent water composite analyses. Data for specific conductance not reported; total solids (avg.) for 1978 in intake water reported as 81.2 mg/l.
17	Note(8): Data on settleable matter not available. Settleable matter in effluent is believed to be minimal and if present in effluent would be included in total suspended solids (nonfilterable residue) values.
	Note(8a): Values cited for pH are minimum and maximum observations at Outfall 002 that have been recorded and reported for 1978 (12 months) and 1979 (3 months). Normally, effluent from Outfall 002 is within limitations (i.e., pH 6.0-9.0) specified in our NPDES permit.
17	Note(9): Based on special 10-day effluent monitoring survey. Analyses performed by United States Testing Company, Inc., Hoboken, New Jersey.
17	Note(10): Presence based on single analysis of "129 priority pollutant." See Attachment B.
19	Note(11): Below is the composition of the additives listed in item 19:
	CL-70 Corrosion and scale inhibitor - aminomethylene phosphonate and an inorganic ingredient.
	CL-85 Silt control - linear homopolymer at diallyldimethylammonium chloride
	H-212 Microbiccide - cationic nitrogen base and organometallic compounds (no Hg).

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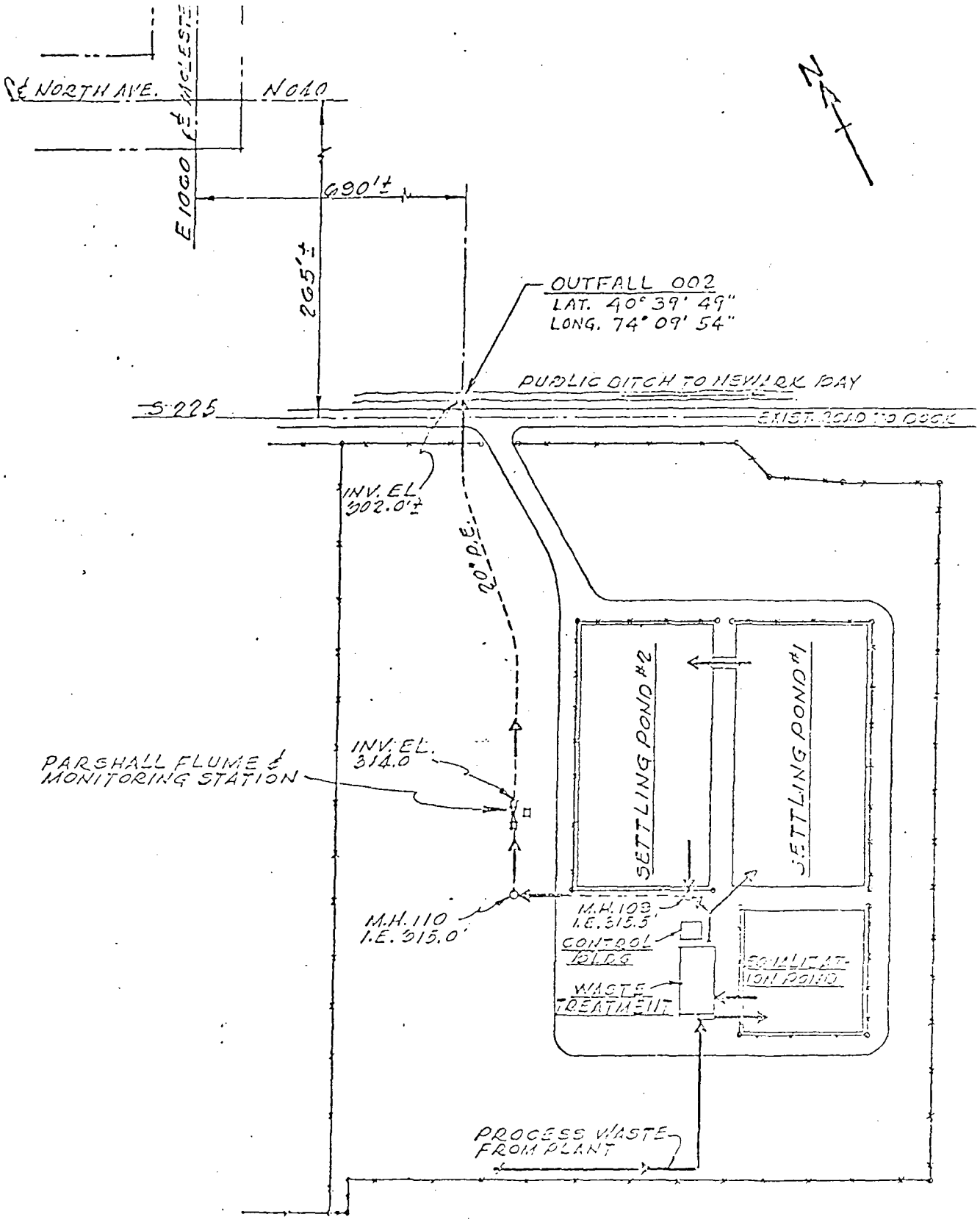
26. Additional Information

226 Item	Information
	Drewsperse 738 - Dispersing agent - polymeric reaction product of organics and inorganics.
	Drewsgard 193 - Dispersing agent - phosphate/polymer sequestrant blend in water.
	Biosperse 230 - Biocide - microbiocide containing 20% trichloro-5-triazinetrione as the active ingredient.
	Amercor 8750 - Scale inhibitor - a blend of cyclohexylamine and morpholine.
	Amerclean 22 - Scale inhibitor - sodium chloride and sodium hydrosulfite.
	Amertrol 1125 - Scale inhibitor - inorganic polyphosphate and sodium polyacrylate.
	Drewplex 505 - Sludge inhibitor - blend of anionic polyelectrolytes along with a natural organic dispersant.

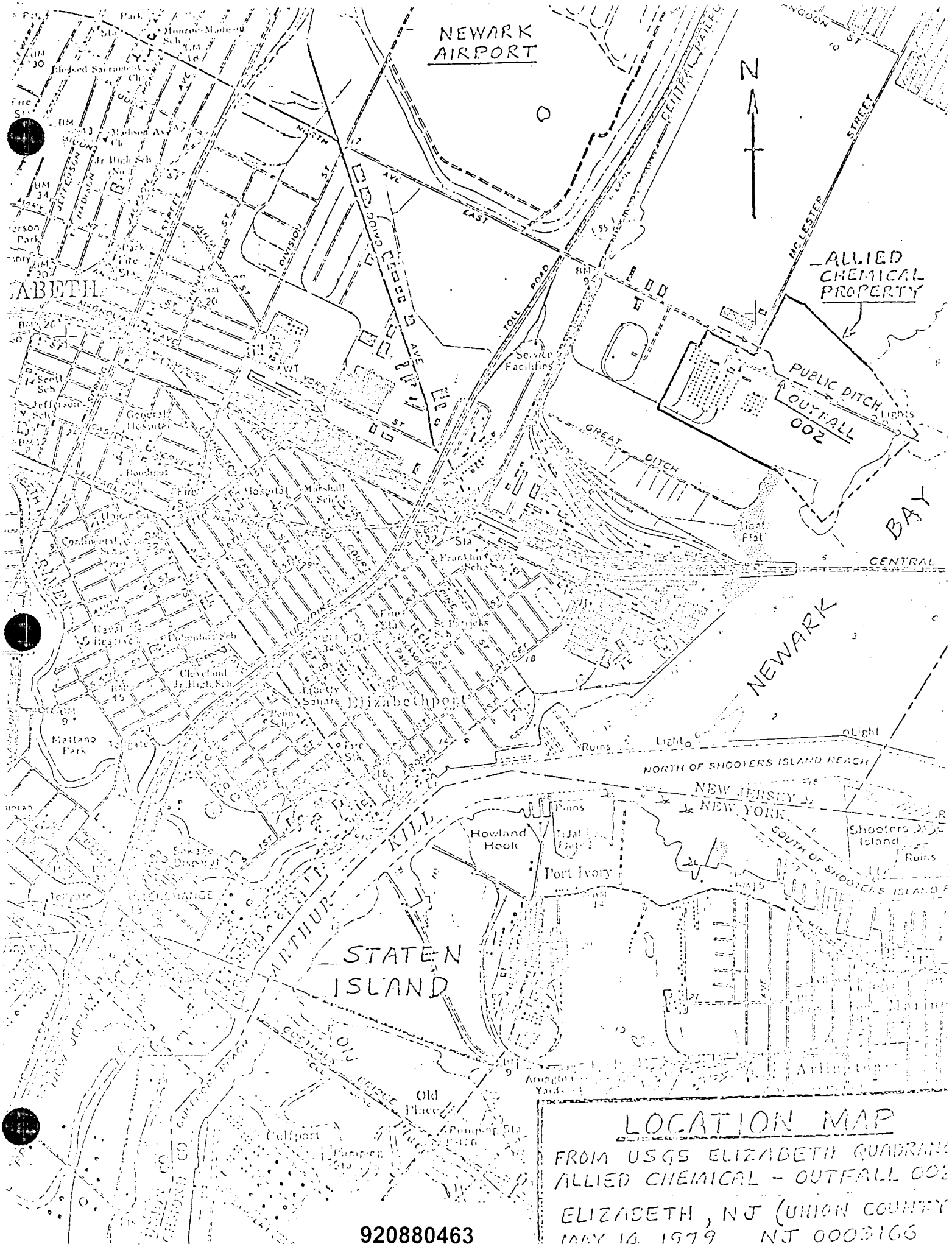


NOTE:
ELEVATIONS ARE PORT AUTHORITY DATUM

PLANT WASTE TREATMENT AREA AND OUTFALL 002

ALLIED CHEMICAL CORP.
ELIZABETH, N.J. (UNION COUNTY)

920880462



LOCATION MAP

FROM USGS ELIZABETH QUADRANG

ALLIED CHEMICAL - OUTFALL 00

ELIZABETH, NJ (UNION COUNTY

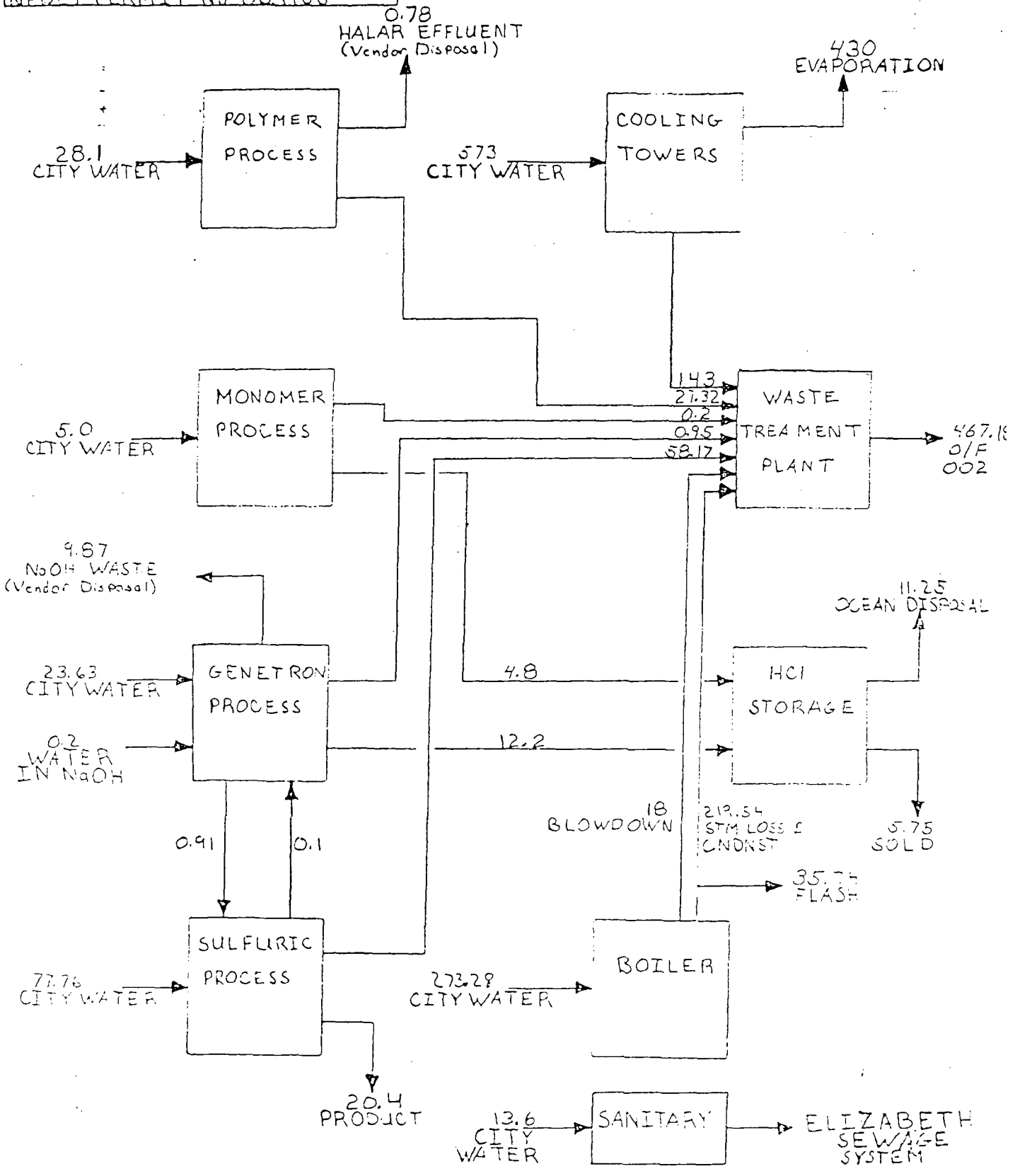
MAY 14 1979 NJ 0003166

920880463

BY ..... DATE ..... SUBJECT .....

CHKD. BY ..... DATE ..... WATER BALANCE ..... JOB NO. .....

ALLIED CHEMICAL CORPORATION
SPECIALTY CHEMICALS DIVISION
NPDES PERMIT NJ 003166



ALL VALUES REPORTED IN THOUSANDS OF GALLONS

920880464

Sample Date 10-18-78

ALLIED CHEMICAL CORPORATION
SPECIALTY CHEMICALS DIVISION
ELIZABETH, NEW JERSEY

NPDES Permit No. NJ 0003166

AUG 10 9 36 AM '79
ENVIRONMENTAL PROTECTION AGENCY
NEW YORK, N.Y. 10007

	Priority Pollutants	Effluent 002 (ppb)	City Intake (ppb)
1.	Acenaphthene	ND(1)	ND
2.	Acenaphthylene	ND	ND
3.	Acrolein	ND	ND
4.	Acrylonitrile	ND	ND
5.	Anthracene	ND	ND
6.	Benzene	ND	ND
7.	Benzidine	ND	ND
8.	Benzo(a)anthracene	ND	ND
9.	Benzo(b)fluoranthene	ND	ND
10.	Benzo(k)fluoranthene	ND	ND
11.	Benzo(g,h,i)perylene	ND	ND
12.	Benzo(a)pyrene	ND	ND
13.	Bromodichloromethane	ND	ND
14.	Bromoform	ND	ND
15.	Bromomethane	ND	ND
16.	4-Bromophenyl phenyl ether	ND	ND
17.	Butyl benzylphthalate	ND	ND
18.	Carbon tetrachloride	ND	ND
19.	Chlorobenzene	ND	ND
20.	p-Chloro-m-cresol	ND	ND
21.	Chloroethane	ND	ND
22.	bis(2-Chloroethoxy) methane	ND	ND
23.	bis(2-Chloroethyl) ether	ND	ND
24.	2-Chloroethylvinyl ether	ND	ND
25.	Chloroform	182	36
26.	bis(2-Chloroisopropyl) ether	ND	ND
27.	Chloromethane	ND	ND
28.	bis(Chloromethyl) ether	ND	ND

		Effluent 002 (ppb)	City Intake (ppb)
29.	2-Chloronaphthalene	ND	ND
30.	2-Chlorophenol	ND	ND
31.	4-Chlorophenyl phenyl ether	ND	ND
32.	Chrysene	ND	ND
33.	Dibenzo(a,h) anthracene	ND	ND
34.	Dibromochloromethane	2	2
35.	Di-n-butylphthalate	ND	ND
36.	1,2-Dichlorobenzene	ND	ND
37.	1,3-Dichlorobenzene	ND	ND
38.	1,4-Dichlorobenzene	ND	ND
39.	3,3'-Dichlorobenzidine	ND	ND
40.	Dichlorodifluoromethane	ND	ND
41.	1,1-Dichloroethane	ND	ND
42.	1,2-Dichloroethane	ND	ND
43.	1,1-Dichloroethylene	ND	ND
44.	trans-1,2-Dichloroethylene	ND	ND
45.	2,4-Dichlorophenol	ND	ND
46.	1,2-Dichloropropane	ND	ND
47.	1,3-Dichloropropene	ND	ND
48.	Diethylphthalate	ND	ND
49.	2,4-Dimethylphenol	ND	ND
50.	Dimethylphthalate	ND	ND
51.	4,6-Dinitro-o-cresol	ND	ND
52.	2,4-Dinitrophenol	ND	ND
53.	2,4-Dinitrotoluene	ND	ND
54.	2,6-Dinitrotoluene	ND	ND
55.	1,2-Diphenylhydrazine	ND	ND
56.	Di-n-octylphthalate	ND	ND
57.	Ethylbenzene	ND	ND
58.	bis(2-Ethylhexyl) phthalate	ND	ND
59.	Fluoranthene	ND	ND
60.	Fluorene	ND	ND
61.	Hexachlorobenzene	ND	ND

		Effluent 002 (ppb)	City Intake (ppb)
62.	Hexachlorobutadiene	ND	ND
63.	Hexachlorocyclopentadiene	ND	ND
64.	Hexachloroethane	ND	ND
65.	Indeno(1,2,3-cd)pyrene	ND	ND
66.	Isophorone	ND	ND
67.	Methylene chloride	5	2
68.	Naphthalene	ND	ND
69.	Nitrobenzene	ND	ND
70.	2-Nitrophenol	ND	ND
71.	4-Nitrophenol	ND	ND
72.	N-Nitrosodimethylamine	ND	ND
73.	N-Nitrosodiphenylamine	ND	ND
74.	N-Nitrosodi-n-propylamine	ND	ND
75.	Pentachlorophenol	ND	ND
76.	Phenanthrene	ND	ND
77.	Phenol	ND	ND
78.	Pyrene	ND	ND
79.	2,3,7,8-Tetrachloro-dibenzo-p-dioxin	ND	ND
80.	1,1,2,2-Tetrachloroethane	3	ND
81.	1,1,2,2-Tetrachloroethene	ND	ND
82.	Toluene	ND	ND
83.	1,2,4-Trichlorobenzene	ND	ND
84.	1,1,1-Trichloroethane	ND	ND
85.	1,1,2-Trichloroethane	ND	ND
86.	Trichloroethylene	0.5	ND
87.	Trichlorofluoromethane	36	ND
88.	Trichlorophenol	ND	ND
89.	Vinyl chloride	ND	ND
90.	Aldrin	ND (2)	ND
91.	α-BHC	ND	ND
92.	β-BHC	ND	ND
93.	γ-BHC	ND	ND
94.	δ-BHC	ND	ND

		Effluent 002 (ppb)	City Intake (ppb)
95.	Chlordane	ND	ND
96.	4,4'-DDD	ND	ND
97.	4,4'-DDE	ND	ND
98.	4,4'-DDT	ND	ND
99.	Dieldrin	ND	ND
100.	α-Endosulfan	ND	ND
101.	β-Endosulfan	ND	ND
102.	Endosulfan sulfate	ND	ND
103.	Endrin	ND	ND
104.	Endrin aldehyde	ND	ND
105.	Heptachlor	ND	ND
106.	Heptachlor epoxide	ND	ND
107.	Toxaphene	ND	ND
108.	PCB-1242	ND	ND
109.	PCB-1254	ND	ND
110.	PCB-1221	ND	ND
111.	PCB-1232	ND	ND
112.	PCB-1248	ND	ND
113.	PCB-1260	ND	ND
114.	PCB-1016	ND	ND

		Effluent 002 (ppm)	City Intake (ppm)
115.	Antimony	0.110(3)	< 0.005
116.	Arsenic	0.005	0.005
117.	Beryllium	0.0006	< 0.0006
118.	Cadmium	0.001	< 0.001
119.	Chromium	< 0.010	< 0.010
120.	Copper	0.013	0.039
121.	Cyanide	NR(5)	NR
122.	Lead	< 0.025	< 0.025
123.	Mercury	< 0.0002	< 0.0002
124.	Nickel	0.011	0.004
125.	Selenium	0.045(4)	< 0.005
126.	Silver	0.010(4)	< 0.001
127.	Thallium	< 0.002	< 0.002
128.	Zinc	0.008	0.005
129.	Asbestos	ND(6)	ND

(1) None detected; limit of detection: 10 ppb.

(2) Limit of detection: 1 ppb.

(3) Hydride generation: 0.008

(4) High salt concentration; results by flameless atomic absorption in question.

(5) Not reported.

(6) Limit of detection: one million fibers/liter.

ATTACHMENT C

ALLIED CHEMICAL CORPORATION
SPECIALTY CHEMICALS DIVISION
ELIZABETH, NEW JERSEY
NPDES Permit NJ 0003166

Chemical Inventory List

Vinylidene Difluoride
Iron Sulfate
Tetrafluoroethylene
Potassium Persulfate
Hexafluoropropylene
Hexafluoroisobutylene
Potassium Carbonate
Silica Gel
Sodium Metabisulfite
Caustic Soda
Calcium Oxide
FC-126 Soap
Alkylaryl Phosphite
Trichloroacetyl Chloride
Methanol
Hydrogen Peroxide
Distearyl Thiodipropionate
Ethylene
Polytetrafluoroethylene (Halon®)
Alumina
Alpha Pinene
Antimony Pentachloride
Carbon (activated)
Nitrogen gas
Sulfuric Acid
Chlorine
Methane
Isobutane
Nitromethane
Propane
n-Butane
Methylene Chloride
Phosgene
Aluminum Oxide
Alpha Methylstyrene
Antimony Trichloride
Thionyl Chloride
Hydrofluoric Acid
Hydrochloric Acid
Carbon Tetrachloride
Chloroform

Isopentane
Sodium Carbonate
Trichloromonofluoromethane (Genetron® 11)*
Dichlorodifluoromethane (Genetron® 12)*
Trichlorotrifluoroethane (Genetron® 113)*
Dichlorotetrafluoroethane (Genetron® 114)*
Trichloroacetyl Peroxide
Monochlorodifluoromethane (Genetron® 22)
Difluoroethane (Genetron® 152a)
Ethylene - Chlorotetrafluoroethylene Resin (Halar®), Various Grades
Methylene Fluoride (Genetron® 32)
Refrigerant 503
Refrigerant 502
Refrigerant 500
Chlorotrifluoromethane (Genetron® 13)
Monochloromonofluoromethane (Genetron® 31)
Monochlorotrifluoroethylene (Genetron® 1113)
Vanadium Pentoxide Catalyst
Hydrogen Fluoride (Anhydrous)
Sulfur

* Various propellant blends of Genetron® fluorocarbons and fluorocarbons/hydrocarbons are prepared at the Elizabeth Works. Only the components of these blends are listed.

Note: Additives used in cooling towers and boilers are listed in Section II, Item 26, Page II-9(c) of the application.

6/8/89

920880473

New Jersey Department of Environmental Protection
Division of Water Resources
Industrial Waste Management
CN-029
Trenton, N.J. 08625
(609) 292-4860

PUBLIC NOTICE

APR 2 1984

NOTICE: ISSUANCE OF DRAFT NJPDES PERMIT NJ0003166

Notice is hereby given that:

Allied Chemical Corporation
Specialty Chemicals Division
100 North Avenue, East
Elizabeth, NJ 07201

has applied to the New Jersey Department of Environmental Protection (NJDEP) for a New Jersey Pollutant Discharge Elimination System (NJPDES) permit to discharge to Newark Bay via public drainage ditch. Newark Bay is classified as TW-3 waters.

The applicant produces fluorocarbon refrigerants and various fluoropolymers. The facility is classified as major by the Federal EPA. The application is for renewal of the existing permit.

All sanitary wastewater is diverted to the municipal sewer system. Process wastewaters consisting of noncontact cooling water, boiler feed, equipment washwater and deionization backflushes, are treated along with collected stormwater runoff and discharged via Outfall 002 to the public ditch. The average flow is 0.3 MGD. The treatment system consists of flow equalization, neutralization and settling.

For an existing facility, issuance of the NJPDES permit is the enforcement mechanism by which pollutant discharges are brought into compliance with standards.

This notice is being given to inform the public that NJDEP has prepared a draft NJPDES permit. This draft permit contains conditions necessary to implement the provisions of the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" (N.J.A.C. 7:14A-1 et seq.), which were promulgated pursuant to the authority of the New Jersey "Water Pollution Control Act" (N.J.S.A. 58:10A-1 et seq.), "Solid Waste Management Act" (N.J.S.A. 13:1E-1 et seq.) and the "Pretreatment Standards for Sewage" (N.J.S.A. 58:11-49 et seq.).

The draft permit prepared by NJDEP is based on the administrative record which is on file at the offices of the NJDEP, Division of Water Resources, located at 1474 Prospect Street in the Township of Ewing, Mercer County, New Jersey. It is available for inspection, by appointment, between 8:30 a.m. and 4:00 p.m., Monday through

Friday. Appointments for inspection may be scheduled by calling (609) 984-4428.

Interested persons may submit written comments on the draft permit to the Administrator, Water Quality Management, at the address cited above. All comments shall be submitted within 30 days of the date of this public notice. All persons, including applicants, who believe that any condition of this draft permit is inappropriate or that the Department's tentative decision to issue this draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period. All comments submitted by interested persons in response to this notice, within the time limit, will be considered by the NJDEP with respect to the permit application. At the close of the public comment period, the Department will issue or deny the permit. The Department will respond to all significant and timely comments when a final permit is issued. The applicant and each person who has submitted written comments will receive notice of NJDEP's final decision.

Any interested person may request in writing that NJDEP hold a non-adversarial public hearing on the draft permit. This request shall state the nature of the issues to be raised in the proposed hearing and shall be submitted within 30 days of the date of this public notice to the Administrator, Water Quality Management at the address cited above. A public hearing will be conducted whenever the NJDEP determines that there is a significant degree of public interest in the permit decision. If a public hearing is held, the public comment period in this notice shall automatically be extended to the close of the public hearing.

Arnold Schiffman
Administrator
Water Quality Management

WQM98-E/PN1:lml

State of New Jersey
Department of Environmental Protection
Division of Water Resources
1474 Prospect St., CN-029
Trenton, New Jersey 08625

FACT SHEET
FOR DRAFT NJPDES PERMIT TO DISCHARGE
INTO THE WATERS OF THE STATE OF NEW JERSEY

No. NJPDES Application No. NJ0003166 Date:

Name and Address of Applicant: Allied Chemical Corp.
100 North Avenue East
Elizabeth, N.J. 07201

Name and Address of Facility Where Discharge Occurs: Same as Above

Receiving Water: Newark Bay

Classification: TW-3

I. LOCATION OF DISCHARGE

The above named applicant has applied for a New Jersey Pollutant Discharge Elimination System (NJPDES) permit, to the State of New Jersey Department of Environmental Protection, Division of Water Resources to discharge into the designated receiving water.

A description and/or sketch of the location of the discharge is appended as Attachment I.

II. DESCRIPTION OF FACILITY

The applicant produces fluorocarbon refrigerants and various fluoropolymers. All sanitary wastewater is discharged to the municipal sewer system. Process wastewaters consisting of non-contact cooling water, boiler feed, equipment washwater and deionization backflushes are treated along with stormwater and discharged to a ditch which flows into Newark Bay. The average flow is 0.3 MGD.

III. DESCRIPTION OF DRAFT PERMIT CONDITIONS

The effluent limitations, monitoring requirements, schedules of compliance and other conditions of the draft permit are described in Attachment II. Also included in Attachment II is a brief summary of the basis for each effluent limitation and other conditions in the draft permit.

IV. VARIANCE OR MODIFICATION (if applicable)

N/A

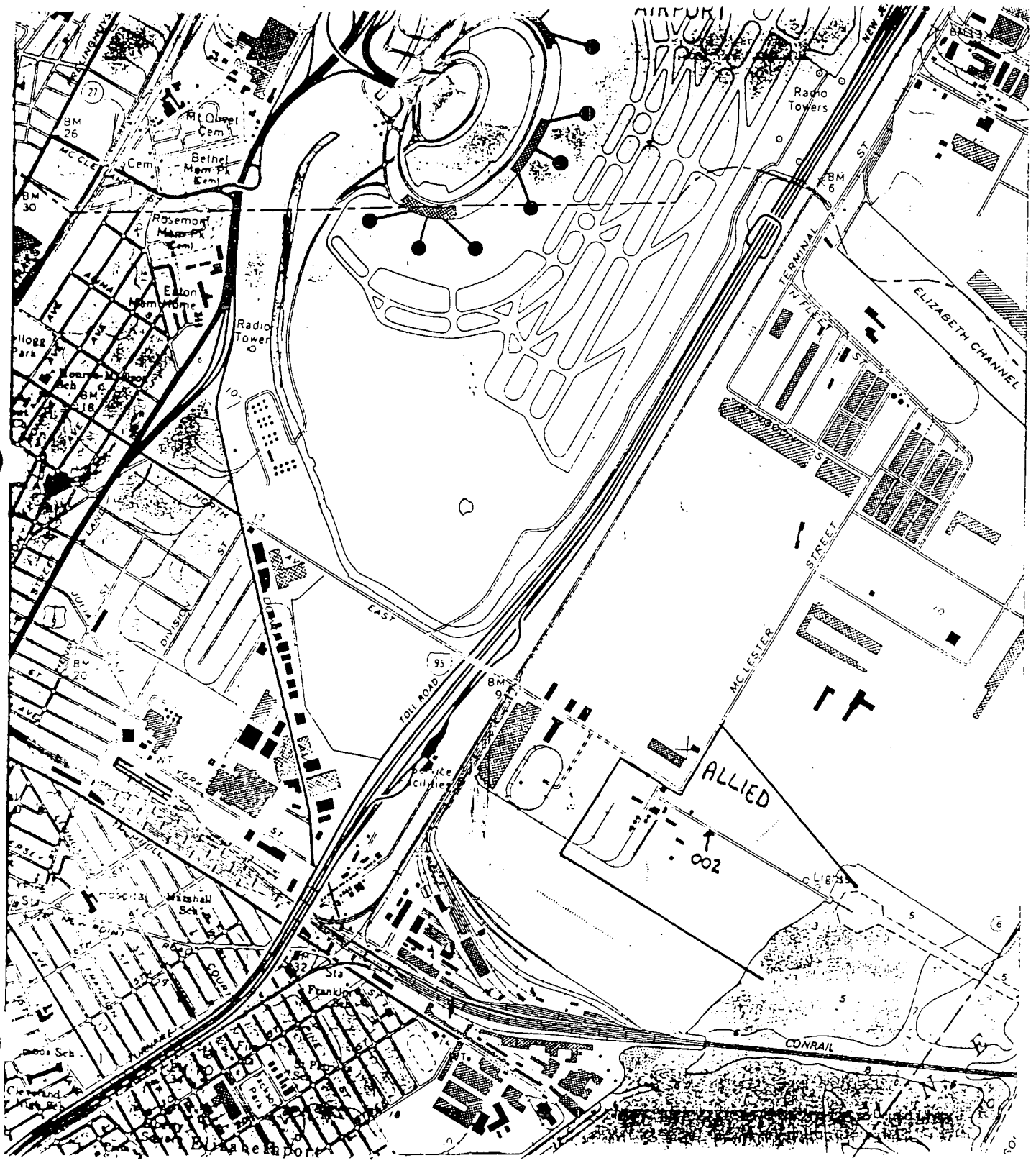
V. PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT PERMIT

These procedures are set forth in N.J.A.C. 7:14A-7.1 et seq.. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision.

VI. NJDEP CONTACT

Additional information concerning the draft Permit may be obtained between the hours of 8:00 A.M. and 4:30 P.M., Monday through Friday from: Flavian Stellerine, Industrial Permits Section, at (609)292-0407.

LOCATION OF FACILITY
AND DISCHARGE



PERMIT SUMMARY TABLE

Company: Allied Chemical Corp.

Permit#: NJ0003166

DISCHARGE #: 002

Lat: 40° 39' 49"

Ave. Flow: 0.43 MGD

Long: 74° 09' 54"

Max. Flow: 0.70 MGD

Parameter	1979 Application	DMR Data 6/82-7/83 File	Existing Permit Condition	N.J. Other Standards SWQS	BPJ Based Limits	Draft Permit Limits
Flow	0.5 MGD Avg. 1.0 MGD Max.	0.43 MGD Avg. 0.70 MGD Max.				Monitor
Temp.	22°C summer 43°C winter	28°C	35° Max.			30° Max.
pH Range	2.0 Min. 12.0 Max.	6.1 Min. 8.9 Max.	6.0 Min. 9.0 Max.			6.0-9.0
TSS	9.1 mg/l Avg. 17.0 mg/l Max.	15.48 kg/d Avg. 22.02 kg/d Max.	114 kg/d Avg. 227 kg/d Max. 100 mg/l Max.	30-45-50 mg/l	13 mg/l Avg. 20 mg/l Max.	25 kg/d Avg. 76 kg/d Max.
Oil & Grease	3.93 mg/l Avg. 10.40 mg/l Max.	2.01 kg/d Max.	34 kg/d Max.	None Noticeable		15 mg/l Max.
TOC	20.5 mg/l Avg. 48.0 mg/l Max.	21.95 kg/d Avg. 24.43 kg/d Max.	132 kg/d Avg. 263 kg/d Max. 116 mg/l Max.		15 mg/l Avg. 17 mg/l Max.	28 kg/d Avg. 64 kg/d Max.
COD	43.9 mg/l Avg. 104.4 mg/l Max.	37.0 kg/d Avg. 42.8 kg/d Max.	381 kg/d Avg. 762 kg/d Max. 340 mg/l Max.		36 mg/l Avg. 40 mg/l Max.	68 kg/d Avg. 152 kg/d Max.
Fluorides	2.46 mg/l Avg. 4.00 mg/l Max.	7.70 kg/d Avg. 9.20 kg/d Max.	14 kg/d Avg. 28 kg/d Max. 15 mg/l Max.		4.4 mg/l Avg.	8 kg/d Avg. 28 kg/d Max.

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PERMIT SUMMARY TABLE (continued)

Parameter	1979 Application	DMR Data 6/82-7/83 File	Existing Permit Condition	N.J. Other Standards SWQS	BPJ Based Limits	Draft Permit Limits
Copper	0.02 mg/l Avg. 0.07 mg/l Max.	0.07 kg/d Avg. 0.10 kg/d Max.	1.19 kg/d Avg. 2.30 kg/d Max. 1.00 mg/l Max.		70 ug/l Avg. 150 ug/l Max.	0.13 kg/d Avg. 0.57 kg/d Max.
Chromium	0.010 mg/l	0.42 kg/d Avg. 0.77 kg/d Max.	2.30 kg/d Avg. 1.0 mg/l Max.		320 ug/l Avg. 540 ug/l Max.	0.61 kg/d Avg. 2.0 kg/d Max.
Lead	0.02 mg/l Avg. 0.12 mg/l Max.	0.18 kg/d Avg. 0.21 kg/d Max.	0.8 kg/d Avg. 1.6 kg/d Max. 0.69 mg/l Max.		120 ug/l Avg. 150 ug/l Max.	0.23 kg/d Avg. 0.57 kg/d Max.
Antimony	0.25 mg/l Avg. 0.35 mg/l Max.	-	-		370 ug/l Avg. 780 ug/l Max.	0.70 kg/d Avg. 3.0 kg/d Max.
Nickel	0.14 mg/l Avg. 0.20 mg/l Max.	-	-		-	Monitor
Zinc	0.10 mg/l Avg. 0.19 mg/l Max.	-	-		-	Monitor
Selenium	0.045 mg/l	-	-		-	Monitor
Chloroform	0.182 mg/l	-	-		200 ug/l Max.	200 ug/l Max.
Toxicity (Bioassay)				96-hr. $LC_{50} \geq 50\%$ (by volume)		96-hr. $LC_{50} \geq 50\%$ (by volume)

9208080479

State of New Jersey
Department of Environmental Protection
Division of Water Resources
1474 Prospect St., CN-029
Trenton, New Jersey 08625

STATEMENT OF BASIS
DRAFT NJPDES PERMIT TO
DISCHARGE INTO THE WATERS OF
THE STATE OF NEW JERSEY

NJPDES APPLICATION No. NJ0003166

DESCRIPTION OF LIMITATIONS AND CONDITIONS

Limitations and conditions are based on Best Professional Judgment (BPJ) considering the level of treatment currently being achieved by the permittee's wastewater treatment facilities. Where mass limits are given, they were calculated from BPJ concentration limits using an average flow of 0.5 MGD and a maximum flow of 1.0 MGD.

For TSS, TOC, COD, Fluorides, Chromium and Lead the BPJ concentration limits represent the highest average monthly and highest maximum daily values reported on DMR's from 6/82 to 7/83. For Copper and Antimony the BPJ concentrations are based on proposed limits for the Organic Chemicals Industry.

Biomonitoring is required to determine the toxicity, if any, of the effluent and the need for effluent toxicity reduction, if applicable.

Monitoring for Nickel, Zinc and Selenium is required to determine the extend and character of these metals in the wastewater discharge. The conditions are based on limited data indicating the presence of these toxic pollutants.

A compliance schedule is required to develop and implement a Best Management Practices (BMP) Plan which prevents, or minimizes, the potential for the release of toxic substances from ancillary activities to Newark Bay through plant site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

WQM98-G/IPS3:lml

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CN 402
Trenton, N.J. 08625

PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to the further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit.

Permit No.	Issuance Date	Effective Date	Expiration Date
NJ0003166			

Name and Address of Applicant	Location of Activity/Facility	Name and Address of Owner
Allied Chemical Corp. 100 North Avenue East Elizabeth, N.J. 07201	100 North Avenue East Elizabeth, Union County New Jersey	Allied Chemical Group Park Avenue and Columbia Road P.O. Box 1078R Morristown, N.J. 07960

Issuing Division	Type of Permit	Statute(s)	Application No.
Water Resources	NJPDES-DSW	N.J.S.A. 58:10A-1 et seq.	NJ0003166

This permit grants permission to:

Discharge to Newark Bay, classified as TW-3 waters, via a public ditch, in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

Allied Chemical Corporation has submitted an application for a NJPDES-DGW Permit. The Department will made a determination on that application at a later date.

DRAFT

Approved by the Department of Environmental Protection
By the Authority of:
John W. Gaston, Jr., P.E.
Director
Div. of Water Resources

Arnold Schiffman, Administrator
Water Quality Management

APR 2 1984
DATE

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Clre, JSB

Let's protect our earth

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF ENFORCEMENT FIELD OPERATIONS
Metro Bureau of Water and Hazardous Waste Enforcement
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3900

June 30, 1993

Mr. J. Thomas Eck
Allied Signal, Incorporated
10 North Avenue East
Elizabeth, NJ 07201

Re: Compliance Evaluation Inspection
Allied Signal, Incorporated
Fluorine Products Division
NJPDES No. NJ0003166
Elizabeth/Union County

Dear Mr. Eck:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Bureau on June 3, 1993. A copy of the completed inspection report form is enclosed for your information.

Your facility received a rating of "UNACCEPTABLE" due to the following deficiency:

> The compliance evaluation inspection revealed that Allied Signal has an unpermitted overflow pipe from the lift station to the surface waters of the state ch allows bypassing of the treatment system.

The deficiency noted above has placed your facility in significant violation of the terms and conditions of your NJPDES permit and/or the Water Pollution Control Act Regulations (N.J.A.C. 7:14A-1 et seq.). You are therefore DIRECTED to institute corrective measures. A written report concerning specific details to be instituted, as well as an implementation timetable, must be submitted to this Department and USEPA, Permits Administration Branch within fourteen (14) calendar days of the date of this correspondence.

In regards to the above deficiency, N.J.A.C. 7:14A-3.10(M) allows the permittee to bypass its treatment system for essential maintenance to assure efficient operation, but the discharge must be through the permitted outfall

BAA000032

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0003166 NO. OF DISCHARGES 1 (DSN002) CLASS Mag - Ind

DISCHARGER Allied Signal Inc. Flourine Products Division

OWNER Allied Signal Inc.

MUNICIPALITY Elizabeth COUNTY Union WATERSHED CODE Newark Bay

LOCATION 10 North Ave East

RECEIVING WATERS Newark Bay STREAM CLASS TW-3

LICENSED OPERATOR & PLANT CLASS J. Thomas Eck, N-N

TRAINEE/ASSISTANT — OTHER INFO. (908) 558-5100
(908) 558-5140

DEFICIENCIES OR COMMENTS The facility has an unpermitted (overflow) discharge point from the lift station

OVERALL RATING ☐ Acceptable ☐ Conditionally Acceptable ☒ Unacceptable

EVALUATOR Edgar W. Garcia TITLE Sr Environmental Specialist

INFORMATION FURNISHED BY (Name) J. Thomas Eck / Geoff Sriwardena

(Title) Supervisor Envtl Affairs Quality Assurance / Quality Control (Organization) Allide Signal Inc.

DATE OF INSPECTION June 3, 1993

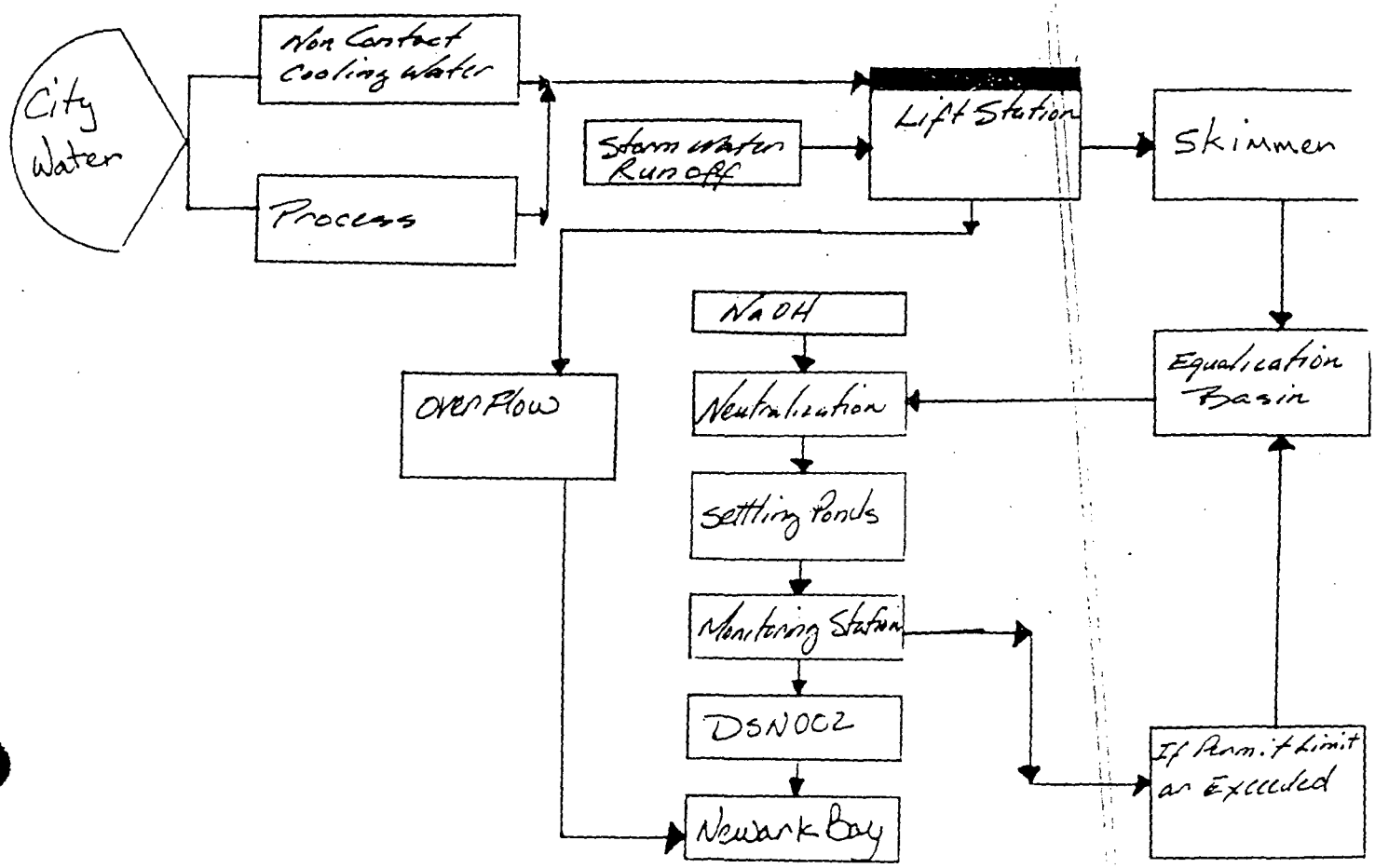
920880484

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J.

DISCHARGE SURVEILLANCE REPORT

Permit # NJ0003/(
Date June 3, 19

PLANT DIAGRAM AND FLOW SEQUENCE:



DISCHARGE DATA

SOURCE: DMR's + Lab Report. PERIOD: October 1, 1992 to April 30, 1993

DMR NUMBER	MONITORING PERIOD	VIOLATION TYPE	DSN No.	SAMPLE TYPE	PARAMETER	PERMIT LIMITS	DATA
	* No Violations						

RING DEFICIENCIES: *None*

920880485

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF ENFORCEMENT FIELD OPERATIONS
Metro Bureau of Water and Hazardous Waste Enforcement
2 Babcock Place, West Orange, N.J. 07052
(201) 669-3900

June 24, 1994

Mr. J. Thomas Eck
Allied Signal, Incorporated
Flourine Products Division
10 North Avenue, East
Elizabeth, NJ 07201

Re: Compliance Evaluation Inspection
Allied Signal, Incorporated
NJPDES No. NJ0003166
Elizabeth/Union County

Dear Mr. Eck:

A Compliance Evaluation Inspection of your facility was conducted by a representative of this Bureau on June 6, 1994.

Your facility received a rating of "ACCEPTABLE". A copy of the completed inspection report form is enclosed for your information. Please address any minor deficiencies noted therein.

This Bureau anticipates your continued cooperation in assisting us in the prevention and control of water pollution in New Jersey.

Very truly yours,

Theophilus N. Ashie
Senior Environmental Specialist
Metro Bureau of Water and
Hazardous Waste Enforcement

E29:G25

c: Robert Vaughn, USEPA
Kenneth Sandor, Health Official

Enclosure

BAA000033

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

DISCHARGE SURVEILLANCE REPORT

PERMIT # NJ0003166 NO. OF DISCHARGES 1 CLASS Maj - Ind.

DISCHARGER ALLIED SIGNAL INC., FLOURINE PRODUCTS DIVISION

OWNER ALLIED SIGNAL, INCORPORATED

MUNICIPALITY ELIZABETH COUNTY UNION WATERSHED CODE N-B

LOCATION 10 NORTH AVENUE EAST

RECEIVING WATERS NEWARK BAY STREAM CLASS SE-3

LICENSED OPERATOR & PLANT CLASS J. THOMAS ECK, N-N

TRAINEE/ASSISTANT — OTHER INFO. (908) 558-5100
(908) 558-5140

DEFICIENCIES OR COMMENTS NONE

OVERALL RATING ☑ Acceptable ☐ Conditionally Acceptable ☐ Unacceptable

EVALUATOR THEOPHILUS ASHE TITLE SEN. ENV. SPECIALIST

INFORMATION FURNISHED BY (Name) J. THOMAS ECK

(Title) ENV. AFFAIRS & QUALITY CONTROL MANAGER (Organization) ALLIED-SIGNAL, INC

DATE OF INSPECTION JUNE 6, 1994

920880488

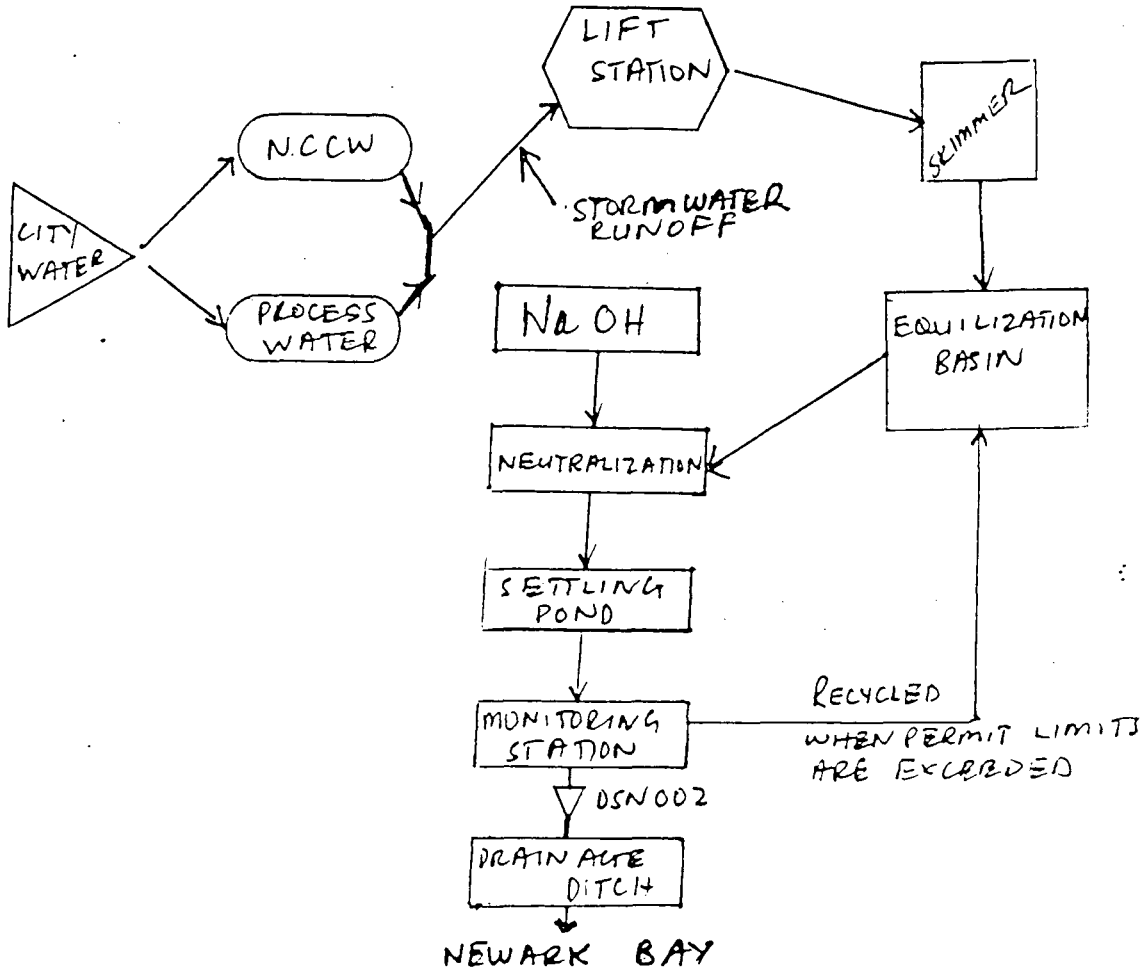
FORM DWR-053
3/81

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029, Trenton, N.J. 08625

DISCHARGE SURVEILLANCE REPORT

Permit # NJ0000316
Date 6-6-94

PLANT DIAGRAM AND FLOW SEQUENCE:



DISCHARGE DATA

SOURCE: DMRs

PERIOD: 11/93 – 4/94

DMR NUMBER	MONITORING PERIOD	VIOLATION TYPE	DSN No.	SAMPLE TYPE	PARAMETER	PERMIT LIMITS	DATA
		NO		VIOLATIONS			

MONITORING DEFICIENCIES: NONE

920880489

012

New Jersey Department of Environmental Protection
Wastewater Facilities Regulation Element
Bureau of Industrial Discharge Permits
CN-029
Trenton, N.J. 08625
(609) 292-4860

PUBLIC NOTICE

AUG 26 1991

Notice is hereby given that the New Jersey Department of Environmental Protection proposes to modify the existing NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM/DISCHARGE TO SURFACE WATER (NJPDES/DSW) Permit NJ0003166 to restrict and control the discharge of pollutants to Newark Bay, classified as SE-3 waters from:

Allied Signal Incorporated
10 North Avenue East
Elizabeth, NJ 07201

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of this permit remain unchanged.

This facility has been classified as a major discharger by the New Jersey Department of Environmental Protection in accordance with the U.S. EPA rating criteria.

This notice is being given to inform the public that NJDEP has prepared a draft NJPDES permit modification permit (NJPDES Permit No. NJ0001139) in accordance with the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" (N.J.A.C. 7:14A-1 et seq.), which were promulgated pursuant to the authority of the New Jersey "Water Pollution Control Act" (N.J.S.A. 58:10A-1 et seq.).

This is an existing facility, and issuance of a NJPDES permit modification is the enforcement mechanism by which pollutant

BAA000035

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discharges are brought into compliance with standards. The draft permit contains those conditions necessary to restrict the discharge of pollutants and protect the public health and environment.

The draft document prepared by NJDEP is based on the administrative record which is on file at the offices of the NJDEP, located at 401 East State Street in the City of Trenton, Mercer County, New Jersey. It is available for inspection, by appointment, between 8:30 a.m. and 4:00 p.m., Monday through Friday. Appointments for inspection of the file may be scheduled by calling (609) 292-0400. Copies of the draft permit may be obtained for a nominal charge by contacting the Department.

Interested persons may submit written comments on the draft document to the Administrator, Wastewater Facilities Regulation Element, at the address cited above. All comments must be submitted within 30 days of the date of this public notice. All persons, including applicants, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft permit modication is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period. All comments submitted by interested persons in response to this notice, within the time limit, will be considered by the NJDEP with respect to the permit. At the close of the public comment period, the Department will issue or deny the permit. The Department will respond to all significant and timely comments when a final decision is issued. The applicant and each person who has submitted written comments will receive notice of NJDEP's final decision.

Any interested person may request in writing that NJDEP hold a non-adversarial public hearing on the draft document. This request shall state the nature of the issues to be raised in the proposed hearing as detailed above, and shall be submitted within 30 days of the date of this public notice to the Administrator, Wastewater Facilities Regulation Element, at the address cited above. A public hearing will be conducted whenever the NJDEP determines that there is a significant degree of public interest. If a public hearing is held, the public comment period in this notice shall automatically be extended to the close of the public hearing.

Additional information concerning the draft permit modification may be obtained between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday from: Suzanne L. Uhler at (609)-292-4860.

Dennis Hart
Administrator
Wastewater Facilities Regulation Element

920880492

State of New Jersey
Department of Environmental Protection
Wastewater Facilities Regulation Element
401 East State Street, CN-029
Trenton, New Jersey 08625

FACT SHEET FOR DRAFT NJPDES PERMIT MODIFICATION TO DISCHARGE INTO WATERS OF THE STATE OF NEW JERSEY

Permit No. NJ0003166 Date: AUG 26 1991

Name and Address of Applicant:	Allied Signal Incorporated 10 North Avenue East Elizabeth, New Jersey 07201
Name and Address of Facility where Discharge Occurs:	Allied Signal Incorporated 10 North Avenue East Elizabeth, New Jersey 07201
Receiving Water:	Newark Bay
Classification:	SE-3

I. DESCRIPTION OF FACILITY

The applicant produces flouropolymers and is also engaged in the blending and packaging of flourocarbons manufactured at other Allied locations. The Standard Industrial Classification (SIC) Code for the facility is 2821 and 2869. Non-contact cooling water and process wastewater consisting of boiler feed, equipment washdown and deionization backflushes are treated along with collected stormwater and discharged via outfall DSN 002 to a public ditch which discharges into Newark Bay.

II. DESCRIPTION OF DRAFT PERMIT CONDITIONS

See III below.

III. VARIANCE OR MODIFICATION (if applicable)

The following modification to this permit is proposed:

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute

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toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of the permit remain unchanged.

IV. WATER QUALITY BASED PERMIT LIMITS (if applicable)

The permit limitations for the following parameters were developed based upon water quality:

It has been determined that Water Quality Based Effluent Limitations (WQBEL) are not the governing criteria at this time.

V. PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT PERMIT

These procedures are set forth in N.J.A.C. 7:14A-7.1 et seq.. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision.

VI. NJDEP CONTACT

Additional information concerning the Draft Permit may be obtained between the hours of 8:00 A.M. and 4:30 P.M., Monday through Friday from: Suzanne L. Uhler , Surface Water Section, at (609)-292-0407.

STATEMENT OF BASIS
DRAFT NJPDES PERMIT MODIFICATION
TO DISCHARGE INTO THE WATERS OF
THE STATE OF NEW JERSEY

NJPDES Application No. NJ0003166

PROPOSED MODIFICATION TO THE PERMIT:

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of the permit remain unchanged.

New Jersey Department of Environmental Protection
Wastewater Facilities Regulation Element
Bureau of Industrial Discharge Permits
CN-029
Trenton, N.J. 08625
(609) 292-4860

PUBLIC NOTICE

AUG 26 1991

Notice is hereby given that the New Jersey Department of Environmental Protection proposes to modify the existing NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM/DISCHARGE TO SURFACE WATER (NJPDES/DSW) Permit NJ0003166 to restrict and control the discharge of pollutants to Newark Bay, classified as SE-3 waters from:

Allied Signal Incorporated
10 North Avenue East
Elizabeth, NJ 07201

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of this permit remain unchanged.

This facility has been classified as a major discharger by the New Jersey Department of Environmental Protection in accordance with the U.S. EPA rating criteria.

This notice is being given to inform the public that NJDEP has prepared a draft NJPDES permit modification permit (NJPDES Permit No. NJ0001139) in accordance with the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" (N.J.A.C. 7:14A-1 et seq.), which were promulgated pursuant to the authority of the New Jersey "Water Pollution Control Act" (N.J.S.A. 58:10A-1 et seq.).

This is an existing facility, and issuance of a NJPDES permit modification is the enforcement mechanism by which pollutant

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discharges are brought into compliance with standards. The draft permit contains those conditions necessary to restrict the discharge of pollutants and protect the public health and environment.

The draft document prepared by NJDEP is based on the administrative record which is on file at the offices of the NJDEP, located at 401 East State Street in the City of Trenton, Mercer County, New Jersey. It is available for inspection, by appointment, between 8:30 a.m. and 4:00 p.m., Monday through Friday. Appointments for inspection of the file may be scheduled by calling (609) 292-0400. Copies of the draft permit may be obtained for a nominal charge by contacting the Department.

Interested persons may submit written comments on the draft document to the Administrator, Wastewater Facilities Regulation Element, at the address cited above. All comments must be submitted within 30 days of the date of this public notice. All persons, including applicants, who believe that any condition of this draft document is inappropriate or that the Department's tentative decision to issue this draft permit modication is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period. All comments submitted by interested persons in response to this notice, within the time limit, will be considered by the NJDEP with respect to the permit. At the close of the public comment period, the Department will issue or deny the permit. The Department will respond to all significant and timely comments when a final decision is issued. The applicant and each person who has submitted written comments will receive notice of NJDEP's final decision.

Any interested person may request in writing that NJDEP hold a non-adversarial public hearing on the draft document. This request shall state the nature of the issues to be raised in the proposed hearing as detailed above, and shall be submitted within 30 days of the date of this public notice to the Administrator, Wastewater Facilities Regulation Element, at the address cited above. A public hearing will be conducted whenever the NJDEP determines that there is a significant degree of public interest. If a public hearing is held, the public comment period in this notice shall automatically be extended to the close of the public hearing.

Additional information concerning the draft permit modification may be obtained between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday from: Suzanne L. Uhler at (609)-292-4860.

Dennis Hart
Administrator
Wastewater Facilities Regulation Element

State of New Jersey
Department of Environmental Protection
Wastewater Facilities Regulation Element
401 East State Street, CN-029
Trenton, New Jersey 08625

FACT SHEET FOR DRAFT NJPDES PERMIT MODIFICATION TO DISCHARGE INTO WATERS OF THE STATE OF NEW JERSEY

Permit No. NJ0003166 Date: AUG 26 1991

Name and Address of Applicant:	Allied Signal Incorporated 10 North Avenue East Elizabeth, New Jersey 07201
Name and Address of Facility where Discharge Occurs:	Allied Signal Incorporated 10 North Avenue East Elizabeth, New Jersey 07201
Receiving Water:	Newark Bay
Classification:	SE-3

I. DESCRIPTION OF FACILITY

The applicant produces flouropolymers and is also engaged in the blending and packaging of flourocarbons manufactured at other Allied locations. The Standard Industrial Classification (SIC) Code for the facility is 2821 and 2869. Non-contact cooling water and process wastewater consisting of boiler feed, equipment washdown and deionization backflushes are treated along with collected stormwater and discharged via outfall DSN 002 to a public ditch which discharges into Newark Bay.

II. DESCRIPTION OF DRAFT PERMIT CONDITIONS

See III below.

III. VARIANCE OR MODIFICATION (if applicable)

The following modification to this permit is proposed:

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last

toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of the permit remain unchanged.

IV. WATER QUALITY BASED PERMIT LIMITS (if applicable)

The permit limitations for the following parameters were developed based upon water quality:

It has been determined that Water Quality Based Effluent Limitations (WQBEL) are not the governing criteria at this time.

V. PROCEDURES FOR REACHING A FINAL DECISION ON THE DRAFT PERMIT

These procedures are set forth in N.J.A.C. 7:14A-7.1 et seq.. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision.

VI. NJDEP CONTACT

Additional information concerning the Draft Permit may be obtained between the hours of 8:00 A.M. and 4:30 P.M., Monday through Friday from: Suzanne L. Uhler , Surface Water Section, at (609)-292-0407.

STATEMENT OF BASIS
DRAFT NJPDES PERMIT MODIFICATION
TO DISCHARGE INTO THE WATERS OF
THE STATE OF NEW JERSEY

NJPDES Application No. NJ0003166

PROPOSED MODIFICATION TO THE PERMIT:

This permit contains a Toxicity Reduction Evaluation (TRE) requirement which was included in this permit to determine how the applicable acute toxicity limitation could consistently be achieved. This TRE was required to be initiated upon issuance of the final permit. However, it is Department practice to require a TRE to be initiated only if recent violations of the permittee's limitation have occurred. Acute toxicity testing data submitted by Allied Signal over the last two years has indicated consistent compliance with the existing acute toxicity limitation. Although, there have been no recent violations of the limitation, a violation did occur in January 1989. Therefore, the Department proposes to modify the TRE language to require a TRE to be initiated only after two valid/acceptable acute toxicity tests conducted within any eighteen month period violate the acute toxicity limitation.

All other conditions of the permit remain unchanged.

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MENDES & MOUNT
750 7th Avenue
New York, N.Y. 10019-6829

RONCA, MCDONALD & HANLEY
5 South Regent Street
Livingston, N.J. 07039

Attorneys for Defendants
London Market Insurers

FILED

MAR 12 1993

Reginald Stanton, A.J.S.C

ALLIED-SIGNAL INC. and UOP INC., Plaintiffs, v. ABEILLE-PAIX REASSURANCES, et al. Defendants.	SUPERIOR COURT OF NEW JERSEY LAW DIVISION: MORRIS COUNTY DOCKET NO. MRS-L-226-88 Civil Action **AFFIDAVIT OF R. JAMES BRADFORD IN SUPPORT OF DEFENDANTS LONDON MARKET INSURERS' MOTIONS FOR SUMMARY JUDGMENT** **VOLUME I**

R. JAMES BRADFORD, being duly sworn according to law, deposes and says:

1. I am an attorney associated with Mendes & Mount, attorneys for defendants London Market Insurers, and have assisted in the defense of the captioned matter. I make this affidavit for the purpose of placing certain documents before the Court that are pertinent to the motions for summary judgment made by London Market Insurers. Each of the exhibits to this affidavit is a true copy of documents, or excerpts of documents, served by plaintiffs in this matter, served by defendants in this matter, disclosed to defendants by plaintiffs, or documents that form a part of the public records of the courts of the State of New Jersey.

2. Exhibit A is a copy of a "Schedule of London Market Insurers' policies subscribed in favor of Allied."

3. Exhibit B is a copy of relevant terms contained in London Market Insurers' policies at issue. For purposes of brevity only relevant terms are set-forth.

4. Exhibit C is a copy of the "Certification of James Teff."

5. Exhibit D is a copy of Allied's "Disclosure".

R. James Bradford

Subscribed and sworn to before
me this 17 day of March, 1993

KEVIN J. PHILBIN
Notary Public, State of N. Y.
No. 4950532
Qualified in Nassau County
Comm. Expires May 1, 1993

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Diamond Alkali Co.
Passaic River Site

NJD980528996

THIS DOCUMENT
"Allied-Signal and UOP Inc's Disclosure, dated December, 1989"
IS CURRENTLY CLASSIFIED AS
NON-CONFIDENTIAL BY EPA.

Amelia M. Wagner

Amelia Wagner
Office of Regional Counsel

2/27/06
Date

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LOWENSTEIN, SANDLER, KOHL
FISHER & BOYLAN
A Professional Corporation
65 Livingston Avenue
Roseland, New Jersey 07068

CONFIDENTIAL

ANDERSON KILL OLICK & OSHINSKY, P.C.
666 Third Avenue
New York, New York 10017
(212) 850-0597
Attorneys for Plaintiffs
Allied-Signal Inc. and UOP Inc.

ALLIED-SIGNAL INC. and UOP INC.	:	SUPERIOR COURT OF NEW JERSEY
Plaintiffs,	:	Law Division: Morris County
v.	:	Docket No.: MRS-L-226-88
ABEILLE-PAIX REASSURANCES, et al.,	:	CIVIL ACTION
Defendants.	:	DISCLOSURE

Pursuant to the Court's Order on Motions Regarding Discovery, dated November 3, 1989, Plaintiffs Allied-Signal Inc. and UOP Inc. (collectively "Allied") provide the following information presently known to Allied, which is based upon diligent inquiry. Allied expressly reserves the right to amend, modify or supplement this disclosure should facts subsequently developed in this litigation so warrant.

Allied is complying with the Court's order by making disclosure as to Elizabeth and Metuchen environmental

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discharges. Allied, however, hereby notes its continuing objection to the production or use of any disclosures relating to environmental discharges or damage other than onsite discharges or damage which have given rise specifically to the Environmental Actions for which Allied seeks ocverage.

I.

THE COURT'S ORDER:

1. A TABLE OF ALL KEY EMPLOYEES OR FORMER EMPLOYEES AT THE TWO PHASE I SITES OVER THE PERIOD AT ISSUES IN THIS LITIGATION, INDICATING THEIR AREA(S) OF RESPONSIBILITY.

ALLIED'S RESPONSE:

Set forth below is a list identifying those individuals at each Phase I site whose identities are responsive to this portion of the Court's order:

ELIZABETH

Plant Managers

F.A. Menkes
Charles Raymond
James Smigel
Harry Caulkins
James Lobb
Fred G. Karasek
John P. Tourish
Thomas Seweryn
Paul Schultz

Environmental Affairs and Quality Control

J. Thomas Eck
Dennis Barnett
Ed Gaskill
Bob Riedel
Israel Behar-Ojalvo
Paul Schultz
Ken Sendelsky
Howard Simon

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Production/Technical Managers

Jim Latulippe
William Yodis
Israel Behar-Ojalvo
Paul Schultz
Thomas Seweryn
Paul Schultz
Mike Camfield
John P. Tourish
Frank Young
John Barkovitch
Mike Czarnecki
Frank Rishe
Robert Mangels
John Jones
John Barkovitch
Tony Cipolla
Arnie Rosenthal
Ken Sendelsky
Ed Calamari
Bob Hutzler
Arch Seamans
Art Springer
Edward Reading

Maintenance and Engineering

Hal Luczak
Arch Seamans
Roy Turrett
Leonard Franckowiak
Louis Evan
John Mallin
Ron Steiger
Don Williams

Safety and Loss Prevention

Richard H. Lammerding
Jack Haller
Bob Reeves

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Controllers

H. Tintorer
R. Govero
P. Griek

METUCHEN

Plant Managers

Tom Wheaton
Jack Honey
Israel Behar-Ojalvo
Frank Rishe

Environmental

J. Thomas Eck
John Jones

Production/Technical

Robert Mangels
Matt Balicki
Charles Jacques

Maintenance/Engineering

Hal Luczak
Tom Viechor

Safety/Loss Prevention

John Jones

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CERTIFICATE OF SERVICE

The undersigned, being a member of the firm of Anderson Kill Olick & Oshinsky, P.C., counsel to plaintiffs Allied-Signal Inc. and UOP Inc., in this action certifies that the within Disclosure was served upon all counsel of record by first-class mail on December 14, 1989.

ROBERT JOHNSON

II.

THE COURT'S ORDER:

2. A BRIEF DESCRIPTION AND LIST OF ALL PRODUCTS PRODUCED AT THE TWO PHASE I SITES OVER THE PERIOD AT ISSUE IN THIS LITIGATION.

ALLIED'S RESPONSE:

ELIZABETH

There have been three major areas of production at the Elizabeth Works: Sulfuric Acid, Genetrons•, and Fluoropolymers. Additional products were Oleum and Sulfan -- both products related to the sulfuric acid operation -- and A.C.T.•, a stain and water repellant.

A history of the Elizabeth Works is annexed as Exhibit A.

Sulfuric Acid

Allied produced sulfuric acid (H_2SO_4) at the Elizabeth Works beginning with Allied's acquisition of the plant in 1957 and continuing until 1981. Allied produced sulfuric acid in two strengths: 93 percent and 99 percent. Allied made this acid from two sources. About 75 percent of Allied's production was made by recycling spent acids, which were reprocessed into higher-strength sulfuric acid. The

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remaining 25 percent was made from raw elemental sulfur. (See section IV, below)

Genetrons®

Genetrons® are gases that are used primarily as refrigerants. They are also used in the manufacture of certain polymer plastics and as solvents, particularly in the electronics industry for cleaning chips and circuit boards.

Genetrons® belong to the chlorofluorocarbon (CFC) group of gases. The full name of the Genetron® gases manufactured or used at Elizabeth are listed below.

G-11	Trichlorofluoromethane
G-12	Dichlorodifluoromethane
G-22	Chlorodifluoromethane (refrigerant and raw ingredient for making TFE -- tetrafluoroethylene -- and the fluoropolymer end products below)
G-31	Chlorofluoromethane
G-113	Trichlorotrifluoroethane (Genesolv®)
G-114	Dichlorotetrafluoroethane
G-115	Chloropentafluoroethane
G-152a	Difluoroethane
G-1113	Chlorotrifluoroethylene
G-1114	Tetrafluoroethylene (TFE)

Fluoropolymers

TFE

Fluoropolymers are plastics. Allied's fluoropolymer processes requires the manufacture of the intermediate ingredient TFE (tetrafluoroethylene) monomer, which was made at the Elizabeth plant from Genetron®-22.

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Halon®

Halon® is Allied's brand name for PTFE, polymerized tetrafluoroethylene. ("Teflon" is DuPont's brand name for the same substance.) Halon® is used predominantly for electrical wire insulation and in corrosive-resistant applications.

Halar®

Halar® is a co-polymer of ethylene and CTFE (chlorotrifluoroethylene). Its proper abbreviation is PECTFE. It is used as a wire coating and lining.

Aclon®

Aclon® is a resin, or powder, which is the raw material for Aclar®. Aclon® is a polymerized version of CTFE and VF_2. VF_2 is vinylidene fluoride, also known as G-1132.

Aclar®

Aclar® is Aclon® that has been processed into a clear plastic film. It is most often used as shrink-wrap and in pharmaceutical packaging. See generally process descriptions in NPDES Compliance Questionnaire, Document No. JEZ021022058-73.[1]

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1. In order to limit the volume of paper filed with the Court, documents referred to by Bates number have not been
(footnote continued)

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Other Products

Sulfan and Oleum

Sulfan is 100 percent sulfur trioxide (SO_3) in a liquid form. Oleum is 100 percent sulfuric acid (H_2SO_4) which is supersaturated with SO_3; SO_3 is soluble in pure H_2SO_4. Both products are used in soap, detergent, and other applications requiring sulfination.

A.C.T.•

Allied also made a stain and water repellant (similar to "Scotchguard") from 1971 through 1974. Allied's product was called A.C.T.•, a trade name for perfluoro-isopropylbutylmethacrylate.

> The A.C.T. is primarily used by textile mills to import stain and water resistance to woven and non-woven products. None is sold to the general public . . . . The A.C.T. is non-toxic and non-red label.

Travelers Specialist Activity Report dated November 11, 1971, prepared by W.E. Collerd, T3028116-19, at 3, annexed hereto as Exhibit B. That same report graded the process a "Good" risk for General Liability.

> This plant presents major compensation and general liability exposures due to the hazardous [raw]

(footnote continued from previous page)
appended as exhibits to this Disclosure unless otherwise specified. All documents identified by Bates number have been produced by the parties to this action.

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> materials used, however, management has taken adequate measures to minimize such risks. The production techniques, housekeeping, safety programs, and management attitude were found to be good.

Id. at 4.

METUCHEN

There have been three major areas of operation at the Metuchen Plant: The reprocessing of scrap PTFE (Allied's "Teflon"-like product); the production of blends of PTFE and other substances; and the blending and packaging of fertilizers.

PTFE Reprocessing

Many plastic objects and products are made by melting PTFE -- such as the PTFE made by Allied at Elizabeth -- and shaping it through injection molding or other processes. Those processes typically create scrap pieces of plastic, which Allied purchased for reprocessing. The main operation at the Metuchen Plant was the reprocessing of such scrap PTFE. Travelers Specialist Activity Report, dated February 24, 1978, produced by Travelers at T3070475-79, annexed as Exhibit C. At the Metuchen Plant, Allied ground up those scraps of PTFE, washed them, and resold the reprocessed PTFE resin. Id. at T3070475-76.

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Blends

Allied also mixed ground scrap PTFE with other materials for various customer applications. For instance, scrap PTFE was blended with bronze for manufacturers of ball bearings. Most of the blends were pigmented PTFE, made in a variety of colors. Id. at T3070476.

Fertilizers

One of the major operations of Davies Nitrate, from which Allied purchased the Metuchen Plant, was the repackaging of "Miracle Gro" fertilizers into consumer-sized packages. Allied continued this operation for several years after it purchased the plant in 1969. Id. at T3070475. Allied also blended raw materials such as potash, urea, ferrous sulfate, phosphates, and nitrates to produce plant fertilizers:

> Most raw materials are received in 50 pound capacity paper bags and are dumped into a chute arrangement which feeds a rotary mixer on the floor below.

Id. at T3070477.

III.

THE COURT'S ORDER:

3. A DISCLOSURE OF ALL LOCAL, STATE OR FEDERAL AGENCY COMPLAINTS OR INVESTIGATIONS KNOWN TO ALLIED THAT HAVE BEEN MADE WHICH RELATE TO ENVIRONMENTAL ISSUES AT EITHER OF THE TWO PHASE I SITES AND DISCLOSURE OF ALL RESPONSES MADE BY ALLIED. IF ANY SUBSTANCE HAS BEEN IDENTIFIED IN CONNECTION WITH ANY SUCH COMPLAINT OR INVESTIGATION, ALLIED SHALL PRODUCE INFORMATION AS TO HOW EACH SUCH SUBSTANCE WAS PRODUCED AND/OR HANDLED BY ALLIED DURING ALL PERIODS WHEN IT WAS PRESENT ON THE SITE. ALLIED SHALL FURTHER PRODUCE ALL DOCUMENTS SUBMITTED TO THE AGENCY IN RESPONSES THERETO.

ALLIED'S RESPONSE:

ELIZABETH

1. In August 1979, Allied signed a settlement agreement with the United States Environmental Protection Agency ("USEPA") settling USEPA's allegations of deficiencies in Allied's Spill Prevention, Containment and Countermeasure ("SPCC") plans for a number of its facilities, including Metuchen and Elizabeth. The agreement obliged Allied to pay an administrative penalty of $17,500, which was paid on August 14, 1979. See JEZ031010474-76.

2. The City of Elizabeth cited Allied for an alleged violation of its air code in connection with emissions of sulfur trioxide from the sulfuric acid plant on January 18 and 19, 1981. Allied paid a $50 fine to resolve the City's complaint. See JEZ021021560.

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3. On June 27, 1983, the United States Coast Guard proposed to assess a $50 penalty against Allied in connection with an oil spill that had occurred -- and been reported to the Coast Guard by Allied -- on September 4, 1982. See JEZ031032080. The "spill" took place when vandals drove a forklift off a dock at the plant site into Newark Bay. Allied estimated that less that one pint of crankcase oil was lost. Allied paid the $50 penalty, thereby resolving this complaint.

4. On June 7, 1984, a New Jersey Department of Environmental Protection ("NJDEP") investigator served Allied with a notice alleging certain violations of New Jersey's Solid Waste Management Act. See JEZ031052138-39. NJDEP issued an administrative order March 5, 1985. See JEZ031050541-43.

On June 20, 1984, Allied responded to NJDEP's original notice of violation, advising NJDEP that conditions had been redressed; that Allied's staff had received additional instructions respecting the importance of filling out paperwork; that the risk to the environment was minimal; and that two "paperwork" violations for which Allied was cited were not well-founded. See JEZ031052135-36.

In response to Allied's explanations, NJDEP "rescinded" two of the "findings" set out in its March 5, 1985 administrative order. See JEZ011022364. On April 26,

1985, Allied paid a $1,500 administrative civil penalty to settle all of the remaining charges. See JEZ011022360-62.

5. On June 4, 1985, NJDEP served Allied with a notice alleging that Allied failed to maintain adequate aisle space in its drummed waste storage area, in violation of New Jersey's Solid Waste Management Act. See JEZ031030475. On June 13, 1985, Allied advised NJDEP that Allied had corrected the condition. On October 16, 1985, Allied completed the resolution of this proceeding by paying a $500 administrative civil penalty. See JEZ011022349-50. NJDEP's June 4, 1985 notice also alleged that evidence of oil spillage was observed in an area near railroad tracks serving the plant. On September 27, 1985, NJDEP issued Allied a "Directive" under the authority of New Jersey's Spill Act, requiring removal of the allegedly contaminated soil. See JEZ011022355-57. Although Allied advised NJDEP of Allied's belief that the observed stain was probably attributable to years of diesel train traffic, and not to a "spill" by Allied, Allied nevertheless complied with the cleanup requirements embodied in NJDEP's Directive.

6. By letter dated October 16, 1985, NJDEP's Bureau of Air Pollution Control advised Allied that Allied's "Registration for Storage, Transfer, and Use of Toxic Volatile Organic Substances" (the "Registration"), submitted earlier to the Bureau, was "unacceptable". The NJDEP alleged

that the Registration failed to specify the measures that Allied would take to reduce air emissions of the relevant substances "to a rate or concentration equivalent to advances in the art of control," and to set out a schedule for implementing those measures. Allied has since made an additional submission to the NJDEP in connection with the relevant regulatory requirements, to the Department's satisfaction.

7. On July 28, 1986, Allied entered into an Administrative Consent Order with the NJDEP with respect to the Environmental Cleanup Responsibility Act. Allied agreed, inter alia, to "initiate, complete, and submit to NJDEP the results from any NJDEP-approved Sampling Plan(s)" concerning "environmental contamination resulting from discharges of hazardous wastes or substances on or from the Allied-Signal facility"; to submit either a Negative Declaration or Cleanup Plan; to implement any NJDEP-approved Cleanup Plan." See JEZ011022008-17. Allied is in compliance with the Administrative Consent Order. It is for this NJDEP directive that Allied seeks insurance coverage at Elizabeth.

8. By notice dated August 5, 1986, the NJDEP cited Allied for allegedly failing to provide an adequate waste description on a single hazardous waste manifest. See JEZ021111399-409. In a letter sent to the NJDEP in response to this citation, Allied stated that the wastes involved were

properly described on the relevant manifest, and that the purported waste identification "requirements" to which the NJDEP sought to hold Allied were not in the literal terms of the regulations. However, due to time constraints and the amount of the monetary settlement, Allied chose to pay a $200 penalty assessment on March 27, 1987, rather than contest the citation further. See JEZ031030398.

9. On June 4, 1987, the NJDEP issued an administrative order alleging that Allied had violated certain regulatory requirements. The NJDEP alleged that Allied failed to conduct certain groundwater testing designed to demonstrate the impact on groundwater (if any) of Allied's past operation of an equalization basin associated with the sulfuric acid plant. See JEZ031011692-99. The sulfuric acid plant was shut down in 1981 and has been dismantled. Although Allied believed that it was not subject to the requirements cited in NJDEP's order, it is nevertheless conducting the groundwater tests demanded by NJDEP, and has paid the $13,875 administrative civil penalty assessed by NJDEP. See JEZ031011939-41.

10. On September 11, 1987, the NJDEP's Division of Environmental Quality cited Allied for an alleged violation of a condition of Allied's license to handle radioactive materials. See JEZ071010936. The citation alleged that Allied had failed on one occasion to "leak test" a flow

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detection device that contained a small, encapsulated quantity of radium-226. (There was no allegation of any leak of radiation from the container.) The NJDEP's order directed Allied to "cease" the violation. The relevant leak test was performed, to NJDEP's satisfaction. No leak was detected, and the NJDEP did not seek to impose any penalty.

11. On March 18, 1988, the NJDEP notified Allied of a proposed penalty assessment arising out of alleged emissions of sulfur dioxide (SO_2) by Allied on February 23, 1988. See JEZ071030491-93. Allied responded to this notice by advising the NJDEP that Allied neither owned nor operated the tank from which the alleged emissions allegedly originated. See JEZ071030451-55. By letter dated April 20, 1988, the NJDEP admitted that its notice had been issued in error, and withdrew it. See JEZ051010929.

12. On November 23, 1988, the USEPA sent Allied a "warning letter" in which it alleged that Allied had failed to advise the treatment facility to which "restricted" materials had been sent of the treatment standards applicable to those materials. See JEZ071050566-67. USEPA did not assess any penalty in connection with the allegations in the "warning letter."

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METUCHEN

13. In the late 1970s, Allied conducted an investigation of the washwater septic tank and drywell treatment systems described in Section IV, below.

During the investigation, numerous groundwater wells were installed on the site in order to determine whether damage to groundwater had occurred. Samples from the wells indicated very low nitrate findings. The findings were reported to the NJDEP. In 1980, Allied discontinued use of the neutralization septic tank system. At no time did NJDEP direct Allied to cease use of the drywell or septic tank system. Allied continued monitoring; nitrate levels continued to decline. NJDEP has not required that Allied take any action at Metuchen to further reduce nitrates in groundwater. The NJDEP has not considered the findings concerning nitrates in the environment to be an issue.

14. In an administrative complaint dated March 12, 1986, the USEPA alleged that Allied failed to develop a sufficient plan for the closure of a hazardous waste facility. Specifically, USEPA alleged that the cost estimate contained in the closure plan developed by Allied "did not provide sufficient" information to meet relevant regulatory requirements, and was therefore inadequate. USEPA's complaint proposed to assess a civil penalty of $10,500 for

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the violation and ordered Allied to submit a new closure plan within 30 days. See JME031010231-44.

By letter dated April 11, 1986, Allied answered the USEPA complaint. Allied stated that the information contained in its site closure plan satisfied all relevant regulatory requirements, and submitted that the proposal to penalize Allied should therefore be withdrawn. See JME031011032-34.

On June 9, 1987, the USEPA issued an administrative order, to which Allied consented, in which Allied neither admitted nor denied the USEPA's factual allegations, but nevertheless agreed to supplement its closure plan in the manner specified the by the USEPA. The consent agreement also required Allied to pay an administrative civil penalty of $6,250, which has been paid.

15. On July 28, 1986, Allied entered into an Administrative Consent Order with the NJDEP with respect to the Environmental Cleanup Responsibility Act. Allied agreed, inter alia, to "initiate, complete, and submit to NJDEP the results from any NJDEP-approved Sampling Plan(s)" concerning "environmental contamination resulting from discharges of hazardous wastes or substances on or from the Allied-Signal facility"; to submit either a Negative Declaration or Cleanup Plan; and to implement any NJDEP-approved Cleanup Plan. See JEZ011022008-17. Allied is in compliance with the

Administrative Consent Order. It is for this NJDEP directive that Allied seeks insurance coverage at Metuchen.

16. On October 27, 1988, the NJDEP rejected Allied's Conceptual Remedial Cleanup Plan. The notice required Allied to submit a revised Cleanup Plan; to conduct a second round of groundwater sampling; to perform further investigation for possible contamination by trichloroethane, bis (2-ethylhexyl) phthalate, and various pesticides and nitrates; and to remediate alleged nitrate contamination "to prevent residual contaminants from entering the groundwater system." See JME011011293-96. It is for this NJDEP directive as well that Allied seeks insurance coverage at Metuchen.

17. By Administrative Order and Notice of Civil Penalty Assessment dated December 28, 1988, the NJDEP cited Allied for several alleged violations of New Jersey's Solid Waste Management Act. See JME071010013-18. Allied requested an adjudicatory hearing, but the NJDEP never set a date for the hearing and apparently has discontinued the matter.

Allied had already shut down the Metuchen plant before the NJDEP's December 28, 1988 administrative order was issued. A "Verification of Compliance," on the appropriate NJDEP form, was sent to the NJDEP on or about January 20, 1989. See JEZ071040004.

18. The NJDEP has allegedly found levels of mineral spirits, a nonhazardous petroleum-based hydrocarbon, in the ground beneath the old storage tank locations for those mineral spirits. Mineral spirits were used in blending PTFE with pigments; the spirits helped agglomerate the pigments on the PTFE. The mineral spirits were stored in an above-ground tank behind the plant. Those tanks have been removed. Approximately 260 cubic yards of soil beneath the tanks have been excavated. Allied is waiting for NJDEP to classify the soil as nonhazardous (NJ ID No. 27), upon which the soil may be sent to a landfill. Levels of mineral spirits have also been found on the east wall of the hole underneath the old storage tanks, nearest the dikes that surrounded other tanks. (The diked tanks behind the Metuchen Plant were used for storage of 50 percent sodium hydroxide and nitric acid. The tanks have been removed, and the dikes have filled with rainwater.) Allied seeks insurance coverage for this cleanup activity as well.

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IV.

THE COURT'S ORDER:

4. A DISCLOSURE AND DESCRIPTION OF ALL EFFLUENT AND WASTE STREAMS FROM EACH OF THE PHASE I SITES AT ALL PERIODS DURING WHICH EACH SITE WAS OWNED OR OPERATED BY ALLIED.

ALLIED'S RESPONSE:

This section describes outputs of Allied's Phase I plants which are not "products". These outputs can be characterized generically as "effluent streams." However, the more technical meaning of "effluent" is liquid byproduct or waste, and it is this meaning which has been most common in Allied's usage. After the general description of "effluent streams" in this section, "effluent" shall be used to signify liquid effluent.

This section broadly outlines the non-product effluent streams. Sections 5 and 6 address discharges, treatment and disposal more specifically.

ELIZABETH

Sulfuric acid

As noted in Section 2, sulfuric acid operations consisted of two types of processes -- recycling and elemental sulfur. In the recycling process, weak (diluted) sulfuric acid (H_2SO_4) was decomposed at 1700-1800 degrees

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Fahrenheit to its component parts sulfur dioxide (SO_2) and vaporized water (H_2O). The hot gases passed through a process in which excess water vapor was removed. This vapor was a diluted acid, of only about 10 percent strength. Meanwhile, in the elemental sulfur process, raw sulfur was burned, or oxidized, converting sulfur (S) into sulfur dioxide (SO_2). Next, the two streams of SO_2 gas, then approximately 600 degrees Farenheit, were combined. The gas passed over beds of solid vanadium catalyst, oxygen (O_2) was introduced, and the SO_2 oxidized to SO_3 in gas form. The SO_3 then passed through absorbers, which contained weak sulfuric acid. In the absorbers, SO_3 and weak sulfuric acid combined to make the stronger, final-product sulfuric acid. Any remaining, unabsorbed SO_3 gas then passed through "Brinks demisters" for recovery. Any SO_3 gas that did not demist was vented to the atmosphere through a 185-foot smokestack, along with a small amount of unreacted SO_2 gas released under permit.

The weak acid expelled from the system

Through the 1960s, the weak acid was discharged to a lagoon on-site at the Elizabeth plant. There, the weak acid was neutralized with lime. In the early 1970s, weak acid was sent instead to a drainage ditch that runs from a swampy region on the west side of the plant, near the

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sulfuric acid operation, around the rest of the operations at Elizabeth. This was known as the "old ditch." The "old ditch" then discharges into another ditch known as the "public ditch." The public ditch runs from Newark Airport through Allied's Elizabeth facility and into Newark Bay. A treatment system neutralized the acid in the "old ditch" before it was discharged to the "public ditch." This system was permitted.

In 1977 Allied put on line a new treatment system which received the discharged weak acid from the sulfuric acid operations until the sulfuric acid plant's shutdown in 1981. The treatment plant consisted of an equalization basin, two neutralizers, and two successive settling ponds. Effluent flowed through one pond for a period of approximately three days to allow particulate matter to settle to the bottom of the pond. The effluent then went to a second settling pond for another three days before being discharged to the public ditch under the New Jersey Pollution Discharge Elimination System ("NJPDES").

Particulate matter in the form of sludge developed at the bottom of the settling ponds and was collected and shipped offsite for disposal. The major component of this waste was ferric hydroxide. Ferric hydroxide, $Fe(OH)_3$, was created during the neutralization of the sulfuric acid due to the high iron content of the effluent. Most of the iron in

the effluent may have resulted from the industrial applications of the sulfuric acid that Allied recycled; the remainder was due to the natural quantity of iron in water at Elizabeth. The sludge containing ferric hydroxide was deemed non-hazardous industrial waste (NJ ID No. 27) by the NJDEP. The non-hazardous ferric hydroxide sludge was removed from the bottom of the settling pond in 1978, 1980, and 1982, and shipped offsite for disposal. This treatment facility is described in greater detail in Section V, below.

Beginning in the early 1970s, Allied also executed a comprehensive program to reduce point-source discharges to the ditch. The project targeted further controls of drips from the sulfuric acid process equipment. Dikes were built around storage tanks. Sump pumps were installed to take any weak acid drips that might accumulate behind the dikes and to mix them back into the reclamation process.

Stack emissions

As noted above, the final smokestack vented small quantities of unreacted and unrecovered SO_2 and SO_3 pursuant to permit. This air emission is described in further detail in Section VI.

Vanadium catalyst

Pellets of the solid vanadium catalyst were ground partially into powder by friction as the hot gases passed over them. Periodically, the catalyst was removed and passed through a screen to remove the smallest particles. Those particles were either repelletized by Allied for reuse, or removed and disposed of offsite. Vanadium catalyst is a non-hazardous waste. (See Section V and accompanying exhibits for details.)

Genetrons®

Co-product hydrochloric acid

The reaction that produces Genetron® gases also generates hydrochloric acid (HCl) as a co-product. In the Genetron® processes, the raw ingredients chloroform ($CHCl_3$) and carbon tetrachloride (CCl_4) are fluorinated with hydrofluoric acid (HF). The reaction products are Genetrons® and hydrochloric acid.

Although hydrochloric acid is a valuable product which Allied sold, the Genetron® process created more hydrochloric acid than Allied could sell in the New York area. The remaining co-product HCl was disposed in the Atlantic Ocean under a federal permit from 1961 through September 30, 1988. The acid was piped to a barge at a dock facility on Newark Bay. The barge periodically traveled

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offshore to an area known as the "New York Bight." At the designated discharge point, acid was released slowly into the water. The sea water quickly neutralized it. Voluminous reports were prepared periodically at the behest of the USEPA regarding the impact of the disposal. No significant impact was reported.

Spent Antimony Catalyst

The fluorination process used a catalyst called antimony pentachloride ($SbCl_5$). The antimony pentachloride was formed in a reactor at the Allied plant. The catalyst process began with antimony trichloride, $SbCl_3$, which is a solid. A batch of antimony trichloride was placed into a reactor; chlorine gas, Cl_2, was then added. The result was $SbCl_5$, antimony pentachloride. The raw Genetron® materials and anhydrous hydrofluoric acid were then also run through the reactor, creating Genetrons® and the co-product hydrochloric acid. Approximately once a year, spent catalyst was pumped out of the reactor by pressure into a tank, and a new batch was begun.

In the early 1970s the spent catalyst was shipped offsite for treatment and disposal.

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Genetron® salts and "pall rings"

The fluorination process also left some excess hydrochloric acid, which was carried off in a low pressure system that removed all excess gases from the process. Those excess gases were purified. First, hydrochloric acid was taken out with an absorber. The result was 32 percent strength HCl and 2 to 2-1/2 percent strength hydrofluoric acid (HF), which was taken off to storage tanks. Next, two caustic scrubbers (10 percent strength sodium hydroxide), were used to neutralize the remaining entrained HCl and HF. The resulting spent caustic, which remained 1 to 1-1/2 percent strength, was saturated with sodium chloride (NaCl), which is ordinary table salt, as well as sodium fluoride (NaF). Plastic rings called "pall rings" were used in the process to help mix the caustic and the acid. These rings became coated with the salts NaCl and NaF. See Section V and accompanying exhibits for details regarding offsite disposal of waste caustics and salt-coated rings.

TFE Monomer

Spent alpha-pinene

To prevent the TFE from polymerizing on its own ("autopolymerization"), the plant utilized small quantities of alpha-pinene. Alpha-pinene is a substance very similar to turpentine. In the polymer process, spent alpha-pinene was

drained off to a storage tank. It was then "cooked" to boil off any organic impurities, and what remained was put into storage drums.

The spent alpha-pinene storage drums were originally shipped off-site. See Section V and accompanying charts for details. Later, spent alpha-pinene was burned in Allied's boiler at the Elizabeth plant. During this period, environmental regulations allowed alpha-pinene to be mixed in with ordinary fuel oil and burned. Allied later returned to offsite disposal of spent alpha-pinene.

Fluoropolymers

Halar® effluent water

The major effluent waste stream from the fluoropolymer process was Halar® effluent water. In forming the co-polymer of ethylene and CTFE, the product was de-watered through a wringer that threw off water, methanol and chloroform, which was used as a catalyst. That effluent was shipped off-site for disposal. See Section V and accompanying exhibits for details. Allied stopped producing Halar® effluent water in 1986, when it sold the Halar® process to Ausimont.

PTFE resin floor sweepings

The polymer product PTFE is a solid which can be made in many forms, from strings to powder. Ordinarily, this material is non-hazardous, and is classified as such (NJ ID No. 27). These non-hazardous dust sweepings were shipped off-site for disposal. See Section V and accompanying exhibits for more information.

Air emissions

The monomer (TFE) process resulted in a semi-continuous purge into the atmosphere of small quantities of Genetron®-23 from distilling tower T-9. These emissions never required a permit.

In the polymer process, there are permits for vents from the dryers.

A.C.T.®

One step in the A.C.T.® process produced sulfur dioxide (SO_2), which was vented through a caustic, tower scrubber. Iodine, which was an ingredient in the initial step of the process and removed in a later step, was re-circulated to the beginning of the process. Minor quantities of sulfuric acid mixed with sodium chloride (ordinary salt) and a small amount of soluble iodine were piped away for neutralization and skimming prior to discharge to Newark Bay.

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Travelers Specialists Activity Report dated November 11, 1971, prepared by W.E. Collerd, produced by Travelers at T3018116-19, at 3, appended as Exhibit B.

METUCHEN

In the PTFE recycling process, incoming scraps of PTFE were ground into small particles. Cooling water was mixed with the PTFE in the grinding mills to prevent heat buildup. The cooling water was filtered and discharged to a drywell.

The ground powder was then washed with nitric acid, HNO_3, to remove any dirt. The acid used to wash the PTFE was 67 percent strength going in, and at about 50 percent strength coming out. Twice a week through 1980, the spent acid was sprayed over a limestone bed to neutralize it. The neutralized solution percolated into the ground. From 1980 until the plant closed, the 50 percent strength nitric acid was shipped offsite for re-strengthening and reuse.

After the nitric acid was drained away, the PTFE was washed with water to remove any remaining nitric acid. This wash water had a very low acidity. Until 1980, the wash water was sprayed twice a day over the limestone bed for neutralization in the neutralization process described above. Afterwards, the washwater was neutralized in neutralizers

called the "Norways," then discharged to the Middlesex County Sewerage Authority.

Eight ovens were used in the process, to dry PTFE and to bake pigments onto PTFE. Each oven had its own exhaust vent.

Solid wastes were limited to floor sweepings and to whatever dirt or paint was washed off the incoming scrap PTFE. Those solid wastes were shipped offsite for disposal.

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V.

THE COURT'S ORDER:

5. A DISCLOSURE AND DESCRIPTION OF ALLIED'S TOTAL DISCHARGES OF ALL EFFLUENT FROM THE PHASE I SITES, INCLUDING A DISCLOSUE OF THE DISPOSAL OF WASTES THAT WERE TRANSPORTED OFF-SITE BY CONTRACTORS FOR DISPOSAL (IDENTIFYING ALL HAULERS AND DISPOSERS), A DISCLOSURE OF THE DISPOSAL OF WASTES BY DISCHARGE INTO WATERWAYS, AND DISCLOSURE OF THE DISPOSAL OF WASTES BY DISCHARGE INTO ON-SITE PITS, SEWERS AND RETAINING PONDS, INCLUDING ALL RELATED DOCUMENTATION.

ALLIED'S RESPONSE:

ELIZABETH

Offsite Waste Treatment, Storage and Disposal

With respect to transportation of wastes offsite, Allied has created a chart (annexed as Exhibit D) indicating in chronological order: (i) the process that generated the waste; (ii) the waste generated; (iii) the company that transported the waste offsite; (iv) the treatment, storage or disposal facility to which the waste was transported; and (v) the document source Bates number. The information provided in these charts was derived from documents which were produced to the defendants in May 1989.

Liquid effluent

The Elizabeth Works has had liquid effluent since the beginning of its operation. Through the 1960s, effluent from the sulfuric acid process was discharged into an onsite

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lagoon. Next, through 1977, effluent was collected in a ditch, neutralized, then drained into a public ditch that went to Newark Bay. From 1977 to date, effluent goes to an onsite waste treatment facility, is treated and is then discharged to the public ditch. Allied's effluent discharges have been permitted under federal and state permit programs since those programs' inception in 1975.

The Lagoon

The Elizabeth Works operated under a permit to construct and operate an industrial waste treatment plant issued October 1, 1956 by Daniel Mergsma, M.D., Commissioner of Health, New Jersey Department of Health. As part of the plant's operations, effluent was sent to a lagoon where it was neutralized with lime and caustic soda. Use of the lagoon was discontinued in the early 1970s.

The Ditch System

The "old ditch" forms a loop around all of Allied's operations at Elizabeth, ending in a discharge to a public ditch. The public ditch flows from Newark Airport, collecting runoff along North Avenue East, then passes by an easement on Allied's land to Newark Bay.

The old ditch received the plant's effluents described in Section IV. Runoff from a City of Elizabeth

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landfill, which borders Allied's property on the south, also drained into Allied's old ditch, as well as runoff from a landfill site used by the New York Port Authority for dredgings from Newark Bay and the old railroad yard property adjacent to the site. Sanitary effluent also went to the ditch.

For a summary of the mechanics of Allied's ditch system of handling effluent, see Elizabeth Works, Allied Chemical Corporation, Pollution Abatement Program, dated June 30, 1972, at JEZ011011855-1925.

Process waters and storm water entered the old ditch through several streams. The total flow was conducted by gravity to the plant monitoring station, then to the public ditch.

The neutralization control station was situated roughly halfway around the plant, and it added 50 percent caustic soda to neutralize the acidic effluent stream. The system had an automatic pH control that operated much like a thermostat: If the pH downstream remained too low -- i.e., too acidic -- more caustic would be pumped through the pipes into the ditch to neutralize the excess acidity. Additionally, skimmers at the control station removed floating materials. Oil absorbent booms spanned the ditch at several locations to absorb floating oily substances and to collect floating solids. See JEZ051010145.

Allied's sulfuric recycling process not only restored the strength of the sulfuric acids involved, it also drastically reduced the Chemical Oxygen Demand (COD) that might otherwise have been discharged to a waterway by a customer, as well as significant levels of heavy metals.

COD is a measurement of the amount of oxygen an effluent uses upon contact with surface water. It is an indicator of how volatile the effluent is, and it helps perdict how much oxygen will remain in the surface water to support marine life. Chemical oxygen demand and biological oxygen demand (BOD) were considered the key characteristics of effluent for regulatory purposes throughout the 1970s.

Incoming spent sulfuric acid at Elizabeth contained on average 150,000 pounds per day (PPD) COD. The recovery operation destroyed 99.5 percent of this COD load through conversion of organics to CO_2. See JEZ021121425-36. Accordingly, the sulfuric recycling process cut COD of potential effluent by several orders of magnitude.

The Development of the Waste Treatment Facility

Allied's early planning and execution of a new waste treatment facility resulted from Allied's commitment to meeting the nascent environmental requirements of the newly-created United States Environmental Protection Agency (USEPA), the New Jersey Department of Environmental

Protection (NJDEP), and the Interstate Sanitary Commission (ISC).

The process began in 1969 and 1970, when Allied studied the feasibility of building an impounding basin to reduce the discharge of suspended solids, and had discussions with the NJDEP. On July 16, 1971, an administrative order was issued by the NJDEP requiring that Allied modify its waste treatment at Elizabeth to meet state requirements for discharges to Newark Bay.

Meanwhile, on July 15, 1971 and November 18, 1971, Allied submitted applications to the United States Army Corps of Engineers for a permit to discharge, pursuant to the 1899 Refuse Act, under which Allied continued to operate.

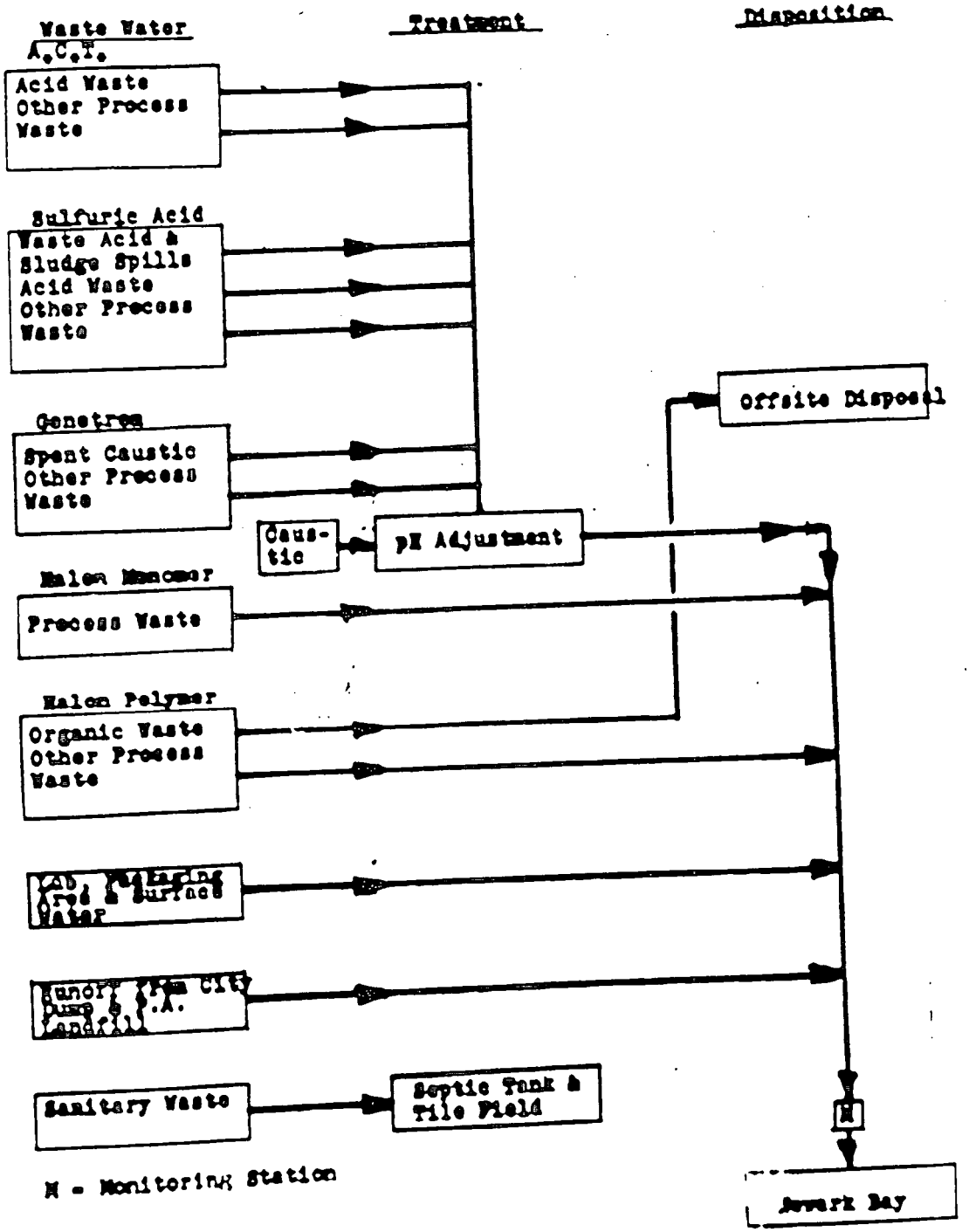
Allied met with the NJDEP and the ISC in November 1971. Allied submitted its proposals for in-plant abatements to eliminate and recover certain wastes at their sources, plus treatment of residuals by neutralization and settling in a basin. Allied then met with the USEPA, NJDEP, and ISC in June 1972 in order to establish one set of goals acceptable to all of the agencies, and submitted its Pollution Abatement Program on June 30, 1972 (JEZ011011855-1925).

A schematic flowchart of Allied's 1972 effluent, an appendix to Allied's report, was produced by Allied as document number JEZ011011889, and is reproduced on the following page. A flowchart of Allied's proposed waste

treatment facility was produced as JEZ011011905, and is also reproduced here. There are two differences between the proposed flowchart and the waste treatment system ultimately utilized by Allied. Storm water went to the collection system for treatment, rather than flowing directly to Newark Bay, and sanitary waste went to the City of Elizabeth sewer system, rather than to Allied's septic tank and tile field.

(1972)

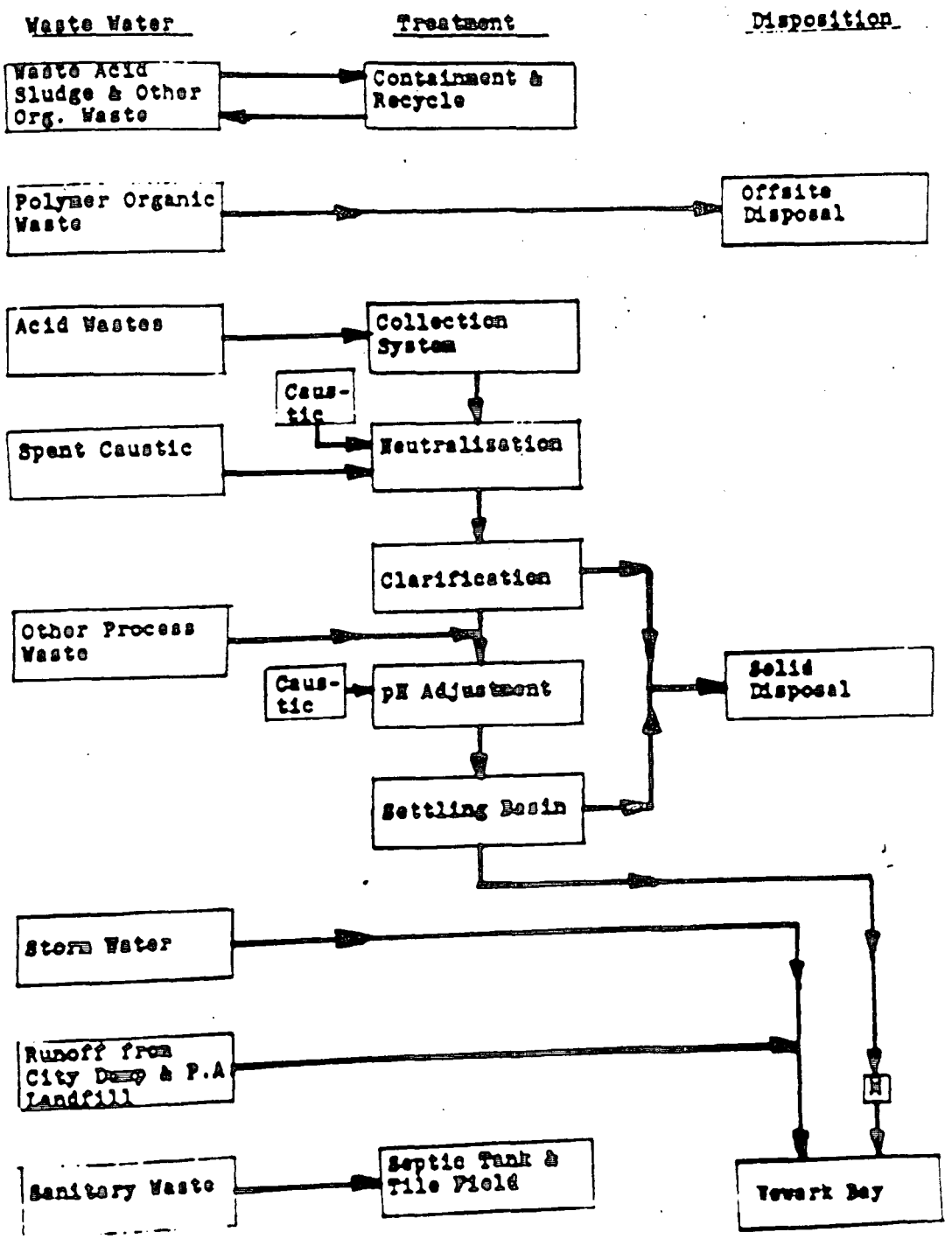
CURRENT WASTE WATER DISPOSITION
ELIZABETH WORKS
ALLIED CHEMICAL CORPORATION



M - Monitoring Station

(1972)

PROPOSED WASTE WATER DISPOSITION
ELIZABETH WORKS
ALLIED CHEMICAL CORPORATION



M = Monitoring Station

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Design of the Waste Treatment Facility

Allied's Pollution Abatement Program was then developed into a sophisticated Waste Treatment Plan for the Elizabeth Works that split effluents into components that were treated separately. For a comprehensive description, see Elizabeth Waste Treatment Design Data, dated September 17, 1975, produced by Allied at JEZ021100887-0917. See also Final Plans and Specifications dated December 18, 1975, produced by Allied at JEZ021031387-1410. The Plan was developed specifically to meet the requirements of the federal National Pollution Discharge Eliminiation System ("NPDES") permit issued January 31, 1975, requiring a plan leading to reductions in discharges by July 1, 1977. Including the Waste Treatment Facility, Allied expended more than $5 milion between the late 1960s and the late 1970s for capital expenditues to reduce effluents and exits. Allied met or improved upon all federal and state air and water permit requirements.

Treatment of weak sulfuric acid effluent

The major feature of the facility was treatment of effluent from the sulfuric acid operations. Sulfuric effluent was piped through a lift station to a lined, 400,000 gallon equalization basin (lagoon), where fluctuations in

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effluent pH equalized. Effluent took one to two days to flow through the equalization basin.

Next, sulfuric effluent passed through two 4,000 gallon neutralizers, where it was neutralized with 50 percent strength sodium hydroxide (NaOH). Each neutralizer was capable of neutralizing all acid coming from the sulfuric operation, but two were provided to ensure complete pH adjustment and promote good flowing of solid precipitate in the effluent. (Solid ferric hydroxide was produced when the caustic NaOH neutralized the incoming acid.)

Neutralized effluent then passed in series to two lined, one-million-gallon settling ponds, where precipitated solids separated from clarified effluent. Effluent passed through the first pond in three to five and a half days, then to the second pond for another three to five days. Another treatment system removed oil and grease from the surface of the effluent. A leak detection system was installed under the entire treatment facility.

From the second settling pond, treated effluent was discharged into the public ditch. This discharge, as well as the discharge from the old ditch while the facility was under construction, was permitted under Allied's NPDES permit.

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Treatment of fluoropolymer process effluents

Process wastes and contaminated runoff were pumped though a lift station (with an extra pump on standby) to two agitated neutralization tanks, where they were neutralized with 50 percent caustic NaOH. The first tank did the bulk of the neutralization, with the second tank providing adjustment to pH.

Neutralized fluoropolymer effluent then went to a 30,000 gallon retention basin where solids and oils were removed. The treated effluent then flowed into the treated effluent from the sulfuric treatment operation at the second settling pond.

The fluoropolymer effluent stream consisted of acid drips, cooling tower and boiler blowdowns, cooling water, water deionizer washes, and weak spent caustic solution. See JEZ011020082-83.

Other details

Allied's 1975 plan also provided for piping sanitary effluent to the City of Elizabeth Sewer System. Previously, sanitary wastes were treated in septic systems that flowed to the ditch. Allied's plan also included containment to prevent leakage from the sulfuric pump area; spill collection measures and alarm systems in the unloading area;

fluoride abatement; and a new discharge monitoring system with backup power.

NPDES and NJPDES

Under Allied's NPDES permit, the point where Allied's treated effluent joins the public ditch is designated "Outfall 002." Drainage from the old ditch to the public ditch is "Outfall 001."

Rainwater runoff from the plant parking lot, the adjacent swampland, the adjacent old railroad yard and the City of Elizabeth dump, flows through the old ditch and Outfall 001. There is no NPDES permit for Outfall 001, and none is required.

The NJDEP, rather than the federal government, now administers the discharge permit program. Allied's effluent permit, therefore, is now a New Jersey Pollution Discharge Elimination System ("NJPDES") permit, rather than an NPDES. The permit number for the Elizabeth Works is NJPDES Discharge to Surface Water Permit NJ0003166. See JEZ061070941-70.

Ausimont

During the time Ausimont owned and operated the fluoropolymer plant, process waters and stormwater from the Ausimont area were treated in Allied's treatment facility and discharged under permit through Outfall 002. The flows and

effluent characteristics were not changed by the sale of the facilities to Ausimont. For further discussion of Ausimont, see Section X, below.

METUCHEN

Offsite Treatment, storage and Disposal

A chart appended as Exhibit E indicates in chronological order for Metuchen: (i) the process that generated the waste; (ii) the waste generated; (iii) the company that transported the waste offsite; (iv) the treatment, storage or disposal facility to which the waste was transported; and (v) the document source Bates number.

Effluent

As described in Section IV, the PTFE reprocessing operation generated three effluent streams: cooling water, spent nitric acid and slightly acidic washwater.

Until 1980, cooling water was filtered and discharged to an onsite drywell. Spent nitric acid was sprayed every two weeks over a limestone bed for neutralization and subsequent percolation through soil. Washwater was sprayed over the limestone twice daily for neutralization in the same manner.

The neutralization of nitric acid with lime results in the formation of calcium nitrate. Calcium nitrates, as

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well as biochemical nitrates, are commonly employed as fertilizers. Organic nitrates result from human and animal waste and are therefore quite common in the environment. Certain edible plants, such as spinach, contain high levels of naturally-occurring nitrates. Nitrates are commonly discharged in large quantities from home septic tanks and cesspools. Accordingly, nitrates at Metuchen were never a major concern of the state.

The New Jersey Spill Act in 1977 presented the first regulation of groundwater quality at all in New Jersey, by either the state or federal government. Regulations in effect from 1978 to 1981 established for the first time a requirement for obtaining a discharge to groundwater ("DGW") permit. There was no regulation of groundwater -- or even any interest in regulating groundwater -- until the late 1970s.

The change in effluent treatment was first suggested by the NJDEP in 1978. See JME011031128. The NJDEP did not object to the ground discharge of neutralized nitric acid per se; instead, it objected that there was no continuous monitoring and control of the pH of the neutralized effluent. Id. The NJDEP and Allied exchanged amiable correspondence on this matter over the next two years. See, e.g., JME011030344-45; JME011031128-29;

JME031011096-98; JME031010043-44; JME011031107-08; JME031011064-65.

In 1980, the limestone bed and drywell were replaced with a totally-contained treatment system. Spent nitric acid was shipped offsite for reprocessing. Acidic washwater was neutralized, then discharged under permit to a newly-installed connection to the Middlesex County Sewerage Authority. Application for Stage I Treatment Works Approval (January 1979), JME031011066-75.

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IV.

THE COURT'S ORDER:

6. A *DISCLOSURE AND DESCRIPTION OF ALL DISCHARGES INTO* THE AIR WHICH CONTAINED ANY SUBSTANCE IDENTIFIED IN PARAGRAPH C-3 THAT TOOK PLACE AT THE TWO PHASE I SITES DURING THE TIME THAT THEY WERE OWNED OR OPERATED BY ALLIED, SETTING FORTH THE CHEMICAL NATURE OF EACH DISCHARGE. ALLIED SHALL FURTHER PROVIDE ALL RELATED DOCUMENTATION.

ALLIED'S RESPONSE:

The substances identified in Section III (Governmental Complaints or Investigations) which were discharged into the air were sulfur trioxide (SO_3) and sulfur dioxide (SO_2). Both of these were discharged from only the Elizabeth Works. There were no air emissions responsive to this paragraph from the Metuchen plant.

Sulfur Trioxide (SO_3)

Documented emissions of sulfur trioxide into the air from the Elizabeth Works sulfuric acid plant took place on several occasions during the course of its operation from 1957 to 1981. As explained in Section IV, SO_3 was an intermediary product in the sulfuric acid, and was emitted from the process only during an upset condition. Regular stack emissions included SO_2, described below, water, carbon monoxide and carbon dioxide.

Sulfur Dioxide (SO_2)

Sulfur dioxide was emitted into the air from the Elizabeth Works sulfuric acid plant as part of the daily workings of the plant during the course of its operation from 1957 to 1981. Allied received permits from the New Jersey Department of Environmental Protection for such emissions. See JEZ061101287-318.

A chart appended as Exhibit F lists these SO_2 and SO_3 episodes.

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VII.

THE COURT'S ORDER:

7. A DISCLOSURE AND DESCRIPTION OF ALL CLAIMS MADE AGAINST ALLIED INVOLVING BODILY INJURY OR PROPERTY DAMAGE ARISING OUT OF CLAIMED EXPOSURE TO SUBSTANCES AT OR AROUND THE PHASE I SITES, INCLUDING WORKERS COMPENSATION CLAIMS, INCLUDING ALL RELATED DOCUMENTATION.

ALLIED'S RESPONSE:

ELIZABETH

Acid Damage Claims

Occasional emissions of sulfuric acid spray and fugitive hydrofluoric acid emissions resulted in third party claims, which were paid by Travelers. Travelers apparently began paying these claims as far back as 1968. See, e.g., Travelers' documents T10708562-72 (list of pollution-type claims for years 1969-70, listing incidents at Elizabeth, N.J.); T3070326; AL0157461; AL0019850; AL0019841; AL0019848.

Travelers' inspectors were also aware of the problem and commented on it at length. See, e.g., Travelers internal memoranda concerning acid damage claims:

T3028010-12	(risk review report for 1966-67 period)
T3028007-09	(risk review report for 1967-68 period)

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T3028013-15	(risk review report for 1968-69 period)
T3028016-18	(risk review report for 1969-70 period)
T3028024	(August 10, 1970 memorandum)
T3028001	(damage to 20 cars on 6/11/71)
T3027999-8000	(11/12/71 report)
T3028022-23	(10/13/71 memo and cover memo)
T3070326	(12/28/71 memorandum)
T3027982-83	(9/10/74 Elizabeth Loss Control Survey)
T3027985-90	(Travelers laboratory analysis)
T3070320-21	(4/10/75 Elizabeth Loss Control Survey)
T3070317-19	(9/30/75 survey and laboratory analysis)
T3070358-59	(4/19/76 Specialist Activity Report)
T3070310-14	(series of Travelers memoranda)
T3113017-20	(2/7/77 Specialist Activity Report)
T3028177-200	(3/23/77 Travelers Management Safety Audit)
T3070347	(4/21/77 report on sulfuric acid emissions)
T3028442	(3/23/79 engineer's narrative report)
T3070291-93	(3/23/79 Loss Control Survey)
AL0130011-12	(1/4/84 Travelers memo to Marsh & McLennan)

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Allied's documentation regarding these claims has already been produced at JEZ061121763-2109 and JEZ061130005-1365. The number of claims covered by Travelers per year is set forth below.

Year	Number of Claims Paid By Travelers
1976	9
1977	61
1978	134
1979	116
1980	59
1981	29

Other Third-Party Claims

On January 13, 1981, approximately 70 pounds of Sulfan (SO_3) was released at the Elizabeth plant from a safety value on a tank trailer truck when the vapor pressure exceeded capacity. See JEZ061120986; JEZ061120927-30; JEZ061120908-09. See also Travelers Fatal and Serious Accident Report, dated February 4, 1981, produced by Travelers at T3028359-362.

Seventy-six employees from a nearby Singer Co. factory were taken to area hospitals, complaining of skin, eye, and throat irritations. Id. at T3028361.

The matter was reported to the U.S. Department of Transportation, the U.S. Department of Labor, to local authorities, and to Travelers. See JEZ061120841-50.

Numerous individuals filed claims against Allied. To the best of Allied's knowledge, all of these claims were covered by Travelers. See JEZ061120734-840. Over 650 pages of claims files documents were produced by Travelers at ALT0006285-6960.

According to the director of the City of Elizabeth's Department of Health, Welfare & Housing, the effect of the incident was minimized through the prompt and proper response of Allied personnel. See JEZ061120908-09.

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Workers' Compensation Claims

A chart appended as Exhibit G summarizes Allied's known workers' compensation claims that arose out of claimed exposure to substances at or around the Elizabeth plant. All related documentation has been provided in the document series numbered with the prefix JEZ07106.

Workers' compensation claims made against Allied since 1976 were identified from a loss run provided by Travelers. Travelers sold Allied Workers' Compensation coverage. The loss run, produced at JEZ071060017-0114, is Travelers' complete listing of workers' compensation claims. Since the loss run descriptions are not always complete, Allied has reviewed other records for all employees and past employees at the Phase I sites in order to find records of injuries arising out of claimed exposure to substances. Those injuries which were so identified are included on the chart, and related documents have been produced. The personal records do not always reflect whether a workers' compensation claim was actually made or whether monies were actually paid.

For each claim, the appended chart sets forth the "date of loss" provided by Travelers on its loss run and other Travelers documents, the name of the claimant, a description of the claim, the amount Travelers paid, and a reference to the Bates numbers of the related documentation.

METUCHEN

Allied is aware of no claims made involving bodily injury or property damage other than workers' compensation claims. A chart of those claims is appended as Exhibit H. All related documentation has been provided in the document series numbered with the prefix JEZ07106.

VIII.

THE COURT'S ORDER:

8. A DISCLOSURE AND DESCRIPTION OF ANY CLAIMS MADE BY ALLIED AGAINST ALCHEM INSURANCE COMPANY WITH RESPECT TO ENVIRONEMTNAL COVERAGE AND RELATED DOCUMENTATION.

ALLIED'S RESPONSE:

Allied is the ultimate parent company of Alchem Assurance Ltd. ("Alchem"). Between April of 1976 and March of 1979, Alchem was a participant in upper layer excess liability insurance policies sold to Allied. Allied has not filed any claims against Alchem with respect to environmental coverage.

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IX.

THE COURT'S ORDER:

9. A NARRATIVE EXPLANATION OF ANY ATTEMPTS ALLIED MAY HAVE MADE TO OBTAIN ENVIRONMENTAL EMPAIRMENT LIABILITY OCVERAGE, INCLUDING ANY DISCUSSIONS ALLIED HAD INTERNALLY OR WITH ITS BROERKS OR OTHER ENTITIES CONCERNING OBTAINING SUCH COVERAGE. ALLIED SHALL FURTHER PRODUCE ALL RELATED DOCUMENTATION, INCLUDING COPIES OF ANY ENVIRONMENTAL IMPAIRMENT LIABILITY INSURANCE RISK SURVEYS CONDUCTED AT ANY SITE.

ALLIED'S RESPONSE:

Allied did not purchase, or seek to purchase, environmental impairment liability insurance ("EIL") policies for the Allied Chemical Line. From time to time, brokers forwarded specimen EIL policies, and such policies were discussed at Allied.

In substance, those in charge of Allied's Risk Management Department -- Edward Dekoskie and Robert E. Lee -- did not believe that EIL coverage was worth obtaining for a variety of reasons, including its cost, its "claims-made" format, and the broad coverage already existing under comprehensive general liability policies sold to Allied by Travelers.

From time to time various employees of Allied loosely referred to the Hazardous Waste Facility Certificates of Liability Insurance as "EIL coverage."

Travelers provided Allied with those Hazardous Waste Facility Certificates of Liability Insurance. The certificates were provided to comply with regulations imposed by the

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Environmental Protection Agency pursuant to the Resource Conservation and Recovery Act (RCRA). Travelers provided certificates for both "sudden and accidental" coverage and "non-sudden and accidental" coverage. See, e.g., Travelers AL00033541-43; see also letter from Laura L. Bouyet of Marsh & McLennan to Robert Carroll of Travelers, dated April 8, 1982, Ex. 35 to Carroll Deposition (Maryland Action) appended hereto as Exhibit I. In conjunction with its issuance of the certificates, Travelers sent Allied so-called Environmental Hazard Insurance Policies. These policies were "fronting policies" and provided no actual coverage. No premiums were charged for there policies, and the policies themselves were backed by a letter of credit issued by Allied.

It was also recognized, however, that the provision of these certificates and Environmental Hazard Policies was not the provision of EIL coverage, and indeed, that the certificates represented the coverage already provided by Allied's comprehensive gerneral liability policies from Travelers.

Documentation regarding EIL coverage has been provided in the document series numbered with the prefix JRM02101.

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X.

THE COURT'S ORDER:

10. ALLIED SHALL PRODUCE ALL DOCUMENTS, FORMAL OR INFORMAL, DISCLOSED OR DELIVERED TO AUSIMONT U.S.A. OF ENVIRONMENTAL CONCERNS IN CONNECTION WITH THE PURCHASE OF THE REAL PROPERTY OF EQUIPMENT AT THE PHASE I SITES, TOGETHER WITH A NARRATIVE EXPLANATION OF THE REASON FOR THE REPURCHASE BY ALLIED OF THE PHASE I SITES AND PRODUCTION OF ALL RELATED DOCUMENTS.

ALLIED'S RESPONSE:

In June 1986, Allied sold to Ausimont its Fluoropolymer business, which consisted primarily of its Halar® (ECTFE) and Halon® (PTFE) operations -- including portions of Allied's plants in Orange, Texas and Elizabeth, New Jersey.

At the time of the sale, Allied was producing Halar® at the Orange, Texas plant and Halon® at the Elizabeth, New Jersey plant. However, several years earlier, Allied had also produced Halar® at Elizabeth. At the time of the sale, Halar® was a profitable business for Allied, but Halon® was a marginal or even unprofitable business.

The equipment used to produce Halar® was also used by Allied to produce Aclon® (PCTFE) resin -- the raw material from which Allied produced Aclar® film. As part of the 1986 transaction, Allied and Ausimont entered a 15-year agreement in which Ausimont would toll process raw materials supplied by Allied into Aclon® on the Halar®/Aclon® equipment.

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The 1986 Agreement also provided that (a) Allied would not compete with Ausimont in sale of certain products (most notably Halar®) and that Ausimont would not compete with Allied in sale of certain products (most notably Aclar®) for a ten-year period, and (b) if Ausimont resold certain portions of the real property of either Elizabeth or Orange, Allied would receive 75 percent of the net proceeds of such sale.

Subsequent to the 1986 transaction, Ausimont's Halar® business apparently continued to expand, and the Halon® business apparently continued to experience adverse economic results. Ausimont initiated a major expansion of its Halar® operations of Orange, Texas, and began producing Halar® (for itself) and toll processing Aclon® (for Allied) at Elizabeth.

In 1987, reportedly after making engineering changes on the Halar® equipment, Ausimont experienced an explosion in its Halar® operations at Elizabeth, resulting in a fatality and shutdown of Halar® production. After the explosion, with the Halar® expansion at the Orange plant coming on line, Ausimont decided not to restart the Halar® operations at Elizabeth. At about that time, Ausimont apparently also decided to shut down its Halon® operations at Elizabeth. However, in order to terminate its obligations to toll produce Aclon® for Allied, Ausimont offered to resell the Elizabeth facility, including the Halar®/Aclon® equipment, to Allied. Ausimont and Allied further agreed to an extension of the Halar®/Aclar® non-

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competition provisions. Allied is now meeting its requirements for Aclon® with the production from the repurchased Ausimont/Allied facility.

The original sale to Ausimont involved consideration from Ausimont of approximately $50 million. See Agreement to Purchase Assets dated June 17, 1986, JEZ061120376-473. See also the following documents for environmental disclosures in conjunction with the transactions: JEZ021110444-71; JEZ061071073-75; JEZ021110428-29; JEZ061070998-99; JEZ021110438; JEZ061071000; JEZ021110053-60; JEZ021110088-99; JEZ061071001-08; JEZ071040057-60. Environmental considerations did not affect the decisions of Allied to sell and thereafter repurchase the fluoropolymer process. The reciprocal decisions of Ausimont, to the best of Allied's knowledge, were similarly unaffected by environmental factors.

Allied paid some $3 million for the repurchased property. The text of the repurchase agreement and the relevant exhibits thereto have been produced with the document prefix JEZ01104.

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XI.

THE COURT'S ORDER:

11. ALLIED SHALL PRODUCE ALL CORPORATE AND SECTOR LEVEL DOCUMENTS WHICH REFER TO THE USE AND HANDLING OF SUBSTANCES AT THE PHASE I SITES. IT IS NOT NECESSARY TO PRODUCE CORPORATE AND SECTOR LEVEL DOCUMENTS THAT DISCUSS SUBSTANCES GENERALLY AT THIS TIME.

ALLIED'S RESPONSE:

Additional documents have been produced with the series prefix JEZ01105. Allied is continuing its search and will produce any additional documents responsive to this directive.

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VERIFICATION

STATE OF NEW YORK)
) ss. December 14, 1989
COUNTY OF NEW YORK)

I, Robert H. Sand, hereby state that I am Assistant General Counsel for Allied-Signal Inc., that I am authorized by Allied-Signal Inc. to execute the foregoing Disclosure, that while I do not have personal knowledge of the facts recited in the foregoing responses, the facts stated herein have been assembled upon diligent inquiry by authorized employees of Allied-Signal Inc. and to the best of my information and belief the responses are true and accurate.

I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.

Robert H. Sand

Signed and sealed before me
this 14th day of December, 1989

Notary Public

ROBERT ALAN JOHNSON
Notary Public, State of New York
No. 31-4846544
Qualified in New York County
Commission Expires February 8, 1991

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CERTIFICATE OF SERVICE

The undersigned, being a member of the firm of Anderson Kill Olick & Oshinsky, P.C., counsel to plaintiffs Allied-Signal Inc. and UOP Inc., in this action certifies that the within Disclosure was served upon all counsel of record by first-class mail on December 14, 1989.

ROBERT JOHNSON

920880570

Elizabeth

PLANT HISTORY

920880571

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HALAR(R)	12

HISTORY OF THE ELIZABETH PLANT

THE ELIZABETH PLANT BEGAN OPERATION IN 1957 WITH THE START-UP OF THE SULFURIC ACID UNIT. THIS FACILITY HAD REPLACED THE OLD ACID PLANT LOCATED AT THE HUDSON RIVER WORKS IN EDGEWATER, NEW JERSEY. GROWTH AT THIS TIME WAS RAPID WITH THE GENETRON(R)-12/11 UNIT COMING ON LINE IN 1961, THE GENETRON(R)-22 UNIT BEGINNING OPERATIONS IN 1962, AND THE HALON(R) pTFE UNIT START-UP IN 1964. ADDITIONAL EXPANSIONS INCLUDE:

SULFAN(R)	IN 1964
HALAR(R)	IN 1971
A.C.T.	IN 1971
ACLON(R)	IN 1973

OPERATIONS AT ELIZABETH BEGAN TO BE TERMINATED WITH THE SHUTDOWN OF A.C.T. IN 1974. THE GENETRON(R)-12/11 UNIT WAS SHUTDOWN IN THE LAST QUARTER OF 1976 BUT OPERATED ON A LIMITED BASIS DURING THE FIRST HALF OF 1977. SULFURIC ACID AND SULFAN(R) OPERATIONS WERE TERMINATED IN 1981. PRODUCTION OF REGULAR GRADES OF HALAR(R) ENDED IN 1983 BUT EXTRUSION AND MANUFACTURE OF SPECIALTY GRADES CONTINUE AS NEEDED.

PRODUCING FACILITIES AT THE PLANT OCCUPY 39.2 OF THE 177.3 ACRES OF RECLAIMED MARSHLAND WHICH MAKES UP THE SITE. THE PLANT FRONTS ON NORTH AVENUE, AND IS BOUNDED ON THE EAST BY NEWARK BAY.

1981 Sulfuric Acid Plant shut down

HISTORY OF ELIZABETH PLANT

1957	START-UP OF SULFURIC ACID PLANT
1961	START-UP OF GENETRON(R)-12/11 PLANT
1962	START-UP OF GENETRON(R)-22 PLANT
1964	START-UP OF SULFAN(R) UNIT
1971	START PRODUCTION OF HALAR(R) (pECTFE)
	START-UP OF A.C.T.(R) PLANT
1973	START PRODUCTION OF ACLON(R) (pCTFE)
1974	SHUTDOWN A.C.T.(R) PLANT
1977	SHUTDOWN GENETRON(R)-12/11 PLANT
	START-UP EFFLUENT TREATMENT PLANT
	DISMANTLING OF A.C.T.(R) PLANT
1981	DISMANTLING GENETRON(R)-12/11 PLANT
	SHUTDOWN OF SULFURIC ACID PLANT
	SHUTDOWN OF SULFAN(R) PLANT
	DISMANTLING OF SULFURIC ACID PLANT
	DISMANTLING OF SULFAN(R) UNIT
1983	SHUTDOWN PRODUCTION OF HALAR(R)

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PROCESS DESCRIPTION

GENETRON(R)

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GENETRON(R)

IN 1961, ELIZABETH PLANT WAS EXPANDED WITH THE CONSTRUCTION OF A GENETRON(R)-12/11 UNIT. THROUGHOUT THE 1960'S AND EARLY 1970'S GENETRON(R)-12 AND 11 WERE USED AS REFRIGERANTS AND AEROSOL PROPELLENTS.

IN 1974 A CONTROVERSY AROSE OVER THE EFFECT OF FLUOROCARBONS ON THE OZONE LAYER OF THE ATMOSPHERE. THIS CONTROVERSY GREATLY REDUCED THE DEMAND OF FLUOROCARBONS FOR AEROSOL PROPELLANTS AND FORCED THE TERMINATION OF MANY GENETRON(R)-12/11 FACILITIES, INCLUDING THE ONE HERE AT ELIZABETH. THIS PLANT WAS TAKEN OFF LINE IN THE SPRING OF 1977.

IN 1963 ELIZABETH PLANT WAS AGAIN EXPANDED WITH THE CONSTRUCTION OF A GENETRON(R)-22 (G-22) UNIT. THIS PLANT PRODUCES G-22 FOR USE AS A REFRIGERANT AND AS A RAW MATERIAL FEED STOCK FOR THE PRODUCTION OF TETRAFLUOROETHYLENE (TFE).

THE PRODUCTION OF G-22 IS ACCOMPLISHED BY REACTING CHLOROFORM ($CHCL_3$) AND ANTIMONY PENTACHLORIDE CATALYST. THIS REACTION PRODUCES A RANGE OF REFRIGERANTS (G-21, G-22, G-23), DEPENDING ON THE DEGREE OF FLUORINATION, AND A BY-PRODUCT HCl. AFTER THESE GASES LEAVE THE REACTOR, THEY ENTER A CATALYST STRIPPER WHERE RESIDUAL CATALYST IS REMOVED AND RETURNED TO THE REACTOR. THE CATALYST STRIPPER ALSO RETURNS A MAJOR PORTION OF THE G-21 PRODUCED BACK TO THE REACTOR FOR FURTHER FLUORINATION TO G-22. THE BY-PRODUCT HCl IS ABSORBED BY A RECIRCULATING STREAM OF 30% HCl IN A FALLING FILM ABSORBER. RESIDUAL ACIDS LEFT IN THE GAS STREAM ARE SCRUBBED USING 5-7% CAUSTIC. THE GAS IS FURTHER DRIED USING 99% SULFURIC ACID VIA ANOTHER SCRUBBER. AFTER IMPURITIES ARE REMOVED FROM THE GAS STREAM THE THREE REFRIGERANTS ARE SEPARATED BY LOW TEMPERATURE DISTILLATION.

THE GASES ENTER A LOW BOILER OR G-22 STILL WHERE G-23 IS SEPARATED AND PURGED FROM THE SYSTEM. THE REMAINING G-21 AND G-22 ARE SEPARATED IN A PRODUCT OR G-22 STILL. THE G-21 IS RETURNED TO THE REACTOR FOR FURTHER FLUORONATION AND THE G-22 IS SENT TO STORAGE.

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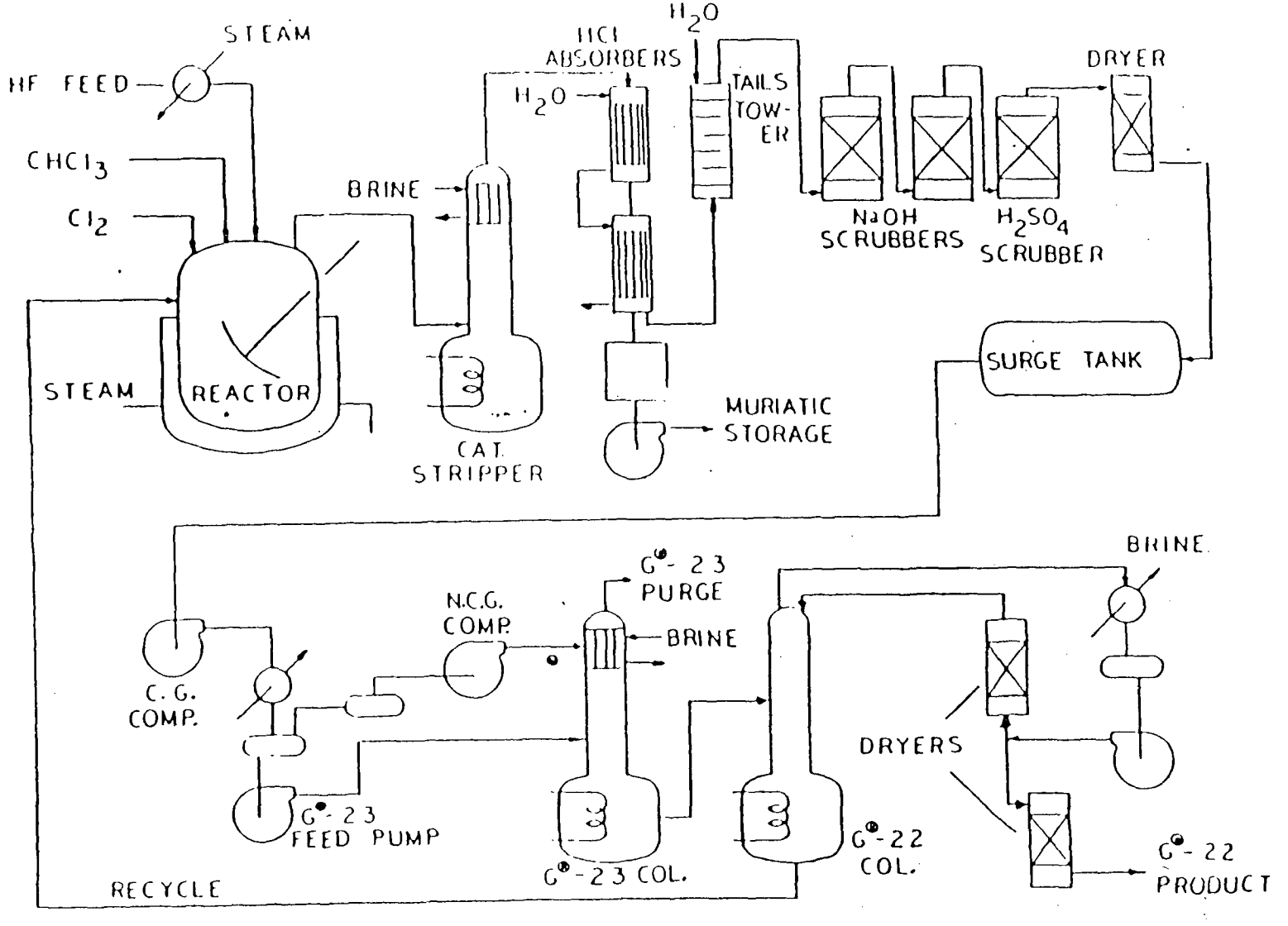

GENETRON®-22 PROCESS
by: AER date: 9/25/79

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PROCESS DESCRIPTION

TFE MONOMER

TFE MONOMER

IN 1963, ELIZABETH WORKS FORTH MAJOR EXPANSION TOOK PLACE WITH THE CONSTRUCTION OF A TFE MONOMER AND POLYMER PLANT. ELIZABETH WORKS PRODUCES THREE TYPES OF POLYMERS, THE FIRST OF WHICH IS HALON(R) (p-TFE), POLYTETRAFLUOROETHYLENE).

TO PRODUCE p-TFE IT IS FIRST NECESSARY TO PRODUCE TFE MONOMER. THIS IS ACCOMPLISHED BY MEANS OF A PYROLYSIS REACTION WHICH OCCURS WHEN G-22 IS HEATED TO A TEMPERATURE OF 1500 DEGREES F. DURING THIS REACTION APPROXIMATELY 20% OF THE G-22 IS CONVERTED TO TFE AND BY-PRODUCT HCl. THE HCl IS REMOVED BY AN HCl ABSORBER. CAUSTIC SCRUPPERS REMOVE RESIDUAL ACIDS AND A SULFURIC ACID SCRUBBER REMOVES RESIDUAL WATER. AFTER THE ACIDS ARE REMOVED AND THE GAS STREAM DRIED, IT IS NECESSARY TO RECOVER ANY UNREACTED G-22 AND REMOVE OTHER IMPURITIES FORMED DURING THE PYROLYSIS REACTION. THIS IS ACCOMPLISHED BY LOW TEMPERATURE DISTILLATION. THE GAS STREAM ENTERS T-7, A G-22 STRIPPER, WHICH SEPARATES G-22 AND HIGH BOILING IMPURITIES FROM THE PRODUCT STREAM AND LOW BOILING IMPURITIES. THE G-22 RICH STREAM ENTERS T-10, A G-22 PURIFICATION STILL, WHERE THE G-22 IS SEPARATED FROM THE HIGH BOILING IMPURITIES AND SENT TO STORAGE FOR RETURN TO THE PROCESS. THE HIGH BOILERS, CONTAINING LARGE AMOUNTS OF ORGANICS, ARE TRANSFERRED TO THE PLANTS' BOILERS FOR RECOVERY OF THEIR HEAT VALUE. THE PRODUCT RICH STREAM ENTERS T-9, A LOW BOILER STILL, WHICH SEPARATED TFE FROM THE LOW BOILING IMPURITIES AND PURGES THESE IMPURITIES FROM THE SYSTEM. PURE TFE AT THESE PRESSURES IS HIGHLY EXPLOSIVE THEREFORE G-22 IS ADDED TO THE PROCESS TO REDUCE THE TFE PURITY. THIS ALSO FACILITATES THE SEPARATION PROCESS. FROM T-9 THE TFE/G-22 STREAM ENTERS T-8, A PRODUCT STILL, WHERE THEY ARE SEPARATED. THE G-22 IS RETURNED TO T-7 FOR PURIFICATION AND THE PRODUCT TFE IS SENT TO STORAGE.

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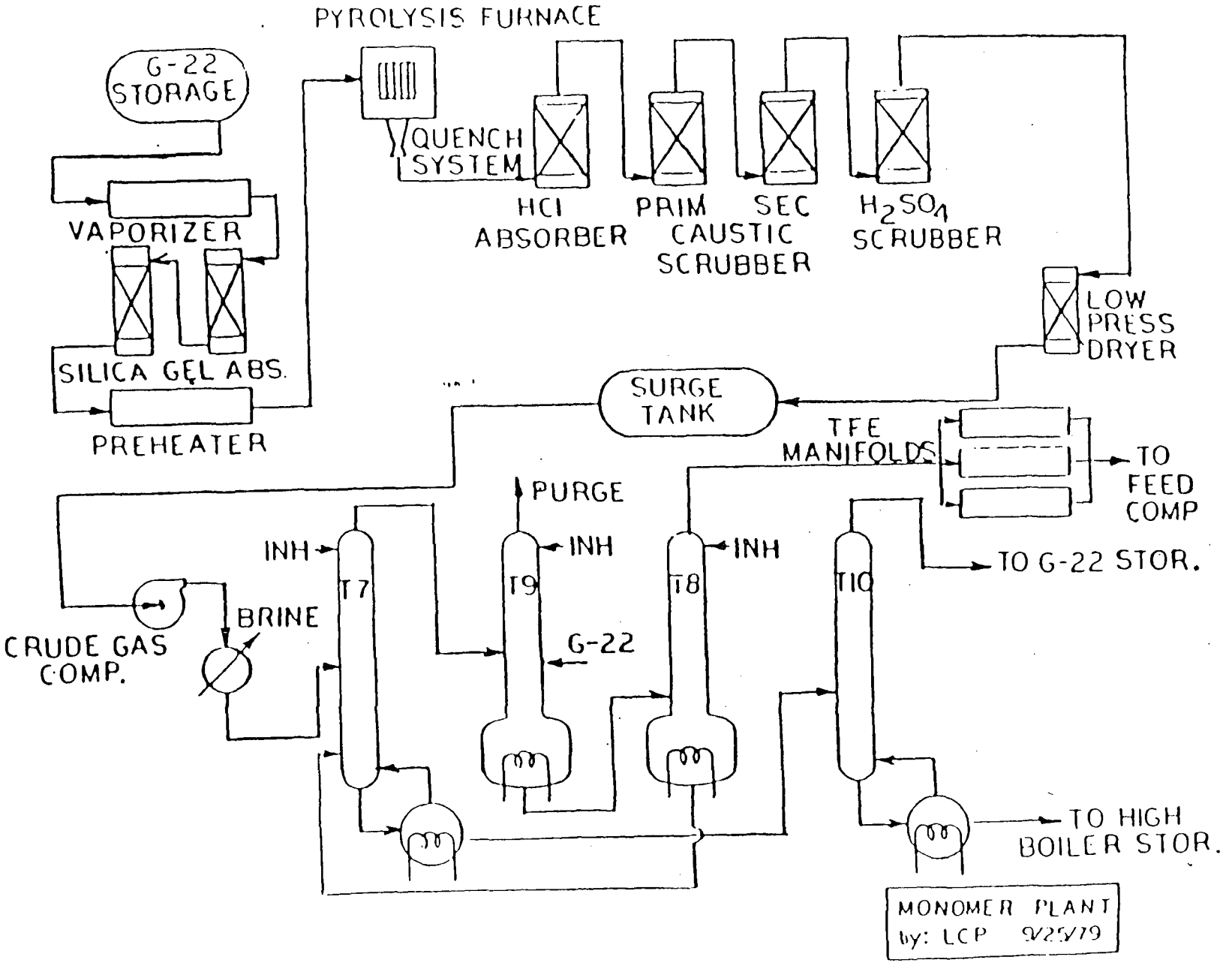
PYROLYSIS FURNACE
G-22 STORAGE
QUENCH SYSTEM
VAPORIZER
HCl ABSORBER
PRIM CAUSTIC SCRUBBER
SEC
H_2SO_4 SCRUBBER
LOW PRESS DRYER
SILICA GEL ABS.
PREHEATER
SURGE TANK
TFE MANIFOLDS
TO FEED COMP
PURGE
INH
INH
INH
T7
T9
T8
T10
TO G-22 STOR.
BRINE
G-22
CRUDE GAS COMP.
TO HIGH BOILER STOR.
MONOMER PLANT
by: LCP 9/25/79

9208880580

PROCESS DESCRIPTION

HALON(R)

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HALON(R)

HALON(R) POLYMER IS PRODUCED BY AN AQUEOUS SUSPENSION REACTION UTILIZING TFE MONOMER AS THE RAW MATERIAL. ONCE THE VIRGIN POLYMER IS PRODUCED IT IS FURTHER PROCESSED TO OBTAIN ONE OF THE THREE MAJOR GRADES OF FINAL PRODUCT G-18, G-80, AND G-83.

THE VIRGIN MATERIAL IS FIRST MILLED TO A WASH TANK WHERE IT IS GIVEN A HOT WASH TO REFINE SEVERAL OF ITS PHYSICAL PROPERTIES SUCH AS BULK DENSITY AND FLOW. AFTER HOT WASHNG, THE POLYMER IS GIVEN A COLD WASH TO FACILITATE HANDLING, THEN DRIED IN A LINEAR TRANSPORT DRYER UTILIZING AIR AS A CONVEYING MEDIUM. IF FURTHER REFINNING OF PROPERTIES IS NECESSARY OR A FINER PARTICLE SIZE REQUIRED THE POLYMER IS AIR MILLED BEFORE BEING PACKAGED.

THE THREE MAJOR GRADES OF FINISHED PRODUCT HALON(R) ARE G-80 WHICH IS USED IN THE MANUFACTURE OF TAPE, G-18 WHICH IS USED FOR APPLICATIONS REQUIRING THE p-TFE TO BE RAM EXTRUDED, AND G-83, WHICH IS USED FOR APPLICATIONS WHERE INJECTION MOLDING OR SHEET MANUFACTURE IS PERFORMED. THE DIFFERENT GRADES HAVE PHYSICAL PROPERTY DIFFERENCE OBTAINED BY VARYING THE WAY AND CONDITIONS USED WHILE MILLING, WASHING, AND DRYING THE VIRGIN POLYMER.

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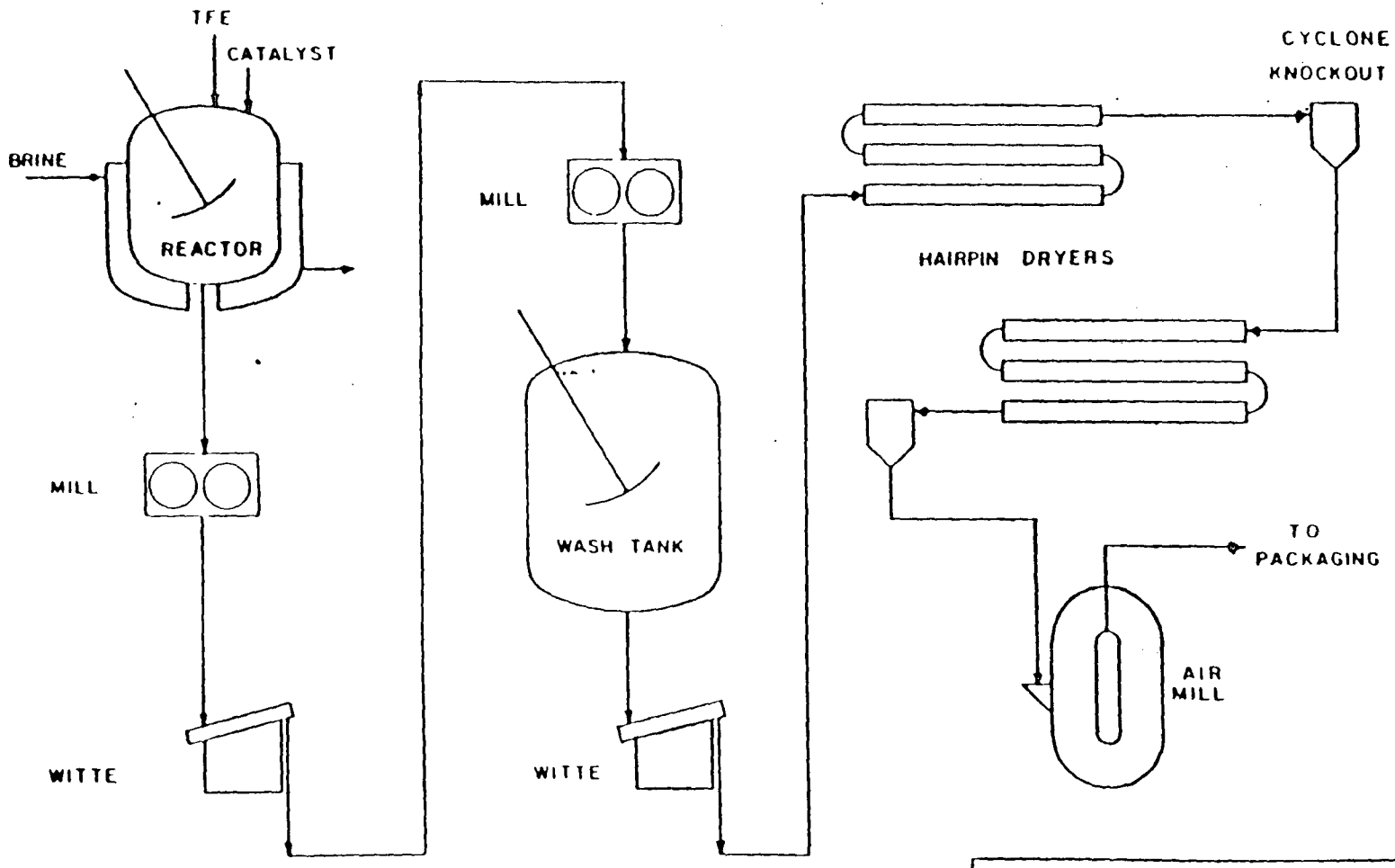

HALON® REACTOR TRAIN

BY: AER DATE 4/2/80

920880583

PROCESS DESCRIPTION

ACLON(R)

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ACLON(R)

ACLON(R) IS A CO-POLYMER OF 97% CTFE (G-1113, CHLOROTRIFLUOROETHYLENE) AND 3% VF_2 (G-1132A, VINYLIDENE FLUORIDE) PRODUCED BY AN AQUEOUS SUSPENSION REACTION. UNLIKE TFE MONOMER, CTFE IS PRODUCED AT BATON ROUGE SOUTH WORKS AND SHIPPED TO ELIZABETH IN TANK TRUCKS. VF_2 IS OBTAINED FROM SEVERAL DIFFERENT VENDORS.

ONCE PRODUCED, THE POLYMER IS DEWATERED TO APPROXIMATELY 30% MOISTURE ON A CENTRIFUGE, WASHED TO REMOVE RESIDUAL CATALYST SALTS, AND CUT INTO A RIBBON BLENDER. THE BLENDER DRIES THE POLYMER TO A MAXIMUM OF 0.025% MOISTURE. AFTER DRYING THE POWDER IS EXTRUDED, DIEFACED PELLETIZED AND THEN PACKAGED.

THE PRIMARY CUSTOMER OF ACLON(R) PELLETS IS POTTSVILLE, PA., PLANT WHERE THE PELLETS ARE EXTRUDED TO FORM FILM AND SOLD UNDER THE TRADE NAME OF ACLAR(R).

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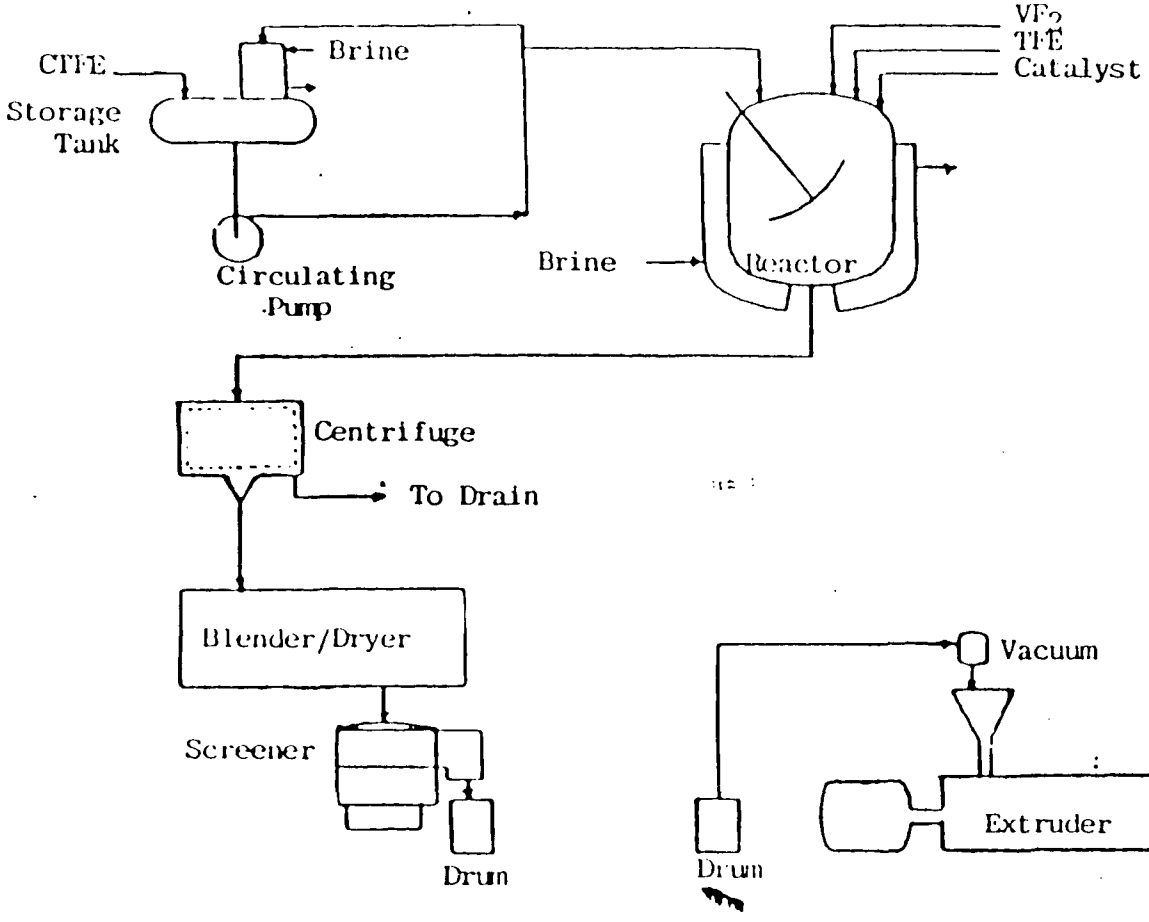

Aclon(R) Process Flow

By: J.L. 3/24/82

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PROCESS DESCRIPTION

HALAR(R)

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HALAR(R) IS A CO-POLYMER OF FIFTY MOLE PERCENT (G-1113, CHLOROTRIFLUOROETHYLENE) AND 50 MOLE % ETHYLENE PRODUCED BY AN AQUEOUS SUSPENSION REACTION. PROPER POLYMER COMPOSITION IS ACHIEVED BY CONTROLLING REACTOR TEMPERATURE AND PRESSURE. A HIGHLY REACTIVE ORGANIC PEROXIDE CATALYST IS USED. ZERO DEGREES BRINE IS CIRCULATED THROUGH THE REACTOR JACKET TO CONTROL REACTION TEMPERATURE. A CHAIN TRANSFER AGENT IS USED TO CONTROL THE MOLECULAR WEIGHT OF THE POLYMER.

ONCE THE REACTION IS TERMINATED, THE POLYMER IS DEWATERED IN A CENTRIFUGE TO APPROXIMATELY 30% MOISTURE AND DROPPED TO A HOLDING HOPPER. FROM THE HOPPER, THE POWDER IS METERED INTO AND DRIED IN A HAIRPIN DRYER THEN PACKAGED AS XP INTERMEDIATE.

HALAR(R) UNLIKE ACLON(R) IS HEAT SENSITIVE AT PROCESSING TEMPERATURES, THEREFORE, IT MUST BE STABILIZED BEFORE FURTHER PROCESSING IS DONE. THE STABILIZERS ARE DISOLVED IN A G-11 SOLVENT AND ADDED TO THE XP INTERMEDIATE IN A RIBBON BLENDER. AFTER THE STABILIZERS ARE DISPERSED IN THE INTERMEDIATE, THE BLENDER IS HEATED TO VAPORIZE OFF THE G-11 SOLVENT. THE BLENDER IS THEN COOLED AND THE CONTENTS PACKAGED AS HALAR(R) INTERMEDIATE. AFTER STABILIZATION THE HALAR(R) IS EXTRUDED INTO STRANDS WHICH ARE PELLETIZED AND THEN PACKAGED.

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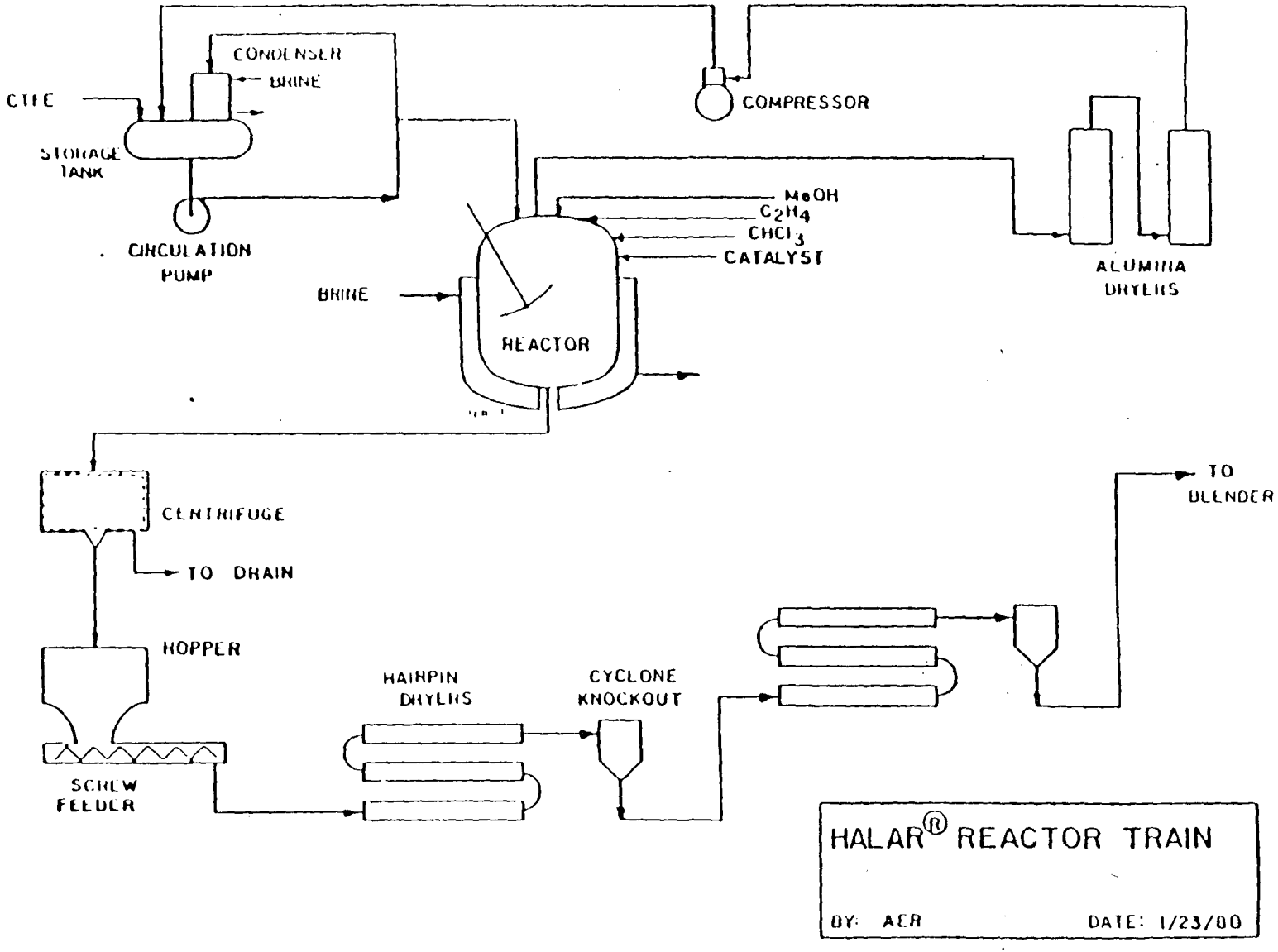
CONDENSER
BRINE
CTFE
STORAGE TANK
CIRCULATION PUMP
COMPRESSOR
MeOH
C_2H_4
$CHCl_3$
CATALYST
BRINE
REACTOR
ALUMINA DRYERS
CENTRIFUGE
TO DRAIN
HOPPER
SCREW FEEDER
HAIRPIN DRYERS
CYCLONE KNOCKOUT
TO BLENDER
HALAR® REACTOR TRAIN
BY: AER
DATE: 1/23/00

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Sadat Associates, Inc.

A Partner to Clients with Environmental Needs

July 27, 1998

Mr. Stephen Myers
New Jersey Department of Environmental Protection
Division of Responsible Party Site Remediation
401 East State Street
Trenton, NJ 08625-0028

Re: Allied-Signal, Inc Elizabeth Facility
ISRA Case #86103

JUL 29 1998
NJDEP
SITE
ELEMENT
TRENTON, N.J. 08625

Dear Mr. Myers:

On behalf of OENJ Corporation, a contracted potential buyer of the above-referenced facility, we request a meeting with you and your staff to discuss ways to further the on-going remedial investigations at the Elizabeth facility and complete a Remedial Action Workplan which the Department will find acceptable. As we discussed during our telephone conversation earlier today, OENJ is operating within limited timeframe constraints dictated by the terms of the contract for the sale of the property. Because of these, we would like meet at your earliest possible convenience. We are contacting Allied-Signal regarding your request that they grant you permission to meet with us in this matter. Their response will be sent under separate cover.

If you have any questions, please do not hesitate to call me at (609)987-2500.

Very truly yours,

SADAT ASSOCIATES, INC.

By: Suzanne Macaoay
Suzanne Macaoay
Project Manager

cc: Peter Aagaard, OENJ Corporation

ASE0724.WPD

BAA000045

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