November 15. Toby's Grill, McLean Blvd and 33rd St., Paterson.
Refuse from this road stand consisting of containers and paper plates thrown down on banks of river. Our inspector had the owner clean up.

November 15. Saxon Woods Development, Barnsdale Road, Clifton.
Mr. J. Poydineoz, Developer.
This is a new development, about 50 new homes are occupied and a least 50 more are in the course of completion. There is a sanitary sewer line in the development but it is not connected to the city sewers. At present the sewage goes to a new cesspool which has an overflow into low land bordering on Pershing Brook. Previous to the construction of this cseepoal, the sewage was discharged into a smaller cesspool, and some person had diverted the overflow line from this, into the brook. Our inspector had a new length of pipe insertrd at once which stopped sewage from entering the brook.

November 15. Marcalus Manufacturing Company, East Paterson.
White water from settling pits discharging into Passaic River. Our inspector notified plant superintendent who changed over settling units and eliminated the violation.

November 15. Passaic Pioneer Properties, 8th St. and Passaic River.
Dye waste discharging into Passaic River by way of storm drain. Investigation revealed a broken pipe line from the plant of a tenant, Millbank Inc., Textile Printers. The break was repaired and the violation eliminated.

November 15. Residence, 300 - 9th St., Passaic. Mrs Sophie Pigan, Owner.
Refuse dumped on bank of river. Our inspector had the owner clean up and warned about further violations.

November, 1948 16. 9th St., Passaic. Mrs John Aowal, Owner.
Refuse dumped on bank of river. Our inspector had the owner clean up, and warned about further violations.

November 17. N. J. Security Company & Tenants, 13½ Van Houten St., Pat.
Mr. Grobart, Proprietor.
Dumping refuse along river banks. Our inspector notified the owner who cleaned up all refuse, and said watchman will be responsible for any further dumping. The watchman was given orders to notify all tenants and keep the river banks in good condition.

BHJ000001

November 17. Van Dyke & Company, 11 William St., Belleville.
This concern removed a section of an intake oil pipe line that was on the river bank at the request of the Essex County Park Commission. Some of the old oil drained into Passaic

KLL026521

1104

PASSAIC VALLEY SEWERAGE COMMISSIONERS
600 WILSON AVENUE
NEWARK, N.J. 07105
(201) 344-1800

May 20, 1977

Passaic Valley Sewerage Commissioners
600 Wilson Avenue
Newark, New Jersey

Re: Bi-Monthly Report
March and April 1977

Gentlemen:

The following is my report which covers the months of March and April 1977, and consists of three parts:

Violation and Elimination - St. Mary's Hospital, 211 Pennington Avenue, Passaic, N. J.

March 29, 1977 (M. Tomaro)

On March 29, 1977, while making routine checks in his district, Inspector Tomaro observed sudsy water running into a storm sewer catch basin on Main Street. This storm sewer drains into the Passaic River.

He traced the pollution to St. Mary's Hospital where he observed the material flowing from a roof drain and onto Randolph Street, where it then flowed along the curbs of High Street, Vanhouten Avenue and Main Street.

Inspector Tomaro then took a sample (laboratory analysis showed it was polluting) and contacted Mr. Hubert Brown, Hospital Maintenance Department. Mr. Brown explained that he was cleaning out the 10,000 gallon cooling tower on the roof using a detergent to clean out the algae growth on the inside of the tower. He let the material drain onto the roof where it ran down the roof gutter and into the street.

Inspector Tomaro naturally told him it was an illegal discharge and directed him to cease. Mr. Brown then connected a hose from the outlet and drained the balance of the material into the sanitary sewer.

Violation and Elimination - Van Dyk and Company, Inc., 1 Main Street and Williams Street, Belleville, N. J.

April 20, 1977 (D. DeMarco)

On April 20, 1977, PVSC received an anonymous call that Van Dyk and Company was pumping plant waste material into a storm sewer catch basin. Inspector DeMarco checked and found that a plumbing contractor was pumping waste from a settling pit onto the ground, where it flowed into a storm sewer catch basin.

At Inspector DeMarco's request, the men stopped the pumping. When questioned, they told him that the 6-inch sanitary sewer line, which runs from the pit to the municipal line, about 50 yards away, was blocked. They were pumping the liquid out prior to routing out the line. The crew then unblocked the sewer and within 30 minutes the flow was normal. Before he left, Inspector DeMarco cautioned Mr. Peter Rossi, Maintenance Supt., that when unblocking a sanitary sewer they must bypass the flow around the blockage and back into the sanitary sewer, not into a storm sewer.

City of Passaic - Weasel Brook at Monroe Street

03/10/77 - 04/01/77

A leak was reported on March 10, 1977 in an 8" sanitary sewer line that was dripping sanitary wastes into Weasel Brook at Monroe Street. Mr. Ralph Sandor, City Engineer, was notified and directed to repair the leak. Heavy rains, which raised the level of the brook, prevented the repairs from being done until March 28, 1977. The replacement of a three (3) foot section of the sewer stopped the violation on April 1, 1977.

Passaic Terminal and Transportation Company - 800 Bloomfield Avenue, Clifton

04/25/77

A report was made of a white foamy material in Allwood Brook which was entering Third River. An investigation traced this violation to the above company where an employee was steam cleaning a tractor near a storm sewer catch basin. Mr. Finkle, President, was contacted and informed that this polluting discharge to a storm sewer was illegal. He stopped the cleaning operation and the violation was eliminated.

Polaris Plating Inc. - 187 Albion Avenue, Paterson

04/26/77 - 04/30/77

On April 26th seepage of industrial wastes from the above company was entering Molly Ann's Brook. An investigation disclosed a leaky rinse tank in the plant was responsible for the pollution. Mr. Torlucci, Maintenance Supervisor, stated that he would repair the tank on April 30, 1977 when the plant was closed. The tank was relined with ¼" polypropylene and the violation was eliminated.

St. Mary's Hospital - 211 Pennington Avenue, Passaic

03/29/77

A river inspector observed a sudsy material running into a storm sewer catch basin on Main Street then into the Passaic River. He contacted Mr. Brown, Hospital Maintenance Department, who informed the inspector that he was cleaning out a 10,000 cooling tower on the roof and permitting it to run down the roof gutters to the street. When he was informed that this was illegal, he connected a hose to the sanitary sewer and the violation was eliminated.

Van Dyk and Company Inc. - 1 Main Street, Belleville

04/20/77

Repair men were observed pumping liquid out of a blocked sanitary sewer line onto the ground where it was draining into a storm sewer catch basin. They were informed that this was illegal and that the proper procedure was to pump it into a sewer manhole around the blockage. They cleaned out the blocked sewer and eliminated the violation.

ISP VAN DYK Inc.
a member of the ISP Group

Main and William Streets Belleville NJ 07109 Tel: (201) 450 7700

July 21, 1995

ISP

Ms. Janet Budesa Carrol
Section Chief, DEP
2 Babcock Place
West Orange, N.J. 07052

JUL 24 1995

NJDEP
INDUSTRIAL SITE
EVALUATION ELEMENT
CN028,
TRENTON, N.J. 08625

Dear Ms. Carrol:

This letter is being written as a follow-up report to the June 23, 1995 accidental release of pretreated waste water from the ISP Van Dyk Facility at 11 William Street, Belleville, New Jersey 07109, Case Number 956230810-11.

On June 23, 1995, we immediately notified the NJDEP after a blockage developed between our final catch basin and the PVSC manhole chamber. As a result, approximately 200 gallons of pretreated waste water overflowed over the catch basin, entered the Main Street sewer, and flowed to the Passaic River. ISP Van Dyk's maintenance crew cleared the blockage to the sewer line within a few minutes after it clogged.

Two actions were taken by ISP Van Dyk to prevent recurrence. A contractor, Recovery Environmental Service from Westwood was contracted on June 25, 1995 to jet wash the sewer line. Additionally, ISP Van Dyk's sewer system will be cleaned periodically as part of a preventative maintenance program.

Attached is a more complete listing of the information required by N.J.A.C. 7:1E-5.8.

If you have any questions or require additional information, please call me at (201) 450-7752.

Sincerely,

Ron Howard

Ron Howard
Safety & Environmental Coordinator

RH/djm/b.carrol
cc: A. Yazdani
C. Dannenmaier
S. Garg
B. Turetsky
G. Wall
Hazardous Waste Enforcement Element NJDEP
401 E. State St. CN 028
Trenton, N.J. 08625-0028

Attachments

ISP VAN DYK Inc.
a member of the ISP Group

Main and William Streets Belleville NJ 07109 Tel: (201) 450 7700

July 21, 1995

ISP

7:1E-5.8 (b) Confirmation Report

1. **The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;**

   Ron Howard
   11 Main Street
   Belleville, New Jersey 07109
   201-450-7752

2. **The name, address and telephone number of the individual submitting the confirmation report if different from the individual indicated in (b) 1 above.**

   Same as above.

3. **If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;**

   Not applicable.

4. **The name, address and telephone number of each person in any way responsible for the discharge;**

   Discharge was caused
   by a blockage in a sewer line.

5. **The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;**

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109
   201-450-7752

6. The source of the discharge, if known;

Final effluent sump at ISP Van Dyk Inc.

7. The location of the discharge, as follows:

i. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109

Tax Lot No.	25-18-17-3-24
Tax Block No.	12-12-12-12-8
Municipal ID No.	Unknown
County ID No.	Unknown
EPA ID No.	NJD002146504
Site Map	See Attachment 1

ii. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

Passaic River	
Longitude	040-47-05
Latitude	074-09-00
Map	See Attachment 1

8. The pretreated waste water may have included the substances listed below. Since there was no sampling of the pretreated waste water, the actual constituents and their concentrations are unknown.

Toluene	108-88-3
Methanol	67- 56-1
Ethyl Acetate	141-78-6

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown;

Concentration of pretreated waste water
is unknown.

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	6/23/95 at unknown time
Date & Time Discovered	6/23/95 at 7:50 A.M. Approximately
Date & Time Ended	6/23/95 at 7:59 A.M. Approximately
Date & Time NJDEP Notified	6/23/95 at 8:00 A.M. Approximately

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

ISP Van Dyk's Maintenance crew unblocked the sewer line in a few minutes after it was discovered.

12. the corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

Two actions were taken by ISP Van Dyk to recurrence. A New Jersey contractor, Recover Environmental service from Westwood was contracted to jet wash the sewer line on June 26, 1995, and completed the job on that date.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

Additionally, ISP Van Dyk's sewer system will be cleaned periodically as part of a preventative maintenance program.

14. The name, address and telephone numbers of all entities involved in containment, cleanup or removal of the discharge;

ISP Van Dyk's Maintenance crew located at 11 William Street, Belleville, New Jersey (201-450-7752)

1. Andrew Brutka
2. Joe Pineiro
3. Joe White

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal;

None taken.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.8 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

19. Any other information concerning the discharge which the Department may request; and

Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Ron Howard

RH/djw/rh-conf

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

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 April 9, 1992

1. Industrial Establishment

Name Van Dyk and Company

Address 11 William Street

City or Town Belleville Zip Code 07109

Municipality Belleville County Essex

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

Name	Owner/ Operator	From	To	Current Address
See Attachment 1-A				

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

Please refer to Avon Products Filing 85-817

2. List all federal and state environmental permits applied for, or received, or both, at this facility *(Attach additional sheets if necessary)*

Check here if no permits are involved _____

A. New Jersey Bureau of Air Pollution Control

Permit Number	Certificate Number	Date of Approval or Denial	Reason for Denial (If applicable)	Expiration Date
See Attachment 2-A				

B. New Jersey Pollutant Discharge Elimination System (NJPDES) N/A

Number	Discharge Activity	Date Issued or Denied	Expiration Date	Body of Water Discharged Into
N/A				

C. United State Environmental Protection Agency (EPA) Identification Number and copy of the most recent generator Annual Report prepared pursuant to the New Jersey Hazardous Waste Regulations. *(If applicable)*

ID # NJD 002 146 504

Is a copy of the Annual Report attached? X Yes (See Attachment # 2-C) ____ No

D. Resource, Conservation, Recovery Act (RCRA) Permit # N/A

E. Bureau of Underground Storage Tank Registration Number(s) 0257079

F. All other federal, state, local governmental permits.

Agency Issuing Permit	Permit No.	Date of Approval or Denial	Expiration Date
See Attachment 2-F			

3. Summary of Enforcement Actions for Violation of Environmental Laws or Regulations:

Check here if no enforcement actions are involved _____ (matters since acquisition by Mallinckrodt are listed)

A. Date of Action 4/27/87

Section of Law or Statute violated Air Pollution Control Act

Type of Enforcement Action Administrative Order and Notice of Civil Admin. Penalty Assmt.

Description of the Violation Absence of permits for vessels equipped with Conservation vents.

How was the violation resolved? Van Dyk paid a $2,400 penalty and applied for and obtained permits.

B. Date of Action 4/13/88

Section of Law or Statute violated Appendix B. Pretreatment limitation #2 of PVSC rules.

Type of Enforcement Action Letter notice

Description of the Violation Discharge of flamable liquid into the sewer in excess of permitted amounts.

How was the violation resolved? Responded to PVSC with plan to install pumps in process effluent line to remove floating solvents. Also metering improved to provide earlier notice of any future excursions.

See also Attachment 3

4. Site Map

Is this map enclosed? _____ Yes (See Attachment #_____) X No

If No, state the reason Please refer to Avon Products filing. There has been no addition or demolition of structures since that filing.

(Attach additional pages, if necessary)

ECRA-002
12/87

5. Decription of Operations:

Is this report enclosed? ____ Yes (See Attachment #____) __X__ No

If No, state the reason Operations have not changed, except for periodic fluctuations in volume output, since the date of the Avon Products filing. Please see Appendix B to Avon's SES.

6. Description of Building Heating System:

A. How is the Industrial Establishment currently heated? (Oil, Gas, Electric) oil and gas

How long has the Industrial Establishment been heated by the above fuel/energy source: ____ years Since 1974 or earlier

B. Was the Industrial Establishment heated by fuel oil at any time: __X__ Yes ____ No

Is information on the decommissioning of underground fuel oil tanks included with item No. 14 of this form?

____ Yes __X__ No If no, explain below: 25,000 gallon tanks are required due to interruptible gas service at main plant. No gas service to warehouse; 1,000 gallon tank in daily use.

C. Are the results of the Integrity Evaluation for Existing Underground Fuel Oil Tanks enclosed?

____ Yes (See Attachment #____) __X__ No. If no, state the reason Performed by Avon in prior submission.

7. Summary of Industrial Establishment Wastewater Discharges of Sanitary and/or Industrial Waste:

A. Discharge Period From	To	Discharge Type	Treatment By
____	Present	Process and Sanitary	POTW
____	____	____	____
____	____	____	____

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

Name Passaic Valley Sewerage Commissioners Telephone # 201/344-1800

Street Address 600 Wilson Avenue

Municipality Newark State NJ Zip Code 07105

Date(s) of Discharge	Nature of Discharge
1. ____	Process and sanitary
2. ____	____
3. ____	____

8. Hazardous Substance and Waste Containment Description: *(Attach additional sheets if necessary)*

Type of Storage Unit	Date Installed	Area or Volumetric Capacity (include units)	Material Stored	Construction Type	Location Reference	Decommissioning or Sampling Reference
2-2,000 gal. tank	1982	4,000 gal.	Toluene	carbon steel	yard adjacent to Bldg. 4	None
1-2,000 gal. tank	1982	2,000 gal.	Ethyl Acetate	carbon steel	yard adjacent to Bldg. 4	None
,000 gal. tank	1982	1,000 gal.	Isopropanol	carbon steel	yard adjacent to Bldg. 4	None
4,500 gal. tank	1984	4,500 gal.	hazardous waste	stainless steel	In Bldg. 4A	None
2-2,500 gal.	1984	5,000 gal.	Ethyl x hexanol	stainless steel	In Bldg. 4A	None
1-2,500 gal.	1984	2,500 gal.	Propylene Glycol	stainless steel	In Bldg. 4A	None
2-2,500 gal.	1984	5,000 gal.	Glycerine	stainless steel	In Bldg. 4A	None
1-2,500 gal.	1984	2,500 gal.	Oleic acid	stainless steel	In Bldg. 4A	None

Cont. on next page

9. Hazardous Substance/Waste Inventory:

Material Name	Quantity (Indicate units)	Location Reference	Storage Method Container Type/Size	Typical Annual Usage	To Remain on Site (Yes or No)
See Attachment 9					

CONT.

8. Hazardous Substance and Waste Containment Description: *(Attach additional sheets if necessary)*

Type of Storage Unit	Date Installed	Area or Volumetric Capacity (include units)	Material Stored	Construction Type	Location Reference	Decommissioning or Sampling Reference
1-2,500 gal.	1984	2,500 gal.	Ethylene Glycol	stainless steel	In Bldg. 4A	None
1-2,500 gal.	1984	2,500 gal.	Decyl alcohol	stainless steel	In Bldg. 4A	None
1-500 gal.	1976	500 gal.	Toluene for recirculation	carbon steel	In Bldg. 3	None
1-13,000 gal.		13,000 gal.	Liquid Nitrogen		Outside Bldg. 7	None

9. Hazardous Substance/Waste Inventory:

Material Name	Quantity (Indicate units)	Location Reference	Storage Method Container Type/Size	Typical Annual Usage	To Remain on Site (Yes or No)
See Attachment 9					

10. Discharge History of Hazardous Substances and Wastes:

A. Have there been any discharges of hazardous substances and wastes?
__X__ Yes (Complete Item B below) _____No (Go to Item 10C)

B. Summary of Discharges and Resolutions

	Description of Discharge Event	Response and Resolutions
1.	Alleged tank overflow of dimethylamine in 1977-78	Surficial soil removal contemporaneously Some residual discoloration recently observed on adjacent property. TCLP analysis shows no leachable contaminants.
2.	1987 Effluent line break	Reported. Water diverted. Soil removed as "hazardous" due to Avon identification of PCB contamination in this area.
	1990 - additional soil removal in this area due to replacement of repaired pipe with wider diameter line.	
3.	1986 Sunscreen (product)	Contained in paved area away from catch basins.

C. Is this Industrial Establishment subject to Spill Prevention Control and Countermeasure (SPCC) per 40 CFR Part 112 or Discharge Prevention, Containment and Countermeasure (DPCC) Plan per NJAC 7:1E-4.1 requirements?

_____Yes __X__No A copy of the Plan(s) may be required at the discretion of the Department.

11. Sampling Plan Proposal

A. Is sampling proposed at the facility? _____Yes (See Attachment #_____) No__X__

If sampling is not proposed, please explain below. *(Attach additional sheets if necessary)*

Sampling is being performed by Avon Products in connection with ECRA case #85-817

B. Is groundwater sampling proposed? _____Yes __X__No

Note: If groundwater sampling is proposed under the plan, you must complete ECRA Form 002A "Request for Hydrogeologic Assessment" and submit it with the application.

ECRA-002
12/87

12. Decontamination/Decommissioning Plan

A. Is the facility Decontamination/Decommissioning Plan enclosed?

____Yes (See Attachment #_____) __X__No

B. If no, specify why decontamination/decommissioning is not considered necessary.

Facility will continue in operation.

13. Historical Data on environmental quality at the Industrial Establishment

A. Were sampling results obtained on Environmental Quality for the Industrial Establishment?

__X__ Yes (See Attachment #_____) ____No

B. If sampling results were obtained but are not part of this application, please explain below:

Previously submitted by Avon to DEPE pursuant to ECRA case #85-817
Also enclosed is a copy of a letter report performed for Mallinckrodt Inc.
by Storch Engineers dated November 1, 1989.

14. List any other information you are submitting or which has been formally requested by the Department:

Description	Attachment #

FEE CHECKLIST

Include below a breakdown of the total fee submitted with this application. (See N.J.A.C. 7:26B-1.10 for the appropriate fees.)

Item	Amount ($)
1. Initial Notice Review	
i. Without Sampling Plan	$2,000.00
ii. With Sampling Plan that includes only underground storage tank analysis without groundwater monitoring	
iii. With Sampling Plan other than ii. above or iv. below	
iv. With Sampling Plan that includes any groundwater monitoring	
2. Sampling Data Review	
3. Negative Declaration Review	
4. Cleanup Plan Review	
5. Oversight of Cleanup Plan Implementation	
TOTAL FEE ENCLOSED	$2,000.00

ARE FEES ENCLOSED? __X__ YES

CERTIFICATIONS:

1. The following certification shall be signed by the highest ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name Wayne Constantin Title Business Director
Van Dyk and Company

Signature By: Date April 7 , 1992

Company Van Dyk and Company

Sworn to and Subscribed Before Me
on this
Date of April 19 92

CAROLE A. TIRELLA
A Notary Public of New Jersey
My Commission Expires March 28, 1995

Notary

2. The following certification shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application 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 civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name Mack Nichols Title Vice President
Mallinckrodt, Inc.

Signature By: Date April , 1992

Company

Sworn to and Subscribed Before Me
on this
Date of 19

Notary

CERTIFICATIONS:

1. The following certification shall be signed by the highest ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

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Typed/Printed Name Wayne Constantin Title Business Director
Van Dyk and Company
Signature By: _____ Date April , 1992

Company Van Dyk and Company

Sworn to and Subscribed Before Me
on this _____
Date of _____ 19___

_____
Notary

2. The following certification shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application 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 civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of N.J.S.A. 13:1K-6 et seq., I am personally liable for the penalties set forth at N.J.S.A. 13:1K-13.

Typed/Printed Name Mack Nichols Title President, Mallinckrodt Specialty
Mallinckrodt, Inc. Chemicals Company
Signature By: M S Nichols Date April 7, 1992

Company _____

Sworn to and Subscribed Before Me
on this 7th
Date of April 1992
Shirley Ann Roshel
Notary

SHIRLEY ANN ROSHEL
NOTARY PUBLIC STATE OF MISSOURI
ST. CHARLES COUNTY
MY COMMISSION EXP JULY 8,1992

Attachment 1-A

The Van Dyk business has operated at the 11 Williams Street location since 1943. From 1943-1982 the company was operated as a closely held corporation. In 1982, the company was acquired by Avon Products, Inc., which had only recently acquired Mallinckrodt, Inc., a Missouri corporation. In 1986, when the Van Dyk assets were sold to International Minerals and Chemicals Company ("IMC"), the real property was apparently owned by Avon Capital Corporation. Pursuant to an Administrative Consent Order issued in 1986, IMC acquired the Van Dyk assets through the purchase of certain assets of Mallinckrodt, Inc., a Delaware corporation. The owners and operators have not changed since 1986, except that IMC changed its name to IMCERA Group, Inc. ("IMCERA") on June 15, 1990. IMCERA is the indirect owner of both Mallinckrodt, Inc. and Mallinckrodt Specialty Chemicals Company. Mallinckrodt, Inc. owns the real estate and fixed assets at the facility. Mallinckrodt Specialty Chemicals Company operates the facility.

Attachment 2-A

A.

Permit Number	Certificate Number	Date of Approval or Denial	Reason for Denial	Expiration Date
05830	079753	9/14/87	N/A	5/30/95
05830	079755	8/31/87	N/A	5/16/95
05830	079757	8/31/87	N/A	5/16/95
05830	079756	8/31/87	N/A	5/16/95
05830	087827	12/8/88	N/A	2/20/92
05830	065672	9/16/83	N/A	9/16/93
05830	067369	1/30/84	N/A	4/7/93
05830	090505	12/8/88	N/A	5/31/95
05830	091739	4/27/89	N/A	4/10/92
05830	079754	9/14/87	N/A	9/14/92
05830	091038	12/8/88	N/A	5/13/95

FINAL

PRELIMINARY ASSESSMENT FOR THE ISP CHEMICALS INC. FACILITY

ECRA CASE NO. 85817
ISRA CASE NO. 92154
ISRA CASE NO. E20010055

VOLUME I OF III

11 WILLIAM STREET
BELLEVILLE, NEW JERSEY 07109

Prepared for

ISP Chemicals Inc.
1361 Alps Road
Wayne, New Jersey 07470

August 30, 2002

Prepared by:

URS Corporation
201 Willowbrook Blvd.
Wayne, New Jersey 07474

47-01E04105.00

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URS Corporation (URS) was contracted by ISP Chemicals Inc. located in Wayne, New Jersey to perform a Preliminary Assessment (PA) of the ISP Chemicals Inc. subject property located at 11 William Street, Belleville, Essex County, New Jersey (hereafter referred to as the subject property). ISP Chemicals Inc. is interested in an evaluation of the environmental conditions of the subject property to comply with New Jersey Department of Environmental Protection's (NJDEP) Industrial Site Recovery Act (ISRA).

This addendum to ISP Chemicals Inc. April 12, 2002 PAR submittal responds to questions raised by the NJDEP on May 28, 2002.

1.1 SUBJECT PROPERTY

The subject property is identified as Block 8, Lot 24 and Block 12, Lots 3, 17, 18, 25, 29 and 32 on the Belleville Township Tax Map. The ISP Chemicals Inc. facility as a whole hereinafter will be referred to as the subject property.

1.2 OBJECTIVES

The PA was conducted to identify potential regulated and uncontrolled hazardous waste areas on the subject property. Specifically, the objective was to identify potential areas of concern (AOC) which are defined as any existing or former location where hazardous substances, hazardous waste, or pollutants are or were known or suspected to have been discharged, generated, manufactured, refined, transported, stored, handled, treated, disposed, or where hazardous substances, hazardous wastes, or pollutants have or may have migrated, including, but not limited to, all current and former areas including the following if applicable:

- bulk storage tanks and appurtenances, including without limitation tanks and silos, rail cars, piping, above and below ground pumping stations, sumps and pits, and loading and unloading areas;
- storage and staging areas including storage pads and areas, surface impoundments and lagoons, dumpsters and chemical storage cabinets or closets;
- drainage systems and areas, including, without limitation building floor drains and piping, sumps and pits including trenches and piping from sinks that potentially received process wastes, roof leaders (when process operations vent to roof), drainage swales and culverts, storm sewer collection systems, storm water detention ponds and fire ponds, surface water bodies, leach fields and dry wells and sumps;
- discharge and disposal areas, including without limitation areas of discharges pursuant to N.J.A.C. 7:1E, waste piles as defined by N.J.A.C. 7:26, waste water treatment, collection and disposal systems, including without limitation septic systems, seepage pits and dry wells, landfills, landfarms, sprayfields, incinerators and historic fill material or any other fill material areas;
- other areas of concern, including, without limitation electrical transformers and capacitors, hazardous materials storage or handling areas, waste treatment areas, discolored areas or spill area, open areas away from production operations, areas of stressed vegetation, other discharge areas, underground piping including industrial

process sewers, compressor vent discharges, non contact cooling water discharges, areas that may have received floodwater or stormwater runoff from potentially contaminated areas and any other area suspected of containing contaminants;

- groundwater areas of concern, including without limitation, present or past regulated activities under the New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Groundwater regulations, N.J.A.C. 7:14A, including seepage pits, dry wells, lagoons, and septic systems which received industrial waste; and,
- surface water areas of concern, including, without limitation, all surface water areas and associated sediment which receive or may have received any point or nonpoint source discharge from the site.

The methodology used to conduct the Preliminary Assessment was based on guidance provided in the NJDEP *Technical Requirements for Site Remediation* (TRSR) in N.J.A.C. 7:26E. Accordingly, the PA included: 1) historical research, including a review of historical maps, a review of remediation activities previously conducted or currently underway at the subject property, interviews with knowledgeable property representatives and more, 2) a detailed walkover of the subject property including a cursory inspection of adjacent properties, and 3) additional searches of public records regarding the regulatory status of the subject property and surrounding area.

1.3 SUBJECT PROPERTY LOCATION

The ISP Chemicals Inc. subject property is located at 11 William Street in Belleville, Essex County, New Jersey (Figure 1) adjacent to Route 21 and the Passaic River. The subject property south of Williams Street has been operated to manufacture cosmetic chemicals since the 1940s. The primary product has been a major component of sunscreens. The subject property north of Williams Street has been residential or light commercial until the mid 1970s when it was used as warehouse space for the Van Dyk operations. The subject property site location plans are shown on Figures 2 and 3.

1.4 SUBJECT PROPERTY BACKGROUND AND POTENTIAL AREAS OF CONCERN

In 1982, Mallinckcrodt Inc., a division of International Minerals & Chemicals Corp., purchased the subject property from Van Dyk Inc. In 1984, Avon Products Inc. purchased the subject property from Mallinckcrodt Inc. In 1986, Mallinckcrodt Inc. purchased the subject property from Avon Products Inc., which triggered the Environmental Cleanup and Responsibility Act (ECRA, the NJDEP pre-cursor to ISRA). The subject property was assigned ECRA Case No. 85817 by the NJDEP. In 1992, ISP Chemicals Inc. purchased the subject property from Mallinckcrodt Inc. which triggered ISRA (Case No. 92154). ISP Chemicals Inc. ceased operations at the subject property in April 2001 and triggered ISRA again. ISP Chemicals Inc. has entered into a Remediation Agreement with the NJDEP to combine the three ECRA/ISRA cases and to allow ISP Chemicals Inc. to complete all the Responsible Party ISRA obligations (ISRA Case No. E20010055).

Environmental investigations were performed at the subject property under ECRA Case No. 85817. The following is a list of investigations pertaining to the ECRA case:

- January 1986, ECRA Site Evaluation Submission (SES) prepared by Princeton Aqua Science (PAS).
- March 1986, Revised Sampling and Analysis Plan
- July and November 1986, At Peril Sampling and Analysis Plan

From the implementation of the above plans and additional investigative work, several reports have been produced. These reports are as follows:

- January 1987, Occupational Health Risk Assessment
- February 1987, Contamination Assessment Report
- February 1988, Decontamination Work Plan
- August 1988, Results of Subsurface Investigation
- July 1991, Remediation Work Plan
- September 1991, Results of Additional Subsurface Investigation
- August 1992, Remedial Investigation Report
- June 1993, Underground Storage Tank Decommissioning Plan
- August 1993, Remedial Investigation Report
- December 1993, Site Investigation Report
- August 1994, Remedial Investigation Report
- April 1995, Remedial Investigation Report
- February 1996, Classification Exception Area
- May 1996, Remedial Investigation Report
- August 1996, Classification Exception Area
- April 1997, Human Health Risk
- December 1998, Final Underground Storage Tank Closure Plan
- August 1999, Underground Storage Tank Closure and Site Assessment Report for ISP Chemicals Inc. subject property

On May 15, 1992, the NJDEP responded to Avon Products in a comment letter outlining their requirements for the various areas of concern (Appendix A). The August 1992 Remedial Investigation Report summarizes the results of additional environmental investigation and other responses to the May 15, 1992 NJDEP letter. Avon Products conducted Remedial Investigations at the subject property from 1986 to 1997. In an NJDEP correspondence dated July 11, 1997 (Appendix A), Avon Products' soil and groundwater Remedial Investigation was completed and approved and NJDEP requested that Avon Products submit a Remedial Action Schedule. On February 27, 1998, the NJDEP requested that Avon Products submit a Remedial Action Workplan by March 1998 (Appendix A). Avon Products submitted the requested Remedial Action Schedule and Remedial Action Workplan as requested by the NJDEP. This PA Report is intended to be a continuation of the previous Avon Products investigations. The previous investigations conducted at the subject property are discussed in detail in the paragraphs that follow.

As part of the ISRA review process, the subject property was inspected by a representative of the NJDEP Bureau of Environmental Evaluation, Cleanup and Responsibility Assessment (BEECRA) on June 14, 2001. The NJDEP inspector noted several areas of stained floors, paving and walls during the site inspection. The NJDEP inspector required that ISP Chemicals Inc. identify each area, provide its location, identify the substances that were discharged to these areas, and

determine whether the discharge had impacted the soil and/or groundwater beneath the subject property (refer to Appendix A for a copy of the NJDEP inspection report). As stated in a correspondence from ISP Chemicals Inc. to the NJDEP dated July 5, 2001 (Appendix A) the stained areas are addressed in Section 4.0 of this report.

The ECRA and ISRA investigations and the historic review described in Section 2.0 revealed the current structures used for manufacturing at the subject property date back to 1910. A review of the chain of title indicated that the Napier Hat Manufacturing Company owned a portion of the subject property in 1927. Prior to 1906, the Napier Hat Company manufactured hats at the adjacent property to the east of the subject property on the opposite side of Main Street (current Route 21) along the Passaic River. Based upon the use of mercuric salt in the manufacture of hats (PAS, 1986), the hat making operation is a potential source of mercury identified in historic wipe and bulk samples (PAS, 1986).

Beginning in the 1940s, Van Dyk Inc. operated a cosmetic chemical manufacturing facility at the subject property. The primary product was a major component of sunscreens. Many of the reaction vessels were heated with hot oil. The oil was contained in coils located either within the reaction vessel or configured as an exterior jacket. Other reaction vessels were heated with steam coils. During the early phases of this manufacturing process the oil used to heat the reaction vessels contained polychlorinated biphenyls (PCBs). During the period of PCB-containing oil usage, contamination of various areas within the facility occurred as a result of the hot oil leaking from the valves or other fixtures in the oil lines. In addition, leaking of cold oil may have occurred during routine maintenance. On July 16, 1979, the entire oil system was drained of Therminol 55 (PCB-containing oil), cleaned to remove the PCB-contaminated oil (IT, Occupational Health Risk, 1987) and replaced with Therminol 66 (non-PCB containing oil).

From approximately 1984 to 1987, Mallinckrodt Inc. performed extensive interior and exterior building renovations. The interior renovations included the conversion of part of the manufacturing facility into offices and an aboveground storage tank area (Building 6).

The following AOCs were identified from previous environmental investigations and the June 14, 2001 NJDEP site inspection:

- AOC #1 Two 25,000-gallon Underground Storage Tank (USTs) Located in the Alleyway Between Buildings No. 1 and No. 4;
- AOC #2 Suspected 1,000-gallon No. 2 Fuel Oil UST Located Adjacent to the Western Side of Building No. 8;
- AOC #3 Exterior Stained Soil Areas Located at the Rear Portions of the Main Manufacturing Building;
- AOC #4 Main Manufacturing Building Alleyway Soil Contamination;
- AOC #5 Drum Storage Areas;
- AOC #6 PCB Contaminated Building Interior Surfaces;
- AOC #7 PCB Soil Contamination Located Beneath the Boiler Room Floor;
- AOC #8 Former 1,000-gallon No. 2 Fuel Oil UST Located Adjacent to the Southwestern Corner of the Facility Warehouse Building Adjacent to Williams Street;

- AOC #9 Former 550-gallon No. 2 Fuel Oil Located Adjacent to the West Side of the Warehouse North of AOC #8; and
- AOC #10 Groundwater – Monitoring Well #2 (MW-2).

Four additional areas of concern (AOC #s 11, 12, 13, 14 and 15) were identified during the historical research, the November 13, 2001 and March 26, 2002 site visits performed by URS and the May 28, 2002 NJDEP correspondence (Appendix A) which are listed below and discussed in Sections 2.0, 4.0 and 6.0:

- AOC #11 Building No. 4 Vent Staining;
- AOC #12 Building No. 3 Storage Room Floor/wall Gap; and
- AOC #13 Building No. 7 Hot Room.
- AOC #14 Historic Filling Station
- AOC #15 1993 Toluene Spill

1.4.1 AOC #1 - Two 25,000-gallon Fuel Oil USTs Located in the Alleyway Between Buildings No. 1 and No. 4.

Two 25,000-gallon USTs are located in the alleyway between Building No. 1 and Building No. 4. It is reported that the tanks contained #2 fuel oil and were used to supply the boilers for the subject property. The tank inverts are expected to be at approximately 15 feet below the ground surface. A tightness test performed on the southern tank indicated that the tank had leaked. The tank fittings were reported to be the cause of the leak detected during the test. Both tanks are buried partially beneath Building No. 4. AOC #1 is shown on Figure 4.

The southern tank was abandoned in-place by Avon Products in 1993. Prior to abandonment, the tank was observed to be filled with water. Oil-saturated soils were observed adjacent to the tank manway. Seven cubic yards of oil-saturated soils were excavated from above the top of the tank around the tank manway. An inspection of the interior of the tank indicated that the tank interior was epoxy-lined. In addition, several holes were observed in the shell of the tank. Several manual driven soil borings were attempted around the accessible ends of the tank; however, refusal was encountered at approximately three feet below ground surface due to large cobbles in the soil. The tank was cleaned and filled with concrete. The tank closure activities were submitted to the NJDEP in the August 1993 Remedial Investigation Report.

The northern tank was abandoned in-place by ISP Chemicals Inc. on January 16, 1999. The remaining liquids were pumped from the tank and the tank was cleaned. The tank was reportedly in good condition with no visibly-observable holes or cracks. The tank then was filled with a cement slurry. Six post-abandonment samples were collected from the eastern accessible side of the tank. The samples were analyzed for TPHC and two samples were analyzed for volatile organic compounds (VOCs). All analytical results were less than the NJDEP's Impact to Groundwater Soil Cleanup Criteria (IGWSCC). Figure 6 shows the sample locations and summarizes the detected analytical results. In addition, the tabulated analytical results from the 1999 BEM Systems report in included in Appendix G. The tank closure activities and analytical results were submitted to the NJDEP in the Underground Storage Tank Closure and Site Assessment Report by BEM Systems dated August 1999.

In a letter from the NJDEP to ISP Chemicals Inc. dated June 27, 2001, the NJDEP had requested clarification of which UST had been abandoned by Van Dyk and Company and which UST had been abandoned by ISP Chemicals Inc. Based upon a review of the available documents pertaining to the USTs, it has been determined that the northern tank was abandoned by ISP Chemicals Inc. and the southern tank was abandoned by Van Dyk and Company. It should be noted that the figures depicting the USTs in the August 1999 Underground Storage Tank Closure and Site Assessment Report by BEM Systems are inaccurate. These figures are the only known inaccurate representation of the location of the tanks. All other figures reviewed by URS indicate the correct location of the USTs.

The NJDEP also stated in their June 27, 2001 correspondence that further evaluation of the condition of the soils around the UST that was determined to have leaked is required. The tank that leaked is the southern tank, which was abandoned by Van Dyk and Company. In addition, a letter from the NJDEP to ISP Chemicals Inc. dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, this AOC is open and requires further investigation. The recommendations and conclusions regarding this AOC are described in Section 7.1.

1.4.2 AOC #2 – Suspected 1,000-Gallon No. 2 Fuel Oil

During the NJDEP's February 17 and March 25, 1987 site inspection, a large portion of asphalt paving was observed adjacent to the northern side of Building No. 10. AOC #2 is shown on Figure 5. Three soil borings (TB-1 through TB-3) were attempted in the area of the suspect UST. While attempting to advance boring TB-1 underground piping was encountered therefore this boring was abandoned. Soil Borings TB-2 and TB-3 were advanced to the groundwater at 8 feet below the ground surface. A soil sample was collected from each boring at the 0 to 0.5 feet above the water table and analyzed for TPHC. The soil analytical results were 250 ppm and 160 ppm at borings TB-2 and TB-3, respectively. Groundwater monitoring well MW-5 was installed at the suspect UST location. A groundwater sample was collected and analyzed for base/neutral compounds with a forward library search for the fifteen highest tentatively identified compounds (B/N+15). No B/N compounds were detected in the groundwater.

After the soil borings were advanced and the monitoring well was installed, Avon Products determined that the repaired asphalt was related to a repaired utility line in the area. The piping observed during the advancement of boring TB-1 was believed to be a water line and was not related to an UST. Therefore, the suspect UST was determined not to exist.

Based on the investigation results from this area, the suspected UST was determined not to exist. No soil or groundwater contamination was encountered at concentrations greater than the NJDEP's Residential Direct Contact Soil Cleanup Criteria (RDCSCC) or the Groundwater Quality Criteria (GWQS). The NJDEP approved Avon Products' proposal for No Further Action for AOC #2 on December 27, 1993.

1.4.3 AOC #3 - Exterior Stained Soil Areas Located at the Rear Portions of the Main Manufacturing Building

Two stained soil areas were observed during an interim NJDEP site inspection conducted on March 31, 1992 in the rear portion of the subject property behind the main manufacturing building. As directed by the NJDEP, one soil sample was collected from each of the stained areas. The soil samples (SS-1 and SS-2) were analyzed for total petroleum hydrocarbons (TPHC), B/N+15, PCBs and mercury. Laboratory analysis of soil sample SS-2 indicated the presence of TPHC and PCBs at concentrations greater than the NJDEP criteria. TPHC was detected in soil sample SS-2 at 90,000 ppm and PCBs were detected at 1.9 ppm. Base/neutral tentatively identified compounds (TICs) from soil sample SS-2 totaled 1,353 ppm, which is greater than the NJDEP criteria of 1,000 ppm total organic compounds. Several minimum detection limits (MDLs) for B/Ns in soil sample SS-1 (3.1 ppm) and SS-2 (51.0 ppm) exceeded NJDEP soil cleanup criteria. These results are also included in Appendix C of this report

The responsible party, Avon Products Inc., excavated an area approximately 2.5 feet wide by 3 feet long by 2 feet deep at the former sample location SS-2. The excavated soil was placed in three 55-gallon drums. The soil characterization documentation for disposal is included in Appendix P. The NJDEP stated in the June 27, 2001 letter that Avon Products collected only one post-excavation soil sample from the SS-2 excavation and stated that, based on the NJDEP TRSR, two post-excavation soil samples are required for an excavation of this size. In addition, the NJDEP stated that Avon Products did not analyze the one post-excavation soil sample for VOC+15, BN+15, or PCBs as required. Therefore, the NJDEP required further investigation for this AOC.

However, Avon Products did collect two post-excavation soil samples (SS2PE-1 and SS2PE-2) collected from the 1.5 to 2.0 foot interval below the ground surface and analyzed the samples for TPHC, VOCs, BNs, and PCBs. Analytical results indicated that all parameters were detected at concentrations less than the NJDEP RDCSCC. Figure 7 shows the extent of the excavation, soil sample locations and summarizes the detected pre and post excavation soil analytical results. Avon Products submitted the results to the NJDEP in the 1994 Remedial Investigation Report prepared by IT Corporation. These results are also included in Appendix D, Table 3, of this report. AOC #3 is shown on Figure 4. Clean fill certification was never provided to the NJDEP during the RI submittals and is not available.

Therefore, as discussed in Section 7.3, URS recommends that a No Further Action determination be approved for this AOC.

1.4.4 AOC #4 - Main Manufacturing Building Alleyway Soil Contamination

As part of the 1986 ECRA investigation, soil was collected from beneath the main manufacturing building alleyway (AOC #4 is shown on Figure 4). The soil beneath the main manufacturing building alleyway was analyzed for PCBs at various depths. The PCB concentration at the 0 to 2.0 foot interval below the ground surface was 1,300 ppm and the PCB concentration at the 6.0 to 8.0 foot interval below the ground surface was 3.0 ppm. The soil in this area has since been delineated in accordance with the NJDEP. Figure 8 of this PA demonstrates PCB delineation using historical analytical results from the 1986, 1994, 1995 and 1996 investigations. In addition, the May 24, 1997 NJDEP correspondence states that the PCB soil contamination within the

Manufacturing Building Alleyway is acceptable. This AOC requires remedial action and is discussed in Section 7.4.

1.4.5 AOC #5 Drum Storage Areas

As part of the 2001 ISRA investigation, the NJDEP identified outdoor drum storage areas near Building No. 10 (AOC #5). AOC #5 is shown on Figure 5. Reportedly, the drum storage areas have always been concrete or asphalt paved surfaces. Raw and finished materials were stored in the covered outdoor storage area and hazardous waste for disposal was stored in the open outdoor storage area.

The 1992 Remedial Investigation Report (the year ISP Chemicals Inc. obtained the subject property) states that drum storage was on level maintained concrete or asphalt with no cracks and no staining or evidence of drum leakage was apparent. At that time no further investigation was proposed, which was acceptable to the NJDEP as stated in the May 14, 1993 NJDEP correspondence.

The NJDEP stated in the June 27, 2001 letter that the drum storage area (AOC #5) is considered open. However, there have been no reported spills in the area, the area is paved with asphalt and, based upon a site inspection, no staining or other evidence of a release was observed during the March 26, 2002 site inspection.

In addition, monitoring well MW-5 is from 10 to 100 feet downgradient of AOC #5. Monitoring well MW-5 was sampled and analyzed for total petroleum hydrocarbons (TPHC) and base/neutral (B/N) compounds on July 16, 1991, August 20, 1991 and analyzed for B/Ns on June 25, 1992. All analytical results were non detect.

Therefore, as discussed in Section 7.5, URS recommends that a No Further Action determination be approved for this AOC.

1.4.6 AOC #6 - PCB Contaminated Building Interior Surfaces

Elevated concentrations of PCBs were encountered in chip samples collected from the ceilings, walls and floors of the buildings on the subject property by IT Corporation in 1986. Elevated concentrations of PCBs in the atmosphere were encountered at concentrations greater than the NJDEP's airborne criteria (0.0005 milligrams per cubic meter [mg/m^3] in the 1986 regulations) in the machine shop, boiler room and offices. The PCB atmospheric levels ranged from 0.00077 to 0.0017 mg/m^3, which is less than Occupational Safety and Health Administration (OSHA) and American Conference of Governmental Industrial Hygienists (ACGIH) total PCB occupational exposure limit of 0.5 mg/m^3 per 8-hour weighted average. Previously, the responsible party (Avon Products Inc.) proposed to clean the contaminated building surfaces and to encapsulate the walls, floors and building trenches with a sealing material (K-20) and to further seal the building interiors with paint so as to provide a wear indication barrier (IT, 1988). AOC #6 is shown on Figure 4.

The NJDEP no longer required the investigation and/or remediation of building interiors and referred any building interior/worker safety issues to OSHA. Therefore, building interior remediation was not required by the NJDEP and Avon Products believed that a building interior

investigation was not necessary. Therefore, no further action was proposed for building interiors. The buildings are currently vacant and will not be occupied.

1.4.7 AOC #7 - PCB Soil Contamination Located Beneath the Boiler Room Floor

Soil sampling conducted beneath the floor of the boiler room revealed that PCB soil contamination is present at concentrations up to 10,000 ppm. PCB-laden oils within the walls of the heating vessels used in the manufacturing building were circulating from the boiler room via piping throughout the building. Spills or leaks from the piping flowed to the trenches. The high temperature oils migrated through the soils beneath the trench floor to depths of 20 to 23 feet below the ground surface (IT, 1997).

The responsible party (Avon Products Inc.) excavated a section of the trench 12 feet long by 2 feet wide by 3.5 feet deep around sample location B-02. The excavated soil was placed in ten 55-gallon drums and disposed off-site. No post-excavation soil samples were collected at this time. AOC #7 is shown on Figure 4.

The NJDEP stated in the June 27, 2001 letter that delineation of the PCB soil contamination is required. However, this AOC has been delineated by Avon Products in accordance with the NJDEP TRSR. The horizontal PCB delineation was obtained through various sampling events during the 1986, 1994, 1995 and 1996 investigations. Figure 9 of this PA demonstrates the extent PCB soil contamination within AOC #7. Figure 10 of this PA demonstrates the PCB concentrations beneath the boiler room floor not part of AOC #7. Figure 11 demonstrates the PCB concentrations in soil at the exterior southeast section of the subject property. The May 9, 1997 IT correspondence (Appendix A) to the NJDEP details the final vertical delineation sampling required by the NJDEP. In addition the July 11, 1997 NJDEP correspondence (Appendix A) states that "delineation of the PCB soil contamination at the former Van Dyk facility is considered complete."

This AOC requires remedial action and is discussed in Section 7.7.

1.4.8 AOC #8 - Former 1,000-Gallon No. 2 Fuel Oil UST

Three soil borings (SB-6, SB-7 and SB-8) were advanced on November 23, 1993 around the former 1,000-gallon No. 2 fuel oil UST located adjacent to the southwestern corner of the facility warehouse building adjacent to William Street. AOC #7 is shown on Figure 5. Soil samples were collected from each boring at 7.5 to 8 feet below the ground surface corresponding to the depth of the tank invert. A soil boring was not advanced at the east side of the tank because of the proximity of the warehouse building and the structural concern of sampling at that location. Soil samples were analyzed for TPHC. The analytical results were 520 ppm, 38 ppm and non detect for soil sample SB-6, SB-7 and SB-8, respectively. This was presented to the NJDEP in the December 1993 Site Investigation Report by IT Corporation.

This UST was abandoned in place by ISP Chemicals Inc. on February 23, 1999. The UST was not removed because it was determined that removal of the tank would damage the adjacent warehouse building. As part of the abandonment, liquids were pumped from the tank , the tank was cleaned and the tank was filled with a Blue-Flow cement slurry. The tank was reportedly in good condition with no visibly observable rust holes.

Four post abandonment soil samples (ISP-2-01 through ISP-2-04) were collected from each side of the tank. The samples were collected at a depth corresponding to the six inch depth interval below the tank invert (6 to 6.5 feet below the ground surface). The soil samples were analyzed for TPHC and one soil sample was analyzed for volatile organic compounds. The TPHC results ranged from 150 to 3,380 ppm and all detected volatile organic compounds were detected below the NJDEP IGWSCC. Figure 12 of this PA summarizes the detected analytical results of the post abandonment soil samples. The tabulated analytical soil sample results from the 1999 BEM Systems report is included in Appendix G.

No further action was requested for this AOC because no discharges occurred from this UST and soil and groundwater have not been adversely impacted by the UST. However, a letter from the NJDEP to ISP Chemicals Inc. dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, this AOC is open and requires further investigation.

The August 1999 Underground Storage Tank Closure and Site Assessment Report for the ISP Chemicals Inc. facility prepared by BEM Systems Inc., clearly states that waste material was generated during cleanout activities of the 25,000-gallon UST. This waste material was analyzed for RCRA disposal parameters due to PCBs having been previously identified in the area. Therefore, the PCB contamination identified in the disposal sample was from the 25,000-gallon abandonment and not the 1,000-gallon UST abandonment. Therefore, as discussed in Section 7.8, URS recommends that a No Further Action determination be approved for this AOC.

1.4.9 AOC #9 - Former 550-Gallon No. 2 Fuel Oil UST

A 550-gallon No. 2 fuel oil UST was located adjacent to the west side of the warehouse north of AOC #8. AOC #9 is shown on Figure 5. On September 30, 1998 this 550-gallon UST was excavated and removed. The dimensions of the UST were 6 feet long by 4 feet in diameter. All remaining fluids and residual sludge were pumped from the UST prior to cleaning the tank. The tank was removed and disposed off site. Five post-excavation soil samples (ISP-1-01 through ISP-1-05) were collected, one from each sidewall and one from the center of the floor of the tank excavation. The samples were collected at a depth of 4 feet below grade. Samples ISP-1-01 through ISP-1-4 were analyzed for TPHC and sample ISP-1-05 was analyzed for volatile organic compounds. The TPHC sample results ranged from 230 ppm to 612 ppm. All detected volatile organic compounds were less than the NJDEP IGWSCC. Documentation of these removal activities were submitted to the NJDEP in the August 1999 Underground Storage Tank Closure and Site Assessment Report for the ISP Chemicals, Inc. facility by BEM Systems Inc. Figure 13 of this PA summarizes the detected analytical results of the post abandonment soil samples. The tabulated analytical soil sample results from the 1999 BEM Systems report is included in Appendix G.

No further action was requested for this AOC because no discharges occurred from this UST and soil and groundwater have not been adversely impacted by the UST. However, a letter from the

NJDEP to ISP Chemicals Inc. dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, no further action for this AOC appears acceptable, However, the PCB concentration in the disposal sample needs to be addressed.

Based upon URS' review of the August 1999 Underground Storage Tank Closure and Site Assessment Report for the ISP Chemicals Inc. facility prepared by BEM Systems Inc., it is evident that the PCB-containing waste material was generated during cleanout activities of the 25,000-gallon UST. This waste material was analyzed for RCRA disposal parameters due to PCBs having been previously identified in the area. Therefore, the PCB contamination identified in the disposal sample originated from the 25,000-gallon UST. Therefore, as discussed in Section 7.9, URS recommends that a No Further Action determination be approved for this AOC.

1.4.10 AOC #10 - Groundwater Monitoring Well #2 (MW-2)

A Classification Exception Area (CEA) was established for groundwater based on the presence of PCBs at concentrations greater than the NJDEP GWQS in samples collected from monitoring well MW-2. The NJDEP approved the CEA in a letter dated December 18, 1996. The CEA was established with an indeterminate duration. PCB groundwater contamination has not been detected in downgradient monitoring wells MW-3 and MW-4; therefore, the downgradient extent of PCB contamination appears to be delineated by these wells.

However, the NJDEP stated in its June 27, 2001 letter that an "Interim" CEA had been established at the site for the PCB contamination present in monitoring well MW-2. Even though the CEA does not require additional groundwater monitoring the NJDEP also stated that a current round of sampling may be useful in determining why elevated concentrations of PCBs remain in the groundwater in monitoring well MW-2.

As discussed in Section 7.10 and as previously approved by the NJDEP (Appendix A, December 18, 1996), based upon groundwater monitoring data concerning these wells from 1988 to 1995 with eight consecutive sampling events from June 1993 to October 1995 and the nature of PCB contamination, the trace PCB contamination in the groundwater was not expected to migrate or degrade. No Further Action is appropriate for this AOC.

The ECRA investigations began in 1986 with Phase I sampling. Initial sampling was conducted in January and May 1986. Six samples were collected in January 1986 by IT to confirm the presence of PCB and mercury contamination at the subject property. The highest concentrations of PCBs were found in Building No. 2 and the boiler room. The May, 1986 sampling was biased toward Building No. 2. Based on the results of the May 1986 sampling, a Phase II sampling program was conducted.

The Phase II sampling program consisted of a broad characterization of the subject property, including unbiased sampling of all surfaces in all rooms for the purpose of determining both employee exposure and decontamination assessment. The Phase II sampling was conducted in July of 1986.

A Phase III program was designed to address the possibility of off-site migration of contaminants from the subject property and to determine the extent of possible subsurface soil contamination. Seven borings were advanced and continuous split-spoon sampling was conducted to the groundwater interface, and in some cases, beyond the water table. Analytical results of samples collected during Phase I and Phase II were used to aid in the selection of suitable decontamination techniques. In addition, grab samples were collected from Building No. 7 trenches and drains.

The IT analytical data for Phase I, II and III sample locations are presented in Appendix B. Tables 1 through 12 display the PCB sample results in a room-by-room format for ease of reference. Tables 13, 14 and 15 contain subsurface PCB data. Table 16 presents the mercury data. All PCB and mercury QA/QC results are displayed in Table 17, and Tables 18 and 19 present petroleum hydrocarbon and volatile organic compound results, respectively, for all phases of collection (IT, Contamination Assessment, 1987).

Delineation soil sampling had been conducted until 1997 in accordance with NJDEP requirements and groundwater sampling activities had been conducted until 1996. The tabulated analytical results for the soil samples collected to date are presented in Appendices B through E. The delineation soil sampling conducted by Avon Products has been accepted by the NJDEP as stated in the NJDEP July 11, 1997 correspondence (Appendix A).

The following paragraphs briefly describe each environmental report that was submitted as part of the ECRA/ISRA investigations at the subject property and other improvements or environmental sampling conducted by ISP Chemicals Inc.

January 1986 ECRA Site Evaluation Submission (SES) - In January 1986, Avon Products, Inc. (Avon) completed the sale of the Mallinckrodt Inc. Van Dyk and Company (Van Dyk) facility in Belleville, New Jersey to International Minerals & Chemicals Corporation. This transaction was regulated by ECRA Case No. 85817.

March 1986 Revised Sampling and Analysis Plan – The objective of this sampling plan was to better define the extent of PCB and mercury contamination throughout the subject property to determine the appropriate decontamination technique and scope of work for the decontamination effort. This sampling plan included: collection of 18 concrete core samples and the laboratory analysis of all 18 cores for PCBs and 5 of the 18 cores for mercury; collection of 8 wipe samples from walls, equipment and piping and the laboratory analysis of all 8 wipe samples for PCBs and mercury; and the performance of air monitoring targeting PCBs and mercury.

January 1987 Occupational Health Risk Assessment – The purpose of this risk assessment was to characterize the potential health risks associated with the presence of PCBs and mercury at the subject property and, if necessary, to recommend any appropriate cleanup. Based on the results of sampling conducted at the site, the report concluded that the levels of PCBs and mercury at the Van Dyk facility did not exceed levels associated with short-term or future long-term health protection to employees.

February 1987 Contamination Assessment Report – This report presents the results of the sampling and analytical programs conducted through November 1986. The objective was to better define the extent of PCB and mercury contamination throughout the subject property. In addition, the assessment was conducted to determine the appropriate techniques and scope for any subsequent decontamination work, and to determine the present degree of employee exposure to these contaminants. The report included data collection, data evaluation and additional data requirements.

February 1988 Decontamination Work Plan – The principal objective of this workplan was to clean PCBs to levels that did not present long-term risks to the health of employees working in the facility or to the surrounding environment. Proposed decontamination methods included soil removal, surface cleaning with solvent wiping, high-efficiency particulate air purifying (HEPA) vacuuming, steam cleaning/pressure washing, and Freon cleaning. Other proposed removal techniques included paint stripping, hydroblasting, shot blasting, scabbling and grinding. In addition, the workplan included cleaning, inspecting, and decontaminating the sewer troughs through out the facility, replacing the leaking sewer troughs and catch basins in Building No. 4, and installing four groundwater monitoring wells and three soil borings through an area of patched asphalt pavement near the warehouse, which indicated the previous presence of a UST.

August 1988 Results of Subsurface Investigation – This report summarizes the subsurface investigation conducted by IT at the subject property. The investigation included installation of four groundwater monitoring wells (MW-1 through MW-4) and advancement of three soil borings (TB-1 through TB-3) located adjacent to the Warehouse. The soil samples were analyzed for TPHC and the groundwater was analyzed for total dissolved solids, mercury, PCBs, priority pollutant volatile organic compounds, base/neutral compounds and TPHC. Based upon the results of the investigation, conclusions included: the contaminants in the groundwater included petroleum hydrocarbons, volatile organic compounds and base/neutral compounds in the vicinity of monitoring well MW-2. In addition, it was concluded that neither mercury nor PCBs were a concern in groundwater. Recommendations included the installation of two piezometers, one in the sidewalk near a suspect UST and another in the parking lot directly west of the supply store and warehouse.

July 1991 Remediation Work Plan – This report was completed by IT Corporation on behalf of Avon Products and focuses on a revised approach consisting primarily of floor, wall and ceiling preparation and cleaning followed by encapsulation as discussed with the NJDEP and presented as an option in the NJDEP cleanup plan approval letter dated May 16, 1991 (Appendix A). This revised proposed remediation workplan for building interiors incorporates the use of an encapsulating agent for use on inaccessible contaminated interiors in lieu of using the decontamination techniques as set forth in IT's Decontamination Work Plan (February 1988). The general steps for encapsulating include: surface cleaning; application of a minimum of two

coats of encapsulating agent to prepared, non-painted porous surfaces; sealing of cracks and repairing of floor surfaces; applying two coats of a non-skid epoxy paint to encapsulated surfaces; and, institution of a regular monitoring and maintenance program. In addition, this workplan includes proposal to clean, decontaminate, and inspect all interior sewer troughs and additional investigation as directed by the NJDEP. The scope of work for additional investigation included: the installation of two additional soil borings (TB-2 and TB-3) located in the paved area just north of the Van Dyk warehouse; the installation and sampling of a groundwater monitoring well located immediately downgradient of TB-2 and TB-3; two rounds of groundwater sampling and analysis from three monitoring wells; and, a well search.

September 1991 Results of Additional Subsurface Investigation – This remedial investigation addresses the NJDEP May 16, 1991 requirements for additional work. The scope of work was presented in the July 1991 Remediation Workplan which included soil sampling (TB-2 [new]) and TB-3 [new]) monitoring well installation (MW-5), groundwater sampling (MW-2, MW-3 and MW-5), and a well search. No base/neutral compounds were detected in the soil samples, mercury was detected in monitoring wells MW-2 and MW-3, Arochlor 1248 was detected in monitoring well MW-2 (previously, PCB content in MW-2 was non-detect) and ethylbenzene was detected in monitoring well MW-2. The groundwater flow direction and hydraulic gradient were obtained on two dates. The groundwater flow on both dates was east-southeast toward the Passaic River and the groundwater gradient was negligible. The well search revealed 16 wells within a half-mile radius of the site; however, no wells identified were located directly downgradient of the site between the site and the Passaic River.

1992 Mercury Investigation & Clean-up - During the summer of 1992, in follow-up to previous industrial hygiene sampling conducted by Avon Products, ISP Chemicals Inc. investigated a closet area in Building No. 1 and collected three samples of concrete flooring. These samples contained mercury concentrations of 0.5, 1.6, and 522 ppm. The air ducts were cleaned and the concrete floors in these closets were sealed.

August 1992 Remedial Investigation Report – This report summarizes the results of NJDEP required additional site work and addresses NJDEP responses to a May 15, 1992 comment letter. The report includes the following:

- Air samples in 3 of the 13 interior areas of the subject property (office area, machine shop and boiler room) were collected and analyzed for PCBs. All PCB results were below the occupation exposure limit of 0.05 mg/m^3 per 8-hour time weighted average (TWA).
- The NJDEP required a Remedial Investigation/Feasibility Study (RI/FS) for the site. This report states that Avon Products previously submitted components of a RI/FS to the NJDEP through various plans and reports over time under the ECRA process, and this report lists the previous reports that would satisfy each RI/FS component. The 1991 Remediation Workplan again is proposed.
- Additional soil samples collected beneath the boiler room trench and floor indicated PCB contamination. This report indicates the facility planned to have the concrete surface of the trench removed for disposal and relined with concrete which would preclude further contamination of soil beneath the trench.

- Soils beneath the concrete lined alleyway indicated PCB contamination. The report states that the PCBs are isolated, the facility will continue to be an industrial site and no receptors are downgradient; therefore, no further action was proposed for this area.
- Two underground storage tanks were integrity tested in 1986. The results of these tests indicated that no leaks were detected in any of the tanks or piping, with the exception of one pipe fitting on top of the southern tank. This fitting is located above the static fuel oil level in the tank and did not consistently hold fuel oil. Therefore, the leakage of fuel oil, to any extent, from this fitting would not be expected. At the time of this report, this tank had not been used for several years. NJDEP had previously requested a subsurface soil investigation by advancing borings around each tank. The report stated that the tanks were partially under the existing buildings and that the integrity tests indicate that the tanks are not leaking. No further action was recommended for this area.
- No further action was proposed for all drum storage areas because they were either indoors or under canopies. All drum storage area surfaces consisted of well-maintained concrete or asphalt with no cracks or staining and there was no evidence of drum leakage.
- Additional groundwater samples were collected from monitoring wells MW-3 and MW-5 for mercury and base/neutral compounds, respectively. No mercury or base/neutral compounds were detected at concentrations greater than the NJDEP GWQC. Monitoring well MW-2 was not analyzed because 3 to 4 inches of free product was observed in the well. A program consisting of monitoring well observation and free product measurement conducted twice per month for three months was proposed.
- The NJDEP identified additional Areas of Concern during their March 31, 1992 site inspection. These Areas of Concern included the exterior stained areas, boiler room discharge and asbestos containing material. Two surface soil samples (SS-1 and SS-2) were collected near the stained areas. Analytical results revealed mercury, base/neutral compounds and PCBs at concentrations greater than the NJDEP soil cleanup criteria (Appendix C). The boiler room discharge was hard-piped to the sanitary sewer line connection in the alleyway. Some asbestos-containing material was removed and disposed off-site in 1987. No further action was recommended for the boiler room discharge and the asbestos-containing material. Soil removal and off-site disposal was recommended in the area of the surface soil sample with compounds detected at concentrations greater than the NJDEP criteria.

June 1993 Underground Storage Tank Decommissioning Plan – This decommission plan describes the procedures to abandon one of the two 25,000-gallon No. 2 fuel oil USTs at the site. The tank was expected to be partially buried under the building. An exploratory investigation was proposed. Also, as a result of the on-going ECRA investigation, an exemption to the site assessment was requested. After closure activities, two documents were to be submitted to the NJDEP: a standard reporting form (SRF) and a Closure Report.

August 1993 Remedial Investigation Report – This report includes a summary of additional site work completed since August 1992 and addresses comments from the NJDEP letter dated May 14, 1993 (Appendix A). The NJDEP identified the following Areas of Concern:

- two 25,000-gallon #2 fuel oil USTs;
- groundwater (monitoring well MW-2);

- building interiors;
- boiler room soil contamination;
- manufacturing building alleyway; and,
- one 1,000-gallon UST.

The report describes the implementation of the June 1993 UST Decommissioning Plan. This plan was approved by the NJDEP. Closure activities took place on July 19 and 29, 1993. The southern 25,000 gallon UST was exposed and approximately 7 cubic yards of contaminated soil were removed and staged on-site. The UST was cleaned and visual inspection revealed the tank had several areas indicating that the integrity of the tank may have been impaired. The tank was completely filled with a concrete mixture. The consultant recommended the northern UST be abandoned as soon as possible.

Groundwater in monitoring wells MW-2, MW-3 and MW-4 was sampled and analyzed for volatile organic compounds, base/neutral compounds, mercury and PCBs. Additional groundwater sampling was proposed.

The report stated that the indoor air quality for PCBs was less than the OSHA and ACGIH exposure limits and that the building interior condition should be referred to OSHA to determine the need, if any, for remedial action at the subject property.

Soil from the boiler room near the former PCB sample location B-02 was excavated and stored in 55-gallon drums for off-site disposal. The excavation was 12 feet long by 3.5 feet wide by 2 feet deep and yielded approximately 10 drums of soil. The area excavated was backfilled with ¾-inch stone. A Deed Notice was proposed for this area.

The manufacturing building alleyway is covered with concrete, thus providing an engineering control which isolates the PCB contamination below, prevents surface water from percolating down through the soil to the groundwater below and reduces the potential for the groundwater to migrate toward downgradient monitoring wells MW-3 and MW-4. Monitoring wells MW-3 and MW-4 did not indicate the presence of PCBs. A Deed Notice and a No Further Action determination was recommended for this AOC.

A 2.5 foot by 3 foot by 2 foot area of soil was excavated in the vicinity of the exterior stained area (sample location SS-2). The soil was placed in three 55-gallon drums and staged on-site. A post-excavation soil sample was collected and analyzed for TPHC. No TPHC was detected. No further action is proposed for this area.

An asphalt patch, potentially indicating the presence of a 1,000-gallon UST, was observed during the NJDEP site visit. Investigations in this area were required by the NJDEP. Soil and groundwater investigations did not indicate the presence of a UST. Further investigation determined that the asphalt patch was due to the installation of a utility line. No further action was proposed for this area.

December 1993 Site Investigation Report – As a result of the adoption of ISRA, effective July 1, 1993, NJDEP outlined some deficiencies from their preliminary review of the August 1993 Remedial Investigation Report (RIR) in a letter dated September 20, 1993. It was stated that this report served as a revision of the August 1993 RIR. This report also summarizes the results of the site investigation activities outlined in IT's letter to the NJDEP dated October 27, 1993. The

following is a summary of environmental investigations described in the report which previously had not been reported elsewhere:

As per the NJDEP requirements, the active (southern) 25,000-gallon UST was investigated. The southern UST is partially located under a building; therefore, an alternative method of soil sampling was attempted. The accessible portion of the concrete was removed to expose a 150 square foot area. Seven borings were attempted in this exposed area using a gas powered hand held auger and a manual hand auger. Refusal was encountered at 3 feet below grade due to the presence of large rocks, approximately 4 to 10 inches in diameter. In addition, a precision test was conducted on the UST. The precision test indicated that the UST had not leaked.

Additional groundwater monitoring was conducted at monitoring wells MW-1 through MW-4 in September and November of 1993. The groundwater was analyzed for volatile organic compounds, PCBs, TPHC and mercury. As a result of the groundwater sampling and analysis performed since 1988, Avon Products proposed to continue groundwater sampling and analysis for PCBs and TPHC in monitoring wells MW-1 through MW-4.

Weekly free product monitoring in MW-2 began in June 1993 and ended in December 1993. No detectable free product was observed in the well during this period; therefore, a termination of the product monitoring was proposed.

The source of the PCB contaminated soil in the alleyway was not known; however, a delineation of the area was proposed.

NJDEP required a soil boring and sampling program in the vicinity of the active 500-gallon heating oil UST located near the warehouse along William Street. The soil above the tank was removed to expose the tank. The dimensions of the tank indicated the capacity of the tank was 1,000 gallons. One soil boring was advanced at each of the three accessible sides of the tank. Analytical results revealed there were no impacts to soil resulting from the operation of this tank.

August 1994 Remedial Investigation Report – This report summarizes the results of the completed remedial investigations outlined in the NJDEP's May 13, 1994 approval letter. The following paragraphs describe findings not discussed in the December 1993 Site Investigation Report summarized above:

The NJDEP no longer required the investigation and/or remediation of building interiors and referred any building interior/worker safety issues to OSHA. Therefore, building interior remediation was not required by the NJDEP and Avon Products believed that a building interior investigation was not necessary. Therefore, no further action was proposed for building interiors. The buildings are currently vacant and will not be occupied.

At NJDEP's request, twenty additional soil borings (B-9 through B-28) were advanced and sampled to further delineate the extent of PCB contaminated soils in the boiler room. In addition, the boiler room trench was to be sealed with a polymeric liner and concrete. No further action and a Deed Notice were proposed for this area of concern.

At NJDEP's request, eleven additional soil borings were advanced and sampled to further delineate the extent of PCB contaminated soils in the alleyway (B-29 through B-40). No further action and a Deed Notice were proposed for this area of concern. The analytical results are tabulated in Table 2 of Appendix D.

The NJDEP required additional soil sampling (SS2PE-1 and SS2PE-2) in the exterior stained soil area excavation. Therefore, the original sampling location was re-sampled and a soil sample was collected beneath the sidewalk. Analytical results of soil sampling indicated that all contaminated soil had been removed from the excavation. No further action was proposed for this area. The analytical results are tabulated in Table 3 of Appendix D of this Preliminary Assessment. In the NJDEP Site Inspection Report dated June 14, 2001, this soil sample location is identified as AOC #3. The NJDEP indicated that this area required further investigation because post-excavation sampling was not in accordance with the TRSR. The sampling conducted as part of the August 1994 Remedial Investigation clearly demonstrates that post-excavation soil sampling was conducted in accordance with the TRSR and, as presented in Section 6.0, no further action is requested for this area of concern. The buildings are currently vacant and will not be occupied.

Two additional rounds of groundwater samples were collected from monitoring wells MW-1 through MW-4. PCBs were detected in monitoring well MW-2 at a concentration of 57 micrograms per liter (ug/L) in the first sampling round and 8 ug/L in the second sampling round. Based on a decreasing on-site contaminant trend and no apparent off-site contamination migration, no further action was proposed for groundwater for this area of concern.

April 1995 Remedial Investigation Report – This report summarizes the remedial activities that were completed at the Van Dyk site from August 1994 to April 1995 in accordance with the NJDEP letter dated January 25, 1995 (Appendix A). The NJDEP required further delineation in the boiler room area and the alleyway area (B-41 through B-43). The analytical results are tabulated in Table 2 of Appendix E. Another round of groundwater samples was collected from monitoring wells MW-1 through MW-4. The NJDEP requested and approved four quarterly monitoring events and performing the Mann-Whitney statistical analysis at the completion of the groundwater monitoring. No further action and a Deed Notice were proposed for the soil contaminated areas and additional monitoring with an anticipated Classification Exception Area for groundwater was proposed.

February 1996 Classification Exception Area – This CEA proposal is for the area surrounding monitoring well MW-2 in the upper aquifer. The projected longevity for the CEA could not be determined because there is no documented half-life or attenuation constant for PCBs.

May 1996 Remedial Investigation Report – This report summarizes the results of completed Remedial Investigation activities (from April 1995 to May 1996) outlined in Avon Products' November 30, 1995 letter to the NJDEP (Appendix A). The report states that delineation in the boiler room area has been completed in accordance with the NJDEP TRSR and no further action with a Deed Notice is proposed. Additional borings (B-44, B-50, B-52, B-55, B-57, B-58, CS-1 and CS-2) were advanced in the area of the alleyway in April 1996 to delineate the PCB contamination as requested by the NJDEP. The analytical results are tabulated in Table 1 of Appendix F. No further action with a Deed Notice was proposed for this area. Groundwater sampling had been conducted and the results were used to complete the CEA proposal submitted in February 1996. The groundwater analytical results are tabulated in Table 2 of Appendix F and include historical data to 1988.

On March 24, 1997, the NJDEP responded to the May 1996 Remedial Investigation Report (Appendix A). The NJDEP stated in this letter that the delineation of the PCB soil contamination within the manufacturing building alleyway (AOC #3) was acceptable. However, NJDEP also

stated that Avon Products should collect one confirmatory soil sample for PCB analysis from a depth corresponding to the extrapolated "clean zone" beneath the boiler room (AOC #7). The work plan was acceptable to the NJDEP, but the Agency stated that NJDEP could not approve a Deed Notice without ISP Chemicals Inc.'s agreement. In addition, the NJDEP stated that a Remedial Action Schedule was required in the Remedial Investigation and Remedial Action phases.

August 1996 CEA Proposal – This version of the CEA was accepted by the NJDEP.

1996 Analytical Data For Soil Excavation For Construction of New Wastewater Conveyance System- In 1996, ISP installed seven double-lined sumps with sump pumps in Buildings No. 3, No. 4, and No. 4A and a new overhead wastewater conveyance system. When constructing the seven aforementioned sumps, excavated soils were analyzed for PCBs, mercury and TPHC and were disposed of off-site. Analytical results of excavated soils are summarized below:

Building No.	Type of Sample	PCBs (ppm)	Mercury (ppm)	TPHC (ppm)
3	Composite Concrete flooring	26.8	0.23	202
3	Composite soil	0.1	0.9	218
4	Composite Concrete flooring	<3.6	0.51	-
4	Composite soil	2.3	0.1	1010
4	Composite soil	<0.1	5.3	393
4	Composite soil	3	<0.1	1025
4A	Composite soil	7.8	24.7	412

The results were less than the NJDEP NRDCSCC for mercury and TPH and less than the applicable soil remediation standards for PCBs.

April 1997 Human Health Risk – The purpose of this report was to supplement the Occupational Health Risk Assessment Report prepared by IT Corporation in 1987. The report discusses the potential environmental and human risks associated with subsurface PCB contamination. This report evaluated the human health risks for the PCBs in near-surface and subsurface soils under the boiler room building, PCBs in soil in the paved alleyway on the southern portion of the site in the vicinity of MW-2, and PCBs in groundwater in monitoring well MW-2. The report concluded that no exposures are expected at the site because the site is covered by buildings or asphalt pavement; therefore, no routine exposure to contaminants in the subsurface soil or groundwater is expected.

However, the report also concluded the results indicate that workers exposed to subsurface excavation work in the contaminated areas of the facility should be restricted, and should be subject to a site-specific health and safety plan developed to reduce potential exposures. Use of routine personnel protective equipment and routine procedures (avoidance of contact with or

ingestion of soil; avoidance of generating and breathing contaminated dust) should reduce potential exposures to acceptable levels.

May 9, 1997, Remedial Investigation Report – This Remedial Investigation was reported in a letter from IT on behalf of Avon Products, Inc. to the NJDEP on April 23, 1997. Soil boring B-41 was advanced to a depth of 21 feet below the ground surface to delineate the PCB contamination beneath the boiler room floor. A soil sample was collected at the 21 to 21.5 foot interval below grade. The analytical result of the sample indicated 0.62 mg/kg of PCBs. This confirmed the previously completed "clean zone" extrapolation presented in the Remedial Investigation Report of May 1996. No further action was proposed for this area.

The NJDEP responded to the Remedial Investigation letter report on July 11, 1997 (Appendix A). The NJDEP states that the 21 to 21.5 foot sample is acceptable for confirming the vertical delineation of PCB beneath the boiler room. Delineation of the PCB soil contamination at the subject property was considered complete. The letter also states that the NJDEP policy requires PCB concentrations greater than 50 mg/kg be actively remediated unless the EPA issues an exception to the TSCA regulations and Avon Products includes the property owner concurrence. The NJDEP requested again that a Remedial Action schedule be submitted within 15 days.

On February 28, 1998, the NJDEP contacted Avon Products representatives to request a Remedial Action Schedule and a Remedial Action Workplan that addresses the remaining soil contamination.

December 1998 Final Underground Storage Tank Closure Plan – This report consists of a closure plan for three tanks: one 550-gallon UST, one 1,000-gallon UST and one 25,000-gallon fuel oil UST.

EDSA?

August 1999 Underground Storage Tank Closure and Site Assessment Report for ISP Chemicals Inc. Facility – This report includes the abandonment of the 1,000-gallon and 25,000-gallon fuel oil USTs and the removal and disposal of a 550-gallon fuel oil UST.

The 1,000-gallon UST was abandoned in place on February 23, 1999. The UST was inerted of all potentially volatile vapors. A manway was cut into the top of the tank to allow for access. The UST interior was wiped clean with absorbent pads. The UST was visually inspected by BEM for the presence of holes, the UST appeared to be in good condition. Four post – excavation soil samples (ISP-2-1 through ISP-2-4) were collected and analyzed for VOCs and TPHC. Samples were collected with a hand auger at approximately 6-inched below the UST invert or approximately 6-feet bgs. The tank was filled with Blue-Flow cement and abandoned in place. The excavation was backfilled with overburden soils.

The northern 25,000-gallon UST was abandoned in place on January 16, 1999. The UST was abandoned by pumping the UST of all residual product and sludge, cleaning the UST interior with absorbent pads and then filling the UST to grade with Blue Flow cement. The UST is located below the saturated zone, therefore post closure samples were unable to be collected by drilling through the UST bottom. Post-excavation soil samples (ISP-3-01 through ISP-3-06) were collected along the north, east and south sides of the 25,000-gallon UST at a depth of 5.5 feet below the ground surface, just above the saturated water table. All soil excavated from the top of the tank as part of the tank abandonment was reintroduced into the excavation. The report

concluded that the soil in the vicinity of the UST had not been adversely impacted, and, therefore, no further action was recommended.

The 550-gallon UST was abandoned in place on September 30, 1998. The UST was inerted of all potentially volatile vapors. A manway was cut into the top of the tank to allow for access. The UST interior was wiped clean with absorbent pads. The tank was removed and was visually inspected by BEM for the presence of holes and the excavation area was examined for physical evidence of soil contamination. The UST was in good condition and there was no visual or olfactory evidence of soil contamination. The tank was cleaned and shipped off-site for disposal as scrap metal. Five post –excavation soil samples (ISP-1-1 through ISP-1-5) were collected and analyzed for VOCs and TPHC. Samples were collected with a hand auger at approximately 6-inched below the UST invert or approximately 6-feet bgs. The excavation was backfilled with overburden soils.

All post excavation soil analytical results for each tank were below the NJDEP Residential, and Non-residential Direct Contact Soil Cleanup Criteria and the Impact to Groundwater Soil Cleanup Criteria.

Historic information was obtained from several sources to investigate potential areas of concern on or near the subject property. The review included an evaluation of historic Sanborn Fire Insurance Maps, historic aerial photographs and historic city directories.

NOTE

3.1 REVIEW OF HISTORIC SANBORN FIRE INSURANCE MAPPING

Five available Sanborn Fire Insurance Maps covering the years 1906, 1938, 1950, 1961 and 1968 were examined to evaluate the past uses of the subject property and adjacent properties. The maps were obtained directly through EDR Sanborn Inc. and are presented in Appendix H. A summary of the map review follows:

- 1906 The 1906 map identifies the subject property as O'Hara & Ottesen Wagon Works. The subject property is shown with a machine shop in the south corner, a dwelling and a small building in the center of the property and a blacksmith and wagon works at the north corner of the property. The subject property north of William Street is shown as dwellings, stores, a saloon and a large three-story structure. The adjacent properties include Napier & Mitchell Manufacturing Company (manufacturer of hats) and then the Passaic River to the east; Riverside Coal Company and dwellings to the south; and dwellings to the west. A dwelling is shown to the south with a large amount of undeveloped and unidentified land (the present location of the Christ Episcopal Church Cemetery).

- 1938 The 1938 map shows the subject property as Napier & Mitchell Manufacturing Company with several buildings (built in 1910) listed as a factory building, wash room, machine shop, offices, storage, boiler room and others that are not legible. These buildings are the buildings currently located on the subject property. Also, two fuel oil tanks are shown in the driveway at the approximate current location of the two 25,000 gallon USTs. The subject property north of William Street is shown as several dwellings, a store, a garage and an apartment building. The adjacent properties include the Essex County Park Commission to the east (in place of the hat manufacturer and the coal company) and then the Passaic River; several dwellings and the Christ Episcopal Church Cemetery to the south; and several dwellings to the west.

- 1950 The 1950 map shows the subject property with the same buildings as in the 1938 map, except the site is labeled as Van Dyk and Company (manufacturing chemists). The changes to the subject property north of William Street are the addition of a filling station with two gasoline tanks and three large structures north of the filling station that replace the apartment building. At the adjacent property to the south a filling station is depicted at the corner of Bayard and Main Street (no tanks are depicted at this site). There are no other significant changes to the surrounding properties in the 1950 map compared to the 1938 map

- 1961 The 1961 map shows the subject property with the same buildings as the 1950 map. The subject property is identified as Summit Chemical Company (manufacturing chemist). There are no significant changes to the surrounding properties in the 1961 map compared to the 1950 map, except the building

associated with the cemetery to the south of the subject property is no longer shown and the undeveloped land is labeled Christ Episcopal Church Cemetery.

- 1968 The 1968 map shows no significant change to the subject property compared to the 1961 map. The subject property is identified as Van Dyk Inc. The subject property north of William Street is no longer shown as a filling station and is labeled as a store and the tanks are no longer shown. There are no significant changes to the surrounding properties in the 1968 map compared to the 1961 map. Only two of the three buildings to the north first shown in the 1950 map are still depicted and one building is labeled as a machine shop. The filling station to the south is labeled vacant and the small dwelling adjacent the subject property to the west is no longer shown.

3.2 REVIEW OF HISTORIC AERIAL PHOTOGRAPHS

Five available historical aerial photographs were examined to evaluate the past uses of the subject property and adjacent properties. The photographs were obtained directly through EDR Sanborn Inc. and are presented in Appendix I. A summary of the aerial photographic review follows:

- 1953 The 1953 photograph shows the subject property with several large buildings which are the buildings shown in the 1938, 1950, 1961 and 1968 Sanborn maps. The subject property north of William Street is shown as small dwellings. Small dwellings are also visible on the adjacent properties. The park adjacent to the Passaic River and the cemetery with the church both depicted in the 1938 Sanborn map to the east and south, respectively, are shown in the 1953 photo.
- 1966 The 1966 photograph shows the subject property with no apparent changes compared to the 1953 photograph. The church to the south is no longer visible and the park to the east is no longer visible because improvements have been made to State Highway 21. State Highway 21 is visible immediately adjacent to the Passaic River.
- 1970 The 1970 photograph shows no apparent change to the subject property or the adjacent properties compared to the 1966 photograph.
- 1984 The 1984 photograph shows no apparent change to the subject property or the adjacent properties compared to the 1970 photograph except a larger building is shown on the subject property north of William Street.
- 1995 The 1995 photograph shows no apparent change to the subject property or the adjacent properties compared to the 1984 photograph.

3.3 REVIEW OF HISTORIC CITY DIRECTORIES

A historic city directory search was conducted for the subject property (refer to Appendix J). City directories have been published for U.S. cities and towns since the 18th century. The city directory, originally a list of town residents, developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories

are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident, or, if a business operated from this address, the name and type of business. City directories for the area in the vicinity of the subject property were available for the years 1970 through 2000. The search included available city and cross-reference directory collections at approximately five-year intervals for the years spanning 1970 through 2000.

The following sections describe the findings for the subject property:

- 1970 The subject property is listed as Caroline Chemical, Van Dyk and Co. Inc. and Summit Chemical. The subject property north of William Street is listed as residences.
- 1975 The subject property is listed as Caroline Chemical, Van Dyk and Co. Inc. and Summit Chemical. The subject property north of William Street is listed as residences, with the exception of Michael's Towing, which is listed at 18 William Street.
- 1980 The subject property is listed as Novarome, Van Dyk and Co. Inc. and Summit Chemical. The subject property north of William Street is listed as residences. Michael's Towing is no longer listed at 18 William Street.
- 1985 The subject property is listed as Van Dyk Mallinckrodt and Summit Chemical. The subject property north of William Street is listed as residences or the properties previously listed are no longer listed.
- 1990 The subject property is listed as Van Dyk Mallinckrodt Office Building, ISP Van Dyk Administration, ISP Van Dyk Technical Services and Summit Chemical. The subject property north of William Street is listed as residences or the properties previously listed are no longer listed.
- 1995 The subject property is listed as Van Dyk Mallinckrodt Office Building, ISP Van Dyk Administration, ISP Van Dyk Technical Services and Summit Chemical. The subject property north of William Street is listed as residences or the properties previously listed are no longer listed.
- 2000 The subject property is listed as Van Dyk Mallinckrodt Office Building, ISP Van Dyk Administration, ISP Van Dyk Technical Services and Summit Chemical. The subject property north of William Street is no longer listed.

NOTE

3.4 REVIEW OF INDUSTRIAL DIRECTORIES

An industrial directory ``search (Appendix K) was conducted for 11 William Street by NETR Real Estate Research and Information (NETR). NETR reviewed readily available industrial directories in the Trenton City Library and the New Jersey State Library, both located in Trenton, New Jersey. The directories that were reviewed included The Industrial Directory of New Jersey, MacRae's Industrial Directory and Harris' Official New Jersey Manufacturers Register. The search revealed that Napier Hat Manufacturing Company occupied the subject property from 1906 to 1938. Van Dyk and Company occupied the property from 1949 to 1992

with a Standard Industrial Classification (SIC) code 2844. ISP Van Dyk Inc. occupied the property from 1990 to 2001 with a SIC Code 2865.

3.5 REVIEW OF CHAIN OF TITLE

As of June 29, 2001 the property north and south of William Street is owned by ISP Chemicals Inc. A chain of title search (Appendix L) was conducted for the subject property (Block 8, Lot 24 and Block 12, Lots 3, 25, 17, 18, 29 and 32) by NETR. In addition, copies of the 1986 Deed and 1992 Deed obtained directly from ISP Chemicals Inc., are included in Appendix L.

The search revealed that ISP Chemicals LLC obtained the subject property south of William Street from ISP Van Dyk on July 3, 2001 and ISP Chemicals Inc. obtained the property north of William Street from ISP Chemicals LLC on July 17, 2001. ISP Chemicals LLC obtained the property north of William Street from ISP Van Dyk on July 3, 2001. ISP Chemicals Inc. then purchased the property. ISP Van Dyk obtained the subject property from Mallinckrodt Inc. on April 7, 1992. Mallinckrodt Inc obtained the subject property from Avon Capitol Corporation on May 3, 1986. Avon Capitol Corporation obtained the subject property from Van Dyk & Company Inc. on October 20, 1982.

Prior to 1982, the chain of title for each lot varies. The following paragraphs describe the chain of title prior to 1982:

NOTE

- Van Dyk & Company Inc. obtained the property south of William Street (Block 8, Lot 24) from Napier Hat Manufacturing Company on July 15, 1943. Napier Hat Manufacturing Company obtained the property from Lillian N. Renshaw on December 12, 1927.
- Van Dyk & Company Inc. obtained a portion of the property north of William Street from William and Georgianna Jinks on October 14, 1980. William and Georgianna Jinks obtained the property from Elmer and Ellen Jeffers on October 27, 1958. Elmer and Ellen Jeffers obtained the property from the Home Owner's Loan Corporation on April 19, 1940.
- Van Dyk & Company Inc. obtained a portion of the property north of William Street from Tulsa Oil Company on October 13, 1976. Tulsa Oil Company obtained the property from George and Florence Miller on January 13, 1947. George and Florence Miller obtained the property from Rosalie and Felix Clark on July 31, 1941. Rosalie and Felix Clark obtained the property from Mary O'Neill (listed as her heirs). Mary O'Neil obtained the property from Amato Building Company on August 15, 1933.
- Van Dyk & Company Inc. obtained a portion of the property north of William Street from David and Ruth Michaels on May 17, 1973. David and Ruth Michaels obtained the property from Marie Donatone Tenpenny on March 14, 1966. Marie Donatone Tenpenny obtained the property from Kathryn Donatone Phipps and Wayland Phipps on April 16, 1963. Kathryn Donatone Phipps and Wayland Phipps obtained the property from Beatrice Donatone on November 22, 1955. Beatrice Donatone obtained the property from Nicolo and Jennie Donatano on September 17, 1951. Nicolo and Jennie Donatano obtained the property from Axel Hansen on July 27, 1945. Axel Hansen obtained the property from Rosalie and Felix Clark on May 13, 1945. Rosalie and Felix Clark obtained the property from Mary O'Neill (listed as her heirs). Mary O'Neil obtained the property from Amato Building Company on August 15, 1933.

- Van Dyk & Company Inc. obtained a portion of the property north of William Street from Town of Belleville on February 6, 1981. The Town of Belleville obtained the property from Walter and Jane Stainer on May 23, 1945. Walter and Jane Stainer were heirs of John Stainer, who acquired title to the property prior to 1932.
- Van Dyk & Company Inc. obtained a portion of the property north of William Street from David and Ruth Michaels on May 17, 1973. David Michaels obtained the property from Irving and Frieda Garson on September 22, 1967. Irving and Frieda Garson obtained the property from Axel and Marie Hansen on February 2, 1956. Axel Hansen obtained the property from Joseph and Helen Yochum on April 9, 1959. Joseph Yochum obtained the property from Charles Yochum on October 22, 1955. Charles Yochum obtained the property from Central Building & Loan Association on October 10, 1945. Central Building & Loan Association obtained the property from Louis Batchelor, Sheriff on October 29, 1933.
- Van Dyk & Company Inc. obtained a portion of the property north of William Street from Cecelia Michaels on May 17, 1973. Cecelia Michaels obtained the property on July 18, 1956 from the death of her husband Maurice Michaels. Maurice Michaels obtained the property from Axel and Marie Hansen on February 2, 1956. Axel Hansen obtained the property from Verner and Rose Hansen on September 10, 1945. Verner and Rose Hansen obtained the property from Rosalie and Felix Clark on May 13, 1945. Rosalie and Felix Clark obtained the property from Mary O'Neill (listed as her heirs). Mary O'Neil obtained the property from Amato Building Company on August 15, 1933.

3.6 HISTORICAL SUMMARY

According to the review of the historical Sanborn Fire Insurance Maps, historical aerial photographs, the city directories, industrial directories and the chain of title search, the subject property has been utilized for chemical manufacturing and industry since before 1906. The buildings currently located on the subject property south of William Street were constructed circa 1910.

The properties to the north of William Street primarily have been residential. However, the 1951 Sanborn Map and the 1961 Sanborn Map depict the corner property at the intersection of William Street and Main Street as a filling station with two underground storage tanks. The chain of title search indicates that Tulsa Oil Company owned a portion of the property north of William Street from 1947 to 1976. The Sanborn maps and the chain of title indicate that a portion of the property north of William Street has been owned and/or operated by an oil company. Historically, operations at filling stations have the potential to adversely impact soil and groundwater. Therefore, the historic use of this corner property should be considered an area of concern.

The adjacent properties historically have been residential or commercial areas.

The subject property is located in the Town of Belleville, Essex County, New Jersey at 11 William Street in a mixed industrial and commercial area with adjacent residential properties. The subject property is identified as Block 8, Lot 24 and Block 12, Lots 3, 17, 18 and 25 on the Belleville Township Tax Map. The subject property has few areas where soil is exposed at the surface, as almost the entire subject property is covered by buildings, asphalt driveways or concrete sidewalks (IT, December 1993). A cemetery borders the subject property to the west and south and Main Street, Route 21 and the Passaic River are located to the east of the subject property. The following sections describe the topography, soils, geology, hydrogeology and surface water in the vicinity of the subject property. Appendix M contains an aerial photograph site location map, a one-mile radius wetland map and a one-mile radius land-use map.

4.1 TOPOGRAPHY

The subject property and adjacent properties are at an approximate elevation of 20 feet above mean sea level. Based upon a review of the U.S. Geological Survey 7.5-minute series topographic quadrangle map for Orange, NJ (Figure 1), the surface topography is shown to be relatively flat.

4.2 SOILS

The subject property is underlain by unconsolidated clay, sand and gravel deposited during the Pleistocene era. This stratified drift was deposited by glacial meltwater in streams (glaciofluvial deposits) and lakes (glaciolocustrine deposits). Glaciofluvial deposits are generally stratified sand, and sand and gravel. Glaciolocustrine deposits are usually bedded or laminated silt and clay. The depth of overburden varies from approximately 21 to 71 feet below the ground surface around the facility. Fill material also can be encountered above these deposits (IT, December 1993). The NJDEP Geographic Information Systems (GIS) data set (March 7, 1996) indicates that there are no native surface soils in this portion of Essex County.

4.3 GEOLOGY

Rock of the Passaic Formation, the uppermost unit of the Newark group (Triassic Age) underlies most of the subject property. The formation consists dominantly of interbedded brown, reddish brown shale and sandstone. Generally, the top of bedrock is highly weathered and fractured. The strike of bed is N 30° E (IT, December 1993).

4.4 HYDROGEOLOGY

The occurrence of groundwater in the geologic formation of the subject property area may be divided into two groups: unconsolidated sediments of Pleistocene Age and consolidated rocks of the Triassic Age (IT, December 1993).

In unconsolidated sediments, groundwater occurs in the pore spaces between the constituent grains. The capacity of unconsolidated sand and gravel deposits to store and transmit water is commonly much greater than that of consolidated rocks (IT, December 1993).

In consolidated rock (Passaic formation) groundwater occurs under both unconfined and confined conditions. The Passaic formation, being shale, has an inherent very low primary porosity. Its ability to transmit water is due to its high secondary porosity caused by extensive fracturing. Groundwater flow in this formation is controlled by fractures that are preferentially oriented along the strike (IT, December 1993).

4.5 SURFACE WATER

No surface water bodies are located on the subject property. The Passaic River is located approximately 250 feet east-southeast of the subject property. Main Street and State Route 21 (an elevated six-lane highway) are located between the subject property and the Passaic River. The Passaic River at this location is classified by the NJDEP in N.J.A.C. 7:9B as freshwater/non-trout/saline estuarine with secondary contact recreation (FW2/NT/SE2).

Another surface water body, the Second River, is located approximately 800 feet south of the subject property and drains eastward to the Passaic River (IT, December 1993).

4.6 WETLANDS

No wetlands are located on the subject property. The NJDEP GIS data set (1996) shows that managed wetlands are located approximately 2,500 feet to the northeast of the subject property on the other side of the Passaic River. A 0.5-mile radius wetlands map is provided in Appendix M. The EDR report indicates the subject property is within the 100-year flood plain of the Passaic River.

4.7 LAND USE

The subject property is located in an industrial area of Essex County with a cemetery to the south and west, a highway to the east and residential land to the north, west and south within 100 feet of the subject property. The NJDEP GIS data set (1996, Appendix M) categorizes the land within a one mile radius of the subject property as industrial, commercial, residential, and urban open land (Appendix M).

URS personnel conducted a detailed site inspection of the subject property on November 13, 2001 with Bob Comer of ISP Chemicals Inc. The purpose of this inspection was to identify AOCs on the subject property. Due to the fact that debris on the floor of the Hot Room located in Building 7 and the storage room located in Building 3 prevented the complete inspection of the floors of these areas, ISP Chemicals Inc. removed the debris and requested that URS make a second site inspection to re-inspect those two locations. A second site inspection was conducted on Tuesday, February 5, 2001 after ISP Chemicals Inc. had completed routine cleaning and maintenance work in the above locations. A third inspection was conducted of the subject property north of William Street on Tuesday, March 26, 2002 with Bob Comer of ISP Chemicals Inc. Photographs of the subject property can be found in Appendix M.

The subject property is the former ISP Chemicals Inc. facility. Operations at the subject property have ceased. Seven buildings are located on the property south of William Street; these include one large office building and six process buildings (Figure 2). Building No.1 was used for offices and a laboratory on the second and third floors. Building No. 2 is the boiler room. Building Nos. 3, 4, 6, and 7 were used for processing and manufacturing. Building No. 5 was the control room with two electrical rooms. Table 1 lists the tanks and the tank contents that were used at the subject property during ISP Chemicals Inc. operations. Two buildings are located on the property north of William Street; these include two large warehouse buildings used to store raw and finished materials. The raw and finished materials stored in these buildings include, but are not necessarily limited to, the materials listed in Table 1, Table 2 and Table 3.

The following sections describe the exterior and interior conditions at the subject property and the adjacent properties at the time of the site inspection.

5.1 EXTERIOR INSPECTION

The following sections describe the exterior conditions observed for the subject property.

5.1.1 Subject Property Located South of William Street

The entire subject property located south of William Street is covered with buildings, asphalt pavement or concrete sidewalks, except for narrow (approximately 5 feet wide) bands of landscape stone located along the southern and western boundaries of the subject property. During a site inspection conducted on October 2, 2001, black staining was observed which appeared to originate from a vent pipe located on the roof of Building No. 4. The staining was observed on the roof, the side of the building and on the landscape stone area below. During the November 13, 2001 site inspection, the roof in this area had been covered with black plastic; however, the staining on the building wall and the landscape stone was still apparent (Photos 7, 8 and 9). The staining most likely was caused by tar runoff from the roof. In this section of the roof, the source of the staining is vent or distillation units 1S1 and 1S2, and the materials discharged potentially include toluene, 2-ethyl hexanol, Escalol 507, and/or Escalol 557.

The buildings are constructed of concrete block and brick. The exterior of the buildings are covered with stucco. There is some indication that renovations have been made to the buildings

throughout the years. For example, Building No. 1, near tank T-495, appeared to have had a garage or other large opening that was replaced with a conventional sized door.

According to the historical information and the database review there are two 25,000-gallon underground storage tanks (USTs) at the subject property used to store #2 fuel oil. They are located within the alleyway between Building Nos. 1 and 4. They are reportedly half buried beneath Building No. 4 and have been abandoned in-place (Photos 20 and 21). Copies of the Closure Approvals can be found at the end of Appendix P. These USTs have been identified as AOC-1.

The concrete surface areas of the alleyways and the sidewalk near each entrance are stained black. The concrete surfaces appear to be in good condition. Based upon this visual observation, it is not likely that soil beneath the concrete would be impacted by the substances observed to have stained the concrete. The staining on the concrete most likely resulted from foot traffic leaving the buildings and the washing or rinsing of equipment, as observed during the inspection. Wastewater and stormwater is discharged to the public sanitary sewer system, via subsurface and overhead piping, under a permit to discharge to the municipal sewer authority, Passaic Valley Sewerage Commissioners (PVSC). Photo 17 shows the sump in the alley prior to discharge to the PVSC.

well abandonment

A production well located near monitoring well MW-2 was abandoned ~~recently~~ in accordance with NJDEP requirements. Three attempts were made before the well was located. Therefore, at the time of the site inspection, three paved areas had been cut and soil was exposed (Photo 19). In October of 2001, an additional production well was abandoned in accordance with the NJDEP requirements. The third production well is located in a right-of-way for State Route 21 and will be abandoned as soon as the New Jersey Department of Transportation issues the appropriate permits.

According to the ISP Chemicals Inc. Plot Plan of Floor General Location Layout Drawing dated March 31, 1997 and the site inspection, several aboveground storage tanks are located at the subject property. They include a nitrogen tank located between Buildings No. 6 and No. 7 (Photo 4), tank T-495 used to store crude sunscreen and located near the intersection of Buildings No. 3 and No. 4, tank T-781 used to store wastewater and located in the alley way between Buildings No. 1 and No. 2 (Photo 18), and tanks T-491 through T-494 used to store ethyl acetate, acid strip (Rotosolv), isopropyl alcohol and toluene, respectively, located along Building No. 4 (Photo 22). Two storage tanks located on the roof of Building No. 1 were used to store water (Photo 14).

June 18, 1993 Accidental Toluene Spill (Incident # 93-6-18-1101-55)

A toluene spill, calculated to have been approximately 100 gallons, occurred in June 1993. A production operator was transferring a waste material from a receiver to a waste holding tank. The waste material consisted of toluene (50.6 % by weight), 2 ethyl hexanol (21.1 % by weight), ethanol (8.8 % by weight), ethyl acetate (4.0 % by weight), methanol (1.9 % by weight), water (1.7 % by weight), ethyl hexyl acetate (1.5 % by weight), butyl alcohol (1.1 % by weight) and non-volatile residue (7.5 % by weight). The tank was apparently full, and with this additional material, the waste material was forced up through the vent pipe onto the roof. The spill originated from the roof vent above Building No. 4A (Photo 16). The toluene mixture was spilled from the vent onto the roof, collected in the gutters, drained onto the street and sidewalk and then

to the storm sewer. The transfer had been in progress for approximately three minutes when an employee saw material coming out of the rain gutter. The transfer was immediately stopped. Cleanup was handled by Willow Contracting of Verona, New Jersey, which was contacted within fifteen minutes of the discovery of the spill. The Belleville Fire Department, United States Coast Guard (USCG) and the NJDEP also responded to the incident. Approximately 55 gallons of the toluene mixture entered the storm sewer and entered the Passaic River. The Belleville Fire Department flushed the sewer with 25,000 gallons of water to dilute the substance to prevent a possible explosion due to the volatile nature of the mixture. The USCG recovered material in the Passaic River by deploying booms and sorbents. ISP Chemicals Inc. received a summons alleging a violation of N.J.S.A. 23:5-28, titled "Pollution and Obstruction of Waters." ISP Chemicals Inc. agreed to pay a penalty to the NJDEP. The ISP Chemicals Inc. report documenting the toluene spill, the police report, the USCG public report and a newspaper article regarding the toluene spill can be found in Appendix O.

5.1.2 Subject Property Located North of William Street

There are two buildings on the property located north of William Street: Building No. 8 and Building No. 10. These buildings were used to store raw and finished materials. The buildings are constructed of concrete block with stucco on the exterior surfaces. The entire property is covered with asphalt pavement or buildings except for two small former building areas that are gravel. These two buildings were demolished and the area was never developed or paved. A small shed, a trailer and a solid waste container are located in the area between Building No. 8 and Building No. 10. A solid waste container and a trash compactor are located at the west side of Building No. 8. The paved areas were used for parking. On the date of the site reconnaissance, the paved areas were being used as temporary storage for equipment being decommissioned from the manufacturing portion of the subject property located south of William Street.

An outdoor, asphalt-paved, area formerly utilized as a hazardous waste storage area (AOC #5) is located north of Building No. 10 (Figures 3 and 5). Reportedly this hazardous waste storage area has always been paved. A copy of the most recent hazardous waste disposal manifest can be found in Appendix P. An outdoor, covered, asphalt-paved area previously utilized for the storage of drums of raw and finished materials also is located north of Building No. 10 (Figures 3 and 5).

Two outdoor trench drains were observed on the south side of Building No. 8 near three loading dock areas (Figure 3) and on the west side of Building No. 10 near a garage entrance.

Monitoring well MW-5 (AOC #2) was observed east of the covered drum storage area.

The former 1,000-gallon No. 2 fuel oil tank (AOC-8) was observed and is covered with asphalt paving. The vent pipe from the abandoned 1,000-gallon UST was noted at the west side of Building No. 8.

The former 550-gallon No. 2 fuel oil tank (AOC #9) was observed and is covered with asphalt paving. There is no evidence of the former 550-gallon fuel oil UST, which was removed on September 30, 1998.

5.2 INTERIOR INSPECTION

Since 1992, ISP Chemicals Inc. produced and manufactured personal care and cosmetic ingredients. The production and manufacturing processes are detailed in Appendix P. Table 2 presents a summary of product information from the material safety data sheets (MSDS) and Table 3 contains a list of chemicals that have been used at the subject property. This list was compiled using the MSDSs available at the subject property. Table 4 includes a list of air permits for the subject property. Copies of these air permits can be found at the end of Appendix P. The production and manufacturing processes detailed in Appendix P and information used to complete Tables 2, 3 and 4 were provided to URS by ISP Chemicals, Inc.

Changes made by ISP Chemicals Inc. to the subject property between 1992 and 2001 include the following:

- ISP Chemicals Inc. used the same types of chemistries practiced prior to 1992 and only added processes that make skin and hair care products including the following:
  - Octocrylene in 3K1
  - Escalol HP610 and Dodecyl Tosylate
  - NGA
  - Ceraphyl MTE
  - Prolipid 131, 141 and 151
  - Cerasynt RMT
- ISP Chemicals Inc. added processes that do not use or produce priority pollutants and include the following:

Heptane	Methyl Acetate
Rotosolve	Maleic Anhydride
Cyclohexane	

- In 1992, ISP Chemicals Inc. hard-piped decant wastewater from Building No. 4 reactors to a final sump.
- In 1993, ISP Chemicals Inc. installed and then later removed an additional reactor and a distillation column to boost production of Escalol 557.
- In 1993, ISP Chemicals Inc. installed a new pH neutralization system to comply with the PVSC permit.
- In 1994, ISP Chemicals Inc. installed a chilled water cooling system to reduce VOC air emissions.
- In 1996, ISP Chemicals Inc. installed a new sewer system and lower explosive limit (LEL) monitoring system.
- In 1996, ISP Chemicals Inc. added an additional hazardous waste tank in a concrete dike in Building No. 4A.

- In 1999, ISP Chemicals Inc. closed the northern 25,000 #2 fuel oil tank on the subject property. In addition, two tanks (500-gallon UST and 1,000-gallon UST) were abandoned or removed at the adjacent property north of William Street.
- Notably, ISP Chemicals Inc. never used any substances or chemicals containing PCBs or mercury.

The following paragraphs describe the interior of each building as noted during the November 13, 2001 and the March 26, 2002 site inspections.

5.2.1 Subject Property Located South of William Street

The following sections describe the interior of each building located south of William Street.

5.2.1.1 Building No. 1

Building No. 1 primarily was used for offices. Building No. 1 has three levels. Portions of the second floor and third floor were used as laboratories. A total of four exhaust hoods and one exhaust fan were noted in the laboratories. There is a walkway from Building No. 1 to Building No. 2 on the second level. The overall interior condition of the building was observed to be clean, except the stairway had staining from foot traffic. The stairway was of metal construction. There is an elevator located at the southwest corner of the building. The elevator is hydraulically operated. Previous sampling indicates that PCB-containing hydraulic fluid was used to operate the elevator at one time. There is no record of a basement or a crawl space beneath the first floor. Two out of three gutters discharge directly to the ground surface along Main Street (Photo 13). The third discharges to the concrete sidewalk.

Two storage tanks located on the roof of Building No. 1 were used to store water (Photo 14).

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5.2.1.2 Building No. 2

Building No. 2 contains the boiler room, a mechanic storage area, a mechanic shop and a storage room on the second floor. Access to the second level of Building No. 2 is from the second floor of Building No.1.

The boiler room contained two hydrotherm units, a de-aerator and three steam generators. There was evidence of the trench excavation as shown by patches in the concrete. Two floor drains were noted during the inspection. Reportedly, these floor drains are hard-piped below the surface to the alley wastewater storage tank, for eventual discharge to the PVSC. The boiler room surface material consists of a concrete floor, brick exterior walls, concrete block interior walls, and a wood and tile ceiling. All surfaces are heavily stained, including the ceiling. The ceiling is approximately 25 feet high. Photos 23, 24 and 25 depict the boiler room.

The mechanical storage area is secured with a chain-link fence with tools in cabinets and supplies on shelves. The floor is concrete, the exterior walls are brick and the interior walls are concrete block. The ceiling and overhead beams are concrete. The storage area accessed from Building No. 1 is above this area. The floor and walls are stained. Staining could not be determined on the ceiling because it is painted black. The ceiling is approximately 14 feet high in most areas.

The mechanical shop is an area that was used for small repairs (Photo 27). The floor is concrete, the exterior walls are brick and the interior walls are concrete block. The ceiling and overhead beams are concrete. The storage area accessed from Building No. 1 is above this area. The floor and walls are stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. Staining could not be determined on the ceiling because it is painted black. The ceiling is approximately 14 feet high.

The second floor is accessed from an elevated walkway accessed from the second floor of Building No. 1. This area appeared to be used for storage. The floor is concrete, the exterior walls are brick, and the interior walls are concrete block. The ceiling is wood and tile. No staining was observed in this area. The ceiling is approximately 11 feet high.

5.2.1.3 Building No. 3

Building No. 3 consists of a storage room with tank T-445, a hot room, an open area with several tanks and vacuum pumps, and another area referred to as Building No. 3A with a hot water tank and the cooling water return pipes.

The storage room with tank T-445 was observed to be empty except for the tank. An open trench between the wall and floor approximately four inches wide was observed at the eastern side of the room and a one-inch gap between the wall and floor was observed at the southern side of the room. The trench appeared to be concrete-lined at the eastern side (Photos 28 and 29). The southern trench, however, appeared to be unlined (Photo 30). At the time of the first inspection on November 13, 2001, an oily absorbent boom was observed in the trench. The floor is concrete and the walls are concrete block. The ceiling is wood and is approximately 12 feet high. The floor and walls were oil stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

Based upon URS' inspection of November 13, 2001, ISP Chemicals Inc. conducted routine cleaning and maintenance of the trench on the eastern and southern side of the storage room. The trench was inspected again on Tuesday, February 5, 2002 to confirm that the trench was concrete lined. Based upon our visual inspection of the trench, it was determined that the trench is concrete lined. However, a small crack (approximately 0.1 inch in width and approximately 2 to 3 feet in length) was observed between the wall and the bottom of the south trench section. The soil beneath this area may have been impacted if a spill in this room had occurred (see AOC-12). Material stored in this room included miscellaneous dry goods storage and CER 60 in tank T-455.

The hot room was used to heat raw and finished products to a usable state using steam. The hot room has a concrete floor with four concrete-lined troughs that are stained black (Photo 31). The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. The hot room floor is sloped to drain oil or water to a stainless steel lined sump located in Building 3A.

The open area in Building No. 3 contains several aboveground tanks (ASTs) with overhead piping, vacuum pumps and a centrifuge (Photo 32). Some ASTs are located within a concrete diked area. A thick oily sludge was observed beneath many of the tanks. The floor is concrete and the walls are concrete block or brick. The concrete floor and dike walls appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. The floor is sloped toward a trench drain (Photo 33) and then to a stainless steel lined sump (Photo 34). The ceiling consists of wooden trusses with a corrugated roof. All surfaces including the ceiling were stained. The ceiling is approximately 30 feet high.

According to the ISP Chemicals Inc. Floor Plan (Appendix Q) the following was stored in each tank located in Building 3:

Tank T-315	Anisic Aldehyde
Tank T-316	E-557
Tank T-317	E-557
Tank T-313	E-557
Tank T-314	E-557
Tank T-321	E-507 Wash Water
Tank T-322	E 507 #2
Tank T-324	E 507 #2
Tank T-325	E 507 #2
Tank T-465	E 507
Tank T-455	CER 60

Building No. 3A is adjacent to Building No. 3 and contains a hot water tank, a pipe storage rack (Photo 35) and the cooling water return pipes (Photo 36). The cooling water return pipes include two subsurface chambers to hold water. There is a floor drain near the hot water tank; however, it is a remnant from the previous drainage system that was replaced in 1992. At the time of the site inspection, the drain was filled with water. The floor is concrete and the walls are concrete block or brick. The ceiling consists of wooden trusses with a corrugated roof and is approximately 30 feet high. All surfaces including the ceiling were stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

5.2.1.4 Building No. 4

Building No. 4 consists of a large area with several ASTs, reactors, overhead piping and processing equipment (Photos 37, 38 and 39). The floor is concrete and the walls are concrete block and brick on the north wall. The ceiling consists of wooden trusses and with some corrugated roof and is approximately 30 feet high. All surfaces, including the ceiling, were observed to be stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. According to the ISP Floor Plan (Appendix Q) the following was stored in each tank located in Building 4:

Tank T-451	E 507
Tank T-452	E 507

Building No. 4A is adjacent to Building No. 4 and also contains several ASTs within concrete dikes, overhead piping, processing equipment, neutralization tanks (T1, T2 and T3), wastewater tanks (Photo 40), drum scale and a filter press. The floor is concrete and the walls are concrete block or brick. The ceiling was observed to be insulated and is approximately 14 feet high. The floor and ceiling were stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. According to the ISP Chemicals Inc. Floor Plan (Appendix Q) the following was stored in each tank located in Building 4A:

Tank T-469	Waste Storage Tank	Tank T-472	Recycled Rotosolv
Tank T-470	Waste Storage Tank	Tank T-473	Recycled Rotosolv
Tank T-471	E-557	Tank T-474	Recycled Rotosolv

5.2.1.5 Building No. 5

Building No. 5 is south of Building No. 6 and west of Building No. 4. Building No. 5 consists of a general office area, a control room, a hallway that connects Building No. 4 to Building No. 7, and two electrical rooms (Building No. 5A and Building No. 5B).

The general office area was empty at the time of the site visit. The floor is concrete and the walls are concrete block and brick. The ceiling is wood with insulation and is approximately 10 feet high. No staining was observed in the room.

The control room was still occupied at the time of the site visit and contained tables, chairs and control equipment. The floor is concrete and the walls are concrete block and wallboard. The ceiling is wood with insulation and is approximately 10 feet high. No staining was observed in the room.

The hallway connects Building No. 4 and Building No. 7. Lockers are located along the south wall. The floor is concrete and the walls are concrete block with some brick. The ceiling is wood and is approximately 10 feet high. The concrete floor was observed to be stained, most likely from foot traffic. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

Building No. 5A and Building No. 5B are electrical rooms along the west side of Building No. 5. The floor in Building No. 5A is concrete, the walls are brick and concrete block, and the ceiling is insulation and wood. The ceiling is approximately 10 feet high. The floor and walls are stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

The floor in Building No. 5B is concrete, the walls are brick or concrete block, and the ceiling is insulation and wood. The ceiling is approximately 15 feet high. The floor and walls are stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

5.2.1.6 Building No. 6

Building No. 6 consists of a walkway area leading to Building No. 5. Two single-occupancy bathrooms are located off the hallway. The floor consists of vinyl floor tile and the walls are wallboard. The ceiling is a drop ceiling and is approximately 8 feet high. The vinyl floor tiles are stained, most likely from foot traffic.

A tank room is also in Building No. 6 off the hallway. The tank room has eight ASTs (Photo 41). The floor is concrete with some damaged vinyl floor tiles, the east and west walls are concrete block, and the north and south walls are brick. The ceiling appears to be corrugated metal and is approximately 12 feet high. According to the ISP Chemicals Inc. Floor Plan (Appendix Q) the following was stored in each AST located in Building 6:

Tank T-601	2-EH	Tank T-605	Propylene Glycol
Tank T-602	2-EH	Tank T-606	Recycled Methanol
Tank T-603	Glycerine	Tank T-607	Methyl Acetate
Tank T-604	Glycerine	Tank T-608	Rotosolv

The concrete floor beneath the damaged tiles appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor.

5.2.1.7 Building No. 7

Building No. 7 has a ground level, a second level and a third level. There is an elevator at the south side of the building and single-occupancy bathrooms on the second and third levels.

The ground level contains a hot room, a flaker hopper, a trench style floor drain, a tank loading area and four reactors (T-701, T-702, T-703 and T-704 extended through the ceiling to the second level). The floor on the ground level is concrete, the walls are poured concrete or brick, and the ceiling is concrete. The ceiling is approximately 16 feet high. All surfaces are stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor on the ground level would be adversely impacted by the material that was observed to have stained the floor.

The hot room on the ground level consists of a concrete floor and ceiling, and brick walls, some with insulation. During the November 2001 site inspection, debris was observed on the floor of the hot room and it was not possible to determine the construction of the floor. Based upon initial inspection, there was a question as to whether the southern end of the hot room floor was soil or deteriorated concrete (Photo 43). Based upon URS' initial inspection, ISP Chemicals Inc. conducted routine cleaning and maintenance of the hot room. The hot room floor was inspected again on Tuesday, February 5, 2002 to determine if the floor was concrete. Based upon this second inspection, it was determined that the floor is concrete. However, the second inspection revealed the presence of a small area of deteriorated concrete with exposed soil below. The size of the deteriorated floor is approximately a three-inch diameter circular patch. The soil beneath the concrete floor in this area may have been impacted if a spill in this room had occurred. The materials heated in this room include Oleic Acid, Alfol 10, Alfol 14, Alfol 16, Butyl Stearate,

Fatty Alcohol CO-1214, Neodol 25, Iso C9-C11 Alcohols, Mink Oil, Polyethylene Glycol 1000, Lipocol L-23, Glycerin, Monoethanolamine, Polyglycerol, Polyethylene Glycol E400NF, Coconut Fatty Acid, Cerasynt MAM, Ceraphyl 424, Emulsynt GDL and Dodecyl Tosylate.

The second level has several ASTs, four pumps, two flakers, and three molecular stills. The floor is concrete, the walls are brick with concrete block at former window locations, and the ceiling is concrete. The ceiling is approximately 16 feet high. The floor is stained (Photo 42).

According to the ISP Chemicals Inc. Floor Plan (Appendix Q) the following was stored in each AST on the second level:

Tank T-701	Reactor	Tank T-713	Stearic Acid (Coconut Fatty Acid)
Tank T-702	Reactor	Tank T-714	Stearic Acid
Tank T-703	Reactor	Tank T-715	Stearic Acid
Tank T-704	Reactor	Tank T-716	Stearic Acid
Tank T-705	Ceraphyl 847	Tank T-741	CER 140
Tank T-711	Alfol 14	Tank T-742	CER 140
Tank T-712	Stearic Acid (Coconut Fatty Acid)	Tank T-743	CER 140

The third level has several ASTs, a pilot plant chiller, two pilot plant labs, two offices and one bathroom. The floor on the third level is concrete, the walls are brick with concrete block at former window locations, and the ceiling is a corrugated roof. The ceiling is approximately 16 feet high. The floor is stained. According to the ISP Chemicals Inc. Floor Plan (Appendix Q) the following was stored in each AST located on the third level:

Tank T-761	Cerasynt LP	Tank T-774	Cerasynt
Tank T-771	Crude Mam	Tank T-780	Ethylene Glycol Water
Tank T-772	Cerasynt	Tank T-782	CER 140
Tank T-773	Cerasynt	Tank T-783	CER 140

The materials that have stained the second and third floor surfaces are not likely to have adversely impacted the soil located beneath the basement concrete floor.

5.2.1.8 Manufacturing Facility Drainage

The current facility drainage system is depicted in Figure 4 and the historical facility drainage is depicted in Appendix R. Historically, the facility was drained via subsurface gravity-fed drains to the PVSC. Since ISP Chemicals Inc. purchased the subject property from Mallinckcrodt Inc. in 1992, the subsurface trench drains in Building Nos. 3 and 4 were removed and in some cases were replaced. In most areas, the floor is sloped so that liquid drains to stainless steel sumps that pump the fluids to overhead piping which discharge to the wastewater tank (T-781) located in the alleyway between Building Nos. 1 and 2. The drainage in Building No. 7 has not been upgraded since ISP purchased the subject property. However, the sump between Building Nos. 6 and 7 has been upgraded and the wastewater is pumped overhead to tank T-781. All process and most sanitary waste is collected in this wastewater tank. The wastewater is monitored continuously for lower explosive limit (LEL) and pH prior to discharging to the PVSC to ensure adherence with permit requirements.

5.2.1.9 Asbestos Containing Material in the Manufacturing Buildings

According to documentation provided to URS, an asbestos survey was completed prior to 1987. Asbestos-containing material (ACM) that was deteriorated was removed or repaired. ACM that was in a low-occupancy location and in good condition was not removed. A second asbestos survey was conducted in June 1998 by Hillman Environmental Company to evaluate existing ACM throughout the plant. In November 1998, ACM Consulting Corporation abated 410 linear feet of pipe insulation containing asbestos. In November 1999, ACM Consulting Corporation removed an additional 6 linear feet of pipe insulation and covering for 5 valves, as well as miscellaneous repair work throughout the subject property. According to ISP Chemicals Inc., all ACM that was not removed is now clearly labeled (Photo 26).

5.2.2 Subject Property Located North of William Street

The following sections describe the interior of each building located north of William Street.

5.2.2.1 Building No. 8

Building No. 8 is constructed of concrete block walls and a concrete floor. Two large rooms were observed in Building No. 8. Both rooms reportedly stored raw and finished materials. At the time of the site visit, miscellaneous equipment from the manufacturing decommissioning was stored in the building. One subsurface scale was noted near the loading garages along with three mechanical chain-driven subsurface lifts. Two floor drains were observed in Building No. 8. One of these floor drains was observed to be filled with dry sediment. No drainage outlet was observed. A slight staining of the concrete floor was observed; however, the staining appeared to be caused by foot traffic. No cracks or holes were observed in the concrete floor. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. The building is heated by forced hot air fueled by natural gas.

5.2.2.2 Building No. 10

Building No. 10 is constructed of concrete block walls and concrete floor. One large room was observed in Building No. 10 with two smaller drum storage areas. All rooms reportedly stored raw and finished materials. At the time of the site visit, miscellaneous equipment from the manufacturing decommissioning was stored in the building. A small subsurface vault was observed in the northeast corner of the building near the electrical panel. This vault was inspected. The vault was approximately two feet in depth and contained a few inches of water on the bottom. Several conduits were observed within the vault. This vault is most likely used to access the utility lines. A slight staining of the concrete floor was observed; however, the staining appeared to be caused by foot traffic. No cracks or holes were observed in the concrete floor. Based upon this visual observation, it is not likely that the soil located beneath the concrete floor would be adversely impacted by the material that was observed to have stained the floor. The building is heated by forced hot air fueled by natural gas.

5.3 AS-BUILT DRAWING REVIEW

Various as-built drawings for the subject property were reviewed during the site inspection on November 13, 2001. The as-built drawings included the 1912 Napier Hat Manufacturing Company as-built drawing for the sprinkler system, the November 20, 1930 Napier Hat Manufacturing Company Piping Diagram showing the locations of the oil-sewer return lines, the 1974 Van Dyk Burner Schematic, the 1984 Tank Layout and Piping Mall and others. The review of the as-built drawings did not reveal additional AOCs.

5.4 HAZARDOUS WASTE

According to documents provided to URS by ISP Chemicals Inc., both hazardous and non-hazardous wastes were generated at the subject property during the manufacturing of products. Hazardous chemical liquid waste generated was either collected in two 3,000-gallon storage tanks or in satellite waste drums. The liquid waste from the storage tanks was pumped into tank wagons for disposal. Hazardous liquids in drums were staged in the designated hazardous waste cage (AOC #5) until picked-up for off-site disposal. Solid and non-hazardous waste was collected in drums for disposal. Copies of the most recent hazardous waste profile sheet and the bulk waste manifest and the satellite waste manifest can be found at the end of Appendix P. The asphalt appeared to be in good condition at the hazardous waste drum storage area. And as stated previously, has reportedly always been asphalt lined. Based upon this visual observation, it is not likely that the soil located beneath the asphalt would be adversely impacted.

5.5 ADJACENT PROPERTIES

The subject property is bounded by a cemetery (Photos 44 and 45) and residences to the west and south (Photos 48, 49 and 50), residences to the north and Main Street and Route 21 to the east. Residential and commercial properties are located beyond the adjacent properties (Photos 45, 49 and 50).

The following discussion summarizes the EDR database report and the regulatory agency file review.

6.1 DATABASE REPORT SUMMARY

The subject property has been identified on the following database lists:

- New Jersey Release
- New Jersey Spill
- RCRIS (Resource Conservation and Recovery Information System) Large Quantity Generator
- State Hazardous Waste Site
- Underground Storage Tanks
- FINDS (Facility Index System/Facility Identification Initiative Program Summary Report)
- TSCA (Toxic Substance Control Act)
- TRIS (Toxic Chemical Release Inventory System)
- ERNS (Emergency Response Notification System)
- HMIRS (Hazardous Materials Information Reporting System)

ISP Chemicals at Main and William Streets is listed in the EDR Orphan Summaries as being part of the FINDS and FIFRA (Federal Insecticide, Fungicide and Rodenticide Act)/TSCA Tracking System (FTTS) databases.

New Jersey Release: This subject property has been listed in the database with six separate incidences. These incidences are listed below. The details below include the database summary with additional input by ISP Chemicals:

- On June 16, 1992, approximately 55 gallons of sodium methylate (dry) was spilled and contaminated the air. The container was reacting and was a potential explosion hazard. The facility was evacuated. The fire department responded and wet the material.
- On June 18, 1993, less than 100 gallons of a mixture containing 50% toluene, 8% ethyl hexanol, 2% methanol and 9% ethanol toluene was discharged to the Passaic River. The combined waste products had been stored in a 4,500-gallon AST which was overfilled and then discharged from a roof vent, onto the roof, down the gutter, onto the sidewalk and into the storm sewer system which lead to the river. The United States Coast Guard was involved in the spill recovery.
- On June 28, 1993 there was a report of a potential leak of drums. The fire department responded and they cooled down hot drums of sodium methoxide.
- On August 14, 1995, approximately 100 to 150 pounds of toluene leaked from a 250-gallon AST. The receiver on a reactor was overfilled, causing the toluene to discharge from a roof vent, onto the roof, down the gutter and into a diked area. The spill was contained in the diked area.

Where were drums stored.

What AST?

- On November 22, 1995 approximately 20 pounds of ethyl acetate and toluene were spilled and contaminated the land and water. The spill was due to a ruptured tank wagon line. Cleanup was completed by ISP.

New Jersey Spill: The New Jersey Spill database describes the same releases as the New Jersey Release database (above).

RCRIS-LQG: Nine violations were recorded from November 1990 to February 1997. ISP reportedly generated ignitable hazardous waste, reactive hazardous waste, chromium, mercury, PCE, spent non-halogenated solvents, corrosive hazardous waste, cadmium, lead, benzene, TCE, and spent non-halogenated solvents.

State Hazardous Waste Site: A State Hazardous Waste Site case number is assigned to the ISP Chemicals facility. The SHWS case status for Case # NJD002146504 is active with on-site source of contamination. The case is being directed by BEECRA.

Underground Storage Tanks: Four underground storage tanks are identified in the UST database. Section 4.1 Exterior Inspection includes a detailed description of USTs currently located on the subject property. The following table summarizes the USTs and other information listed in the database:

UST Capacity	UST Contents	Installation Date	UST Status
25,000 gallons (southern tank)	#2 Heating Oil	1983	Inactive – reported removed (actually abandoned in place)
25,000 gallons (northern tank)	#2 Heating Oil	1983	Inactive – abandoned in place
1,000 gallons (reported) (actually 550 gallons)	#2 Heating Oil	1944	Inactive – removed
1,000 gallons	#2 Heating Oil	1983	Inactive – abandoned in place

Based on the remedial activities conducted at the subject property since 1986 the following are discrepancies regarding these USTs. The installation dates for the 25,000-gallon tanks are most likely inaccurate. The 1986 ECRA SES recommended that one 25,000-gallon UST be abandoned because it had not been used in 30 years, indicating the installation date was not 1983. The 1,000-gallon heating oil tank that was removed was actually a 550-gallon UST and it was removed on September 30, 1998.

FINDS: Other pertinent environmental activity identified at the subject property: AIRS Facility System (AIRS/AFS), BRS, Enforcement Docket System (DOCKET), Permit Compliance System (PCS) RCRIS and TRIS.

TSCA: This subject property manufactures or imports toxic materials.

TRIS: The subject property is listed in the Toxic Chemical Inventory System (TRIS) database. The chemicals listed in the database are toluene, ethylene glycol, methanol, and triethylamine.

ERNS: The subject property is listed in the ERNS database. However, no information is reported.

HMRIS: Hazardous Materials Incident Report System (HMIRS) contains hazardous material spill incidents reported to the Department of Transportation. One incident was reported on April 19, 1996. The report involved ethyl acetate and toluene being transported to a South Kearny Site. No details are provided in the EDR Report. ISP Chemicals states that, most likely, a required manifest form was not used during transportation. ISP Chemicals indicates this must refer to a raw material delivery to an ISP Chemicals facility not on the subject property.

6.2 NATIONAL DATABASE RECORDS

Governmental agency records were reviewed for information that would be helpful in determining the environmental status of the subject property. Because regulated facilities may impact other properties, it is also necessary to review governmental records for the surrounding area. These records and the results of this review are summarized below and in Appendix S (EDR Summary Report). The EDR Radius Map, also found in Appendix S, shows regulated sites located within the prescribed radii of the subject property. The following discussion summarizes the EDR database report.

- **National Priority List (NPL)**

The NPL, also known as the Superfund List, is a United States Environmental Protection Agency (USEPA) list of the nation's most serious hazardous waste sites. These sites are targeted for possible long-term remedial action under the Superfund Act. No sites on this list are located within 1.0 mile of the subject property.

- **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)**

The CERCLIS list is a compilation of known and suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated, or are currently under investigation, by the EPA for the release, or threatened release, of hazardous substances. Once a site is placed on the CERCLIS list, it may be subjected to several levels of review and evaluation, and ultimately placed on the NPL. No sites on this list are located within 0.5 mile of the subject property.

As of February 1995, CERCLIS sites designated No Further Remedial Action Planned (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the sites to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. A review of the CERC-NFRAP list has revealed that no sites located within 0.5 mile of the subject property are found on the list.

- **Resource Conservation and Recovery Information System (RCRIS)**

The RCRIS-Transportation, Storage or Disposal Facilities (TSD) list identifies facilities which transport, store or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). One site on this list is located within 0.5 mile of the subject property. This site is Wallace and Tiernan Inc. at 25 Main Street, located approximately 0.25 mile to the south of the subject property. This site is also included on the FINDS, RCRIS-LQG, CORRACTS, UST and Brownfields lists. No specific information regarding the TSDF is available; however, there are 11 violations associated with the site. This site is located topographically side-gradient or downgradient from the subject property and therefore is not an area of concern.

- **RCRIS-Large Quantity Generator**

The RCRIS report of large quantity generators contains information pertaining to those sites that either generate greater than 1,000 kilograms (kg) of hazardous waste per month or meet other applicable requirements of the RCRA. Eleven sites on this list are located within 0.25 mile of the subject property at an equal or higher topographic elevation. These 11 sites are as follows:

- Miller and Son at 24 Belleville Avenue
- Tapco Industries at 51 Cortlandt Street
- Vac-U-Max at 37 Rutgers Street
- Lloyd Engineering Company at 75 Rutgers Street
- NJDOT Structure 0208-150 at Route 7 Over the Passaic River
- G & G Auto Body Collision at 3 Cleveland Street
- R and S Strauss at 110 Washington Avenue
- Sunoco Service Station at 95-101 Washington Avenue
- Vac-U-Max at 83 Valley Street
- Wallace and Tiernan Inc at 25 Main Street
- Vac-U-Max at 195 Cortland Street

Miller and Son is listed with four violations and Wallace and Tiernan is listed with six violations. None of the other RCRIS-LGQ sites were identified as having violations.

- **RCRIS-Small Quantity Generator (SQG)**

The RCRIS report of small quantity generators contains information pertaining to those facilities that generate between 100 and 1,000 kg of hazardous waste per month. Seven sites on this list are located within 0.25 mile of the subject property at a higher or equal topographic elevation. The 7 sites are as follows:

- Rand McNally – Kimball at 151 Cortlandt Street
- Jersey Oil Company at 926 Passaic Avenue
- Budget Rent-A-Car at 946 Passaic Avenue
- Empire Graphics at 51-53 Valley Street
- Bullet Hole Inc at 78 Rutgers Street
- Rutgers Board of Education at 190 Cortlandt Street
- Fucetola Property at 15-25 River Street

Rand McNally – Kimball is listed with nine violations and Jersey Oil Company is listed with three violations. None of the other RCRIS-SQG sites were identified as having violations.

- **Emergency Response Notification System (ERNS)**

ERNS is a national computer database system that is used to store information on the release of hazardous substances into the environment. The ERNS reporting system contains preliminary information for specific releases, including the spill location, the substance released and the responsible party. The subject property is included on the ERNS list. However, no specific information is reported.

- **Facility Index System (FINDS)**

The FINDS contains both information and pointers to other sources that contain more detail. Some of these include RCRIS, CERCLIS, and PCS (Permit Compliance System). The subject property is found on the FINDS list due to RCRIS and this listing was discussed previously.

6.3 STATE DATABASE RECORDS

- **Underground Storage Tank (UST)**

The UST list, maintained by the NJDEP, is a list of registered underground tanks. The minimum search radius standard includes the subject property and adjoining properties. The subject property is included on the UST list (see above). No adjoining properties are included on the list.

- **Leaking Underground Storage Tanks (LUST)**

The New Jersey State LUST report is a comprehensive listing of all leaking storage tanks reported within the state. The subject property is not included on the LUST list. Twenty-three LUST sites were identified at a higher or equal topographic elevation than the subject property within the minimum search radius of 0.5 mile. Based on the site visit, the following five LUST sites identified within 0.5 mile of the subject property were identified as being topographically upgradient, active and potential areas of concern for the subject property. They are as follows:

- Belleville Township Garage at 42-56 William Street
- R&M Auto Service at 127 Belleville Avenue
- St. Peters Church at 155 Williams Street
- Shell Service Station at 156 Belleville and Horn
- Domestic Linen Service at 265 Cortlandt

All of the above sites are areas of concern. However, any potential contamination resulting from any of these LUST incidents would be the responsibility of the owner/operator.

- **New Jersey Major Facilities**

The New Jersey Major Facilities list includes all facilities, located on one or more contiguous or adjacent properties, owned or operated by the same person, having total combined storage capacity of: 20,000-gallons or more for hazardous substances other than petroleum or petroleum products; or 200,000-gallon or more for hazardous substances of all kinds. The subject property is not included on this list. No sites located within 0.5 mile of the subject property are included on this list.

- **State Hazardous Waste Site (SHWS)**

The SHWS records are New Jersey's equivalent of CERCLIS. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Twenty-four sites located within 1.0 mile of the subject property at a higher or equal topographic elevation than the subject property are included in the SHWS database. Only one of the 24 sites is within 0.25 mile of the subject property and this site is located on the opposite side of the Passaic River. Two of the 24 sites are located topographically upgradient of the subject property and 14 of the 24 sites are located topographically side-gradient of the subject property.

The two sites which are located topographically upgradient of the subject property are as follows:

- Shell Service Station at 156 Belleville/Horn, located between 0.25 and 0.5 mile from the subject property. The site is active with onsite contamination.
- AH Harris & Sons at 155 Manchester Place, located approximately 1.0 mile from the subject property, status is pending with on-site contamination.

The 14 sites which are located topographically side-gradient of the subject property are as follows:

- Calcine Inc at 14-40 Main Street
- NJ Transit Bus Terminal at 1 Washington Avenue
- 49 Ralph Street
- Domestic Linen Supply at 265 Cortlandt Street
- Schiavone Construction at 211 Old McCarter Hwy
- Former Belleville Auto Mart at 342 Washington Avenue
- Coyne at 137 Ralph Street
- 20 Pearlman Place
- Sam's Auto Repair at 874 Broadway
- Seton Company Leather Division at 849 Broadway
- Hudson County Chromate 149 at 349 Dayton Street
- Chemical Coatings Co Inc. at 40 Little Street
- Research Organics Inorganics at 507 Main Street
- Seton Company at 241 Oraton Street

The remaining 7 sites not listed above are located on the opposite side of the Passaic River and are therefore not areas of concern. The two sites located topographically upgradient of the subject property may be an area of concern. However, any contamination from these sites will be the responsibility of the owners of those sites. The 14 sites located topographically side-gradient of the subject property are not areas of concern.

- **State Solid Waste Facilities/Landfill Sites (SWF)**

The SWF database is a comprehensive listing of the solid waste disposal facilities or landfills in New Jersey. One site has been identified within 0.5 mile of the subject property. The site is the Newark City Sanitary Landfill, located on Belleville Turnpike in Kearny, New Jersey. The landfill is closed and contains municipal and vegetative waste. The landfill is located 0.25 mile east of the subject property on the opposite side of the Passaic River. Based on its location, this site is not an area of concern.

- **EDR Orphan Sites**

EDR compiles a list of orphan sites, which is a list of sites that cannot be accurately mapped because of incorrect or absent addresses. Based on the listed site addresses and observations made during the site visit, one orphan site appears to be the subject property and was discussed previously. No other orphan sites included on the list are an area of concern (see Appendix S, page 172).

6.4 LOCAL GOVERNMENT AGENCY RECORDS

The United States Environmental Protection Agency, New Jersey Department of Environmental Protection, Essex County Health Department, Passaic Valley Sewerage Commissioners, and the Belleville Fire Department were contacted for additional information. URS' communications with these agencies are presented in Appendix T. A summary of the information found from the agencies is discussed below.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Wanda Vasquez of the United States Environmental Protection Agency (USEPA) was contacted on Monday, August 27, 2001 via electronic mail with a Freedom of Information Act request for information regarding violations, complaints, enforcement and/or general information regarding environmental issues at the subject property. The following paragraphs detail the available information found on the USEPA Right-to-Know websites.

A search of the USEPA's TRIS database using RTK NET (Right-To-Know Network) was conducted on August 27, 2001. The database revealed TRIS information for the subject property from 1987 to 1999. This database was last updated on March 31, 2001. Generally, five chemicals: ethylene glycol, methanol, sulfuric acid, toluene and triethylamine (only in 1998) were used at the site as reactants, chemical processing aids, or manufacturing aids. Table 5 presents a summary of the available data.

A search of the USEPA's DOCKET database using RTK NET was conducted on August 27, 2001. The database revealed information for the subject property from 1983. This database was last updated on October 18, 2000. The information details administrative action 02-1988-0846, case name Van Dyk & Company Inc. Van Dyk & Company Inc. is listed as the defendant for violations for general facility requirements regarding PCB contamination. A penalty in the amount of $30,000 was listed.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Rich Yarsinsky of the NJDEP was contacted on August 27, 2001, with a Freedom of Information Act request for information regarding violations, complaints, enforcement and/or general information regarding environmental issues at the subject property. The following departments responded to date:

- The Division of Site Remediation responded stating that several files were available for review. These files were reviewed on November 8, 2001. These files contained information pertaining to the 1986 ECRA and 1992 ISRA cases which included submittals from initial reporting to Remedial Investigation Reports and associated correspondence. Information obtained from these files was incorporated into Sections 1.3 and 1.4 and Section 2 of this report.
- The Division of Solid and Hazardous Waste (SHW) responded with information from the Manifest Section and the SHW Permitting. The Divisions copied the files and provided them to URS. Copies of the file contents are included in Appendix T. The Manifest Section file is a database report of ISP Chemicals as the generator and several facilities as the transportation, storage, and disposal facility (TSDF) along with the waste type. Table 6 lists the facilities that were used by ISP Chemicals from 1992 to 2001.
- The Air and Environmental Quality Compliance & Enforcement Metro Regional Office Division of Compliance and Enforcement in West Orange, New Jersey, responded on November 1, 2001 indicating a file is available. A copy of the file contents has been requested; however, the file contents have not been received to date. Any pertinent information which change the conclusions of this report will be submitted as an addendum to this report.

Other NJDEP departments have responded stating they have no available information for the site.

ESSEX COUNTY HEALTH DEPARTMENT

Michael Festa of the Essex County Health Department was contacted on August 27, 2001, with a Freedom of Information Act request for information regarding violations, complaints, enforcement and/or general information regarding environmental issues at the subject property. No response has been received to date. Any pertinent information which change the conclusions of this report will be submitted as an addendum to this report.

BELLEVILLE FIRE DEPARTMENT

The Belleville Fire Department was contacted on August 27, 2001, with a Freedom of Information Act request for information regarding violations, complaints, enforcement and/or general information regarding environmental issues at the subject property. Deputy Chief A. Depczek responded on August 29, 2001 with a facsimile of an incident report. The report details an investigation of an over-pressure leak of suspect toluene conducted on August 6, 1998. The spill was contained in a diked area with no release to land, the NJDEP was notified (spill number 98-08-06-1352-16) and the Nutley Hazardous Materials unit responded.

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Mr. Glen McLaughlin of the Passaic Valley Sewerage Commissioners was contacted on December 14, 2001 with a Freedom of Information Act request for information regarding violations, complaints, enforcement and/or general information regarding environmental issues at the subject property. Andy Caltagirone of the PVSC responded with a fax on January 2, 2002. Mr. Caltagirone provided copies of violations by the industrial user, ISP Chemicals Inc., since 1998. Violations involved the parameters lower explosive limit (LEL), pH and toluene. In addition, Docket No. 210-99 was included naming PVSC as the plaintiff and ISP Chemicals Inc. as the defendant. In accordance with the terms and conditions of the Order, ISP Chemicals Inc. had agreed to pay the sum of $10,000 in settlement of all claims for civil penalties for having discharged effluent outside the LEL, pH, and toluene range of its permit limitations.

Summary

This section presents the conclusions and recommendations of the Preliminary Assessment based on the review of available historical information, interviews and site inspections. The following information was obtained concerning the subject property:

- The subject property south of William Street was a hat manufacturing facility from approximately 1927 to 1940. The subject property has been operated as a personal care and cosmetic ingredient manufacturer since approximately 1940. Mallinckcrodt Inc., a division of International Minerals & Chemicals Corporation, purchased the subject property from Van Dyk in 1982. Avon Products Inc. acquired the subject property from Mallinckcrodt Inc. in 1984. In 1986, Mallinckcrodt Inc. purchased the subject property from Avon Products Inc. which triggered ECRA. In 1992, ISP Chemicals Inc. purchased the subject property from Mallinckcrodt Inc. which triggered ISRA. ISP Chemicals Inc. ceased operations at the subject property in April 2001 and triggered ISRA again. ISP has entered into a Remediation Agreement with the NJDEP to combine the three ECRA/ISRA cases and to allow ISP Chemicals Inc. to complete all the Responsible Party ISRA obligations.

- During the historical review, the 1951 and 1961 Sanborn maps depict a portion of the subject property located at the northwest corner of the intersection of William and Main Streets as a filling station with two underground storage tanks. The chain of title search indicates that Tulsa Oil Company owned a portion of the subject property north of William Street from 1947 to 1976. The Sanborn maps and the chain of title indicate that this portion of the subject property has been owned and/or operated by an oil company. Historically, operations at filling stations have the potential to adversely impact soil and groundwater. Therefore, the historic use of this portion of the subject property is an AOC (see AOC #14).

- According to the review of the available historical Sanborn Fire Insurance Maps, available historical aerial photographs and available city directories, the subject property has been utilized for chemical manufacturing since approximately 1940. The buildings currently located on the subject property were constructed circa 1910. The adjacent properties have been residential or commercial areas since approximately 1906.

- According to a review of Federal, State, and local agency records, the subject property is included on the following database lists:

  New Jersey Release
  New Jersey Spill
  RCRIS (Resource Conservation and Recovery Information System) Large Quantity Generator
  State Hazardous Waste Site
  Underground Storage Tank
  FINDS (Facility Index System/Facility Identification Initiative Program Summary Report)
  TSCA (Toxic Substance Control Act)
  TRIS (Toxic Chemical Release Inventory System)

ERNS (Emergency Response Notification System)
HMIRS (Hazardous Materials Information Reporting System)

Adjacent properties are also included in various databases.

- During the site walkover, two 25,000 gallon #2 fuel oil USTs were observed between Building No. 1 and Building No. 4. These tanks reportedly have been abandoned in-place (see AOC #1).
- The entire subject property is covered with buildings, asphalt pavement or concrete sidewalks, except for narrow (approximately 5 feet wide) bands of landscape stone located along the southern and western boundaries of the subject property.
- At the rear of Building 4 (former sampling location of SS-1/CS-2), black staining from a vent pipe on the roof of Building No. 4 was observed during an initial site inspection. The staining was observed on the roof, the side of the building and on the landscape stone area below. During a follow-up site inspection, the roof in this area had been covered with black plastic; however, the staining on the building wall and the landscape stone was still apparent. This staining potentially indicates that soil beneath the landscape stone may have been impacted by a discharge from the roof vent (see AOC #3).
- During the inspection of the inside of the Building No. 3, a potential area of concern was observed in the storage area near Tank No. 455. An open trench between the wall and floor approximately four inches wide was observed at the eastern side of the room and a one-inch gap between the wall and floor was observed at the southern side of the room. The trench initially appeared to be concrete-lined at the eastern side; however, the southern trench appeared to be unlined. At the time of the initial site inspection, an oily absorbent boom was observed in the trench. The floor and walls were observed to be oil stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it was determined that the soil located beneath the concrete floor likely would not be adversely impacted by the material that was observed to have stained the floor. Based upon the results of the initial site inspection, ISP Chemicals conducted routine cleaning and maintenance of the trench on the eastern and southern side of the storage room. A follow-up inspection confirmed that the entire trench, including the southern trench was concrete lined. However, a small crack (approximately 0.1 inch in width by 3 feet in length) was observed between the southern wall and the trench bottom. The soil beneath this area may have been impacted if a spill in this room had occurred.
- During the inspection of the interior of Building No. 7, a potential area of concern was observed in the hot room. Based upon initial inspection, there was a question as to whether the southern end of the hot room floor was soil or deteriorated concrete. Based upon URS' initial inspection, ISP Chemicals conducted routine cleaning and maintenance of the hot room. During a subsequent follow-up inspection, the hot room floor was inspected again to determine if the floor was concrete. Based upon this second inspection, it was determined that the floor is concrete. However, the second inspection revealed the presence of a small area of deteriorated concrete with exposed soil below. The soil beneath the concrete floor in this area may have been impacted if a spill in this room had occurred (see AOC #12).

Conclusions and Recommendations

7.1 AOC #1 - TWO 25,000-GALLON USTS LOCATED IN THE ALLEYWAY BETWEEN BUILDINGS NO. 1 AND NO. 4.

Two 25,000-gallon USTs are located in the alleyway between Building No. 1 and Building No. 4. It is reported that the tanks contained #2 fuel oil and were used to supply the boilers for the subject property. The tank inverts are expected to be at approximately 15 feet below the ground surface. A tightness test performed on the southern tank indicated that the tank had leaked. The tank fittings were reported to be the cause of the leak detected during the test. Both tanks are buried partially beneath Building No. 4. AOC #1 is shown on Figure 3.

The southern tank was abandoned in-place by Avon in 1993. Prior to abandonment, the tank was observed to be filled with water. Oil-saturated soils were observed adjacent to the tank manway. Seven cubic yards of oil-saturated soils were excavated from above the top of the tank around the tank manway. An inspection of the interior of the tank indicated that the tank interior was epoxy-lined. In addition, several holes were observed in the shell of the tank. Several soil borings were attempted around the accessible ends of the tank; however, refusal was encountered at approximately three feet below ground surface due to large cobbles in the soil. The tank was cleaned and filled with concrete.

The northern tank was abandoned in-place by ISP Chemicals on January 16, 1999. The remaining liquids were pumped from the tank and the tank was cleaned. The tank was reportedly in good condition with no visibly-observable holes or cracks. The tank then was filled with a cement slurry. Six post-abandonment samples were collected from the eastern accessible side of the tank. The samples were analyzed for TPHC and two samples were analyzed for VOCs. All analytical results were less than the NJDEP's IGWSCC. The tank closure activities and analytical results were submitted to the NJDEP in the Underground Storage Tank Closure and Site Assessment Report by BEM Systems dated August 1999.

In a letter from the NJDEP to ISP Chemicals dated June 27, 2001, the NJDEP had requested clarification of which UST had been abandoned by Van Dyk and Company and which UST had been abandoned by ISP Chemicals. Based upon a review of the available documents pertaining to the USTs, it has been determined that the northern tank was abandoned by ISP Chemicals and the southern tank was abandoned by Van Dyk and Company. It should be noted that the figures depicting the USTs in the August 1999 Underground Storage Tank Closure and Site Assessment Report by BEM Systems are inaccurate. These figures are the only known inaccurate representation of the location of the tanks. All other figures reviewed by URS indicate the correct location of the USTs.

The NJDEP also stated in their June 27, 2001 correspondence that further evaluation of the condition of the soils around the UST that was determined to have leaked is required. The tank that leaked is the southern tank, which was abandoned by Van Dyk and Company. In addition, a letter from the NJDEP to ISP Chemicals dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-

gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, this AOC is open and requires further investigation (see Section 5.1.1 of the Remedial Investigation Workplan (RIW)).

The remedial action for this AOC may include institutional controls (a Deed Notice) and engineering controls (a cap). However, the actual remedial action design for this AOC will be described in a future Remedial Action Workplan for approval by the NJDEP.

7.2 AOC #2 – SUSPECTED 1,000-GALLON NO. 2 FUEL OIL UST

During the NJDEP's February 17 and March 25, 1987 site inspections, a large portion of asphalt paving was observed adjacent to the northern side of Building No. 10. Three soil borings (TB-1 through TB-3) were attempted in the area of the suspect UST. While attempting to advance boring TB-1 underground piping was encountered therefore this boring was abandoned. Soil Borings TB-2 and TB-3 were advanced to the groundwater at 8 feet below the ground surface. A soil sample was collected from each boring at the 0 to 0.5 feet above the water table and analyzed for TPHC. The soil analytical results were 250 ppm and 160 ppm at borings TB-2 and TB-3, respectively. Groundwater monitoring well MW-5 was installed at the suspect UST location. A groundwater sample was collected and analyzed for B/N+15. No B/N compounds were detected in the groundwater.

After the soil borings were advanced and the monitoring well was installed, Avon Products determined that the repaired asphalt was related to a repaired utility line in the area. The piping observed during the advancement of boring TB-1 was believed to be a water line and was not related to an UST. Therefore, the suspect UST was determined not to exist.

No soil or groundwater contamination was encountered at concentrations greater than the NJDEP RDCSCC or GWQC. The NJDEP approved Avon Products' proposal for No Further Action for AOC #2 on December 27, 1993.

7.3 AOC #3 - EXTERIOR STAINED SOIL AREAS LOCATED AT THE REAR PORTIONS OF THE MAIN MANUFACTURING BUILDING

Two stained soil areas were observed during an interim NJDEP site inspection conducted on March 31, 1992 in the rear portion of the subject property behind the main manufacturing building. As directed by the NJDEP, one soil sample was collected from each of the stained areas. The soil samples (SS-1 and SS-2) were analyzed for TPHC, B/N+15, PCBs and mercury. Laboratory analysis of soil sample SS-2 indicated the presence of TPHC and PCBs at concentrations greater than the NJDEP criteria. TPHC was detected in soil sample SS-2 at 90,000 ppm and PCBs were detected at 1.9 ppm. Base/neutral tentatively identified compounds (TICs) from soil sample SS-2 totaled 1,353 ppm, which is greater than the NJDEP criteria of 1,000 ppm total organic compounds. Several minimum detection limits (MDLs) for B/N

compounds in soil sample SS-1 (3.1 ppm) and SS-2 (51.0 ppm) exceeded NJDEP soil cleanup criteria. These tabulated analytical results are also included in Appendix C of this report

The responsible party, Avon Products Inc., excavated an area approximately 2.5 feet wide by 3 feet long by 2 feet deep at the former sample location SS-2. The excavated soil was placed in three 55-gallon drums. The soil characterization documentation for disposal is included in Appendix P. The NJDEP stated in the June 27, 2001 letter that Avon collected only one post-excavation soil sample from the SS-2 excavation and stated that, based on the NJDEP TRSR, two post-excavation soil samples are required for an excavation of this size. In addition, the NJDEP stated that Avon did not analyze the one post-excavation soil sample for VOC+15, B/N+15, or PCBs as required. Therefore, the NJDEP required further investigation for this AOC.

However, Avon did collect two post-excavation soil samples (SS2PE-1 and SS2PE-2) collected from the 1.5 to 2.0 foot interval below the ground surface and analyzed the samples for TPHC, VOCs, B/Ns, and PCBs. Analytical results indicated that all parameters were detected at concentrations less than the NJDEP soil cleanup criteria. Figure 7 shows the extent of the excavation, soil sample locations and summarizes the detected pre and post excavation soil analytical results. Avon submitted the results to the NJDEP in the 1994 Remedial Investigation Report prepared by IT Corporation. These results are also included in Appendix C, Table 3, of this report. AOC #3 is shown on Figure 3. Clean fill certification was never provided to the NJDEP during the RI submittals and is not available.

Therefore, URS recommends that a No Further Action determination be approved for this AOC.

7.4 AOC #4 - MAIN MANUFACTURING BUILDING ALLEYWAY SOIL CONTAMINATION

As part of the 1986 ECRA investigation, soil was collected from beneath the main manufacturing building alleyway. The soil beneath the main manufacturing building alleyway was analyzed for PCBs at various depths. The PCB concentration at the 0 to 2.0 foot interval below the ground surface was 1,300 ppm and the PCB concentration at the 6.0 to 8.0 foot interval below the ground surface was 3.0 ppm. The soil in this area has since been delineated in accordance with the NJDEP soil cleanup criteria. AOC #4 is shown on Figure 3. The soil in this area has since been delineated in accordance with the NJDEP criteria. Figure 8 of this PA demonstrates PCB delineation using historical analytical results from the 1986, 1994, 1995 and 1996 investigations. In addition, the May 24, 1997 NJDEP correspondence states that the PCB soil contamination within the Manufacturing Building Alleyway is acceptable. No further remedial investigation is required for this area. However, remedial action will be required for this area. A Remedial Action Workplan will be submitted to the NJDEP following the completion of the proposed remedial investigation. Excavation and off-site disposal will most likely be the best alternative for accessible soils with contaminant concentrations greater than the applicable soil remediation standard. Institutional and engineering controls (Deed Notice and impermeable cap) will most likely be the best alternative for soils which are to remain on site and which have contaminant concentrations greater than the applicable standard.

7.5 AOC #5 DRUM STORAGE AREAS

As part of the 2001 ISRA investigation, the NJDEP identified outdoor drum storage areas near Building No. 10 (AOC #5). AOC #5 is shown on Figure 5. Reportedly, the drum storage areas have always been concrete or asphalt paved surfaces. Raw and finished materials were stored in the covered outdoor storage area and hazardous waste for disposal was stored in the open outdoor storage area.

The 1992 Remedial Investigation Report (the year ISP Chemicals Inc. obtained the subject property) states that drum storage was on level maintained concrete or asphalt with no cracks and no staining or evidence of drum leakage was apparent. At that time no further investigation was proposed, which was acceptable to the NJDEP as stated in the May 14, 1993 NJDEP correspondence.

The NJDEP stated in the June 27, 2001 letter that the investigation of the drum storage area (AOC #5) is considered open. However, there have been no reported spills in the area, the area is paved with asphalt and there was no evidence of staining, spills or leaks during the March 26, 2002 site inspection.

In addition, monitoring well MW-5 is from 10 to 100 feet downgradient of AOC #5. Monitoring well MW-5 was sampled and analyzed for total petroleum hydrocarbons (TPHC) and base/neutral (B/N) compounds on July 16, 1991, August 20, 1991 and analyzed for B/Ns on June 25, 1992. All analytical results were non detect.

Therefore, URS recommends that a No Further Action determination be approved for this AOC.

7.6 AOC #6 - PCB CONTAMINATED BUILDING INTERIOR SURFACES

Elevated concentrations of PCBs were encountered in chip samples collected from the ceilings, walls and floors of the buildings on the subject property by IT Corporation in 1986. Elevated concentrations of PCBs in the atmosphere were encountered at concentrations greater than the NJDEP's airborne criteria (0.0005 milligrams per cubic meter [mg/m^3] in the 1986 regulations) in the machine shop, boiler room and offices. The PCB atmospheric levels ranged from 0.00077 to 0.0017 mg/m^3, which is less than Occupational Safety and Health Administration (OSHA) and American Conference of Governmental Industrial Hygienists (ACGIH) total PCB occupational exposure limit of 0.5 mg/m^3 per 8-hour weighted average. Previously, the responsible party (Avon Products Inc.) proposed to clean the contaminated building surfaces and to encapsulate the walls, floors and building trenches with a sealing material (K-20) and to further seal the building interiors with paint so as to provide a wear indication barrier (IT, 1988). AOC #6 is shown on Figure 3. However, ISRA was subsequently determined not to apply to building interiors, therefore, Avon Products dropped this AOC.

The buildings are currently vacant and will not be occupied.

URS recommends that a No Further Action determination be approved for this AOC.

7.7 AOC #7 - PCB SOIL CONTAMINATION LOCATED BENEATH THE BOILER ROOM FLOOR

Soil sampling conducted beneath the floor of the boiler room revealed that concentrations of PCB soil contamination are present at concentrations up to 10,000 ppm. PCB-laden oils within the walls of the heating vessels used in the manufacturing building were circulating from the boiler room via piping throughout the building. The high temperature oils leaked from the piping, entered the trenches and migrated through the soils beneath the trench floor to depths of 20 to 23 feet below the ground surface (IT, 1997).

The responsible party (Avon Products Inc.) excavated a section of the trench 12 feet long by 2 feet wide by 3.5 feet deep around sample location B-02. The excavated soil was placed in ten 55-gallon drums and disposed off-site. No post-excavation soil samples were collected at this time. AOC #7 is shown on Figure 3.

The NJDEP stated in the June 27, 2001 letter that delineation of the PCB soil contamination is required. However, it should be noted that this AOC has been delineated in accordance with the NJDEP TRSR. The horizontal PCB delineation was obtained through various sampling events during the 1986, 1994, 1995 and 1996 investigations. Figure 9 of this PA demonstrates the extent PCB soil contamination within AOC #7. Figure 10 of this PA demonstrates the PCB concentrations beneath the boiler room floor not part of AOC #7. Figure 11 demonstrates the PCB concentrations in soil at the exterior southeast section of the subject property. The May 9, 1997 IT correspondence to the NJDEP details the final vertical delineation sampling required by the NJDEP. In addition the July 11, 1997 NJDEP correspondence states that "delineation of the PCB soil contamination at the former Van Dyk facility is considered complete."

Since this AOC has been delineated in accordance with NJDEP requirements, this AOC will be addressed in the remedial action phase. As stated previously, a Remedial Action Workplan will be submitted to the NJDEP following the completion of the proposed remedial investigation. Excavation and off-site disposal will most likely be the best alternative for accessible soils with contaminant concentrations greater than the applicable soil remediation standard. Institutional and engineering controls (Deed Notice and impermeable cap) will most likely be the best alternative for soils which are to remain on site and which have contaminant concentrations greater than the applicable standard.

7.8 AOC #8 - FORMER 1,000-GALLON NO. 2 FUEL OIL UST

Three soil borings (SB-6, SB-7 and SB-8) were advanced on November 23, 1993 around the former 1,000-gallon No. 2 fuel oil UST located adjacent to the southwestern corner of the facility warehouse building adjacent to William Street. Soil samples were collected from each boring at 7.5 to 8 feet below the ground surface corresponding to the depth of the tank invert. A soil boring was not advanced at the east side of the tank because of the proximity of the warehouse building and the structural concern of sampling at that location. Soil samples were analyzed for total petroleum hydrocarbons. The analytical results were 520 ppm, 38 ppm and non detect for soil

sample SB-6, SB-7 and SB-8, respectively. This was presented to the NJDEP in the December 1993 Site Investigation Report by IT Corporation.

This UST was abandoned in place by ISP Chemicals Inc. on February 23, 1999. The UST was not removed because it was determined that removal of the tank would damage the foundation of the adjacent warehouse building. As part of the abandonment, liquids were pumped from the tank, the tank was cleaned and the tank was filled with a Blue-Flow cement slurry. The tank was reportedly in good condition with no visibly observable holes or cracks in the shell.

Four post-abandonment soil samples (ISP-2-01 through ISP-2-04) were collected from each side of the tank. The samples were collected at a depth corresponding to the six-inch depth interval below the tank invert (6 to 6.5 feet below the ground surface). The soil samples were analyzed for TPHC and one soil sample was analyzed for volatile organic compounds. The TPHC results ranged from 150 to 3,380 ppm and all detected volatile organic compounds were less than the NJDEP IGWSCC. Figure 12 of this PA summarizes the detected analytical results of the post abandonment soil samples. The tabulated analytical soil sample results from the 1999 BEM Systems report is included in Appendix G.

No further action was requested for this AOC because no discharges occurred from this UST and soil and groundwater have not been adversely impacted by the UST. However, a letter from the NJDEP to ISP Chemicals Inc. dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, this AOC is open and requires further investigation.

However, URS' review of the August 1999 Underground Storage Tank Closure and Site Assessment Report for the ISP Chemicals, Inc. facility prepared by BEM Systems, Inc., clearly states that the PCB-containing waste material was generated during cleanout activities of the 25,000-gallon UST. This waste material was analyzed for RCRA disposal parameters due to PCBs having been previously identified in the area. Therefore, the PCB contamination identified in the disposal sample was from the 25,000-gallon abandonment and not the 1,000-gallon UST abandonment.

Therefore, URS recommends that a No Further Action determination be approved for this AOC.

7.9 AOC #9 - FORMER 550-GALLON NO. 2 FUEL OIL UST

A 550-gallon No. 2 fuel oil UST was located adjacent to the west side of the warehouse north of AOC #8. AOC #9 is shown on Figure 5. On September 30, 1998 this 550-gallon UST was excavated and removed. The dimensions of the UST were 6 feet in length and 4 feet in diameter. All remaining fluids and residual sludge was pumped from the UST prior to cleaning the tank. The tank was removed and disposed off site. Five post-excavation soil samples (ISP-1-01 through ISP-1-05) were collected, one from each sidewall and one from the center of the floor of the tank excavation. The samples were collected at a depth of 4 feet below the ground surface. Samples

ISP-1-01 through ISP-1-4 were analyzed for TPHC and sample ISP-1-05 was analyzed for volatile organic compounds. The TPHC sample results ranged from 230 ppm to 612 ppm. All detected volatile organic compounds were less than the NJDEP IGWSCC. These removal activities were submitted to the NJDEP in the August 1999 Underground Storage Tank Closure and Site Assessment Report for the ISP Chemicals, Inc. facility by BEM Systems, Inc. Figure 13 of this PA summarizes the detected analytical results of the post abandonment soil samples. The tabulated analytical soil sample results from the 1999 BEM Systems report is included in Appendix G.

No further action was requested for this AOC because no discharges occurred from this UST and soil and groundwater have not been adversely impacted by the UST. However, a letter from the NJDEP to ISP Chemicals Inc. dated July 10, 2000 (Appendix A) stated that the No Further Action proposal for the closures of a 550-gallon UST, a 1,000-gallon UST and a 25,000-gallon UST is not acceptable. The reason provided in the NJDEP letter was the presence of an elevated PCB concentration in one of the disposal samples collected from the material (i.e., product and sludge) removed from the USTs. As stated in the NJDEP's June 14, 2001 Inspection Report, no further action for this AOC appears acceptable, However, the PCB concentration in the disposal sample needs to be addressed.

As stated in the paragraph above, it is apparent that the PCB-containing waste originated from the 25,000 gallon UST. Therefore, URS recommends that a No Further Action determination be approved for this AOC.

7.10 AOC #10 - GROUNDWATER MONITORING WELL #2 (MW-2)

A Classification Exception Area (CEA) was established for groundwater based on the presence of PCBs at concentrations greater than the NJDEP GWQS in samples collected from monitoring well MW-2. The NJDEP approved the CEA in a letter dated December 18, 1996. The CEA was established with an indeterminate duration. PCB groundwater contamination has not been detected in downgradient monitoring wells MW-3 and MW-4; therefore, the downgradient extent of PCB contamination appears to be delineated by these wells.

However, the NJDEP stated in its June 27, 2001 letter that an "Interim" CEA had been established at the site for the PCB contamination present in monitoring well MW-2. Even though the CEA does not require additional groundwater monitoring the NJDEP also stated that a current round of sampling may be useful in determining why concentrations of PCBs fluctuate in the groundwater in monitoring well MW-2. However, Avon Products conducted five years (1988, 1991, 1993, 1994 and 1995) of sampling of monitoring well MW-2 prior to approval of the CEA by the NJDEP. These prior samples adequately address any PCB fluctuations which were not evident in later years, as the NJDEP did not require any on-going monitoring in the CEA.

As approved by the NJDEP (Appendix A, December 18, 1996 correspondence) no further investigation/remediation is required for the site groundwater and therefore, a No Further Action determination is recommended for this AOC.

7.11 ADDITIONAL AREAS OF CONCERN

The following sections describe additional areas of concern that were identified by URS based upon a review of EPA and NJDEP documents and the initial and follow-up site inspections.

7.11.1 Area of Concern 11 – Building No. 4 Vent Staining

At the rear of Building 4 (former sampling location of SS-1 and CS-2), black staining from a vent pipe on the roof of Building No. 4 was observed during an initial site inspection. The staining was observed on the roof, the side of the building and on the landscape stone area below. During a follow-up site inspection, the roof in this area had been covered with black plastic; however, the staining on the building wall and the landscape stone was still apparent. This staining potentially indicates that soil beneath the landscape stone may have been impacted by a discharge from the roof vent. The staining is most likely the cause of tar runoff from the roof. The source in this section of the roof is vent or distillation units 1S1 and 1S2, and the contaminants are toluene, 2-ethyl hexanol and /or Escalol 507 or Escalol 557 (see Section 5.1.2 of the RIW).

7.11.2 Area of Concern 12 – Building No. 3 Storage Room Floor/Wall Gap

During the inspection of the inside of the Building No. 3, a potential area of concern was observed in the storage area near Tank No. 455. An open trench between the wall and floor approximately four inches wide was observed at the eastern side of the room and a one-inch gap between the wall and floor was observed at the southern side of the room. The trench appeared to be concrete-lined at the eastern side; however, the southern trench appeared to be unlined. At the time of the initial site inspection, an oily absorbent boom was observed in the trench. The floor and walls were observed to be stained. The concrete floor appeared to be in good condition. Based upon this visual observation, it was determined that the soil located beneath the concrete floor likely would not be adversely impacted by the material that was observed to have stained the floor. Based upon the results of the initial site inspection, ISP Chemicals Inc. conducted routine cleaning and maintenance of the trench on the eastern and southern side of the storage room. A follow-up inspection confirmed that the entire trench was concrete lined. However, a small crack (approximately 0.1 inch in width and approximately two to three feet in length) was observed between the wall and the bottom of the south trench. Material stored in this room included miscellaneous dry goods storage and CER 60 in tank T-455. The soil beneath this area may have been impacted if a spill in this room had occurred. There is a potential that the soil may have been impacted (see Section 5.1.3 of the RIW).

7.11.3 Area of Concern 13 – Building No. 7 Hot Room

During the inspection of the interior of Building No. 7, a potential area of concern was observed in the hot room. Based upon initial inspection, there was a question as to whether the southern end of the hot room floor was soil or deteriorated concrete. Based upon URS' initial inspection, ISP Chemicals conducted routine cleaning and maintenance of the hot room. During a subsequent follow-up inspection, the hot room floor was inspected again to determine if the floor was concrete. Based upon this second inspection, it was determined that the floor is concrete.

However, the second inspection revealed the presence of a small area of deteriorated concrete with exposed soil below. The size of the deteriorated floor is approximately a three-inch diameter circular patch.

The materials heated in this room include Oleic Acid, Alfol 10, Alfol 14, Alfol 16, Butyl Stearate, Fatty Alcohol CO-1214, Neodol 25, Iso C9-C11 Alcohols, Mink Oil, Polyethylene Glycol 1000, Lipocol L-23, Glycerin, Monoethanolamine, Polyglycerol, Poluethylene Glycol E400NF, Coconut Fatty Acid, Cerasynt MAM, Ceraphyl 424, Emulsynt GDL and Dodecyl Tosylate. The soil beneath the concrete floor in this area may have been impacted if a spill in this room had occurred. There is a monitoring well MW-2 that is downgradient of the Hot Room at approximately 160 feet. However, based on the characteristics of the material heated in the room, it is not expected that the material or contaminants travel large distances through the soil (see Section 5.1.4 of the RIW).

7.11.4 Area of Concern 14 – Historic Filling Station

The portion of the subject property located to the north of William Street historically has been residential. However, the 1951 and 1961 Sanborn maps depict the portion of the subject property located at the northwest corner of the intersection of William and Main Streets as a filling station with two underground storage tanks. The chain of title search indicates that Tulsa Oil Company owned a portion of the property north of William Street from 1947 to 1976. The Sanborn maps and the chain of title indicate that this portion of the subject property has been owned and/or operated by an oil company. Historically, the operations at filling stations have the potential to adversely impact soil and groundwater. Therefore, the historic use of this portion of the subject property as a filling station is an area of concern. Refer to the RIW, Sections 4.14 and 5.1.5.

7.11.5 Area of Concern 15 – 1993 Toluene Spill (NJDEP Case # 03-6-18-1101-55)

The May 28, 2002 NJDEP correspondence (Appendix A) indicated concern regarding a toluene spill in 1993. As described in Section 5.1, a waste spill, calculated to have been approximately 100 gallons, occurred on June 18, 1993. The waste material consisted of toluene (50.6 % by weight), 2 ethyl hexanol (21.1 % by weight), ethanol (8.8 % by weight), ethyl acetate (4.0 % by weight), methanol (1.9 % by weight), water (1.7 % by weight), ethyl hexyl acetate (1.5 % by weight), butyl alcohol (1.1 % by weight) and non-volatile residue (7.5 % by weight).

A production operator was transferring a waste material from a receiver to a waste holding tank. The tank was apparently full, and with this additional material, the waste material was forced up through the vent pipe onto the roof. The spill originated from the roof vent above Building No. 4A. The toluene mixture was spilled from the vent onto the roof, collected in the gutters, drained onto the street and sidewalk and then to the storm sewer. The transfer had been in progress for approximately three minutes when an employee saw material coming out of the rain gutter. The transfer was immediately stopped.

Cleanup at the facility was handled by Willow Contracting of Verona, New Jersey, who were contacted within fifteen minutes of the discovery of the spill. The Belleville Fire Department, New

Jersey State Police Department, United States Coast Guard (USCG) and the NJDEP also responded to the incident. Approximately 55 gallons of the toluene mixture entered the storm sewer and entered the Passaic River. The Belleville Fire Department immediately upon arrival at the scene flushed the sewer with 25,000 gallons of water to dilute the waste material to prevent a possible explosion due to the volatile nature of the mixture. The USCG recovered the material in the Passaic River by deploying booms and sorbents. ISP Chemicals Inc. received a summons alleging a violation of N.J.S.A. 23:5-28, titled "Pollution and Obstruction of Waters." ISP Chemicals Inc. agreed to pay a penalty to the NJDEP. The ISP Chemicals Inc. report documenting the toluene spill, the police report, the USCG public report and a clipped newspaper article regarding the toluene spill and other small spills can be found in Appendix O.

Based on the fact that the waste material never discharged to site soil and that the majority of the spill was contained and collected, there was a quick response from local, state and federal agencies, and the public sewer was flushed with 25,000-gallons of water, ISP requests that no further investigation /remediation is required for this AOC and therefore, a No Further Action determination is recommended for this AOC.

BEM Systems, Underground Storage Tank Closure and Site Assessment Report for ISP Van Dyk, Inc. Facility, presented to: NJDEP, on behalf of: International Specialty Products, August 1999.

CompuChem Laboratories, Inc. Data package dated 1990.

Crummy, Del Deo, Dolan, Griffinger & Vecchione Letter from John H. Klock to Mr. Joseph Ludovico, Case Manager regarding Van Dyk & Co. ECRA Case No. 85817 dated August 13, 1991

Crummy, Del Deo, Dolan Griffinger & Vecchione Letter, from John H. Klock to Mr. Joseph Ludovico of the NJDEP regarding ACO, Remedial Investigation Report and Remedial Action Workplan Proposal August 8, 1994, letter dated January 5, 1995.

Crummy, Del Deo, Dolan Griffinger & Vecchione Letter to Celeste Lagomarsino, Environmental Counsel, ISP regarding ISP Van Dyk Site Data Review, dated May 16, 1996.

Crummy, Del Deo, Dolan Griffinger & Vecchione Letter from John H. Klock, to Celeste Lagomarsino, of ISP Van Dyk regarding Belleville ISRA, dated February 11, 1997.

ISP Letter to Stephen E. Maybury, Acting Chief Bureau of Environmental Evaluation and Cleanup Responsibility Assessment NJDEP regarding Van Dyk & Company, dated March 25, 1996.

ISP Letter to George Leahy regarding Request for Proposal WM-417 dated May 29, 2001.

IT Corporation, Figure 1: Site Layout with Areas of Environmental Concern, Van Dyk & Company Facility dated August 1992.

IT Corporation, Figure 2: Groundwater Contour Map Van Dyk & Company Facility dated August 1992.

IT Corporation, Final Report Contamination Assessment for Van Dyk and Company Facility, Belleville, NJ. Prepared for : Crummy, Del Deo, et. al., Newark, NJ. February 1987.

IT, Final Report Occupational Health Risk Assessment for the Van Dyk and Company Facility, prepared for Crummy, Del Deo, Dolan, Griffen and Vecchione, January 1987

IT Corporation, Decontamination Work Plan for the Van Dyk and Company Facility, prepared for Crummy, Del Deo, et.al., February 1988.

IT Corporation, Results of the Subsurface Investigation at the Van Dyk and Co. Site, prepared for Avon Products, August 1988.

IT Corporation, Remediation Work Plan for the Van Dyk and Company Facility, prepared for Crummy, Del Feo, et.al., July 1991.

IT Corporation, Results of Additional Subsurface Investigations for the Van Dyk and Co. Site, prepared for Crummy, Del Deo, et.al., September 1991.

IT Corporation, Remedial Investigation Report ISP Van Dyk, prepared for: M.I. Holdings, Inc., August 1992.

IT Corporation, Remedial Investigation Report Van Dyk and Company, Prepared for: M.I. Holdings, Inc., August 1993.

IT Corporation, Site Investigation Report for the Van Dyk and Company Site, prepared for Avon Products, Inc., December 1993.

IT Corporation, Remedial Investigation Report ISP Van Dyk, prepared for: Avon Products, Inc., May 1994.

IT Corporation, Remedial Investigation Report for Van Dyk and Company, prepared for Avon Products, Inc., August 1994.

IT Corporation Letter to Mr. Joseph Ludovico, Case Manager, NJDEP from Paul Dimakos regarding Van Dyk and Company Facility dated December 20, 1994.

IT Corporation Letter to Mr. Joseph Ludovico, Case Manager, NJDEP from Paul Dimakos regarding Van Dyk and Company Facility dated December 23, 1994.

IT Corporation Letter to Mr. Joseph Ludovico of the NJDEP regarding a Remedial Action Schedule for the Van Dyk Company dated February 15, 1995.

IT Corporation, Remedial Investigation Report ISP Van Dyk, prepared for: Avon Products, Inc., April 1995.

IT Corporation Letter to Mr. Joseph Ludovico of the NJDEP regarding Project No. 529461 Van Dyk and Company Facility Belleville dated November 1995.

IT Corporation, Classification Exception Area for the ISP Van Dyk, Inc, prepared for: Avon Products, Inc., dated February 1996.

IT Corporation, Remedial Investigation Report ISP Van Dyk, prepared for: Avon Products, Inc., May 1996.

New Jersey Department of Environmental Protection, Letter Re: Remedial Investigation Report Dated May 1996, March 24, 1997.

New Jersey Department of Environmental Protection, Letter Re: Administrative Consent Order In the Matter of Van Dyk & Company, February 27, 1998.

Mallinckrodt Declaration of Environmental Restrictions and Conditions dated May 8, 1986.

Pitney, Hardin, Kipp & Szuch Letter from Harriett Jane Olson to Celeste Lagomarsino, Esq., ISP and Julie A. Parker, Esq., Hannoch Weisman regarding Declaration of Environmental Restrictions Belleville, NJ dated September 11, 1995.

Princeton Aqua Science, Site Evaluation Submission (SES) for the Environmental Cleanup Responsibility Act (ECRA), January 1986.

Roux Associates, Environmental Consulting and Management Letter Report, Regarding Remediation Scenarios and Cost Estimates, addressed to: Mr. Jeffry H. Koenig, Esq. of Porzio, Bromberg and Newman, P.C., prepared for: Mallinckrodt Group, Inc. dated April 3, 2000.

State of New Jersey Department of Environmental Protection Letter to Mr. Bart Bennett of Crummy, Del Deo dated April 25, 1986.

State of New Jersey Department of Environmental Protection, Industrial Site Evaluation Element, Bureau of Environmental Evaluation and Cleanup Responsibility Assessment, Environmental Cleanup Responsibility Act: Report of Inspection ECRA Case # 85817. February 17, 1987 & March 25, 1987.

State of New Jersey Department of Environmental Protection Letter to Mr. John Klock Esq. of Crummy, Del Deo, Dolan, Griffinger & Vecchione regarding Administrative Consent Order (ACO) In the Matter of Van Dyk & Company. Letter dated January 25, 1995.

State of New Jersey Department of Environmental Protection Letter to Mr. John Klock Esq. of Crummy, Del Deo, Dolan, Griffinger & Vecchione regarding Van Dyk & Company IT Corporation letter dated November 30, 1995. Letter dated March 19, 1996.

State of New Jersey Department of Environmental Protection Letter to Mr. John Klock, Esq. Of Crummy, Del Deo, Dolan, Griffinger regarding Van Dyk & Company (Avon Products, Inc.) ISRA Case No. 85817 Revised Classification Exception Area (CEA) Proposal Dated : August 1996, dated December 18 1996.

State of New Jersey Department of Environmental Protection Letter to Mr. John Klock Esq. of Crummy, Del Deo, Dolan, Griffinger & Vecchione regarding Van Dyk Human Health Risk Assessment dated April 14, 1997 and Remedial Investigation Report dated May 9, 1997. Letter dated July 11, 1997.

State of New Jersey Department of Environmental Protection Letter to Mr. John Klock Esq. of Crummy, Del Deo, Dolan, Griffinger & Vecchione regarding Administrative Consent Order (ACO) In the Matter of Van Dyk & Company.

State of New Jersey Department of Environmental Protection Letter to Mr. Andrew G. Mueller of ISP Van Dyk regarding ISRA Case No. E85817 Underground Storage Tank Closure and Site Assessment. Letter dated July 10, 2000.

Storch Engineers Letter to Mr. James Coyne regarding Environmental Sampling Report Van Dyk Facility dated November 1, 1989.

Storch Engineers Sample Location Plan, Van Dyk Facility, Project No. 2194, dated October 15, 1989.

Woodward Clyde, Human Health Risk Assessment, ISP Van Dyk Facility, Belleville, New Jersey. Prepared for : Avon Products, Inc. New York, New York. April 14, 1997.

Environmental Data Resources, Inc.

"Linking Technology with Tradition"

Sanborn® Map Report

Ship to: Cathy Bryant
URS Corporation
201 Willowbrook Boulevard
Wayne, NJ 07470

3001179BEK 973-785-0700

Order Date: 8/17/2001 **Completion Date:** 08/20/2001
Inquiry #: 670072.4S
P.O. #: wy-0147 302
Site Name: Van Dyk Belleville
Address: 11 William Street
City/State: Belleville, NJ 07109
Cross Streets: SR 21

Based on client-supplied information, fire insurance maps for the following years were identified

1906 - 1 - map
1938 - 1 - map
1950 - 1 - map
1961 - 1 - map
1968 - 1 - map

Total Maps: 5

Limited Permission to Photocopy

URS Corporation (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Electronic Sanborn Map Images
USER'S GUIDE

Thank you for your interest in electronic Sanborn Map images. The following are guidelines for accessing the images and for transferring them to your system. If you have any questions about the use of electronic Sanborn Map images, contact your EDR Account Executive at 1-800-352-0050.

Organization of Electronic Sanborn Image File

- First Page — Sanborn Map Report, listing years of coverage
- Second Page — Electronic Sanborn Map Images USER'S GUIDE
- Third Page — Oldest Sanborn Map Image
- Last Page — Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

- Open file on screen.
- Identify TP (Target Property) on the most recent map.
- Find TP on older printed images.
- To view the image more clearly, zoom to 250%.
  - 200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.
  - Viewing above 400% will tend to pixelate the display.
- Zooming in on an image:
  - Click on the % in the lower left hand corner and type in ____%.
  - Use the magnifying tool and drag a box around the TP area.

Printing a Sanborn Map from the Electronic File

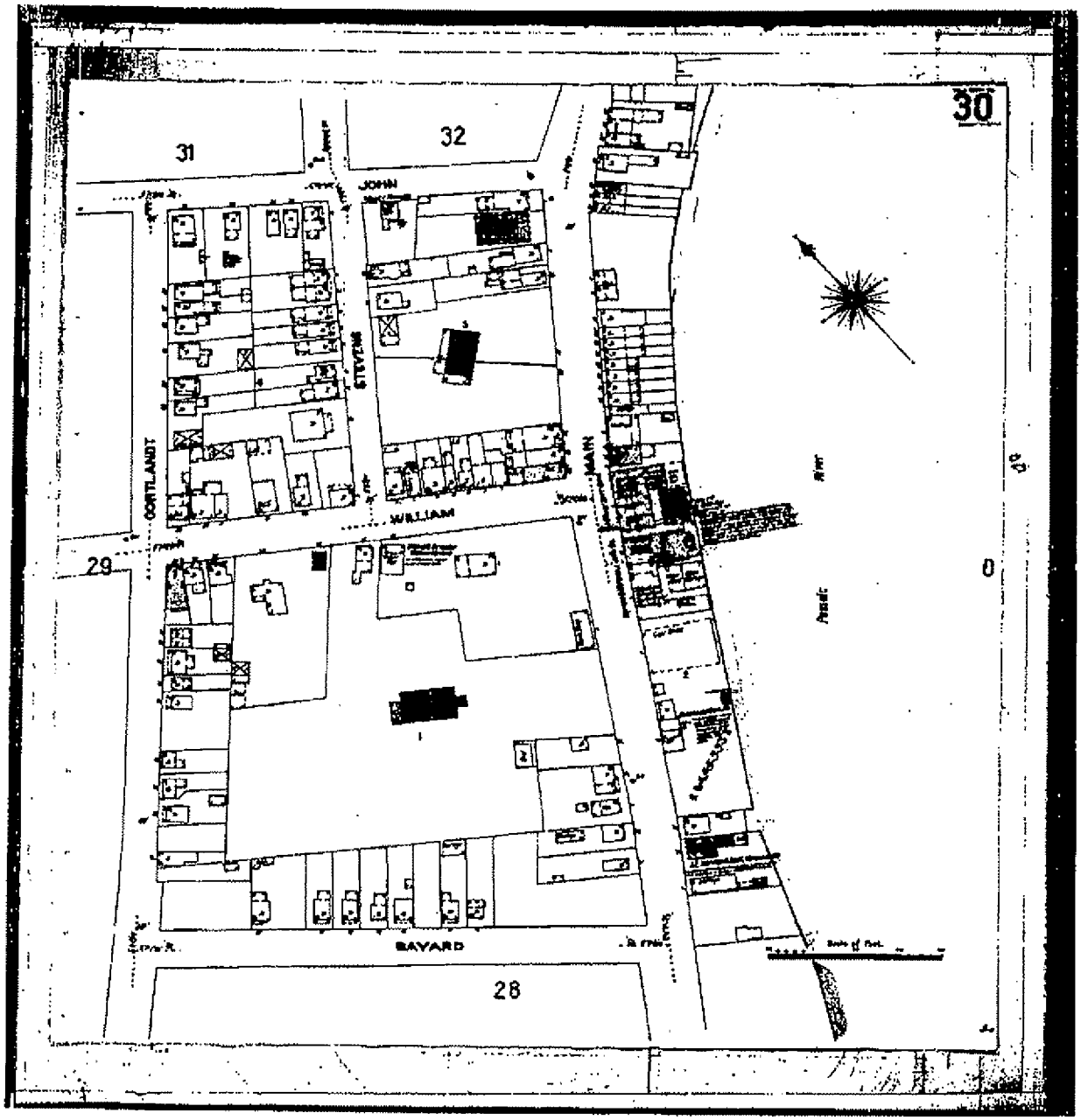
- EDR recommends printing all images at 300 dpi (300 dpi prints faster than 600 dpi).
- To print only the TP area, cut and paste the area from Adobe Acrobat to your word processor.

  For Adobe Acrobat Version 3
  - Go to the Menu Bar.
  - Highlight 'Tools'.
  - Highlight 'Select Graphics'.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

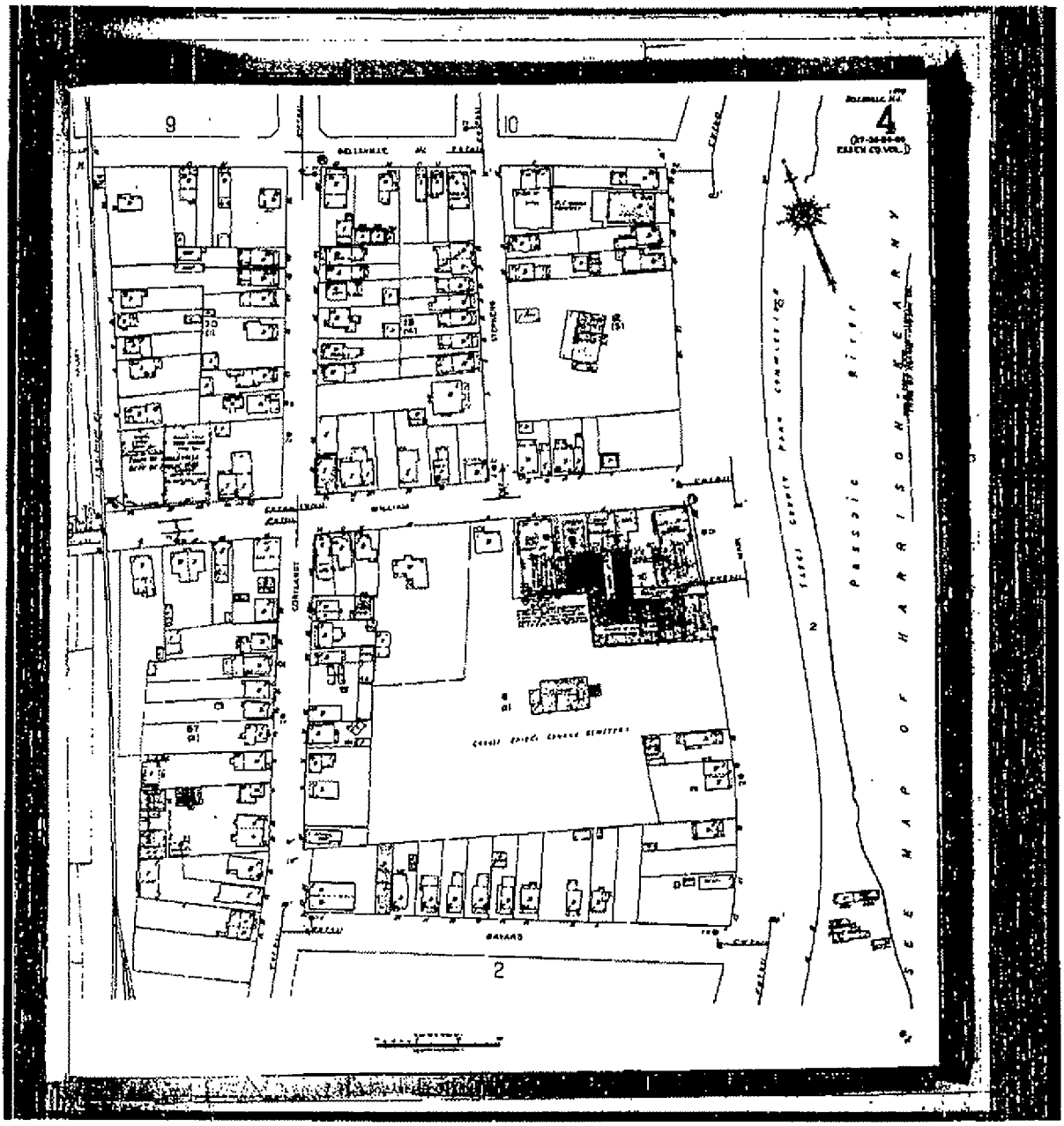
  For Adobe Acrobat Version 4
  - Go to the Menu Bar.
  - Press and hold the 'T' button.
  - Choose the Graphics Select Tool.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

Important Information about Email Delivery of Electronic Sanborn Map Images

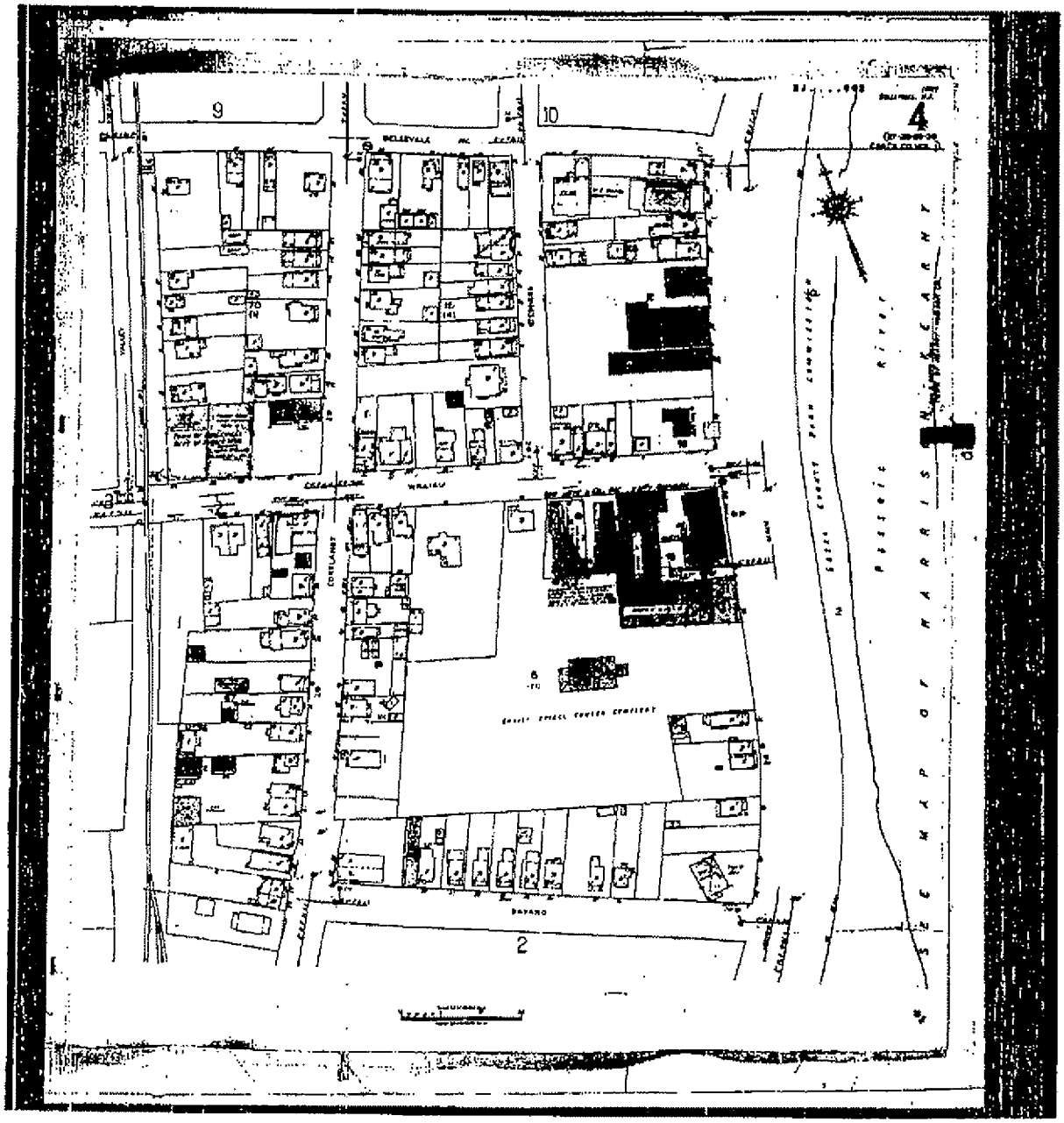
- Images are grouped into one file, up to 2MB.
- In cases where in excess of 6-7 map years are available, the file size typically exceeds 2MB. In these cases, you will receive multiple files, labeled as 1 of 3, 2 of 3, etc. Including all available map years.
- Due to file size limitations, certain ISPs, including AOL, may occasionally delay or decline to deliver files. Please contact your ISP to identify their specific file size limitations.

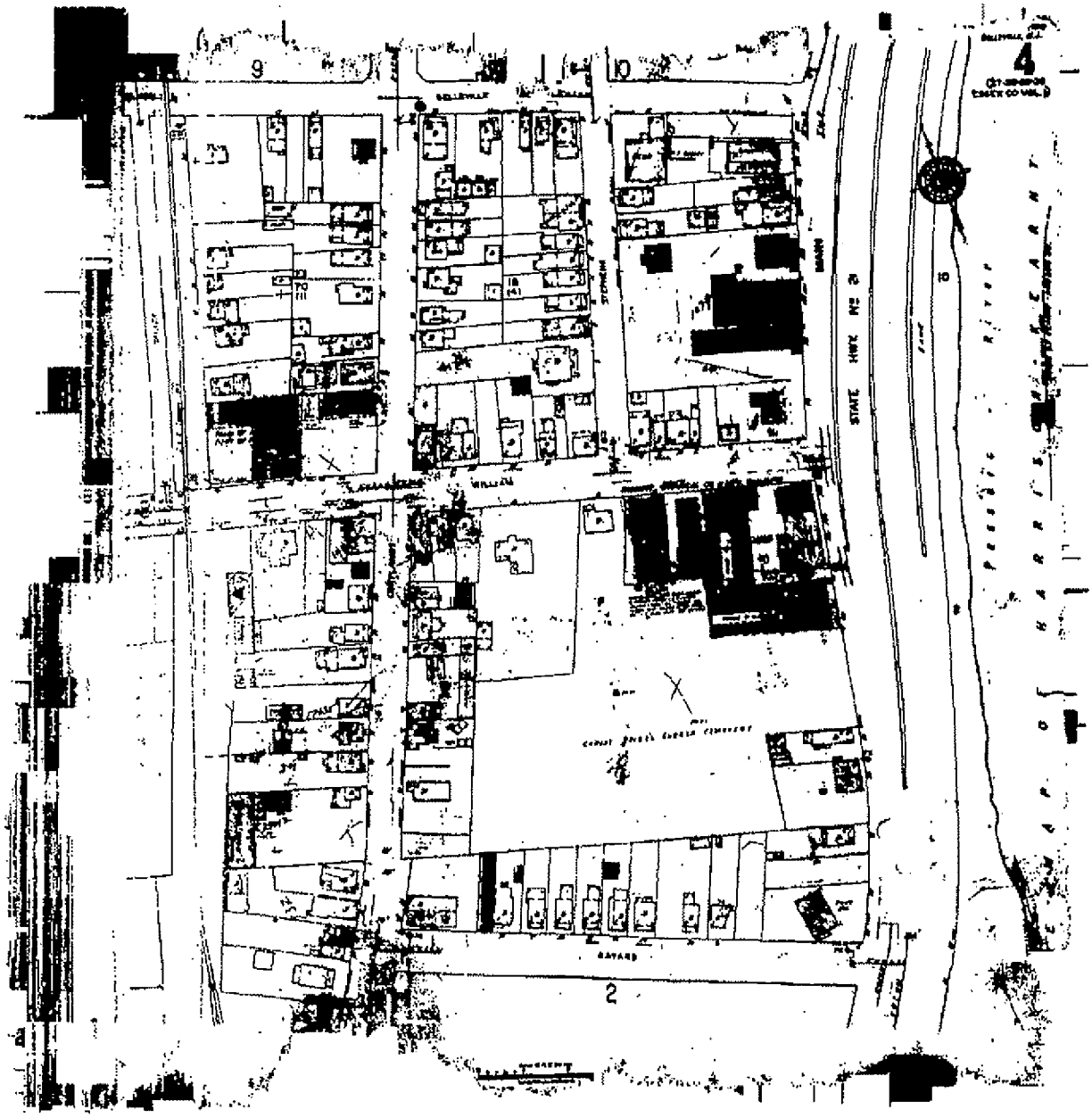


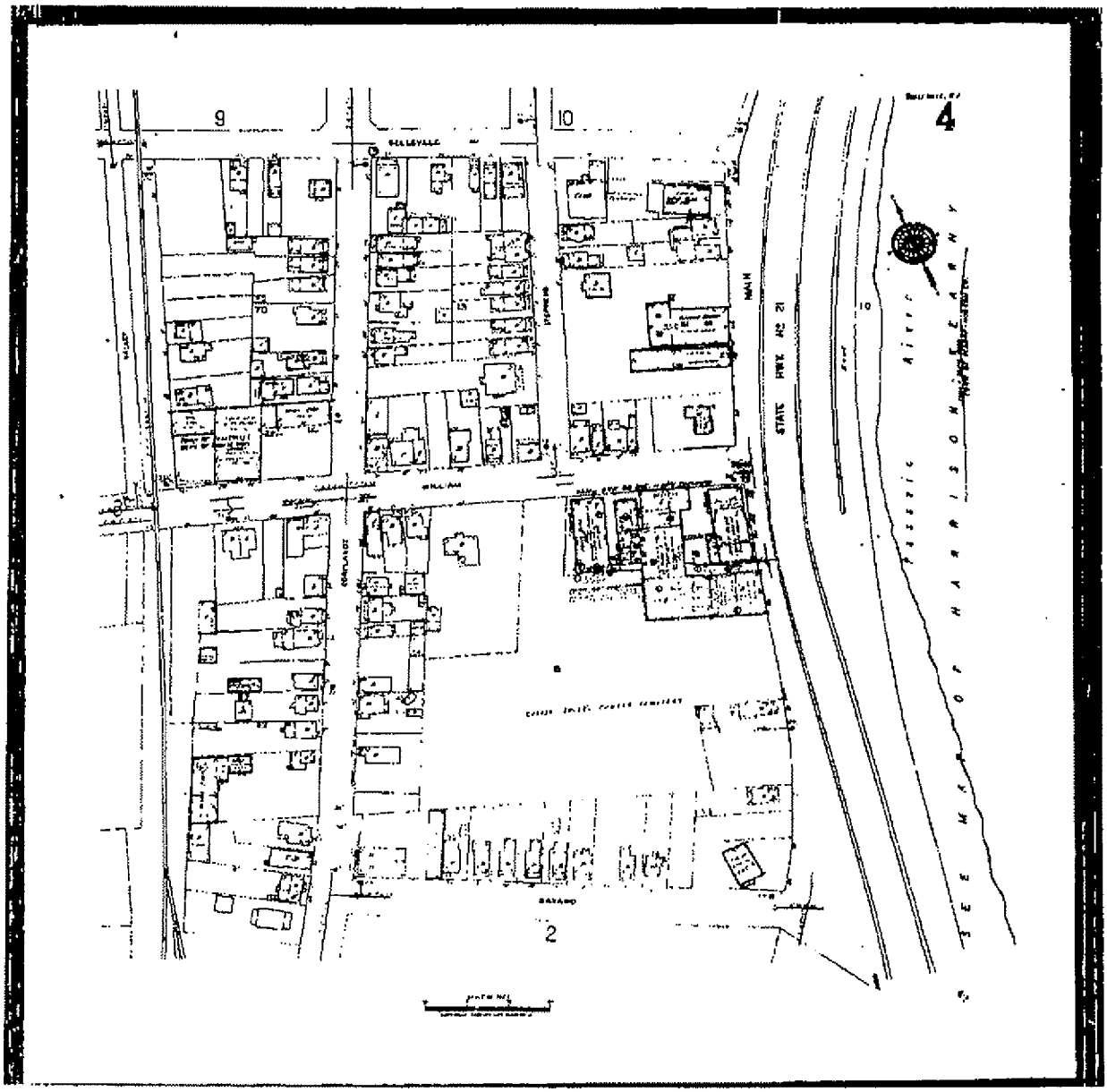
The Sanborn Library, LLC



The Sanborn Library, LLC




9
10
4
STATE HWY NO 9
2
The Sanborn Library, LLC



The Sanborn Library, LLC

APPENDIX I

AERIAL PHOTOGRAPHS

The EDR-Aerial Photography Print Service

Van Dyk Belleville
11 William Street
Belleville, NJ 07109

August 20, 2001

Inquiry Number: 670072-5

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

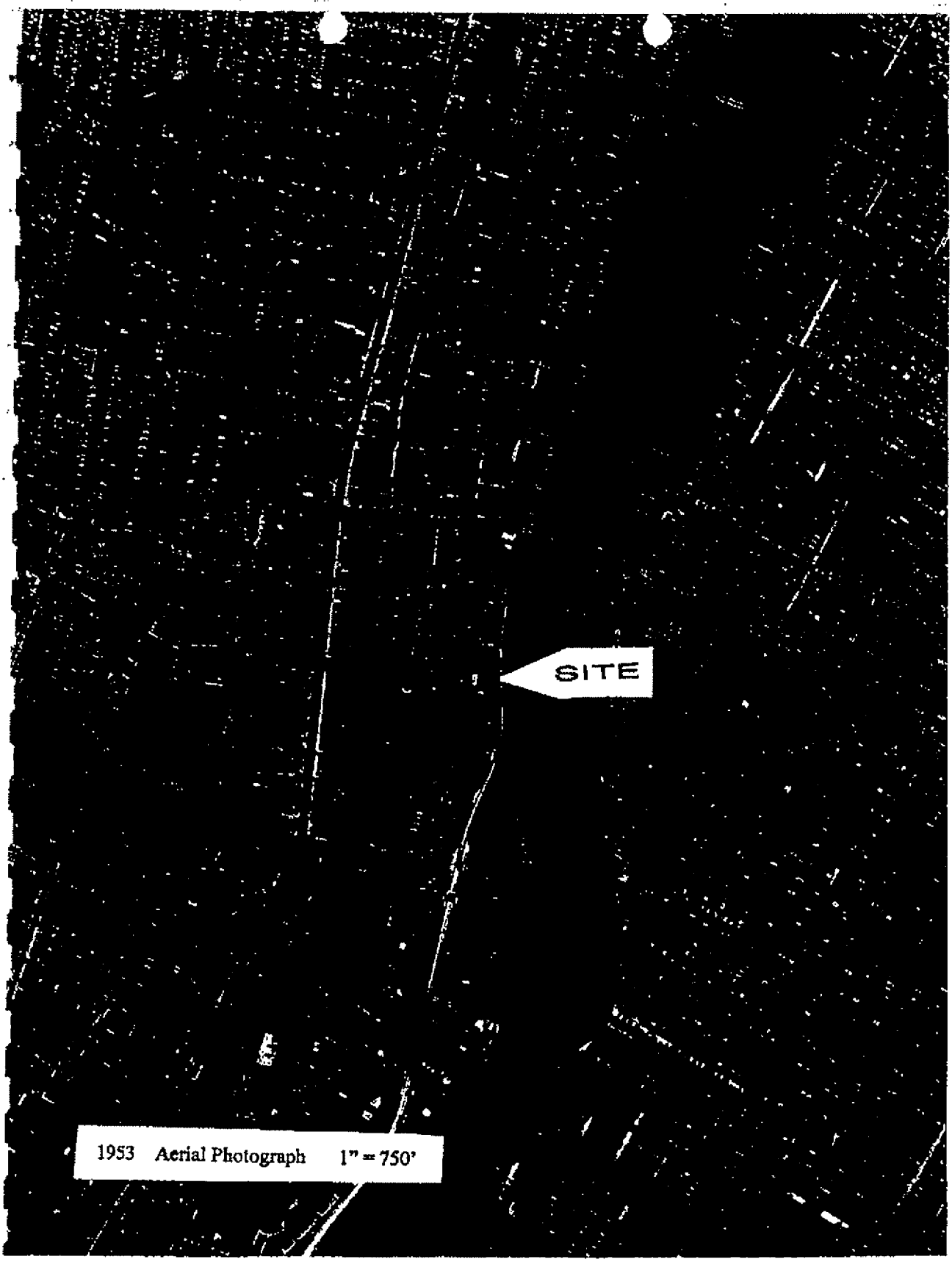
Environmental Data Resources, Inc.
Aerial Photography Print Service

Environmental Data Resources, Inc.'s (EDR) Aerial Photography Print Service is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.4, page 12.

Aerial Photographs

Aerial photographs are a valuable historical resource for documenting past land use and can be particularly helpful when other historical sources (such as city directories or fire insurance maps) are not reasonably ascertainable. The EDR Aerial Photograph Print Service includes a search of aerial photograph collections flown by public and private agencies for the state of New Jersey. EDR's professional field-based researchers provide digitally reproduced historical aerial photographs at approximately ten year intervals.


SITE
1953 Aerial Photograph 1" = 750'

INQUIRY #: 6700.12

YEAR: 1953

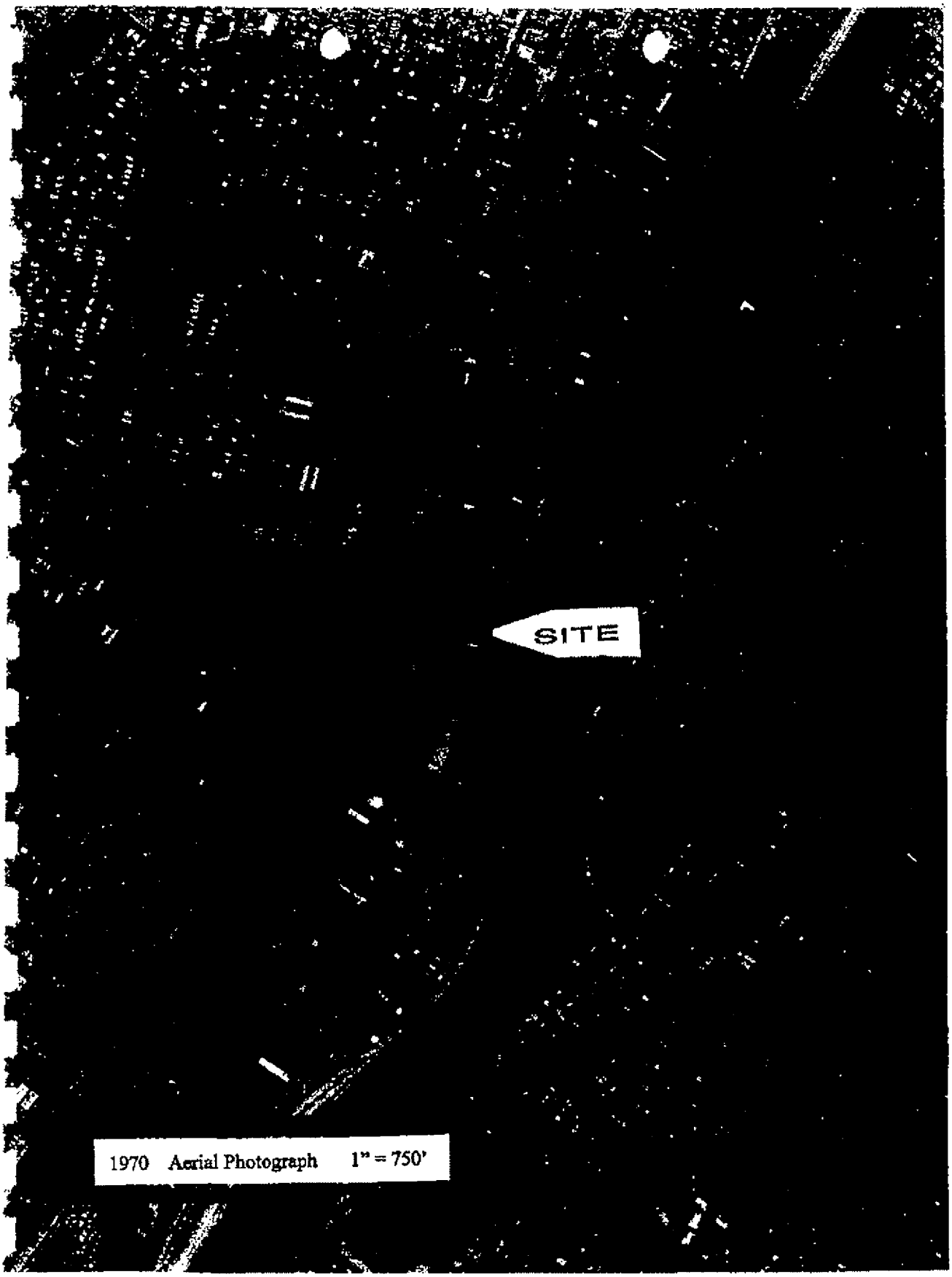
SCALE: 1"= 760'

1966 Aerial Photograph 1" = 750'

INQUIRY #: 6700772

YEAR: 1966

SCALE: 1"= 750'


SITE
1970 Aerial Photograph 1" = 750'

INQUIRY #: 670072

YEAR: 1970

SCALE: 1"= 750'


SITE
1984 Aerial Photograph 1" = 1,000'

INQUIRY #: 670072

YEAR: 1984

SCALE: 1"= 1000'


SITE
1995 Aerial Photograph 1" = 833'

INQUIRY #: 670672

YEAR: 1995

SCALE: 1"= 833'

APPENDIX J

APPENDIX J

CITY DIRECTORY

The EDR-City Directory
Abstract

Van Dyk Belleville
11 William Street
Belleville, NJ 07109

August 21, 2001

Inquiry Number: 670072-7

Environmental Data Resources, Inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

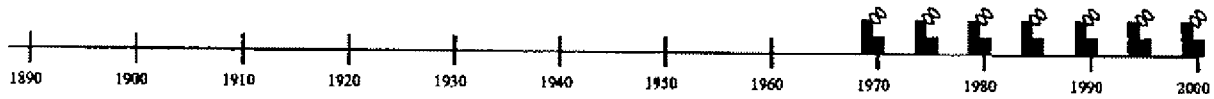
To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-00 requires *All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful.* (ASTM E 1527-00,Section 7.3.4, page 12. EDR's City Directory Abstract includes a search and abstract of available city directory data.

City Directories
City directories have been published for cities and towns across the U.S. since the 1700s. Originally a list of residents, the city directory developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural areas and small towns. ASTM E 1528-00 specifies that a *review of city directories (standard historical sources) at less than approximately five year intervals is not required by this practice. (ASTM E 1528-00, Section 7.3.4, page 12.)*

Please call EDR Nationwide Customer Service at
1-800-352-0050 (8am-8pm EST)
with questions or comments about your report.
Thank you for your business!

Prior Use Report® Timeline

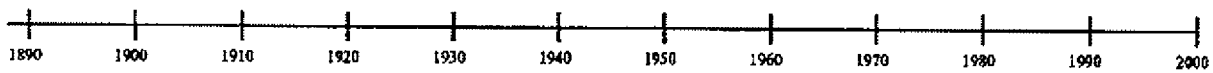
Target Property



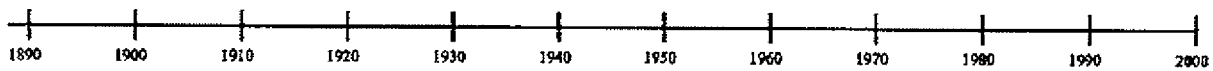
Adjoining Property Information Not Available

Front

Back



Left



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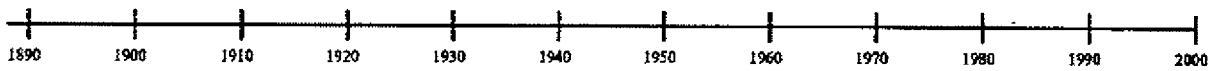


Legend:

= Historical Topographic Map (HT)

= National Wetland Inventory Map (WT)*

= Flood Prone/FEMA Maps (FP/FR)*

= Aerial Photos Included (P)*

= Aerial Photos Available*

= Residential (R)

= Commercial or Industrial (C)

Superscript number corresponds to graph ID in text

**Displayed on timeline when aerial photos, flood prone, FEMA, wetland maps, or Aerial Research Summary are purchased.*

Target Property: Van Dyk Belleville
Address: 11 William Street
City/State/Zip: Belleville, NJ 07109

Customer: URS Corporation
Contact: Cathy Bryant
Inquiry #: 670072-7
Date: 08/21/2001

4. SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1970 through 2000. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

Date EDR Searched Historical Sources:
City Directories Aug 21, 2001

Target Property:
11 William Street
Belleville, NJ 07109

PUR ID Year	Uses	Portion-Findings (FIM Information Only)	Source
1970	Caroline Chemical, Van Dyk & Co Inc, Summit Chemical		Street Address City Directory
1975	Caroline Chemical, Van Dyk & Co Inc, Summit Chemical		Street Address City Directory
1980	Novarome, Van Dyk & Co Inc, Summit Chemical		Street Address City Directory
1985	Van Dyk Mallinkrodt, Summit Chemical		Street Address City Directory
1990	Van Dyk Mallinkrodt Office Building		Street Address City Directory
	ISP Van Dyk Admin, ISP Van Dyk Tech Svc, Summit Chemical		
1995	Van Dyk Mallinkrodt Office Building		Street Address City Directory
	ISP Van Dyk Admin, ISP Van Dyk Tech Svc, Summit Chemical		
2000	Van Dyk Mallinkrodt Office Building		Street Address City Directory
	ISP Van Dyk Admin, ISP Van Dyk Tech Svc, Summit Chemical		

Adjoining Properties

SURROUNDING
William Street
Belleville, NJ 07109

Surrounding Area Property Log of Address Changes
2000 William Street

PUR ID Year	Uses	Portion-Findings (FIM Information Only)	Source
1970	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	Residence (12)		
	Residence (14,16)		
	Residence (18)		
1975	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	Residence (12)		
	Residence (14,16)		
	Michael's Towing (18)		
1980	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		

PUR ID Year	Uses	Portion-Findings (FIM Information Only)	Source
1985 (continued)	Residence (12)		
	Address Not Listed in Research Source (14)		
	No Return (18)		
1985	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	Residence (12)		
	Address Not Listed in Research Source (14)		
	No Return (18)		
1990	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	Residence (12)		
	Address Not Listed in Research Source (14)		
	No Return (18)		
1995	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	Residence (12)		
	Residence (14)		
	No Return (18)		
2000	**William Street Addresses**		Street Address City Directory
	-No Listings Prior to TP		
	No Return (12)		
	No Return (14)		
	No Return (18)		

Glossary of Terms

A.A.A.
Aerial photograph flyer: Agriculture Adjustment Administration (Federal).

A.S.C.S
Aerial photograph flyer: Agricultural Stabilization and Conservation Service (Federal)

Address Change
Indicates that a change of address has occurred; indicates new address. A change of address may occur when a city, street, or the address ranges of a street are restructured.

Address in Research Source
Indicates that a property is listed at a different address than the one provided by the user. Generally occurs when a property is located on a corner or, when the physical address of a property is different than its mailing address.

Address Not Listed in Research Source
Occurs when a specific site address is not listed in city directories and/or fire insurance maps.

Adjoining
Any property that is contiguous, or a property that would be contiguous if not for a public thoroughfare, to the target property. *To differentiate from each adjoining property, stand at the target property's "front door" facing the street.*

Adjoining Back
Property directly to the rear of the target property.

Adjoining Front
Property directly in front of the target property.

Adjoining Left
Property directly to the left of the target property.

Adjoining Right
Property directly to the right of the target property.

Adjoining Surrounding Area
Property that may adjoin the target property but due to lack of specific map information cannot be located precisely. This situation typically occurs when city directory information, but not fire insurance map information, is available.

C.A.S
Aerial photograph flyer: Chicago Aerial Survey (private).

C.S.S.
Aerial photograph flyer: Commodity Stabilization Service (Federal).

Cartwright
Aerial photograph flyer: Cartwright (private)

CD
City Directory

Commercial

Any property including, but not limited to, property used for industrial, retail, office, agricultural, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units.

Commercial or Industrial

Property that has either a commercial *or* an industrial use. Examples include retail stores, manufacturing facilities, factories, and apartment buildings.

D.N.R.

Aerial photograph flyer: Department of National Resources (state).

D.O.T.

Aerial photograph flyer: Department of Transportation (state).

Fairchild

Aerial photograph flyer: Fairchild (private).

FIM

Fire Insurance Map

Flood Insurance Rate Maps

Flood Insurance Rate Maps are produced by the Federal Emergency Management Agency (FEMA). These maps indicate special flood hazard areas, base flood elevations and flood insurance risk zones.

Flood Prone Area Maps

Flood Prone Area maps are produced by the United States Geological Survey (USGS). Areas identified as flood prone have been determined by available information gathered from past floods.

F.S.

Aerial photograph flyer: Forest Service (Federal).

Geonex

Aerial photograph flyer: Geonex (private).

M.C.

Aerial photograph flyer: Metropolitan Council of the Twin Cities Area (state).

Map Required Not Available in Local Collection

Property is located on a fire insurance map sheet not available in local and/or microfilm collection.

Mark Hurd

Aerial photograph flyer: Mark Hurd (private)

Multiple Locations

Indicates that there are two or more sites adjoining the target property's border.

N.A.P.P.

Aerial photograph flyer: National Aerial Photography Program (Federal).

National Wetland Inventory Maps

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a division of the U.S. Department of the Interior. Wetland and deepwater habitat information is identified on a 7.5 minute U.S.G.S. topographic map. The classification system used categorizes these habitats into five systems: marine, estuarine, riverine, lacustrine and palustrine.

No Return

Indicates that site owner was unavailable at time of surveyor's contact. *Applies only to city directories.*

No Structure Identified on Parcel

Used when site boundaries and/or site address is indicated on a fire insurance map; no structure details exist.

Other

Occurs when the site's classification is different that EDR's standard categories. Examples may include undeveloped land and buildings with no specified function.

P.M.A.

Aerial photograph flyer: Production and Marketing Administration (Federal).

Pacific Aerial

Aerial photograph flyer: Pacific Aerial (private)

Portion

Refers to the fire insurance map information identified on the four quadrants of a target or adjoining property. The portions are referred to as *Frontright*, *Frontleft*, *Backright*, and *Backleft* and are determined as if one were standing at the front door, facing the street.

Property Not Defined

Used when property is not clearly demarcated on a fire insurance map.

Residential

Any property having fewer than five dwelling units used exclusively for residential purposes.

Residential with Commercial Uses (a.k.a. Multiple Purpose Address)

A business (firm) and residence at the same address. Examples include a doctor, attorney, etc. working out of his/her home.

Sidwell

Aerial photograph flyer: Sidwell (private).

Site Not Mapped

Occurs when an adjoining property has not been mapped by fire insurance map surveyors.

Teledyne

Aerial photograph flyer: Teledyne (private)

Topographic Maps

Topographic maps are produced by the United States Geological Survey (USGS). These maps are color coded line and symbol representations of natural and selected artificial features plotted to scale.

Turnbow

Aerial photograph flyer: Michael Turnbow (private)

U.S.D.A.
Aerial photograph flyer: United States Department of Agriculture (Federal).

U.S.D.I.
Aerial photograph flyer: United States Department of the Interior (Federal).

U.S.G.S.
Aerial photograph flyer: United States Geological Survey (Federal).

Vacant
May refer to an unoccupied structure or land. *Used only when fire insurance map or city directory specifies 'vacant.'*

W.P.A.
Aerial photograph flyer: Works Progress Administration (Federal).

WALLACE
Aerial photograph flyer: Wallace (private).

APPENDIX K

APPENDIX K

MACRAE'S DIRECTORY

Real Estate Research & Information

2055 East Rio Salado Parkway
Tempe, Arizona 85281
(480) 967-6752
(480) 966-9422 Fax
www.netronline.com

INDUSTRIAL DIRECTORY SEARCH REPORT

ISP VAN DYK
11 WILLIAM STREET
BELLEVILLE, NEW JERSEY

Submitted to:

ENVIRONMENTAL DATA RESOURCES, INC.
C/O
URS CORPORATION
201 Willowbrook Boulevard
Wayne, New Jersey 07470
(973) 785-0700

Attention: Cathy Bryant

Project No. D01-2038

November 21, 2001

NETR Real Estate Research and Information, LLC (NETR) hereby submits the following Industrial Directory Search Report as required in the State of New Jersey Preliminary Assessment Report in accordance with the Technical Requirements N.J.A.C. 7:26-3.1.ii. as well as a means toward meeting the minimum requirements of the due diligence requirements of the innocent purchaser defense as defined by J.J.S.A. 58:10-23-.11g.

The current directory listing for the subject property is as follows:

OCCUPANT:	ISP Chemicals, LLC
ADDRESS:	11 William Street

1. INDUSTRIAL DIRECTORY REPORT

1.1 INTRODUCTION TO THE DIRECTORY SOURCE OF INFORMATION:

As a part of this Industrial Directory Report, NETR, reviewed all readily available industrial directories. The Trenton City Library and the New Jersey State Library both located in Trenton, New Jersey maintain a collection of Industrial Directories from 1901 to current. These directories began in 1901 under the auspices of the New Jersey State Department of Labor. Intervening editions were published in 1906, 1909, 1915, 1918, 1927, 1931, 1934, 1938, 1940-41, 1943-44, 1946-47 and 1949-50 and continued the biennial issuance until 1961. The 1962 addition was the first annual edition and was continued annually, thereafter until 1981. From 1982 to 1994 the directories were called MacRae Directories. The most recent directories' reviewed are the 1999 and 2000 New Jersey Manufacturers Registers. A review of all available resources listed above produced the following Industrial Directory Report:

1.2 HISTORY OF PROPERTY:

1. 1906 INDUSTRIAL DIRECTORY OF NEW JERSEY:

OCCUPANT:	Napier & Mitchell Manufacturing Company
MANUFACTURES:	Soft felt hats
SIC CODE(S):	Not given
ADDRESS:	Not given
COMMENTS:	First year listed.

2. 1912-1938 INDUSTRIAL DIRECTORY OF NEW JERSEY:

OCCUPANT:	Napier Hat Manufacturing Company
MANUFACTURES:	Felt/fur hats
SIC CODE(S):	Not used
ADDRESS:	11 William Street/ Main Street
COMMENTS:	Employs 350-450.

3. 1949-1961 NEW JERSEY INDUSTRIAL DIRECTORY:

OCCUPANT:	Van Dyk & Company, Inc.
MANUFACTURES:	Ultraviolet absorbers, cosmetic emulsifiers and emollients
SIC CODE(S):	2844
ADDRESS:	Main & William
PHONE NUMBER:	(201) 759-3225
COMMENTS:	1949 Edition lists Verley Chemical Company, Inc. at 11 William Street.

4. 1962-1980 NEW JERSEY STATE INDUSTRIAL DIRECTORY:

OCCUPANT:	Van Dyk & Company, Inc.
MANUFACTURES:	Ultraviolet absorbers, cosmetic emulsifiers and emollients
SIC CODE(S):	2844
ADDRESS:	Main & William
PHONE NUMBER:	(201) 759-3225

5. 1982-1989 MACRAE'S INDUSTRIAL DIRECTORY:

OCCUPANT:	Van Dyk & Company, Inc.
MANUFACTURES:	Ultraviolet absorbers, cosmetic emulsifiers and emollients
SIC CODE(S):	2844
ADDRESS:	Main & William
PHONE NUMBER:	(201) 759-3225
COMMENTS:	In 1989, both Van Dyk and Van Dyk & Company, Inc. listed.

6. 1990-1992 MACRAE'S INDUSTRIAL DIRECTORY:

OCCUPANT:	Van Dyk
MANUFACTURES:	Ultraviolet absorbers, cosmetic emulsifiers and emollients
SIC CODE(S):	2844
ADDRESS:	Main & William
PHONE NUMBER:	Ultraviolet absorbers, cosmetic emulsifiers and emollients

7. 1993-1994 MACRAE'S INDUSTRIAL DIRECTORY:

OCCUPANT:	ISP Van Dyk, Inc.
MANUFACTURES:	Cosmetic chemicals
SIC CODE(S):	2865
ADDRESS:	Main & William Street
PHONE NUMBER:	(201) 450-7700

8. 1995-2001 HARRIS' OFFICIAL NEW JERSEY MANUFACTURERS REGISTER:

OCCUPANT:	ISP Van Dyk, Inc.
MANUFACTURES:	Cosmetic chemicals
SIC CODE(S):	2865
ADDRESS:	Main & William Street
PHONE NUMBER:	(973) 450-7700

9. 1999-2001 NEW JERSEY MANUFACTURERS REGISTER:

OCCUPANT:	ISP Van Dyk, Inc.
MANUFACTURES:	Cosmetic chemicals
SIC CODE(S):	2865
ADDRESS:	11 William Street
PHONE NUMBER:	(973) 450-7700

2. LIMITATION

This report was prepared for the use of Environmental Data Resources, Inc., and URS Corporation, exclusively. NETR does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved from the various agencies that make it available. NETR assumes no liability to any party for any loss or damage whether arising out of errors or omissions, negligence, accident or any other cause. In no event shall NETR, its affiliates or agents, be liable to anyone for special, incidental, and consequential or exemplary damages. The total liability is limited to the fee paid for this report.

APPENDIX L

APPENDIX L

CHAIN OF TITLE SEARCH

Real Estate Research
& Information

2055 East Rio Salado Parkway
Tempe, Arizona 85281
(480) 967-6752
(480) 966-9422 Fax
www.netronline.com

HISTORICAL CHAIN OF TITLE REPORT

ISP VANDYK
11 WILLIAM STREET
BELLEVILLE, NEW JERSEY

Submitted to:

ENVIRONMENTAL DATA RESOURCES, INC.
C/O
URS CORPORATION
201 Willowbrook Boulevard
Wayne, New Jersey 07470
(973) 785-0700

Attention: Cathy Bryant

Project No. N01-2039

November 14, 2001

NETR- **Real Estate Research & Information** hereby submits the following ASTM historical chain-of-title to the land described below, subject to the leases/miscellaneous shown in Section 2. Title to the estate or interest covered by this report appears to be vested in:

ISP CHEMICALS, LLC, a Delaware limited liability company

The following is the current property legal description:

All those certain pieces or parcels of land being Block 12, Lots 3, 25, 17, 18, 29 & 32 and Block 8, Lots 8, 24 & 30, lying and situate in the City of, County of, and the State of New Jersey.

1. HISTORICAL CHAIN OF TITLE

1. DEED:
   - RECORDED: 12-12-1927
   - GRANTOR: Lillian N. Renshaw
   - GRANTEE: Napier Hat Manufacturing Company
   - INSTRUMENT: Bk K-77, Pg 455

2. DEED:
   - RECORDED: 07-15-1943
   - GRANTOR: Napier Hat Manufacturing Company
   - GRANTEE: Van Dyk & Company, Inc.
   - INSTRUMENT: Bk F-102, Pg 119

3. QUIT CLAIM DEED:
   - RECORDED: 10-20-1982
   - GRANTOR: Van Dyk & Company, Inc.
   - GRANTEE: Avon Capitol Corporation
   - INSTRUMENT: Bk 4765, Pg 246

4. BARGAIN & SALE DEED:
   - RECORDED: 05-03-1986
   - GRANTOR: Avon Capitol Corporation
   - GRANTEE: Mallinckrodt, Inc.
   - INSTRUMENT: Bk 4910, Pg 50

5. BARGAIN & SALE DEED:
   - RECORDED: 04-07-1992
   - GRANTOR: Mallinckrodt, Inc.
   - GRANTEE: ISP Van Dyk, Inc., a Delaware corporation
   - INSTRUMENT: Bk 5207, Pg 443

6. DEED:
   - RECORDED: 07-03-2001
   - GRANTOR: ISP Van Dyk, Inc., a Delaware corporation
   - GRANTEE: ISP Chemicals, LLC, a Delaware limited liability company
   - INSTRUMENT: Bk 5809, Pg 539

2. LEASES AND MISCELLANEOUS

1. No leases or environmental liens were found of record.

3. LIMITATION

This report was prepared for the use of Environmental Data Resources, Inc., and URS Corporation, exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. NETR- Real Estate Research & Information does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Inst# 445175 Carole A. Graves
Recorded/Filed : AA 1 Essex County Register
07/03/2001 10:33:1 Bk 5809 Pg 539 #Pgs 9 Inst

Consideration:	1.00
County:	0.00
State:	0.00
N.P.R.F.:	0.00
Realty Tax:	0.00
Fees:	34.00

E

PREPARED BY AND RECORD AND RETURN TO:

Jeffrey M. Gussoff, Esq.
Wolff & Samson, P.A.
5 Becker Farm Road
Roseland, New Jersey 07068

DEED

(Belleville Property)

THIS DEED is dated June 27, 2001,

BETWEEN ISP VAN DYK INC., a Delaware corporation having an address of 1361 Alps Road, Wayne, New Jersey 07470 (the "Grantor"),

AND ISP CHEMICALS LLC, a Delaware limited liability company having an address of 1361 Alps Road, Wayne, New Jersey 07470 (the "Grantee").

1. Transfer of Ownership. In consideration for the sum of One ($1.00) Dollar, the receipt and sufficiency of which are hereby acknowledged, the Grantor hereby sells, grants and conveys the Property (as defined below) to the Grantee.

2. Tax Map Reference. The Property is known and designated as Block 8, Lots 3, 25, 17, 18, 29 and 32, and Block 12, Lots 8 and 30 on the official tax map of the Township of Belleville.

3. Property. The property conveyed by this Deed (the "Property") consists of the land, together with all of the buildings, improvements and other fixtures on the land and all of the Grantor's rights relating to the land, located in the Township of Belleville, County of Essex and State of New Jersey. The legal description of the Property is as follows:

See Schedule A attached hereto and made a part hereof.

BEING the same property conveyed to the Grantor herein by (i) deed from Mallinckrodt, Inc. dated March 31, 1992 and recorded on April 7, 1992 in the office of the Register of Essex County, New Jersey in Deed Book 5207, Page 443 (with respect to Block 8, Lots 3, 25, 17, 18, 29 and 32 and Block 12, Lot 8) and (ii) deed

SCHEDULE A

ALL that certain tract, lot and parcel of land lying and being in the Township of Belleville, County of Essex and State of New Jersey, being more particularly described as follows:

BEGINNING in the northerly line of William Street at a point distant westerly 120.60 feet westerly from its intersection with the westerly line of State Highway Route 21 and from thence running:

1. North 78 degrees 30 minutes 00 seconds West along the northerly line of William Street 40.00 feet to a point; thence
2. North 12 degrees 30 minutes 00 seconds East, 71.00 feet, to a point; thence
3. South 78 degrees 30 minutes 00 seconds East, 40.00 feet to a point; thence
4. South 12 degrees 30 minutes 00 seconds West, 71.00 feet to the said northerly line of William Street and the point and place of BEGINNING.

BEING in accordance with a survey dated May 19, 1997 made by G.B. Associates, Inc.

(For Information Only) Being Lot(s) 30 Block 12 on the Tax Map of the Township of Belleville, New Jersey.

Real property located in the Township of Belleville, County of Essex, State of New Jersey and more particularly described as follows:

FIRST TRACT

BEGINNING in the westerly line of Main Street at a point distant 192.73 feet northerly from the corner formed by the intersection of the northerly line of William Street with the westerly line of Main Street; and from thence running;

1) Along the said westerly line of Main Street, North 14 degrees 38 minutes East, 60 feet; thence

2) North 76 degrees 15 minutes West, 101.90 feet; thence

3) South 14 degrees 30 minutes West, 60 feet and thence

4) South 76 degrees 15 minutes East 101.76 feet to the westerly line of Main Street and place of BEGINNING.

SECOND TRACT

BEING in the Town of Belleville and BEGINNING at the point of intersection of the northerly line of William Street and the westerly line of Main Street; from thence

1) Along said westerly line of Main Street North 16 degrees 4 minutes East 71 feet to the line of land formerly of William Stephens and now of Arthur B. Osborne; thence

2) Along this line North 75 degrees 24 minutes West 101.21 feet to a corner of land formerly of said Stephens and now of the Estate of John Strainer; thence

3) Along said land South 15 degrees 34 minutes West 71 feet to said northerly line of William Street; thence along the same South 75 degrees 24 minutes East 100.60 feet to the place of BEGINNING.

THIRD TRACT

BEING in the Town of Belleville and BEGINNING at the point in the

northwesterly line of Main Street, where the same is intersected by the northeasterly line of the first tract mentioned above, said point of beginning being distant northeasterly as measured along the said line of Main Street 71 feet from the corner formed by the intersection thereof with the northeasterly line of William Street, and from thence running;

1) Along the said northeasterly line North 75 degrees 24 minutes West 101.21 feet; thence

2) Parallel with the aforesaid line of Main Street, North 16 degrees 4 minutes East 30 feet; thence

3) Parallel with the first course hereof, South 75 degrees 24 minutes East 101.21 feet to the aforesaid line of Main Street; thence

4) Along the said line of Main Street, South 16 degrees 4 minutes West 30 feet to the point and place of BEGINNING.

FOURTH TRACT

BEGINNING in the westerly line of Main Street distant southerly 99.53 feet as measured along said line of Main Street from the southerly line of John Street; thence

1) North 74 degrees 49 minutes West, 101.16 feet; thence

2) South 16 degrees West, 30 feet; thence

3) South 74 degrees 49 minutes East, and parallel with the first course herein 100.95 feet to said line of Main Street; thence

4) Along the same, North 16 degrees 4 minutes East, 30 feet to the BEGINNING.

FIFTH TRACT

BEGINNING at the point in the westerly line of Main Street, 111.58 northerly from the intersection of the same with the northerly line of William Street; thence

1) northerly along said westerly line of Main Street North 16 degrees 38 minutes East 61.13 feet; thence

2) North 76 degrees 15 minutes West 201.76 feet to the easterly line of Stephens Street; thence

3) Along the same South 14 degrees 30 minutes West 63.19 feet; thence

4) South 76 degrees 50 minutes East 201.56 feet to the point and place of BEGINNING.

SIXTH TRACT

BEGINNING at the northeasterly corner of William Street and Stephens Street, thence

1) Along the line of William Street South 75 degrees and 20 minutes East 40.00 feet; thence

2) North 16 degrees East parallel with Stephens Street 71.00 feet 3 inches to the line of property formerly belonging to William Stephens; thence

3) Along the same North 75 degrees 20 minutes West 40.00 feet to the easterly line of Stephens Street; thence

4) Along the same South 16 degrees West 71.00 feet 3 inches to the line of William Street and the place of BEGINNING.

SEVENTH TRACT

BEGINNING at a point in the northerly line of William Street and the southwesterly line of lands formerly of James McPherson and now or formerly of Van Dyk and Co., Inc.; which said point is also distant 100.60 feet westerly from the westerly side of Main Street; from thence

1) Along said northerly side of William Street North 78 degrees 30 minutes West 20 feet to the southeasterly line of lands now or formerly of Hurbert G. Kirk, et ux; which said point is also distant 80 feet easterly along the said William Street from the easterly side of Stephens Street; from thence

2) Along the southeasterly line of lands of Hurbert G. Kirk, et ux, North 12 degrees 30 minutes East 71 feet more or less to lands formerly of William Stephens; from thence

3) Along the said lands formerly of William Stephens South 78 degrees 30 minutes East 20 feet to the westerly line of lands formerly of Henry K. Cadmus; from thence

4) Along the said westerly line of lands formerly of Henry K. Cadmus and James McPherson and now or formerly of Van Dyk & Co., Inc., South 12 degrees 30 minutes West 71 feet more or less to said northerly side of William Street and the point or place of BEGINNING.

NOTE: Being Lot(s) 3, 25, 17, 28, 29, 32, Block 12 and Lot 24 in Block 8, Tax Map of the Township of Belleville.

Being all of the property conveyed to Mallinckrodt, Inc. by Avon Capital Corporation by the deed dated February 27, 1986 recorded in Essex County Deed Book 4910 Page 50.

CHICAGO TITLE INSURANCE COMPANY
P.O. Box 5070
Toms River, NJ 08754

from Arnold Gene Kirk dated June 10, 1997 and recorded on September 19, 1997 in the office of the Register of Essex County, New Jersey in Deed Book 5496, Page 89 (with respect to Block 12, Lot 30).

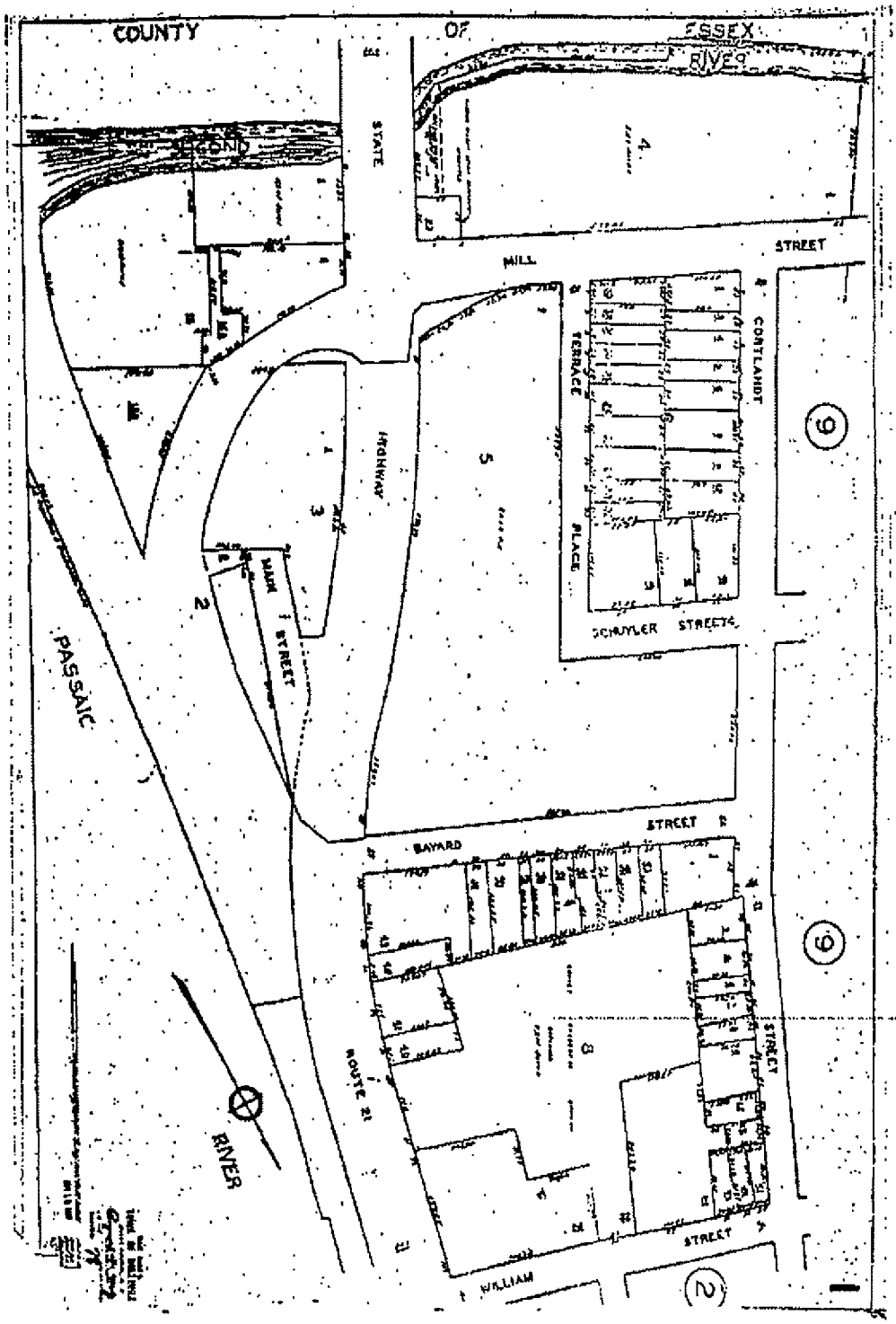
THIS conveyance is subject to ordinances, easements and restrictions of record and such facts as an accurate survey may disclose.

IN WITNESS WHEREOF, the Grantor has signed this Deed as of the date set forth above.

ISP VAN DYK INC.

By: _____
Name: Richard A. Weinberg
Title: EVP

725499.02



ISP International Specialty Products

Interoffice Correspondence

To: Bill Turetsky (Wayne 8-3)

Ralph Fasano (URS Corp) via FEDEX

Date: June 27, 2002

cc: Rob Crespi
(Wolff & Samson) via Fedex

From: Celeste Wills, Esq.
Location: Law Dept./Bldg. 10

Subject: **Belleville Response to NJDEP Letter**

Enclosed are copies of the Deeds to the Belleville facility. On Page 5 of Ann H. Wolf's NJDEP letter to ISP dated May 28, 2002 she asked if Lots 29 and 32 were conveyed in 1985, 1992 and 2001. The answer from the enclosed Deeds is, "Yes, the lots were conveyed in all three transactions".

Further, let NJDEP know that ISP Chemicals Inc. currently owns all of the sites, including the property north **AND** south of Williams Street. I do not know why they are confused on these issues, but please clear it up in our next response/report to them.

Celeste Idee

CW/dee
Enclosures

International Specialty Products | Interoffice Correspondence

To: C. Wills
Location: Wayne – Law Department

Date: June 27, 2002
C.C.: J. Fischer

From: N. Banerjee
Location: Wayne - Law Department

Subject: Belleville, NJ – Conveyance of Property

This is in reference to the issue of conveyance of property in Belleville, NJ, specifically, Block 12, Lots 29 and 32.

1. Copy of deed dated February 27, 1986 from Avon Capital Corporation to Mallinckrodt, Inc., recorded March 3, 1986, Book 4910 Page 50, shows the above referenced parcels were conveyed. (See attached deed).

2. Deed dated March 31, 1992 from Mallinckrodt, Inc. to ISP Van Dyk Inc*. recorded April 7, 1992, Book 5207 Page 443, shows that again the above referenced parcels were conveyed to ISP. (See attached deed).

*Since June 29, 2001 ISP Van Dyk Inc. has merged into ISP Chemicals Inc.

104 — DEED BARGAIN AND SALE (Covenant as to Grantor's Acts)
CORP TO NO OR CORP — Plain Language

S T — 1

DEED

Prepared by: (Print signer's name below signature)
C. Stephen Kriegh

This Deed is made on March 31, 19 92,

BETWEEN

MALLINCKRODT, INC.

a corporation of the state of Missouri
having its principal office at 675 McDonnell Boulevard, St. Louis, Missouri
referred to as the Grantor.

AND ISP Van Dyk Inc.

whose post office address is 1361 Alps Road, Wayne, New Jersey 07470
referred to as the Grantee.

The word "Grantee" shall mean all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) the property described below to the Grantee. This transfer is made for the sum of One million five hundred twenty eight thousand five hundred twenty eight dollars ($1,528,528)
The Grantor acknowledges receipt of this money.

Tax Map Reference. (N.J.S.A. 46:15-2.1) Municipality of Township of Belleville
Block No. 12, 8 Lot No. 24, 25, 17, 16, 29, 32 Account No.

☐ No property tax identification number is available on the date of this Deed. (Check box if applicable.)

Property. The property consists of the land and all the buildings and structures on the land in the Township of Belleville
County of Essex and State of New Jersey. The legal description is:

See Attached Property Description Rider

RECORDED & RECORDED
REGISTER'S OFFICE
ESSEX COUNTY, NJ
MAR 31 10:59 AM '92
BOOK 4446 PAGE 445
CONSIDERATION 1,528,528.00
RECORDING 11.00
TAX 8,745.00

4446

PROPERTY DESCRIPTION RIDER

Real property located in the Township of Belleville, County of Essex, State of New Jersey and more particularly described as follows:

FIRST TRACT

BEGINNING in the westerly line of Main Street at a point distant 192.73 feet northerly from the corner formed by the intersection of the northerly line of William Street with the westerly line of Main Street; and from thence running;

1) Along the said westerly line of Main Street, North 14 degrees 38 minutes East, 60 feet; thence

2) North 76 degrees 15 minutes West, 101.90 feet; thence

3) South 14 degrees 30 minutes West, 60 feet and thence

4) South 76 degrees 15 minutes East 101.76 feet to the westerly line of Main Street and place of BEGINNING.

SECOND TRACT

BEING in the Town of Belleville and BEGINNING at the point of intersection of the northerly line of William Street and the westerly line of Main Street; from thence

1) Along said westerly line of Main Street North 16 degrees 4 minutes East 71 feet to the line of land formerly of William Stephens and now of Arthur H. Osborne; thence

2) Along this line North 75 degrees 24 minutes West 101.21 feet to a corner of land formerly of said Stephens and now of the Estate of John Strainer; thence

3) Along said land South 15 degrees 34 minutes West 71 feet to said northerly line of William Street; thence along the same South 75 degrees 24 minutes East 100.60 feet to the place of BEGINNING.

THIRD TRACT

BEING in the Town of Belleville and BEGINNING at the point in the

PROPERTY DESCRIPTION RIDER (Cont.)

northwesterly line of Main Street, where the same is intersected by the northeasterly line of the first tract mentioned above, said point of beginning being distant northeasterly as measured along the said line of Main Street 71 feet from the corner formed by the intersection thereof with the northeasterly line of William Street, and from thence running;

1) Along the said northeasterly line North 75 degrees 24 minutes West 101.21 feet; thence

2) Parallel with the aforesaid line of Main Street, North 16 degrees 4 minutes East 30 feet; thence

3) Parallel with the first course hereof, South 75 degrees 24 minutes East 101.21 feet to the aforesaid line of Main Street; thence

4) Along the said line of Main Street, South 16 degrees 4 minutes West 30 feet to the point and place of BEGINNING.

FOURTH TRACT

BEGINNING in the westerly line of Main Street distant southerly 99.53 feet as measured along said line of Main Street from the southerly line of John Street; thence

1) North 74 degrees 49 minutes West, 101.16 feet; thence

2) South 16 degrees West, 30 feet; thence

3) South 74 degrees 49 minutes East, and parallel with the first course herein 100.93 feet to said line of Main Street; thence

4) Along the same. North 16 degrees 4 minutes East, 30 feet to the BEGINNING.

FIFTH TRACT

BEGINNING at the point in the westerly line of Main Street, 131.58 northerly from the intersection of the same with the northerly line of William Street; thence

1) northerly along said westerly line of Main Street North 14 degrees 38 minutes East 61.15 feet; thence

2) North 76 degrees 15 minutes West 201.76 feet to the easterly line of Stephens Street; thence

BK5207PG 445

PROPERTY DESCRIPTION RIDER (Cont.)

3) Along the same South 14 degrees 30 minutes West 63.19 feet; thence

4) South 76 degrees 50 minutes East 201.56 feet to the point and place of BEGINNING.

SIXTH TRACT

BEGINNING at the northeasterly corner of William Street and Stephens Street, thence

1) Along the line of William Street South 75 degrees and 20 minutes East 40.00 feet; thence

2) North 16 degrees East parallel with Stephens Street 71.00 feet 3 inches to the line of property formerly belonging to William Stephens; thence

3) Along the same North 75 degrees 20 minutes West 40.00 feet to the easterly line of Stephens Street; thence

4) Along the same South 16 degrees West 71.00 feet 3 inches to the line of William Street and the place of BEGINNING.

SEVENTH TRACT

BEGINNING at a point in the northerly line of William Street and the southwesterly line of lands formerly of James McPherson and now or formerly of Van Dyk and Co., Inc.; which said point is also distant 100.60 feet westerly from the westerly side of Main Street; from thence

1) Along said northerly side of William Street North 78 degrees 30 minutes West 20 feet to the southeasterly line of lands now or formerly of Hurbert G. Kirk, et ux; which said point is also distant 80 feet easterly along the said William Street from the easterly side of Stephens Street; from thence

2) Along the southeasterly line of lands of Hurbert G. Kirk, et ux, North 12 degrees 30 minutes East 71 feet more or less to lands formerly of William Stephens; from thence

3) Along the said lands formerly of William Stephens South 78 degrees 30 minutes East 20 feet to the westerly line of lands formerly of Henry K Cadmus; from thence

PROPERTY DESCRIPTION RIDER (Cont.)

4) Along the said westerly line of lands formerly of Henry K. Cadmus and James McPherson and now or formerly of Van Dyk & Co., Inc., South 12 degrees 30 minutes West 71 feet more or less to said northerly side of William Street and the point or place of BEGINNING.

NOTE: Being Lot(s) 3, 25, 17, 18, 29, 32, Block 12 and Lot 24 in Block 8, Tax Map of the Township of Belleville.

Being all of the property conveyed to Mallinckrodt, Inc. by Avon Capital Corporation by the deed dated February 27, 1986 recorded in Essex County Deed Book 4910 Page 50.

BK5207PG 447

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. This Deed is signed and attested to by the Grantor's proper corporate officers as of the date at the top of the first page. Its corporate seal is affixed.

Attested by:

MALLINCKRODT, INC.

Jake A. Larimer, Assistant Secretary

By: Mack Nichols, Vice President

(Corporate Seal)

STATE OF NEW JERSEY, COUNTY OF St. Louis SS.:

I CERTIFY that on March 31, 1992

Jake A. Larimer

personally came before me and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the Assistant secretary of Mallinckrodt, Inc. the corporation named in this Deed;

(b) this person is the attesting witness to the signing of this Deed by the proper corporate officer who is Mack Nichols the Vice President of the corporation;

(c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of Directors;

(d) this person knows the proper seal of the corporation which was affixed to this Deed;

(e) this person signed this proof to attest to the truth of these facts; and

(f) the full and actual consideration paid or to be paid for the transfer of title is $1,528,528 (Such consideration is defined in N.J.S.A. 46:15-5.)

Signed and sworn to before me on March 31, 1992

Shirley Ann Roshel

SHIRLEY ANN ROSHEL
NOTARY PUBLIC STATE OF MISSOURI
ST CHARLES COUNTY
MY COMMISSION EXP JULY 8,1992

Jake A Larimer

(Print name of attesting witness below signature)
Jake A. Larimer

Consult your Lawyer before signing this deed — it has important legal consequences.

Deed

Date, Parties

This Deed is made on February 27, 1986 between

Grantor (full name(s) and post office address): AVON CAPITAL CORPORATION, a Delaware corporation, having an office at 9 West 57th Street, New York, New York

Grantor, and

Grantee (full name(s) and post office address): MALLINCKRODT, INC., a Delaware corporation, having an office at 675 No Donnell Boulevard, St. Louis, Missouri

Grantee.

(The words "Grantor" and "Grantee" include all Grantors and all Grantees under this Deed.)

Consideration

In return for the payment to the Grantor by the Grantee of ONE MILLION SIX HUNDRED THIRTY THOUSAND Dollars ($ 1,630,000.00), the receipt of which is acknowledged,

Conveyance

the Grantor grants and conveys to the Grantee all of the land located in the Town of Hallsville County of Ramsey and State of New Jersey, specifically described as follows:

Description of Land

All those certain lots, pieces, parcels or tracts of land as more particularly described in Schedule A annexed hereto and made a part hereof, together with the buildings and improvements situate thereon.

COUNTY OF ESSEX

Book 4910 Page 50

[illegible]

This Deed was prepared by Bruce S. Lazlar, Esq. Goldfarb & Fleece 345 Park Avenue, NYC 10157

SCHEDULE A to Deed
by AVON CAPITAL CORPORATION,
as Grantor to MALLINCKRODT,
INC., as Grantee

All the real property located in the Township of Belleville, County of Essex, State of New Jersey and more particularly described as follows:

BEGINNING in the westerly line of Main Street at a point distant 192.73 feet northerly from the corner formed by the intersection of the northerly line of William Street with the westerly line of Main Street; and from thence running:

1) Along the said westerly line of Main Street, North 14 degrees 30 minutes East, 60 feet; thence

2) North 76 degrees 15 minutes West, 101.90 feet; thence

3) South 14 degrees 30 minutes West 60 feet and thence

4) South 76 degrees 15 minutes East, 101.76 feet to the westerly line of Main Street and place of BEGINNING.

SECOND TRACT

BEING in the Town of Belleville and BEGINNING at the point of intersection of the Northerly line of William Street and the Westerly line of Main Street; from thence

1) Along said Westerly line of Main Street North 16 degrees 4 minutes East 71 feet to the line of land formerly of William Stephens and now of Arthur H. Osborne; thence,

2) Along his line North 75 degrees 24 minutes West 101.21 feet to a corner of land formerly of said Stephens and now of the Estate of John Strainer; thence

3) Along said land South 16 degrees 34 minutes West 71 feet to said Northerly line of William Street; thence along the same South 75 degrees 24 minutes East 100.60 feet to the place of BEGINNING.

THIRD TRACT

BEING in the Town of Belleville and BEGINNING at a point in the Northwesterly line of Main Street, where the same is intersected by the Northeasterly line of the first tract mentioned above, said point of beginning being distant Northeasterly as measured along the said line of Main Street 71 feet from the corner formed by the intersection thereof with the Northeasterly line of William Street, and from thence running;

1) Along the said Northeasterly line North 75 degrees 24 minutes West 101.21 feet; thence

BOOK 1910 PAGE 51

SCHEDULE A - Continued

2) Parallel with the aforesaid line of Main Street, North 16 degrees 4 minutes East 30 feet; thence

3) Parallel with the first course hereof, South 76 degrees 24 minutes East 101.21 feet to the aforesaid line of Main Street; thence

4) Along the said line of Main Street, South 16 degrees 4 minutes West 30 feet to the point and place of BEGINNING.

FOURTH TRACT

BEGINNING in the westerly line of Main Street distant southerly 99.53 feet as measured along said line of Main Street from the southerly line of John Street; thence

1) North 74 degrees 49 minutes West, 101.16 feet; thence

2) South 16 degrees West, 30 feet; thence

3) South 74 degrees 49 minutes East, and parallel with the first course herein 100.95 feet to said line of Main Street; thence

4) Along the same, North 16 degrees 4 minutes East, 30 feet to the BEGINNING.

FIFTH TRACT

BEGINNING at a point in the westerly line of Main Street, 131.68 northerly from the intersection of the same with the northerly line of William Street; thence

1) Northerly along said westerly line of Main Street north 14 degrees 38 minutes East 61.16 feet; thence

2) North 76 degrees 16 minutes West 101.76 feet to the easterly line of Stephens Street; thence

3) Along the same south 14 degrees 30 minutes west 63.19 feet; thence

4) South 76 degrees 50 minutes east 101.65 feet to the point and place of BEGINNING.

SIXTH TRACT

BEGINNING at the northeasterly corner of William Street and Stephens Street, thence

SCHEDULE A - CONTINUED

1) Along the line of William Street South 75 degrees and 20 minutes East 40.00 feet; thence

2) North 15 degrees East parallel with Stephens Street 71.00 feet 3 inches to the line of property formerly belonging to William Stephens; thence

3) Along the same North 75 degrees 20 minutes West 40.00 feet to the easterly line of Stephens Street; thence

4) Along the same South 15 degrees West 71.00 feet 3 inches to the line of William Street and the place of BEGINNING.

SEVENTH TRACT

BEGINNING at a point in the northerly line of William Street and the southwesterly line of lands formerly of James McPherson and now or formerly of Van Dyk & Co., Inc; which said point is also distant 100.60 feet westerly from the westerly side of Main Street; from thence

1) Along said northerly side of William Street north 78 degrees 30 minutes west 20 feet to the southeasterly line of lands now or formerly of Hurbert G. Kirk, et ux, which said point is also distant 80 feet easterly along the said William Street from the westerly side of Stephens Street; from thence

2) Along the southeasterly line of lands of Hurbert G. Kirk, et ux, north 12 degrees 30 minutes east 71 feet more or less to lands formerly of William Stephens; from thence

3) Along the said lands formerly of William Stephens south 78 degrees 30 minutes east 20 feet to the westerly line of lands formerly of Henry K. Caamus; from thence

4) Along the said westerly line of lands formerly of Henry K. Caamus and James McPherson and now or formerly of Van Dyk & Co., Inc., south 12 degrees 30 minutes west 71 feet more or less to said northerly side of William Street and the point or place of BEGINNING.

NOTE Being Lot(s) 3, 24, 25, 17, 18, 2932, Block 12 and Lot 24 in Block 8, Tax Map of the Township of Belleville.

BOOK 4910 PAGE 54

Schedule B to Deed
by AVON CAPITAL CORPORATION,
as Grantor, to HALLINCKRODT,
INC., as Grantee.

1. Rights, if any, acquired by any utility company to maintain, repair, replace and keep any utility lines, wires, pipes, cables, poles, conduits, distribution boxes and appurtenances thereto in, over, under, across or upon the aforesaid described property (the aforesaid described property is sometimes referred to herein as the "Property" or the "property" or the "Premises" or the "premises") and all grants, licenses and easements in connection therewith; and

2. The fact that vaults, if any, under the sidewalk on or about the Property may encroach beyond the building line of any improvements on the Property; right to maintain street vaults, if any, or lack of right thereto; line of street vault charges, if any; and

3. Possible encroachments of stoops, areas, cellar steps, cellar doors, trim, cornices, retaining walls, gratings, steps, balconies, windows, coping, ornamental projections, sidewalk elevators, fences, and fire escapes and all variations between fences, retaining walls and the like and lines of record title; and

4. All violations of any law, ordinance, rule or regulation, whether or not same is of record, by any governmental body, agency or authority having jurisdiction over the Property; and

5. All financing statements, whether or not of record, affecting or applying to the Property; and

6. Any laws, regulations or ordinances, including, but not limited to, zoning, building, use restrictions and environmental protection, as to use, occupancy, subdivision or improvement of the Property imposed by any governmental body, agency or authority having jurisdiction over the Property; and

7. Franchise taxes, corporate taxes or similar taxes of Van Dyk and Company, Incorporated, Hallinckrodt, Inc. or Avon Capital Corporation, as the case may be, or any other entity in the chain of title of the Property which may be a lien on the Property; and

8. Possible lack of or revocable nature of the right, if any, to maintain or use any space, facility or appurtenance outside the boundaries (i) of the Property or (ii) the building lines

of any improvement or building on the Property, whether on, above or under the ground, including, without limitation, all vaults, marquees, signs and sidewalk openings; and

9. Consents by the owner of the Property (or any part thereof) for the erection of any structure or structures on, under or above any street or streets on which the Property may abut; and

10. Unpaid taxes, assessments, sewer rents, water charges and all other similar liens and charges of every kind and description with respect to the Property; and

11. All agreements, easements, rights of way, leases, restrictions, covenants, and licenses of record with respect to the Property; and

12. All agreements, easements, rights of way, leases, restrictions, covenants, and licenses with respect to the Property which are not of record, provided same do not materially interfere with the current use of the Property [illegible]; and

13. Any state of facts a survey or personal inspection of the Property would show.

BOOK 4910 PAGE 56

Lots 3, 24, 25, 17, 18, 2132 in Block 12, and

Municipal Lot and Block or Account Number

The land is now designated as Lot 24 in Block 8 on the municipal tax map (or as Account No.).

Check box if applicable

☐ No property tax identification number for the land is available at the time of this conveyance.

Covenant as to Grantor's Acts

The Grantor covenants that the Grantor has done no act to encumber the land, except for the encumbrances, liens, restrictions rights, easements, declarations, conditions, reservations and state of facts described in Schedule B annexed hereto and made a part hereof.

Receipt of Consideration

The Grantor has received the full payment from the Grantee.

Signature of Grantor

The Grantor signs this Deed as the first date above. If the Grantor is a corporation this Deed is signed by its corporate officers and its corporate seal is affixed.

Signed, sealed and delivered in the presence of or attested by:

Nicholas Camera

AVON CAPITAL CORPORATION

By: Julian Zimmerman, Vice President

CERTIFICATE OF ACKNOWLEDGMENT BY INDIVIDUAL

State of New York, County of Rockland:

I am a

an officer authorized to take acknowledgments and proofs in this State. I sign this acknowledgment below to certify that it was made before me.

On ____ in 86

appeared before me in person. [If more than one person appears, all such persons must include all persons named who executed before the officer and made this acknowledgment. I was satisfied that this person is the person named in and who signed this Deed. This person acknowledged another, sealing and delivering this Deed as this person's act and deed for the uses and purposes expressed in this Deed.

This person also acknowledged that the full and actual consideration paid or to be paid for the transfer of title to realty evidenced by this Deed, as such consideration is defined in P.L. 1968, c. 49, 46:15-5, is $ ____

Signature signature, Notary stamp or seal must and also clearly legible.

CORPORATE PROOF BY THE SUBSCRIBING WITNESS

State of New York, County of New York:

I am a

an officer authorized to take acknowledgments and proofs in this State.

On March 17 1986 Nicholas Camera

appeared before me in person. The Witness was duly sworn by me according to law under oath and stated and proved to my satisfaction that:

1. The Witness is the Assistant Secretary of the Corporation which is the Grantor in this Deed.
2. Julian Zimmerman the officer who signed this Deed, is the Vice President of the Corporation (here in or called this "Corporate Officer").
3. The making, signing, sealing, and delivery of this Deed have been duly authorized by a proper resolution of the Board of Directors of the Corporation.
4. The Witness knows the corporate seal of the Corporation. The seal affixed to this Deed is the corporate seal of the Corporation. The said seal was affixed to this Deed by the Corporate Officer. The Corporate Officer signed and delivered this Deed as and for the voluntary act and deed of the Corporation. All this was done in the presence of the Witness who signed this Deed as witness. The Witness signs this proof to attest to the truth of these facts.

The Witness also acknowledged that the full and actual consideration paid or to be paid for the transfer of title to realty evidenced by this Deed, as such consideration is defined in P.L. 1968, c. 49, 46:15-5, is $ 1,630,000.00

Sworn to and signed before me on the date written above.

Nicholas Camera

Signature and Notary Public, Notary stamp or seal must and also clearly legible.

ROBIN YAMARONE
Notary Public, State of New York
No. 4711776
Qualified in Nassau County
Certificate Filed in New York County
Commission Expires March 30, 1987

APPENDIX M

APPENDIX O

HISTORICAL TOLUENE SPILL REPORT

ISP VAN DYK Inc.
a member of the ISP Group

Main and William Streets Belleville NJ 07109 Tel: (201) 450 7700

July 12, 1993

Mr. Joseph Hoyle, Jr.
NJDEPE
Bureau of Emergency Response
2 Babcock Place
CN 028
West Orange, N.J. 07052

Incident #93-6-18-1101-55

Dear Mr. Hoyle:

This letter is being written as a follow-up report, detailing the June 18, 1993 accidental release of waste material from the ISP Van Dyk facility at 11 William Street, Belleville, New Jersey 07109, Incident Number 93-6-18-1101-55.

A production operator was transferring a waste material (see attachment for composition) from a receiver to a waste holding tank. The tank was apparently full, and with this additional material, the waste material was forced up through the vent pipe onto the roof. The material entered a rain gutter which emptied into a storm sewer. The sewer leads to the Passaic River.

The transfer had been in progress for approximately three (3) minutes when an employee saw material coming out of the rain gutter. The transfer was immediately stopped. Cleanup was handled by Willow Contracting of Verona, New Jersey, who were contacted within fifteen (15) minutes of the discovery of the release. The total release was calculated to be one hundred (100) gallons. A small portion of this material, estimated to be less than fifty-five (55) gallons ran into the storm sewer and emptied into the Passaic River.

I contacted the DEPE, National Response Center, Coast Guard, and the Belleville Local Emergency Response Commission within the required notification period.

An emergency evaluation has been conducted and a tentative decision has been made to install a feed cutoff valve at the waste holding tank. A final decision will be made pending the results of the plant's process safety management of change review.

If you have any questions or require additional information, please contact me at (201) 450-7752.

Sincerely,

Ron Howard

Ron Howard
Safety & Environmental Coordinator

RH/djm
Attachment

cc: S. Guccione
A. Santoro
B. Turetsky
Bureau of Discharge Prevention (NJDEPE), Trenton, N.J.

COMPOSITION OF MATERIAL SPILL

Chemical		WT%
Toluene	-	50.6
2 Ethyl Hexanol	-	21.1
Ethanol	-	8.8
Ethyl Acetate	-	4.0
Methanol	-	1.9
Methyl Acetate	-	1.8
Water	-	1.7
Ethyl Hexyl Acetate	-	1.5
Butyl Alcohol	-	1.1
Non-Volatile Residue	-	7.5
		100.0

DEQ-116
4/89

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
BUREAU OF EMERGENCY RESPONSE

FIELD NOTICE OF VIOLATIONS

CASE NO. 94-6-7 0101-5 ST DATE 16 June

CASE NAME ISP WILLIAM ST. ISP. VAN DYK

INCIDENT LOCATION ISP VAN DYK INC. BELLEVILLE

RESPONSIBLE PARTY ADDRESS ISP VAN DYK, INC.
MAIN & WILLIAM STREETS
BELLEVILLE NJ 07109

RESPONSIBLE PARTY REPRESENTATIVE DONALD HOWARD, DIR. ENVIRONMENTAL AFFAIRS

You are hereby NOTIFIED that on the above date, the following violations of New Jersey Statute and/or Regulation were observed. This violation has been recorded as part of a permanent enforcement file. In addition, this case is being forwarded to the appropriate Division with a recommendation that formal enforcement action be taken.

- [X] NJSA 58:10-23.11 C , _____ SPILL COMPENSATION AND CONTROL ACT
- [ ] NJSA 23:5-28 POLLUTION AND OBSTRUCTION OF WATER
- [ ] NJAC 7:26— _____ , _____ HAZARDOUS WASTE REGULATIONS
- [ ] _____
- [X] Don Howard

DESCRIPTION OF VIOLATION NJSA 58:10-23.11.C - DISCHARGE OF A HAZARDOUS SUBSTANCE PROHIBITED - RELEASE OF MIXED WASTE (HAZARDOUS) COMPONENTS FROM HOLDING TANK TANK #470 OUTSIDE OF THE FACILITY VIA ROOF VENTS - MATERIAL ENTERED STORM SEWER.

Within 24 HOURS days of receipt of this notice, you shall submit in writing, to the address and investigator indicated below, an account of the incident and corrective measures taken to attain compliance.

Investigator Joseph E. Hoyle Jr

Address 2 Babcock Pl.
West Orange, NJ

COPIES: White - File Yellow - Investigator Pink - Responsible Party

FAX #201-992-7823

READ CAREFULLY
COURT APPEARANCE REQUIRED

If the other side of this Summons is checked at the bottom "Court Appearance Required", you must appear in Court at the time and place indicated.

If this Summons is not checked "Court Appearance Required" you must still appear in court as indicated if:

a. You wish to contest the charge, or
b. The offense is not listed on the Violations Bureau Schedule.

PAYMENT THROUGH VIOLATIONS BUREAU

If you wish to plead guilty and waive your right to a hearing in Court, you may do so provided "Court Appearance Required" has not been checked and provided also the offense is listed on the Violations Bureau Schedule. You may telephone the Violations Clerk to determine whether the offense is on the Violations Bureau Schedule and, if so, the amount of the penalty. Payment in person or by mail must be accompanied by this Summons with proper signature and address filled in below. IF PAYMENT IS MADE BY MAIL DO NOT SEND CASH BUT SEND CHECK OR MONEY ORDER PAYBLE TO THE COURT, shown on the other side. If payment is received by the Violations Bureau after the appearance date, you may be assessed additional penalties and in some instances you may be required to appear in court for failure to respond on time or by reason of prior convictions. (A receipt will be sent to you only if your payment is accompanied by a self-addressed, stamped envelope.)

SGT. KOLESA (201) 578-8173

Violations Bureau is located at:

ESSEX CO. SUPERIOR COURT

Office Hours: YOU WILL BE NOTIFIED Telephone No.

NOTICE

Contempt: N.J.S. 2A:10-1 provides that disobedience of any lawful process may constitute a contempt of court for which the court may impose punishment.

Warrant for Arrest: R. 3:3-1 (c) provides that if a defendant fails to appear or respond to a Summons, a Warrant to arrest shall issue.

APPEARANCE, PLEA AND WAIVER

I, the undersigned, do hereby enter my appearance on the Complaint for the violation charged in this Summons. I know that I have a right to a trial, that my signature to this plea of guilty will have the same force and effect as a conviction in court. I do hereby PLEAD GUILTY to said violation as charged, WAIVE my right to a HEARING by the Court, and agree to pay the penalty prescribed for the violation.

(Signature of Defendant)

Street Address

City or Town State

(Payment through the Violations Bureau will not be accepted unless this Summons, with the above Appearance, Plea and Waiver properly completed, is mailed or presented to the Violations Bureau with payment in the proper amount.)

DEPARTMENT OF LAW AND PUBLIC SAFETY
DIVISION OF STATE POLICE

MP 95820 ☐ Municipal Court of ☒ Superior Court, Special Civil Part at ESSEX County, New Jersey

Docket # Receipt # Amt. $

State of New Jersey

SUMMONS
(NON-INDICTABLE OFFENSE)

ISP VAN DYK INC.
Defendant

State of New Jersey

County of ESSEX ss:

YOU ARE HEREBY SUMMONED TO APPEAR PERSONALLY BEFORE THIS COURT AT THE TIME AND PLACE SPECIFIED BELOW TO ANSWER THE FOLLOWING OFFENSE(S):

Name: ISP VAN DYK	First (Print)	Initial INC.	Last
Address: Main & William Streets			
City: Belleville	State: NJ	Zip: 07109	
Telephone No. Home: 201-450-7752	Business		
Driver's Lic. No.	State	Exp. Date	
Birth Date: Mo. Day Yr.	Eyes	Sex	Weight Height

On 18 Day of June 19 93 At 1:00 PM

DID UNLAWFULLY VIOLATE THE PROVISIONS OF

N.J.S. 23:5-28 N.J.A.C.

By committing the following offense(s): DID allow a waste solvent to enter the waterway

At or Upon Location: PASSAIC RIVER

In the Municipality of Belleville County of ESSEX

Doc. # / Reg. #		Exp. Date	
Boat Name	N/A	Make	
Home Port	City (	State	Length
Propulsion	Type		Color

YOU ARE NOTIFIED THAT THE UNDERSIGNED WILL FILE A COMPLAINT IN THIS COURT CHARGING YOU WITH THE OFFENSE(S) SET FORTH ABOVE.

Day June 18, 1993

Signature and Identification of Officer (to be affixed when issuing summons)

NOTICE: If you intend to plead not guilty and to contest the charge specified in this summons, at least 7 days prior to the date fixed for your appearance in court, you must notify the clerk, whose address and telephone number is shown on the back of this summons, of your intention. If you fail to so notify the clerk it may be necessary for you to make two court appearances.

(SEE REVERSE SIDE)

COURT APPEARANCE REQUIRED ☐

COURT APPEARANCE YOU WILL BE NOTIFIED DAY OF 19 AT M

ADDRESS OF COURT ESSEX CO. SUPERIOR COURT

F018 - Newark Bay | COURT TELEPHONE

SUMMONS (Revised Jan. 1992)

FROM NJSP NEWARK BAY STA. 6.21.1993 10:04 P. 1

NEW JERSEY STATE POLICE **INVESTIGATION REPORT**

1. Name/Unit: Newark Bay	2. Case: R310	3. Area Code, Phone Number and Extension: (201) 578-8173	4. Prosecutor's Case Number: [redacted]
5. Crime/Incident: Pollution (waste solvents)	7. N.J.S.A.: 23:5-28	8. Weather: clear	9. Business Victim: Yes No X; 10. Gas Involved: Yes No X
		11. Date & Time: X	12. Hour; 13. Day & Date; 14. Month; 15. Year; Time: [redacted]
		16. Exact Incident Location: ISP Van Dyk Inc. Main & William Streets	
17. Municipality: Belleville Town	18. County: ESSEX	19. Weapon/Tools: BIDE. manufacturing	20. Victim's Business Name:
21. Victim (First, Middle, Last): STATE OF New Jersey		22. Victim's Residence Address:	Area Code, Phone Number and Extension:
23. Social Security Number	24. D.O.B.	25. Age	26. Race Code
27. Person Reporting Crime/Incident: (201) 578-8173		28. Complete Address and Phone Number:	29. Date: 6/18/93

30. Narrative: SPO John W. Kulesa Jr. #9635, BDS #420 Caribou Street, Port Newark; 1:00 PM
WASTE SOLVENTS WERE being transferred into vault Haz mat Tank #470, when the tank was overfilled. Thus causing spill.

31. Vehicle	32. Year	33. Make and Model	34. Body Type	35. Color	36. Registration No. & State	37. V.I.N. or Distinguishing Marks

38. VALUE STOLEN PROPERTY	39. Value Victim Status	40. Total Value Recovered
[redacted]		

41. Arson Number/Victim	42. Technical Services	43. Evidence Taken: X	Yes	No
		NJSP - SBTS		
44. Technician	45. Technician's Agency	Returned		
		Returned		
46. Chemical Lab. Number	47. Ballistics Lab. Number	Destroyed		
48. Alcohol Involved: Yes No X Unk.	49. Other Drugs Involved: Yes No X Unk.	50. Status on:	Yes	No
		Arrest Report Pending		X
51. VICAP Information and Phone Number Provided (1-800-638-8224): Yes No Unk. X		Prog./Voh. Report Pend.		X
		Arrest Pending		X
		Evidence Pending		X

52. [redacted] 53. SID Case Number: 54. Accident Case Number:

List Arrested/Summoned — List and Identify Additional Victims — Describe Perpetrators/Suspects — Date Action Taken, Include Findings and Observations of Investigator — Physical Evidence Found — Where, by Whom — Disposition and Technical Services Performed — Interview of Victims, Witnesses, Persons Contacted — Suspects — Attach Victim Property Loss Report — Attach Statements — Court Action — All NCIC Entry/Inquiries — Prisoner Disposition

55. Name/Address of Arrested/Summoned: 56. Original Complaint Warrant/Summons No. 57. Age 58. Race Code 59. U.M.V.

Isp Van Dyk Inc (201) 450-7752 MP96820
Main & William Streets, Belleville, NJ. 07109

Received call from U.S. Coast Guard advising of a possible spill in Belleville, on the Passaic River at the Van Dyk Inc.
I arrived onscene, Belleville Fire Department had units in place, and were pumping water into the storm drain system adjacent to the Van Dyk Inc. I then spoke with Deputy Chief Triano (Belleville Fire Department), he advised that a spill had occured, and entered the storm drain system near the corner of Williams & main streets. He was flushing the system with water to prevent a possible explosion. This due to the volatile nature of

See Continuation Page

60. Name/Agency (Print or Type): SPO John W. Kulesa Jr. 61. Page: 1 of 1 62. Date of Report: 6-20-93 63. Reviewer's Badge Number:

NEW JERSEY STATE POLICE CONTINUATION

Newark Bay	Case # 4310		Report # 4310 9592

the Product that had spilled. He also advised that the Storm drain empties out into the Passaic River. It then mix with D.E.P.E. inspector Joseph Howle at this time we spoke with Company Safety & Environmental Coordinator Ron Howard. He Stated that during a transfer of waste Solvents (Toluene, 2-Ethyl Hexanol, Ethyl Acetate, Methanol, Methyl Acetate, Water, Butyl Hexyl Acetate, Butanol, & Non-volatile Residue) to their Hat mat Tank #410. A Spill occured of approximately 100 Gallons of this Product. The product had flowed down a Roof vent, down into the buildings Storm drainage gutters, into the Street and entering the Storm drain System the Sewage ultimately to their facility.

We then spoke to a Mr. Leo Joseph a Chemical Operator employed by the Hat Mat Inc. and the Operator conducting the transfer to the Hat mat Tank #410, during which the Spill occured. Mr. Joseph Stated that he started the transfer to the #410 tank and was working in the adjacent area when a Mr. Gilligan advised him that there was product flowing out of the Roof Vent. Mr. Joseph then went to the Control Panel to Shut-down operations. He noted that the visual warning/Overfill light was displayed on the Panel, but that the audio alarm was not sounding, Therefore, it rendered useless at this time.

Upon further investigation: it was Revealed that Mr. Joseph (a chemical Operator) was approximately 50 feet from the Control Panel during the transfer of waste Solvents to the #410 Hat mat Tank. He was conducting maintenance in this area, when a Mr. Gilligan advised him of the product flowing out of the Roof. Mr. Joseph Stated that the audio alarm did not sound, however the visual alarm was operational at the time of the Shut-down.

Inspector Howle (DEPE) and I checked the Control Panel after this incident & both alarms were operational. We then Positioned ourselves in the area where Mr. Joseph had been working prior to being notified by Mr. Gilligan. At this time we had the audio alarm tested to which it was very audio at that distance.

We also spoke to Ron Howard Company Safety & Environmental Coordinator Reference Precautions to prevent further incidents. During this conversation it was determined that approximately 100 Gallons of the product had overflowed thru the Roof Vent. He also Stated that there is a (a) main of Safety in Tank #410 to prevent overfills. This means when the level reaches the (a) main mark the alarms would activate. He also Stated that it would take approximately 15-20 minutes for the tank to reach full capacity before the product would flow out the Roof Vents, when at the (a) main level. Also noted by Mr. Howard is that the alarm systems are manually operated, and can only be shut-down by an operator.

Name John W. Kulesa Jr.	Badge No. 4635	Page No. 2 of 3	Date of Report 6/20/93	Reference & Index Number
Signature				

C.P. 310A (Rev. 11/91) (O.P. 071)

NEW JERSEY STATE POLICE CONTINUATION SHEET

1. Barracks	2. Code	4. Prosecutor's Case Number	5. Station Case Number
Newark Bay	PB10		PB10985-92

Upon concluding this investigation it is highly recommended that an automatic quench shut-down system be implemented in addition to their present manual shut-down system. This being to prevent any further incidents which may result in spills which pollute our States waterways. Summons issued to Company for violating N.J.S.A. 23:5-28, D.E.P.E. Notified Port Capt. # 93-06-28-1101-55. Clean-up being conducted by Willow Environmental Contractors 220 Bay Ave, Leeds Point, N.J. (609-652-3425)

No further action to be taken

11. Rank, Name, Shield or Payroll	12. Badge No.	13. Page	14. Date of Report	15. Prosecutor's Docket Number
SMPO David Kleas Jr	9635	3 of 3	6-20-93	

Signature: X

D.P. 310A (Rev. 11/85) S.O.P. 071

NATIONAL RESPONSE CENTER - PUBLIC REPORT

Incident Report # 181099

INCIDENT DESCRIPTION

*Report taken by: CPO CRAFT at 11:16 on 18-JUN-93
Incident Type: FIXED
Incident Cause: OPERATOR ERROR
Affected Area:
The incident occurred on 18-JUN-93 at 10:45 local time.
Affected Medium: WATER PASSSIC RIVER

SUSPECTED RESPONSIBLE PARTY

Name: RON HOWARD
Organization: ISP VAN DYK Address: 11 WILLIAM ST

BELLEVILLE, NJ 07109
PRIMARY Phone: (201)4507752
Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION

11 WILLIAM ST County: ESSEX City: BELLEVILLE State: NJ Zip: 07109

RELEASED MATERIAL(S)

CHRIS Code: NCC Official Material Name: NO CHRIS CODE
Also Known As: HAZARDOUS WASTE: F003, F005 AND D001
Qty Released: 100 GALLON(S) Qty in Water: 75 GALLON(S)

DESCRIPTION OF INCIDENT

STORAGE TANK / OVERFILLED^^

INCIDENT DETAILS

Building ID:
Type of Fixed Object: UNKNOWN
Power Generating Facility: UNKNOWN
Generating Capacity:
Type of Fuel:
NPDES:
NPDES Compliance: UNKNOWN

DAMAGES

Fire Involved: NO Fire Extinguished:

INJURIES:	Hospitalized:	Empl/Crew:	Passenger:
FATALITIES:	Empl/Crew:	Passenger:	Occupant:
EVACUATIONS:	Who Evacuated:	Radius/Area:	

Damages:

Leak plugged Photo by Warren L...

The Verona hazmat team loads drums of chemicals for ... after they were removed from the roof of the Van Dyke Chemical Co. in Belleville. Some 150 gallons of liquid seeped from a vat on the roof into the Passaic River, forcing police to block off portions of William Street for more than four hours.

would no... exacti...

Flammable liquid diluted in Belleville

An area near Belleville Town Hall was blocked off yesterday as firefighters diluted a flammable substance containing nine chemicals.

Portions of William Street were closed after 150 gallons of liquid seeped from the roof of the Van Dyk Chemical Co. and got into the Passaic River, Fire Chief Charles Aughenbaugh said.

"The company has a cleaning contractor on the scene, and they're still working," he said last night. "We had the street blocked off for at least four hours."

The incident began about 10:15 a.m. when residue from some suntan oils overfilled a tank, he said. To dilute the substance, firefighters poured 25,000 gallons of water into the storm drain and the river, he said.

ISP VAN DYK Inc.
a member of the ISP Group
Main and William Streets Belleville NJ 07109
Tel: (201) 450 7700

July 21, 1995

ISP

Ms. Janet Budesa Carrol
Section Chief, DEP
2 Babcock Place
West Orange, N.J. 07052

JUL 26 1995

NJDEP
INDUSTRIAL SITE
EVALUATION ELEMENT
CN028,
TRENTON, N.J. 08625

Dear Ms. Carrol:

This letter is being written as a follow-up report to the June 23, 1995 accidental release of pretreated waste water from the ISP Van Dyk Facility at 11 William Street, Belleville, New Jersey 07109, Case Number 956230810-11.

On June 23, 1995, we immediately notified the NJDEP after a blockage developed between our final catch basin and the PVSC manhole chamber. As a result, approximately 200 gallons of pretreated waste water overflowed over the catch basin, entered the Main Street sewer, and flowed to the Passaic River. ISP Van Dyk's maintenance crew cleared the blockage to the sewer line within a few minutes after it clogged.

Two actions were taken by ISP Van Dyk to prevent recurrence. A contractor, Recovery Environmental Service from Westwood was contracted on June 25, 1995 to jet wash the sewer line. Additionally, ISP Van Dyk's sewer system will be cleaned periodically as part of a preventative maintenance program.

Attached is a more complete listing of the information required by N.J.A.C. 7:1E-5.8.

If you have any questions or require additional information, please call me at (201) 450-7752.

Sincerely,

Ron Howard

Ron Howard
Safety & Environmental Coordinator

RH/djm/b.carrol
cc: A. Yazdani
C. Dannenmaier
S. Garg
B. Turetsky
G. Wall
Hazardous Waste Enforcement Element NJDEP
401 E. State St. CN 028
Trenton, N.J. 08625-0028

ISP VAN DYK Inc.
a member of the ISP Group

Main and William Streets Belleville NJ 07109 Tel: (201) 450 7700

July 21, 1995

ISP

7:1E-5.8 (b) Confirmation Report

1. **The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;**

   Ron Howard
   11 Main Street
   Belleville, New Jersey 07109
   201-450-7752

2. **The name, address and telephone number of the individual submitting the confirmation report if different from the individual indicated in (b) 1 above.**

   Same as above.

3. **If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;**

   Not applicable.

4. **The name, address and telephone number of each person in any way responsible for the discharge;**

   Discharge was caused
   by a blockage in a sewer line.

5. **The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;**

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109
   201-450-7752

6. The source of the discharge, if known;

Final effluent sump at ISP Van Dyk Inc.

7. The location of the discharge, as follows:

I. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109

Tax Lot No.	25-18-17-3-24
Tax Block No.	12-12-12-12-8
Municipal ID No.	Unknown
County ID No.	Unknown
EPA ID No.	NJD002146504
Site Map	See Attachment 1

II. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

Passaic River	
Longitude	040-47-05
Latitude	074-09-00
Map	See Attachment 1

8. The pretreated waste water may have included the substances listed below. Since there was no sampling of the pretreated waste water, the actual constituents and their concentrations are unknown.

Toluene	108-88-3
Methanol	67- 56-1
Ethyl Acetate	141-78-6

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown;

Concentration of pretreated waste water
is unknown.

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	6/23/95 at unknown time
Date & Time Discovered	6/23/95 at 7:50 A.M. Approximately
Date & Time Ended	6/23/95 at 7:59 A.M. Approximately
Date & Time NJDEP Notified	6/23/95 at 8:00 A.M. Approximately

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

ISP Van Dyk's Maintenance crew unblocked the sewer line in a few minutes after it was discovered.

12. the corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

Two actions were taken by ISP Van Dyk to recurrence. A New Jersey contractor, Recover Environmental service from Westwood was contracted to jet wash the sewer line on June 25, 1995, and completed the job on that date.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

Additionally, ISP Van Dyk's sewer system will be cleaned periodically as part of a preventative maintenance program.

14. The name, address and telephone numbers of all entities involved in containment, cleanup or removal of the discharge;

ISP Van Dyk's Maintenance crew located at 11 William Street, Belleville, New Jersey (201-450-7752)

1. Andrew Brutka
2. Joe Pineiro
3. Joe White

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal;

None taken.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.6 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

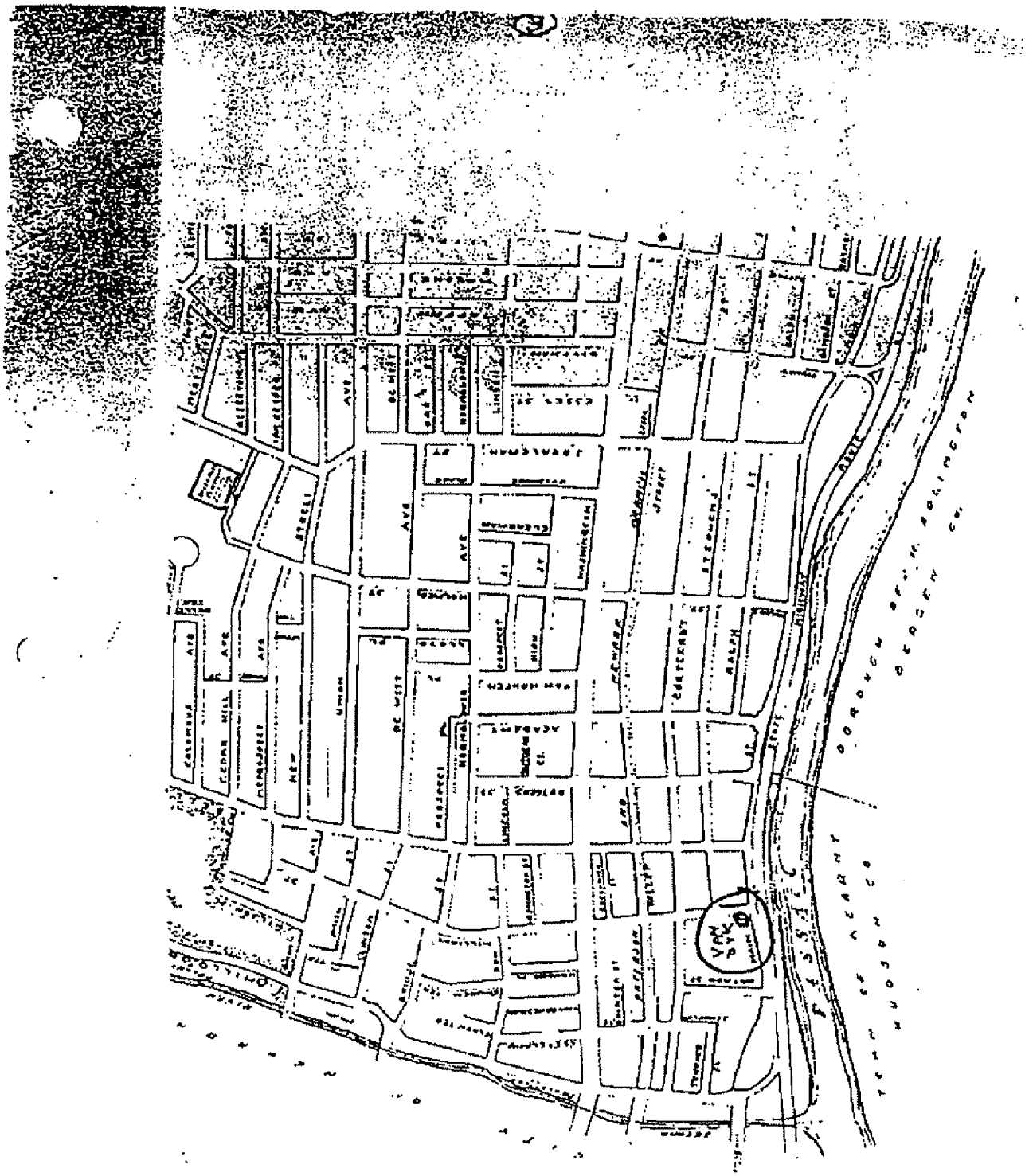
19. Any other information concerning the discharge which the Department may request; and

Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Ron Howard



VAN DYK
Main and Williams Streets • Belleville, NJ 07109 • Tel: 201-450-7700 • Fax: 201-759-5715

July 7,1996

CERTIFIED MAIL Z 069 617 319
Return receipt Requested

NJDEP
Hazardous Waste Enforcement Element
401 East State Street
Trenton, NJ 08625-0028

Dear Sir/Madam

This letter is being written as a follow up report detailing the July 2, 1996 accidental release of a non -hazardous material (see attachment for contained substance) from a reactor at the Van Dyk facility at Main & William streets, Belleville New Jersey, 07109 , case number 96 - 7 - 2 - 1744 - 39.

On July 2, 1996, approximately 150 gallons of a cosmetic grade material (Ceraphyl 31) was released to the street when a chemical operator who was adding water to a reactor to wash the product forgot to turn off the water, over-filling the reactor. This forced both product and water out the vent pipe to the roof, and down the drain pipe to the street. The spill was immediately contained with an absorbent material, and vacuumed into drums for proper disposal. Approximately one quart of the material entered a storm sewer located on Main Street. Attached is a more complete listing of the information required by N.J.A.C. 7:1E - 5.8.

Should there be any questions pertaining to this matter, or if any additional information is needed, please contact me at (201) 450 - 7752.

Sincerely,

Ron Howard
Safety & Environmental Coordinator

CC: Ms. Janet Budesa Carrol
Section Chief
2 Babcock Place
West Orange, NJ 07052
C. Lagomarsino
B. Turetsky
File

7:1E-5.8 (b) Confirmation Report

1. The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;

Ron Howard
11 Main Street
Belleville, New Jersey 07109
201-450-7703

2. The name, address and telephone number of the individual submitting the con firmation report if different from the individual indicated in (b) 1 above.

Same as above.

3. If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;

Not applicable.

4. The name, address and telephone number of each person in any way responsible for the discharge;

Leon Walas
11 William Street
Belleville, N.J. 07109
201-450-7700

5. The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109
201-450-7752

6. The source of the discharge, if known;

The source of the discharge was a vent line on a reactor.

7. The location of the discharge, as follows:

i. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109

Tax Lot No.	25-18-17-3-24
Tax Block No.	12-12-12-12-8
Municipal ID No.	Unknown
County ID No.	Unknown
EPA ID No.	NJD002146504
Site Map	See Attachment 1

ii. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

N/A

8. The spill included the substances listed below;

Ceraphyl 31 - A product used in the cosmetic industry (Lauryl Lactate - CAS #6283-92-7)

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown; (Approximately 10 Gallons spilled)

N/A

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	- July 2, 1996 at 17:10
Date & Time Discovered	- July 2, 1996 at 17:11
Date & Time Ended	- July 2, 1996 at 17:14.
Date & Time NJDEP Notified	- July 2, 1996 at 17:45

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

An absorbent material was put down to contain the spill, and a vacuum system was used to put the material into drums. This material was added to our normal waste that is taken for disposal on a every other day schedule.

12. The corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

A new meter has been ordered that will shut off after the pre-set gals. Have been added.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

The chemical operator has been given additional training on the operation of the equipment used to make the product.

14. The name, address and telephone numbers of all entities involved in contain ment, cleanup or removal of the discharge;

ISP Van Dyk's Production and Maintenance personnel located at 11 William Street Belleville, New Jersey 07109 (201)-450-7752

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal;

One 4 oz. sample was taken at the point of containment, during the discharge.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.8 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

19. Any other information concerning the discharge which the Department may request; and

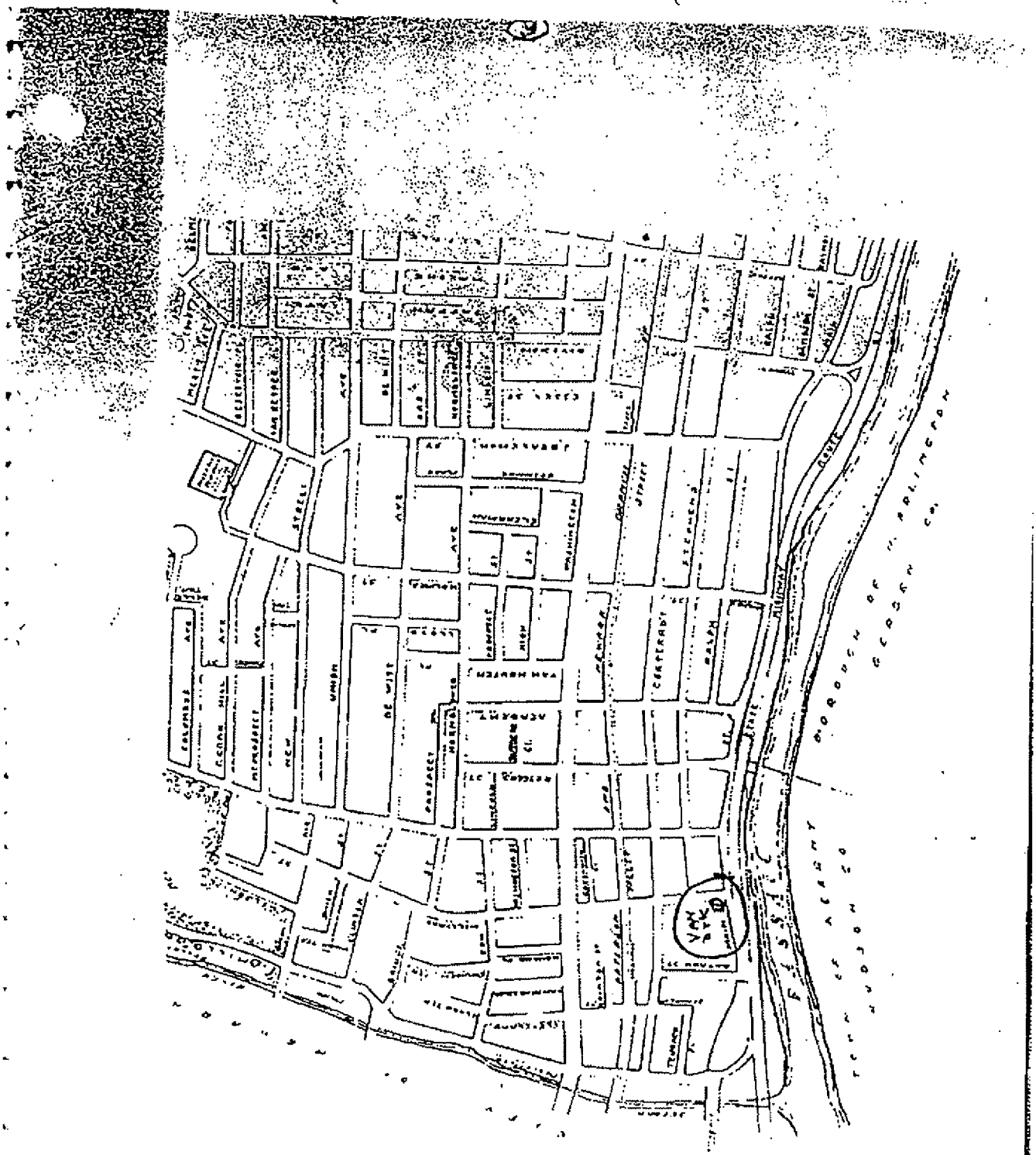
Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Chris Dannenmaier

RH/djm/rh-conf



ISP VAN DYK
Main and Williams Streets • Belleville, NJ 07109 • Tel: 201-450-7700 • Fax: 201-759-5715

April 15 , 1996

Ms. Janet Budesa Carrol
Section Chief
2 Babcock Place
West Orange , New Jersey 07052

Dear Ms. Carrol

This letter is being written as a follow up report detailing the April 12 , 1996 accidental release of Liquid Waste Material (see attachment for contained substances) from a tank truck at the ISP Van Dyk facility at Main & William Streets , Belleville , New Jersey 07109 , case number 96 - 4 - 12 - 0755 - 07.

On April 12 , 1996 , approximately (10) to (20) gallons of waste material was released to the street when our contracted waste hauler over filled his truck. The material ran out the dome and down the sides of the truck to the street. The spill was immediately contained with an absorbent material. Only a quart of the waste material entered the main storm sewer. All materials were immediately cleaned up and put into drums for proper disposal. The contractor was notified of the situation, and all steps will be taken to prevent re-occurrence. Attached is a more complete listing of the information required by N.J.A.C. 7:1E - 5.8

Should there be any question pertaining to this matter , or if any additional information is needed , please call me at (201) 450 - 7752.

Sincerely

Ron Howard
Safety & Environmental Coordinator

CC: C. Dannenmaier
V. David
C. Lagomarsino
B. Turetsky
Hazardous Waste Enforcement Element NJDEP
401 East State Street
Trenton , N.J. 08625 - 0028

ISP VAN DYK Inc.
a member of the ISP Group
Main and William Streets Belleville NJ 07109 Tel: (201) 450 7700

ISP

7:1E-5.8 (b) Confirmation Report

1. **The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;**

   Ron Howard
   11 Main Street
   Belleville, New Jersey 07109
   201-450-7752

2. **The name, address and telephone number of the individual submitting the confirmation report if different from the individual indicated in (b) 1 above.**

   Same as above.

3. **If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;**

   Not applicable.

4. **The name, address and telephone number of each person in any way responsible for the discharge;**

   Roy Klebowicz - Waste Truck Driver
   Auchter Industrial Vac. Services, Inc.
   210 West St. George Avenue
   Linden, NJ 07036

5. **The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;**

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109
   201-450-7752

6. The source of the discharge, if known;

Approximately 10 to 20 gallons of waste material spilled to the ground from an overfill, from a truck that is contracted to transfer Van Dyk's waste to a disposal facility.

7. The location of the discharge, as follows:

i. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109

Tax Lot No.	25-18-17-3-24
Tax Block No.	12-12-12-12-8
Municipal ID No.	Unknown
County ID No.	Unknown
EPA ID No.	NJD002146504
Site Map	See Attachment 1

ii. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

NA

8. The waste material may/have included the substances listed below:

1. Toluene	CAS #108-88-3S
2. Ethyl Hexal Alcohol	CAS #10476-7
3. Ethyl Alcohol	CAS #64-17-5
4. Ethyl Acetate	CAS #141-78-6
5. Methyl Alcohol	CAS #67-56-1
6. Methyl Acetate	CAS #79-20-9
7. Ethyl Hexyl Acetate	CAS #103-09-3
8. Butyl Alcohol	CAS #71-36-3
9. Others	

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown; (Approximately 10 Gallons spilled)

1. Toluene - 5.5 Gallons
2. Ethyl Hexal Alcohol - 1.8 Gallons
3. Ethyl Alcohol - 1.2 Gallons
4. Ethyl Acetate - 0.5 Gallons
5. Methyl Alcohol - 0.34 Gallons
6. Methyl Acetate - 0.29 Gallons
7. Ethyl Hexal Acetate - 0.12 Gallons
8. Butyl Alcohol - 0.11 Gallons
9. Others - 0.14 Gallons

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	- April 12, 1996 At 6:30 A.M.
Date & Time Discovered	- April 12, 1996 At 6:30 A.M.
Date & Time Ended	- April 12, 1996 At 6:32 A.M.
Date & Time NJDEP Notified	- April 12, 1996 At 7:30 A.M.

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

An absorbent material was put down to absorb the spill. The material was then put into 55 gallon drums for disposal.

12. The corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

The driver will be instructed to only fill their truck to a certain level. This should help eliminate this problem.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

Van Dyk has plans to build a new loading & unloading station with containment. This project should be completed by years end.

14. The name, address and telephone numbers of all entities involved in containment, cleanup or removal of the discharge;

ISP Van Dyk's Production and Maintenance Personnel located at 11 William Street, Belleville, New Jersey (201-450-7752)

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal; None taken.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.8 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

19. Any other information concerning the discharge which the Department may request; and

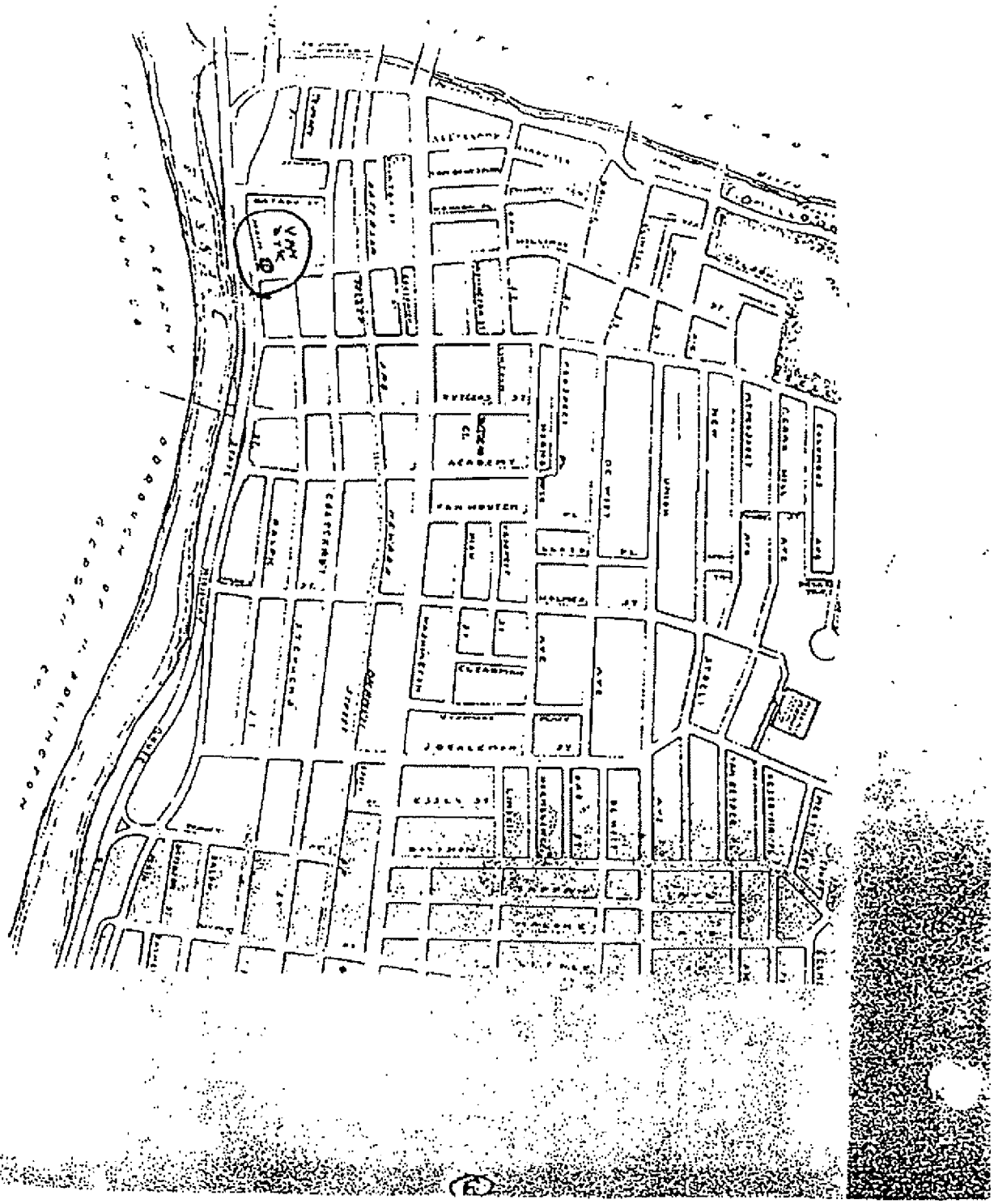
Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Chris Demmenmaier

RH/djm/rh-conf



VAN DYK
Main and Williams Streets • Belleville, NJ 07109 • Tel: 201-450-7700 • Fax: 201-759-5715

NELSON JOHNSON
JAN 5 1998
RECEIVED

CERTIFIED MAIL Z 285 074 491
Return Receipt Requested

December 30, 1997

Site Remediation Program
Discharge Response Element
NJDEP
401 East State Street
CN 028
Trenton, New Jersey 08625-0028
Attn: Discharge Report

Re: **Investigation of Suspected Discharge from UST on 9/5/97**

Dear Sir/ Madam:

This investigative report is being filed as a follow-up to the Department being notified immediately (via the Hotline) upon discovering a release on 9/5/97. We inadvertently discovered small amounts of liquid and contaminated debris in and around the containment area surrounding the appurtenant piping from our UST, and on top of our UST. (The 25,000 gallon UST stores heating oil #2 FO which is used intermittently since we have interruptible natural gas service).

A thorough investigation was performed following Department protocol outlined in N.J.A.C. 7:14B-7.2 and N.J.A.C. 7:26E-3.3 and we have determined that the release discovered was a historical discharge because;

- the current UST is not leaking based upon inventory level recordkeeping and visual inspection of all readily accessible physical facilities,
- the debris was contaminated with petroleum hydrocarbons,
- the liquid above the UST was contaminated with PCB's (Aroclor 1254),
- the current owners have never used PCB's or any oils which contained PCB's,
- both petroleum hydrocarbons and PCBs in and around the UST in question have been previously identified and are being addressed under ISRA Case No. 85817.

We will be performing tank and piping fit testing early January '98 to ensure the integrity of our UST system, and will be closing this UST according to Department protocol by the 12/22/98 deadline. We will not be pursuing any further investigation into the extent of contamination and remediation of areas surrounding our UST however, since it is being addressed through the Department's Site Remediation Program.

If you have any questions or need additional information, please contact me at 973-450-7740.

Sincerely,

Valerie Lynn David
Safety and Environmental Manager

cc: Belleville Department of Health
50 Newark Avenue
Belleville, New Jersey 07109
CERTIFIED MAIL Z 285 074 492
Return Receipt Requested

ust_resp.doc

bcc: C. Dannenmaier
N. Johnson
C. Lagomarsino
C. McGowan

VAN DYK
Main and Williams Streets • Belleville, NJ 07109 • Tel: 201-450-7700 • Fax: 201-759-5715

Van Dyk
1 Spill

July 7,1996

CERTIFIED MAIL 2 069 617 319
Return receipt Requested

NJDEP
Hazardous Waste Enforcement Element
401 East State Street
Trenton, NJ 08625-0028

Dear Sir/Madam

This letter is being written as a follow up report detailing the July 2, 1996 accidental release of a non -hazardous material (see attachment for contained substance) from a reactor at the Van Dyk facility at Main & William streets, Belleville New Jersey, 07109 , case number 96 - 7 - 2 - 1744 - 39.

On July 2, 1996, approximately 150 gallons of a cosmetic grade material (Ceraphyl 31) was released to the street when a chemical operator who was adding water to a reactor to wash the product forgot to turn off the water, over-filling the reactor. This forced both product and water out the vent pipe to the roof, and down the drain pipe to the street. The spill was immediately contained with an absorbent material, and vacuumed into drums for proper disposal. Approximately one quart of the material entered a storm sewer located on Main Street. Attached is a more complete listing of the information required by N.J.A.C. 7:1E - 5.8.

Should there be any questions pertaining to this matter, or if any additional information is needed, please contact me at (201) 450 - 7752.

Sincerely,

Ron Howard
Safety & Environmental Coordinator

CC: Ms. Janet Budesa Carrol
Section Chief
2 Babcock Place
West Orange, NJ 07052
C. Lagomarsino
B. Turetsky
File

RECEIVED
JUL 1 8 1996
C. LAGOMARSINO

7:1E-5.8 (b) Confirmation Report

1. The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;

   Ron Howard
   11 Main Street
   Belleville, New Jersey 07109
   201-450-7703

2. The name, address and telephone number of the individual submitting the con firmation report if different from the individual indicated in (b) 1 above.

   Same as above.

3. If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;

   Not applicable.

4. The name, address and telephone number of each person in any way responsi ble for the discharge;

   Leon Walas
   11 William Street
   Belleville, N.J. 07109
   201-450-7700

5. The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109
   201-450-7752

6. The source of the discharge, if known;

The source of the discharge was a vent line on a reactor.

7. The location of the discharge, as follows:

i. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

ISP Van Dyk Inc.
11 William Street
Belleville, New Jersey 07109

Tax Lot No.	25-18-17-3-24
Tax Block No.	12-12-12-12-8
Municipal ID No.	Unknown
County ID No.	Unknown
EPA ID No.	NJD002146504
Site Map	See Attachment 1

ii. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

N/A

8. The spill included the substances listed below:

Ceraphyl 31 - A product used in the cosmetic industry (Lauryl Lactate - CAS #6283-92-7)

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown; (Approximately 10 Gallons spilled)

N/A

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	- July 2, 1996 at 17:10
Date & Time Discovered	- July 2, 1996 at 17:11
Date & Time Ended	- July 2, 1996 at 17:14.
Date & Time NJDEP Notified	- July 2, 1996 at 17:45

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

An absorbent material was put down to contain the spill, and a vacuum system was used to put the material into drums. This material was added to our normal waste that is taken for disposal on a every other day schedule.

12. The corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

A new meter has been ordered that will shut off after the pre-set gals. Have been added.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

The chemical operator has been given additional training on the operation of the equipment used to make the product.

14. The name, address and telephone numbers of all entities involved in contain ment, cleanup or removal of the discharge;

ISP Van Dyk's Production and Maintenance personnel located at 11 William Street Belleville, New Jersey 07109 (201)-450-7752

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal;

One 4 oz. sample was taken at the point of containment, during the discharge.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.8 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

19. Any other information concerning the discharge which the Department may request; and

Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Chris Dannenmaier

RH/djm/th-conf

VAN DYK
Main and Williams Streets • Belleville, NJ 07109 • Tel: 201-450-7700 • Fax: 201-759-5715

May 15 , 1996

Van Dyk Hale file called "Spills"

CERTIFIED MAIL Z 397 938 213
Return Receipt Requested

NJDEP
Hazardous Waste Enforcement Element
401 East State Street
Trenton , NJ 08625 - 0028

RECEIVED
MAY 2 2 1996
C. LAGOMARSINO

Dear Sir / Madam

This letter is being written as a follow up report detailing the April 26 , 1996 accidental release of effluent water (see attachment for contained substances) from a broken effluent water line at the Van Dyk facility at Main & William streets , Belleville New Jersey , 07109 , case number 96 - 4 - 26 - 1606 - 37 .

On April 26 , 1996 during an inspection of our effluent system , a broken line was discovered . The effluent water was diverted to a different area in the effluent system , and a outside contractor was called in to repair the line . All materials from the repair were cleaned up and put into drums for proper disposal . Attached is a more complete listing of the information required by N.J.A.C. 7:1E - 5.8 .

Should there be any questions pertaining to this matter , or if any additional information is needed , please contact me at (201) 450 - 7752.

Sincerely ,

Ron Howard

Ron Howard
Safety & Environmental Coordinator

CC : Ms. Janet Budesa Carrol
Section Chief , DEP
2 Babcock Place
West Orange , NJ 07052
C. Lagomarsino
R. Turetsky

7:1E-5.8 (b) Confirmation Report

1. The name, address and telephone number of the individual that reported the discharge or discharge detection malfunction pursuant to N.J.A.C. 7:1E-5.3 or 5.5 above;

   Gordon Wall
   11 Main Street
   Belleville, New Jersey 07109
   201-450-7703

2. The name, address and telephone number of the individual submitting the confirmation report if different from the individual indicated in (b) 1 above.

   Same as above.

3. If the person identified in (b) 2 above is either not subject to the provisions of this subchapter, or is submitting the confirmation report on behalf of another person, the name, address, and telephone number of the person subject to the provisions of the subchapter for whom the confirmation report is being submitted;

   Not applicable.

4. The name, address and telephone number of each person in any way responsible for the discharge;

   Not Applicable

5. The name, address and telephone number of each owner and operator of the facility at which the discharge occurred, or the vessel or vehicle from which the discharge occurred;

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109
   201-450-7752

6. The source of the discharge, if known;

   A broken effluent water discharge line.

7. The location of the discharge, as follows:

   i. For discharge from sites located on land, the name of the site, the street address, the tax lot and block, the municipality, the county, and Department of EPA ID number of facilities involved, and a site map identifying the area in which the discharge occurred and the surrounding area;

   ISP Van Dyk Inc.
   11 William Street
   Belleville, New Jersey 07109

   Tax Lot No. 25-18-17-3-24
   Tax Block No. 12-12-12-12-8
   Municipal ID No. Unknown
   County ID No. Unknown
   EPA ID No. NJD002146504
   Site Map See Attachment 1

ii. For discharges on, under or into water, the name of the water body, the latitude and longitude of the place the discharge originated, and a map identifying the areas affected by the discharge;

Passaic River	
Longitude	040-47-05
Latitude	074-09-00
Map	See Attachment 1

8. The Effluent water may have included the substances listed below:

Toluene CAS #108-88-3

9. A list of the quantities of each hazardous substance discharged, including best estimates if the quantities are unknown; (Approximately 10 Gallons spilled)

Toluene Trace Quantities

10. The date and time at which the discharge began, the date and time at which the discharge was discovered, the date and time at which the discharge ended, and the date and time at which the Department was notified pursuant to N.J.A.C. 7:1E-5.3 or 5.5;

Date & Time Discharge Began	- Unknown
Date & Time Discovered	- April 26, 1996 At 8:00 A.M.
Date & Time Ended	- April 26, 1996 At 2:00 P.M.
Date & Time NJDEP Notified	- April 26, 1996 At 3:00 P.M.

11. A detailed description of the measures taken to contain, cleanup and remove the discharge, summary of cost incurred, and proof of proper disposal of all hazardous substances discharged;

All effluent water was diverted from the broken pipe to a different point in the effluent system.

12. The corrective actions or countermeasures taken, including a description of equipment repairs or replacements;

The part that was broken was replaced with new piping.

13. Additional preventative measures taken or proposed to minimize the possibility of recurrence;

A project to upgrade our effluent system has been approved.

14. The name, address and telephone numbers of all entities involved in containment, cleanup or removal of the discharge;

Karabinchak Bros. Inc.
10 Liberty Street
Edison, New Jersey 08837
(908) 738-1880

15. A description of the type, quantity, location and date of all samples taken at or around the site of the discharge, whether before, during or after any containment, cleanup or removal;

None taken.

16. The results of all analyses of samples described in (b) 15 above; if the data are unavailable within 30 days due to laboratory delay, any person may apply to the Department at the address specified in N.J.A.C. 7:1E-5.8 (d) and (e) for an extension of the deadline, not to exceed an additional 90 days; the decision as to whether or not to grant such an extension rests solely with the Department; the results shall include:

Not applicable.

17. For major facilities, a certification stating that financial responsibility demonstrated pursuant to N.J.A.C. 7:1E-4.4 (a) 9 is in full force and effect.

Not applicable.
ISP Van Dyk is not a major facility.

18. Information supplementing any information previously provided to the Department if additional relevant information is discovered, or if it is determined that the information previously provided was false, inaccurate or misleading;

Not applicable.

19. Any other information concerning the discharge which the Department may request; and

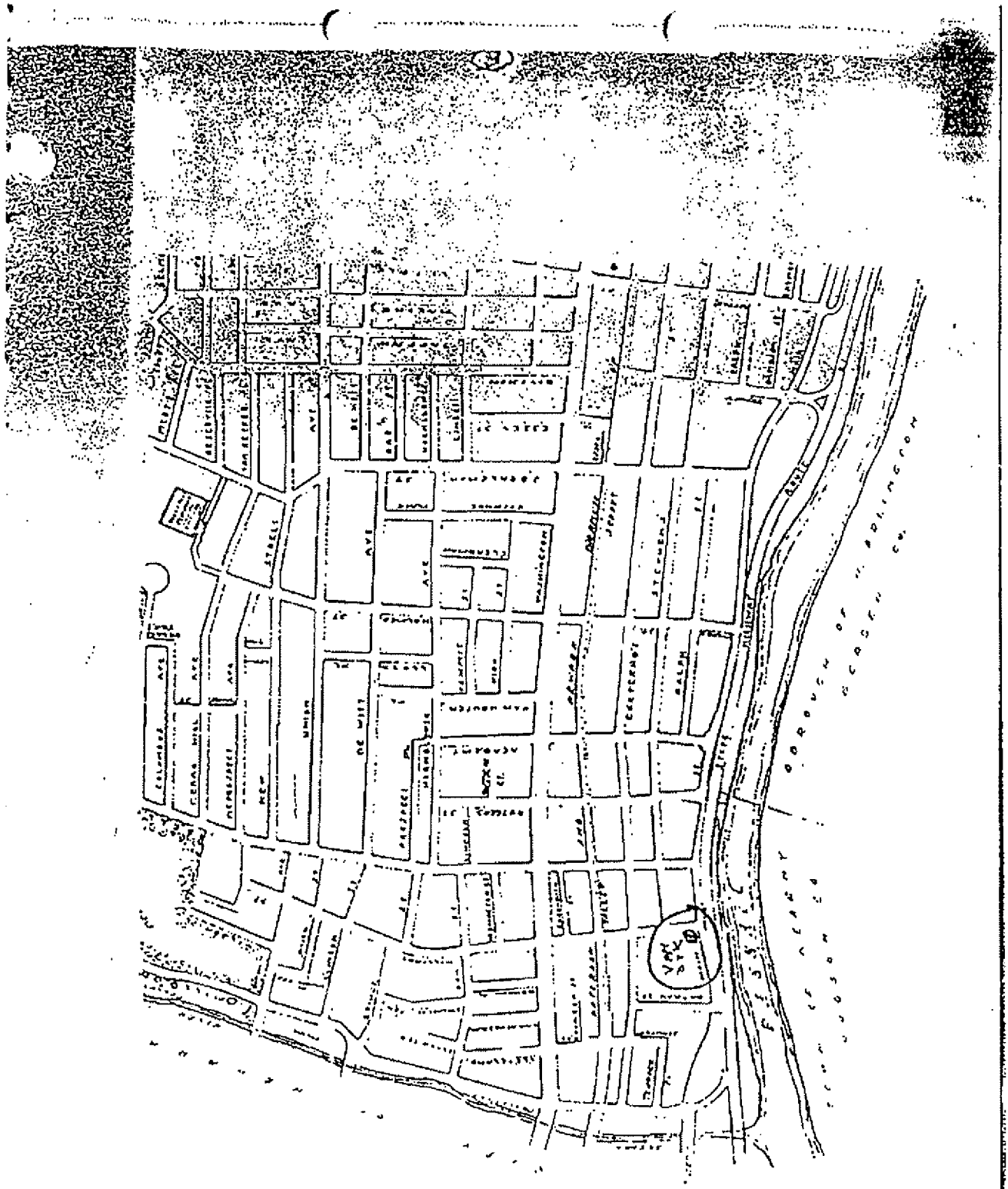
Not applicable.

20. A fully executed certification pursuant to N.J.A.C. 7:1E-4.11.

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including fines or imprisonment or both, for submitting false, inaccurate or incomplete information."

Ron Howard

RH/djm/rh-conf



APPENDIX P

APPENDIX P

ISP VAN DYK DESCRIPTION OF PROCESSES

Description of Process and Manufacturing Activities

Since Acquisition in 1992

ISP Van Dyk Inc.

Prepared By: B. Comer
Production Supervisor
ISP Van Dyk

TABLE OF CONTENTS

INTRODUCTION

Manufacturing at ISP Van Dyk was a twenty-four hour, seven day a week operation. Twenty operators, four shift supervisors and six maintenance mechanics staffed the plant. Located on site was an administrative building, full R&D and analytical lab, shipping, receiving department and warehouse.

ISP Van Dyk manufactured a unique range of specialty chemical products for the personal care industry, i.e., sunscreens, and cosmetic chemicals. ISP Van Dyk products are formulated into both skin care and hair care.

ISP Van Dyk, a wholly owned subsidiary of International Specialty Products, also conducted research and product development.

International Specialty Products acquired Van Dyk in 1992. Manufacturing operations ceased in April of 2001. The decontamination and decommissioning of all equipment was completed in October of 2001. Some equipment has since been removed and has or is in the process of being shipped to other facilities.

SECURITY

The ISP Van Dyk facility is monitored by ADT security. The system monitors fire, boiler room functions, burglary and room temperatures. There is also an internal fire alarm system. Over the last few months, Colonial Securities has been on site during off-hours.

1.0 INSTALLATIONS/MODIFICATIONS

1.1 Reactor Installation

In January 1994, reactor 3K7 was installed in Building 4 to increase the Escalol 557 "crude" production.

1.2 Chiller Unit

In June 1994, a chiller unit was installed on the roof of Building 4A. The unit supplied cooling water to the reactor condensers enabling air permit compliance.

1.3 Neutralization System

In December 1995, the neutralization system was installed in Building 4A. The system adjusted the pH of process wastewater before discharging to PVSC enabling sewer permit compliance.

1.4 Waste Tank

In October 1996, an additional hazardous waste storage tank was installed in Building 4A. This was necessitated by the increased production of Escalol 557.

1.5 Control Room

In December 1996, a control room was constructed for the operation and monitoring of equipment in Building 4 and 4A.

1.6 Tank Installation

In February 1997, an additional storage tank was installed in Building 4A. This was necessitated by the increased production of Escalol 557.

1.7 Sump Installation

In October 1997, the open trench drainage system in Buildings 4 and 4A was removed and back-filled. The floors were resurfaced and pitched and collection sumps were installed throughout the buildings. The floors were pitched toward the sumps for proper drainage. Level switches triggered pumps which transferred the collected water to the overhead piping to the wastewater out-fall connection to the Passaic Valley Sewer Commission.

1.8 Asbestos Abatement

In June 1998, a survey was conducted by Hillman Environmental Co. to evaluate existing asbestos throughout the plant. In November 1998, ACM Consulting Corp abated four hundred and ten linear feet of pipe insulation containing asbestos. In November 1999, ACM removed an additional 6 linear feet of pipe insulation and covering for 5 valves, as well as, miscellaneous repair work throughout buildings.

1.9 Wastewater Piping Modification

In October 1999, in an effort to reduce possible violation of the wastewater permit, modifications to the wastewater out-fall system were made. These included addition monitoring equipment, interlocks, piping changes and a tank installation.

2.0 MANUFACTURING ACTIVITIES

2.1 Material Handling

The ISP Van Dyk facility received its liquid raw materials in both bulk and drum form. Solid raw materials were received in bags and drums. Bulk liquids were unloaded into the numerous dedicated storage tanks on site. Bags and drums were stored in our warehouse. The plant had two "hot rooms" for re-mobilizing solidified material charged as a liquid.

The handling of raw materials and products was performed in various methods. Materials were handled from storage tanks, drums or bags, using pumps, vacuum or by pressurizing vessels with nitrogen. Most of the storage tanks were hard piped however, in some cases hoses were used. Bagged raw materials were charged through the reactor manway. The piping network, which consisted of a number of common lines, are carbon steel, stainless steel or Teflon lined pipe.

2.2 Products

The Belleville facility separated its product lines by building. Building 3, 4 and 4A were primarily dedicated to the manufacture of sunscreen products. In addition, a few of the cosmetic products requiring solvents, strong acid catalyst or activated carbon treatment and filtration were also produced in Building 4. All other cosmetic products were manufactured in Building 7. The separation of products was done for permitting and equipment compatibility requirements.

Sunscreens with the exception of *Escalol 507*, were manufactured by first creating the ester or "crude" in glass lined carbon steel reactors. The sunscreen *Escalol 557* "crude" was produced by three different methods using a different catalyst for each one. The catalysts used were Tri Butyl Tinoxide, Methane Sulfonic Acid and Sulfuric Acid. In addition, the process using Sulfuric Acid as the catalyst substituted Toluene with Rotosolv and Ethyl Acetate with Methyl Acetate. The sunscreens then would undergo a purifying step by distillation in stainless steel batch distillation units. *Escalol 507* "crude" was supplied from external sources and purified by ISP Van Dyk.

The cosmetic product line primarily manufactured in stainless steel reactors, are fatty acid based esters that are either packaged as a liquid or flaked prior to packaging.

2.3 Testing

All products were sampled and tested during processing, prior to and during packaging. The samples were conveyed from the plant to the lab via a pneumatic tube system. Off-standard material was segregated for either reprocessing or disposal.

2.4 Packaging

Once manufactured, products were filtered, weighed and packaged either from storage tanks, the vessel the product was produced in or from the two drum flakers. Liquid products were packaged into 275-gallon polyethylene totes, 55-gallon steel drums, 55-gallon Liquipaks or 7-gallon plastic pails. Flaked products were packaged into three different size polyethylene lined fiber drums.

2.5 Recycling

Some of the solvents used in the production of the sunscreen Escalol 557 were recycled. For the Escalol 557 MSA and Sulfate process, 2-Ethylhexanol was recycled by distilling it from the "crude". The distilled 2-Ethylhexanol was put into a storage tank and later re-used in the production of additional "crude".

During the production of Escalol 557 "crude" a distillation step is performed to remove toluene. This material was re-used for the cleaning of the distillation columns.
For the Escalol 557 Sulfate process, the use of toluene was replaced by Rotosolv. This process also generated methanol. These two materials were recovered by distillation, washed and decanted. The recovered material was collected in storage tanks and later used in the production of additional "crude".

2.6 Waste

Hazardous and non-hazardous wastes were generated during the manufacturing of products, as well as, wastewater. Hazardous chemical liquid waste generated was either collected in two three thousand-gallon storage tanks or in satellite waste drums. The liquid waste from the storage tanks was pumped into tank wagons for disposal. Hazardous liquids in drums were staged in the designated hazardous waste cage until picked up for disposal. Solid hazardous and non-hazardous waste was collected in drums for disposal.

Contact process wastewater was treated separately for both manufacturing buildings. Wastewater generated in Buildings 3, 4 and 4A was treated by the neutralization system, which consisted of an equalization tank, treatment tank and two sodium hydroxide storage tanks. The water was only treated for pH prior to discharge into the sewer. Contact process wastewater generated in Building 7 was treated if necessary in an available reactor in Building 7 for pH prior to discharge. All water leaving the plants and labs was monitored continuously for LEL and pH.

3.0 EQUIPMENT

The plant manufactured and stored products and raw materials in various types of equipment throughout the seven production buildings. The equipment ranged from stainless steel, carbon steel and polyethylene storage tanks. Stainless steel and glass lined carbon steel reactors. Stainless steel packed column distillation units, wiped film evaporators, drum flakers, stainless and polyethylene plate and frame filters, bag and cartridge filters and a centrifuge.

3.1 Storage Equipment

The most commonly used high volume raw materials were kept in storage tanks, as well as products. There were a total of fifty-nine production storage tanks on-site. Fifty of the tanks were constructed of stainless steel, six were carbon steel and three were polyethylene. Most of the tanks were dedicated to a specific service however, at times service changed. The materials the tanks contained are indicated in Appendix A.

3.2 Processing Equipment

There were forty-nine pieces of equipment used in the manufacture of specialty products. These include reactor and distillation receivers. There was one centrifuge, six stainless steel reactors; one stainless steel compounding tank and five carbon steel glass lined reactors. The plant had six batch distillation columns and three wiped film evaporators. There were three Niagara, three polyethylene and four stainless steel filter presses. Also, twenty cartridges and five bag filters. The products produced in the equipment are indicated in Appendix B.

4.0 UTILITIES

4.1 Electric

Electricity was provided by Public Service Electric and Gas. (PSE&G)

4.2 Hydrotherm System

The Hydrotherm System located in Building 2, consisted of two firing units, a transfer pump, feed tank, expansion tank and overflow tank that contained heat transfer fluid (Therminol). Natural gas or heating oil was used as fuel to feed the flame for the firing units. The system normally ran using natural gas during the mild temperature months and switched over to heating oil during the colder months. The Therminol was circulated via the transfer pump, through the direct-fired units to the steam generators and out to the plant supplying heat to the processing equipment.

4.3 Steam

There are three boilers and a deaerator located in Building 2. A Cleaver-Brooks boiler using natural gas as fuel and two steam generators heated by the Hydrotherm System. The Cleaver-Brooks boiler supplied heat for Building 1. The two other generators supplied steam to the steam-jet vacuum system, space heaters, processing equipment, line tracing and hot water mixing stations.

4.4 Nitrogen

Liquid nitrogen was supplied by Air Products and stored in the storage tank located in the alley between Building 5 and Building 7. The nitrogen was used in liquid and gaseous form.

4.4.1 Liquid Nitrogen

The liquid nitrogen was hard piped from the storage tank into the plant, bypassing the evaporators. The line branched off to the many vacuum cold traps that were part of the Edwards mechanical vacuum systems. The traps were filled with the liquid nitrogen, which condensed vapors to improve vacuum and reduce vacuum pump contamination.

4.4.2 Gaseous Nitrogen

Gaseous nitrogen first passed through a bank of evaporators before entering the plant. It was then distributed throughout the plant at various pressures depending on service. The services gaseous nitrogen provided was vessel inerting and pressurization, instrument and control operation.

4.5 Vacuum

There were two vacuum sources used in the plant, which provided vacuum for the process equipment. Mechanical pump and steam jet.

4.5.1 Mechanical Pumps

There were two types of mechanical pumps used as vacuum sources in the plant. Liquid ring pumps, which used city water and oil seal pumps that used NUTO H 100 Petroleum oil (Hydraulic). The water that passed through the seal on the liquid ring pumps drained to the sewer. When the oil seal pumps became contaminated, the oil was drained and replenished. The spent oil was disposed of as hazardous waste.

4.5.2 Steam Jet Vacuum

The plant had three sets of four stage steam jet systems. The combination of steam and water forced through a nozzle in a direct contact barometric condenser created vacuum. The steam was supplied from the steam generator and the water was supplied from a well.

4.6 Water

Water was supplied to the plant from two sources. This water was used for maintaining level in the cooling water tower tanks, processing, lavatories, equipment and area cleaning and steam generation. One source of water is from the Passaic Valley Sewer Commission (City Water). The other source was well water.

4.6.1 Well Water

There were three production wells that supplied water to the plant primarily for cooling purposes. These wells were properly closed in accordance with NJ DEP guidelines on or about October 12, 2001 by WM Stothoff Co.

4.6.2 City Water

City water provided by the PVSC is still in use in the lavatories, and for cleaning purposes, as well as, supplying water to the deaerator for the Cleaver-Brooks boiler.

4.7 Compressed Air

There were two air compressors that supplied air to the plant. A main compressor and a smaller back-up compressor. The air was distributed throughout the plant to power pumps, open and close valves and operate any other air driven equipment.

5.0 SPECIALTY PRODUCTS

5.1 Sunscreens

- ***Escalol HP610*** - Dimethylpabamidopropyl Laurdimonium Tosylate
- ***Escalol 507*** – Octyl Dimethyl PABA
- ***Escalol 557*** – Octyl Methoxycinnamate
- ***Escalol 587*** – Octyl Salicylate
- ***Escalol 597*** - Octocrylene

5.2 Emollients

- ***Ceraphyl GA*** - Maleated Soybean Oil
- ***Ceraphyl GA-D*** – Distilled Maleated Soybean Oil
- ***Ceraphyl NGA*** – Maleated Soybean Oil
- ***Ceraphyl RMT*** – Castoryl Maleate
- ***Ceraphyl MTE*** -
- ***Ceraphyl ICA*** – Isocetyl Alcohol
- ***Ceraphyl 28*** – Cetyl Lactate
- ***Ceraphyl 31*** – Lauryl Lactate
- ***Ceraphyl 41*** – Alkyl Lactate
- ***Ceraphyl 45*** – Dioctyl Malate
- ***Ceraphyl 50*** – Myristal Lactate
- ***Ceraphyl 140*** – Decyl Oleate
- ***Ceraphyl 140-A*** – Isodecyl Oleate
- ***Ceraphyl 230*** – Diisopropyl Adipate
- ***Ceraphyl 424*** – Myristal Myristate
- ***Ceraphyl 494*** – Isocetyl Stearate
- ***Ceraphyl 791*** – Isocetyl Steroyl Stearate
- ***Ceraphyl 847*** – Octyldodecyl Stearoyl Stearate
- ***Emulsynt GDL*** – Glyceryl Dilaurate

5.3 Emulsifiers

- ***Cerasynt GMS*** – Glyceryl Stearate
- ***Cerasynt SD*** – Glyceryl Stearate
- ***Cerasynt SD-V*** – Glyceryl Stearate
- ***Cerasynt WM*** – Glyceryl Stearate and Stearyl Alcohol and Sodium Lauryl Sulfate
- ***Cerasynt Q*** – Glyceryl Stearate SE
- ***Cerasynt 945*** - Glyceryl Stearate and Laureth – 23
- ***Cerasynt IP*** – Glycol Stearate and Other Ingredients
- ***Cerasynt IP-V*** - Glycol Stearate and Other Ingredients
- ***Cerasynt M*** – Glycol Stearate
- ***Cerasynt MN*** – Glycol Stearate SE
- ***Cerasynt LP*** – Hydroxyethyl Stearate and SDS and hexylene glycol mixture
- ***Prolipid 131*** - Hexadecanoic Acid,Docosanol,,Glyceryl Stearate,Soybean Oil, maleated,Alcohols,C12-C16 Octadecanoic Acid
- ***Prolipid 141*** - Hexadecanoic Acid,Octadecanoic Acid,1-Doconasol,Glyceryl Stearate,Lecithins,Hexadecanol
- ***Prolipid 151*** - Quarternized Amidated Stearic Acid in a Cetyl Alcohol Emulsion
- ***Cerasynt Wax 10*** - Steareamide DEA and Cetyl Esters
- ***Cerasynt Wax 507***

5.4 Other Esters

- ***Cerasynt D*** – Stearamide MEA Stearate
- ***Cerasynt PA*** – Propylene Glycol Stearate
- ***Cerasynt 303*** – Diethylaminoethyl Stearate
- ***Cerasynt 840*** – PEG-20 Stearate

5.5 W / O Emulsifier

- ***Emulsynt 1055*** – Polyglyceryl-4 Oleate and PEG-8 Propylene Glycol Cocoate

5.6 Conditioners

- ***Ceraphyl 60*** – Quaternium-22
- ***Ceraphyl 65*** – Quaternium-26
- ***Ceraphyl 70*** – Quaternium-70 and Propylene Glycol
- ***Ceraphyl 85*** – Stearamidopropyl Cetearyl Dimonium Tosylate and Propylene Glycol

6.0 INTERMEDIATES

Cerasynt MAM is an intermediate used in the manufacture of the emulsifier Cerasynt IP.

Ceraphyl 420 is an intermediate used in the manufacture of the emollient Ceraphyl 140-A.

Emulsynt 900 is an intermediate used in the manufacture of the W/O emulsifier Emulsynt 1055.

Polyglycerol is an intermediate used in the manufacture of the W/O emulsifier Emulsynt 1055.

Dodecyl Tosylate is an intermediate used in the manufacture of the sunscreen Escalol HP610.

Myristyl Chloro Acetate is an intermediate used in the manufacture of Ceraphyl 70.

Ceraphyl 85 Pt. I is an intermediate used in the manufacture of Ceraphyl 85.

Ceraphyl 85 Pt. II is an intermediate used in the manufacture of Ceraphyl 85.

7.0 PROCESSES AND DESCRIPTION

SUNSCREENS

Product: Escalol HP610

Area: Bldg. 4

Equipment: T-492, T-494, T-493, 3K1

Raw Materials:

- Ethyl-p-dimethylamino benzoate (Fiber Drums)
- Sodium Methoxide (Metal Drums)
- Dimethylaminopropylamine (Metal Drums)
- City water
- Toluene (Bulk Storage T-492 & T-494)
- Isopropanol (Bulk Storage T-493)
- Dodecyl Tosylate (ISP manufactured intermediate stored in metal drums)
- Cerasynt PA (ISP manufactured product stored in fiber drums)
- Liquapar Oil (Plastic Pails)

Process Description: Vessel 3K1 is charged with ethyl-p-dimethylamino benzoate, sodium methoxide and dimethylaminopropylamine. The contents are slowly heated to a reaction temperature of 135-140°C and sampled for % conversion. Water and toluene are added to the batch. The water is separated and the toluene is stripped. Isopropanol is added while the dodecyl tosylate charge is calculated. After the intermediate dodecyl tosylate is charged, the amine number is rechecked and Cerasynt PA is added. The isopropanol is vacuum stripped and then cold water and Liquapar Oil are added and the % water, assay and amine number are checked before filtering and packaging. Finally, the reactor is washed with recovered isopropanol.

SUNSCREENS

Process and Description

Product: Escalol 507

Area: Bldg. 3 & 4

Equipment: T-321, T-322, T-323, T-324, T-325, T-465, 1S1, 4S1, T-451, T-452, 3K6

Raw Materials:

- Escalol 507 crude (T-495, Metal Drums)
- Sodium Hydroxide (Plastic Drums)
- City Water
- Sodium Sulfite (Bags)
- Sodium Chloride (Bags)

Process Description: Escalol 507 is charged to wash tank. The material is sampled to determine the amount of sodium hydroxide and sodium sulfite to be added. City water, and the determined amount of sodium hydroxide and sodium sulfite are charged. The batch is heated, agitated and sparged-with nitrogen. A sodium chloride and water solution is added and the aqueous stream is either separated through a centrifuge or by bottom decanting. The batch is washed with water until the pH of the water is 7 and free of sodium sulfite and the Escalol 507 is free of formaldehyde. Then the batch is either sent to a storage tank or to a distillation column.

Once the batch is charged to a distillation column, Hot oil is applied to the still to begin heating and the reflux control is set for total take-off. First a waste cut is distilled. This material is sent to the waste tank. At the end of the waste cut the reflux ratio is changed and the first fraction cut is distilled and sampled for refractive index. This material is sent to a storage tank for reprocessing. Once the refractive index meets specification the reflux ratio is again changed and the final cut is taken. This material is sent to a storage tank for final packaging. At the end of the final cut the reflux control is again set for total take-off. A last fraction cut is distilled and also sent to a storage tank for reprocessing. Once the last fraction cut is complete the still is then pressurized with nitrogen and the still heel is sent to the waste tank.

The Escalol 507 is charged from storage to vessel 3K6 for packaging. It is then filtered and packaged into 7-gallon plastic pails or 55 gallon steel drums for shipment.

SUNSCREENS

Process and Description

Product: Escalol 507 Fraction Recovery

Area: Bldg. 3 & 4

Equipment: T-321, T-322, T-323, T-324, T-325, T-465, 1S1, 1S2, 4S1, T-451, T-452, 3K6

Raw Materials:

- Escalol 507 crude (T-495, Metal Drums)
- Sodium Hydroxide (Plastic Drums)
- City Water
- Sodium Sulfite (Bags)
- Sodium Chloride (Bags)

Process Description: Escalol 507 Fraction is charged to wash tank. The material is sampled to determine the amount of sodium hydroxide and sodium sulfite to be added. City water, and the determined amount of sodium hydroxide and sodium sulfite are charged. The batch is heated, agitated and sparged with nitrogen. A sodium chloride and water solution is added and the aqueous stream is either separated through a centrifuge or by bottom decanting. The batch is washed with water until the pH of the water is 7 and free of sodium sulfite and the Escalol 507 Fraction is free of formaldehyde. Then the batch is either sent to a storage tank or to a distillation column.

Once the batch is charged to a distillation column, Hot oil is applied to the still to begin heating and the reflux control is set for total take-off. First a waste cut is distilled. This material is sent to the waste tank. At the end of the waste cut the reflux ratio is changed and the first fraction cut is distilled and sampled for refractive index. This material is sent to a storage tank for reprocessing. Once the refractive index meets specification the reflux ratio is again changed and the final cut is taken. This material is sent to a storage tank for final packaging. At the end of the final cut the reflux control is again set for total take-off. A last fraction cut is distilled and also sent to a storage tank for reprocessing. Once the last fraction cut is complete the still is then pressurized with nitrogen and the still heel is sent to the waste tank.

The Escalol 507 is charged from storage to vessel 3K6 for packaging. It is then filtered and packaged into 7-gallon plastic pails or 55 gallon steel drums for shipment.

SUNSCREENS

Process and Description

Product: Escalol 557 MSA Process

Area: Bldg. 4 & 4A

Equipment: T-313, T-314, T-315, T-316, T-317, T-492, T-494, T-601, T-602, 3K4, 3K5, 3K7, 1S1, 1S2, 4S1, 6S1, 6T1, 6T2

Raw Materials:

- p- Anisic Aldehyde (Bulk Storage T-315, T-316 & T-317)
- Ethyl Acetate (Bulk Storage T-491)
- Toluene (Bulk Storage T-492 & T-494)
- Sodium Methoxide (Metal Drums)
- Sulfuric Acid 93% (Plastic Drums)
- 2-Ethylhexanol (Bulk Storage T-601 & T-602)
- Methane Sulfonic Acid (Plastic Drums)
- City Water
- Sodium Bicarbonate (Bags)
- Sodium Carbonate (Bags)
- Butylated Hydroxy Toluene (Fiber Drums)

Process Description: Anisic Aldehyde, Ethyl Acetate, Toluene and Sodium Methoxide are charged to 3K7. Methanol and Ethyl Acetate are stripped and the batch is cooled and washed with Sulfuric Acid and water. The batch is reheated and Toluene is stripped. 2-Ethylhexanol and Methane Sulfonic Acid are charged and the batch is stripped until the % completion is reached. The batch is washed again with water and then washed to neutralize with a solution of Sodium Bicarbonate before transferring to storage. If an emulsion occurs during the final wash, there is a supplemental acid charge for breaking the emulsion.

From storage, Escalol 557 is charged to a still along with Sodium Carbonate to condition the crude. First a Waste cut is taken and then 2-Ethylhexanol is recovered. If the crude is not of high quality a "Red" cut will be taken. A Fraction cut is taken for re-distillation and then the Final cut is taken. Finally material held up in the column is recovered and the still heel is sent to waste.

The distilled Escalol 557 is charged to 6T1 or 6T2. When the tank is full a sample is taken for purity. Butylated Hydroxytoluene (BHT) is added if specified by schedule and the batch is cooled to below 20° C. Once the batch is cool the material is filtered and packaged into 55 gallon closed head steel drums and / or 7-gallon plastic pails for shipment.

SUNSCREENS

Process and Description

Product: Escalol 557 Sulfate Process

Area: Bldg. 4 & 4A

Equipment: T-315, T-316, T-317, T-474, T-495, T-606, T-607, T-608, T-601, T-602, 3K4, 3K5, 4S1, 6S1, 6T1, 6T2

Raw Materials:

- p- Anisic Aldehyde (T-315, T-316, T-317)
- Methyl Acetate (Bulk Storage T-607)
- Rotosolv (Bulk Storage T-608)
- Sodium Methoxide (Metal Drums)
- Sulfuric Acid 93% (Plastic Drums)
- 2-Ethylhexanol (Bulk Storage T-601 & T-602)
- Sodium Hydroxide 50% (Plastic Drums)
- Recycle Rotosolv (Bulk Storage T-608)
- Recycle Methanol (Bulk Storage T-606)
- Recycle Prestrip (Bulk Storage T-474)
- City Water
- Sodium Bicarbonate (Bags)
- Sodium Carbonate (Bags)

Process Description: A sample of Recycled Rotosolv is sent to the lab for analysis of % methyl acetate, % 2-Ethyl Hexanol and % Water. If results are in specification a portion of the total Rotosolv charge is added. Anisic Aldehyde is charged next. Then the amount of Methyl Acetate and Fresh Rotosolv is charged based on the results of the Recycle Rotosolv. Next, the agitator is started, the raw materials charged are sampled for moisture and the temperature is adjusted. Once the temperature is in range, Sodium Methoxide is charged. After all the Sodium Methoxide is charged the batch is held at temperature for 2 hours and sampled for conversion. Cooling and nitrogen are put on the reactor and Recycled Methanol is charged. Next, with the agitator on Sulfuric Acid is charged. The batch is then heated with the surge pot set for reflux. As the receiver fills with distillate the material is transferred to storage for recycle. Fresh 2-Ethylhexanol is charged or recycle if available to aid in cooling. If only fresh 2-Ethylhexanol is used charge Prestrip to recycle Rotosolv. If no Prestrip is available use Fresh Rotosolv. The batch is heated for the transesterification step. Once maximum temperature and vacuum is reached the batch is sampled for conversion. When desired conversion is obtained the batch is cooled and washed. First, washed with Sodium Hydroxide and Water to adjust pH. Then, washed with a slurry of Sodium Bicarbonate and Water for final pH adjustment. The aqueous layers are decanted and sent to the neutralization system. The batch is then sent to storage for distillation.

SUNSCREENS

Process and Description cont.

Product: Escalol 557 Sulfate Process

From storage, Escalol 557 is charged to a still along with Sodium Carbonate to condition the crude. First a Waste cut is taken and then 2-Ethylhexanol is recovered. If the crude is not of high quality a "Red" cut will be taken. A Fraction cut is taken for redistillation and then the Final cut is taken. Finally material held up in the column is recovered and the still heel is sent to waste.

The distilled Escalol 557 is charged to 6T1 or 6T2. When the tank is full a sample is taken for purity. Butylated Hydroxytoluene (BHT) is added if specified by schedule and the batch is cooled to below 20° C. Once the batch is cool the material is filtered and packaged into 55 gallon closed head steel drums and / or 7-gallon plastic pails for shipment.

SUNSCREENS

Process and Description

Product: Escalol 557 Fraction Recovery

Area: Bldg. 4 & 4A

Equipment: 5S1, 6S1, 6T1, 6T2, T-471

Raw Materials:

- Escalol 557 Fraction (T-471, Metal Drums)
- City Water
- Sodium Carbonate (Bags)

Process Description: Escalol 557 Fraction is charged to a still along with Sodium Carbonate to condition the material. First a Waste cut is taken and then 2-Ethylhexanol is recovered. If the material is not of high quality a "Red" cut will be taken. A Fraction cut is taken for re-distillation and then the Final cut is taken. Finally material held up in the column is recovered and the still heel is sent to waste.

The distilled Escalol 557 is charged to 6T1 or 6T2. When the tank is full a sample is taken for purity. Butylated Hydroxytoluene (BHT) is added if specified by schedule and the batch is cooled to below 20° C. Once the batch is cool the material is filtered and packaged into 55 gallon closed head steel drums and / or 7-gallon plastic pails for shipment.

SUNSCREENS

Process and Description

Product: Escalol 587

Area: Bldg. 3 & 4

Equipment: T-601, T-602, 1K1, T-325, 1S1

Raw Materials:

- 2-Ethylhexanol (Bulk Storage T-601 & T-602)
- Salicylic Acid (Bags)
- p-Toluene Sulfonic Acid (Fiber Drums)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: Reactor 1K1 is charged with Salicylic Acid, p-Toluene Sulfonic Acid and 2-Ethylhexanol. The material is heated and distilled until the % Salicylic Acid is less than 1 and the Acid No. is less than 15. The batch is cooled and washed three times with water (the second using Sodium Bicarbonate). The remaining organic layer is sampled for Acid No. (less than 0.5) and the 587 Crude is then transferred to T-325 (Blue Tank) for storage.

E-587 is charged from to storage to a distillation column. The material is then distilled using the low vac pump and a Waste Cut of water and 2-Ethylhexanol is taken to the receiver until the distillate clears. After transferring the contents of the receiver to a waste tank, the vac source is switched to the steam jets and 2-Ethylhexanol is distilled until the distillate stops coming over. The contents of the receiver are drummed and the vac source is switched to the Edwards pump and the First Fraction Cut of 2-EH and E-587 product is taken until the Refractive Index reaches 1.495 -1.505. The receiver is drummed again and the Product Cut is taken until approximately 5 receivers are filled and transferred to T-452. The Last Fraction which is a low purity product cut is then taken and the receiver is drummed one last time. Drummed 2-EH is added back to 1S1 (to thin the material) and the heel is removed to a waste tank. The product in T-452 is transferred to 3K6 where it is filtered through a bagfilter and cartridge filter for final packaging into drums or pails.

SUNSCREENS

Process and Description

Product: Escalol 597 Trials

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- 2-Ethyl Hexyl Cyanoacetate
- Benzophenone
- Glacial Acetic Acid (Plastic Drum)
- Heptane (Drums)
- Glycine
- Hydrochloric Acid (Plastic Drum)

Process Description: Molecular sieves are charged to receiver 3R1. 2-Ethyl Hexyl Cyanoacetate is charged to reactor 3K1. The agitator is started and nitrogen and heat are applied. Benzophenone and glycine are then charged. Next, Glacial Acetic Acid and Heptane are charged. The temperature is raised and the Heptane condensate is refluxed. Water and Acetic Acid are continuously siphoned from bottom of separator to a drum and weighed. Fresh Glacial Acetic Acid is added hourly. During this time the Water off and Acetic Acid are sampled. The Heptane is also sampled for percent Water. Lastly, the batch is sampled for % Octocrylene and % Conversion. City Water and Hydrochloric Acid is then added and the batch is agitated. The batch then settles before decanting aqueous layer. The batch is then washed 2 more times with City Water and the aqueous layers are decanted. The batch is then drummed as intermediate for further processing.

EMOLLIENTS

Process and Description

Product: Ceraphyl GA

Area: Bldg. 7

Equipment: R-4

Raw Materials:

- Soybean Oil (Metal Drums)
- Fumaric Acid (Bags)
- Iodine (Fiber Drum)
- Celite (Bag)
- Alpha-Tocopherol (Vitamin E) (Metal Pail)

Process Description: Soybean Oil, Fumaric Acid and Iodine are charged to R-4. The vent is closed and they are heated to 225 °C and 20-25 psig. The batch is held at this temperature for 1 hr., sampled for clarity and then cooled to 200°C where it is steam stripped under vacuum for 1 hr. Vacuum steam stripping continues as the batch is further cooled to 125°C. The steam is shut off and the batch is stripped until the K.F. is less than 0.1% water. The batch is cooled to 100° C where the Methanol Acid Value is checked as well as the Gardner color (must be below 5). Celite and Vitamin E are added and the batch is packaged into 7-gallon pails or 55-gallon closed head drums,transferred through the filter press to the molecular still feed tanks.

EMOLLIENTS

Process and Description

Product: Ceraphyl GA-D

Area: Bldg. 7

Equipment: R-4, T-741, T-742, T-743, Molecular stills 1, 2, 3

Raw Materials:

- Soybean Oil (Metal Drums)
- Fumaric Acid (Bags)
- Iodine (Fiber Drum)
- Celite (Bag)
- Alpha-Tocopherol (Vitamin E) (Metal Pail)

Process Description: Soybean Oil, Fumaric Acid and Iodine are charged to R-4. The vent is closed and they are heated to 225 ° C and 20-25 psig. The batch is held at this temperature for 1 hr., sampled for clarity and then cooled to 200°C where it is steam stripped under vacuum for 1 hr. Vacuum steam stripping continues as the batch is further cooled to 125°C. The steam is shut off and the batch is stripped until the K.F. is less than 0.1% water. The batch is cooled to 100° C where the Methanol Acid Value is checked as well as the Gardner color (must be below 5). Celite and Vitamin E are added and the batch is transferred through the filter press to the molecular still feed tanks. The material is then molecular distilled to bring the acid and MeOH values into range. The product is filtered and packaged into 7-gallon pails or 55-gallon closed head drums.

EMOLLIENTS

Process and Description

Product: Ceraphyl NGA

Area: Bldg. 7

Equipment: R-4

Raw Materials:

- Soybean Oil (Metal Drums)
- Fumaric Acid (Bags)
- Iodine (Fiber Drum)
- City Water
- Celite (Bag)
- Alpha-Tocopherol (Vitamin E) (Metal Pail)

Process Description: Soybean oil and fumaric acid are charged to R-4 and degassed. The batch is then heated to 140°C. Iodine is then added in a slurry with soybean oil. Then batch is heated to 160°C and held for at least 5 hours until clarity is obtained. The batch is then cooled to 80 ± 5°C and sampled for acid value (less than 59), Gardner color (must be below 5) and the % water (less than 0.1%). Water is added to adjust the acid value to 60-70. If the % water increases to above 0.3%, the excess moisture is removed under vacuum. Vitamin E is added and the batch is packaged through a bag filter.

EMOLLIENTS

Process and Description

Product: Ceraphyl RMT Trial

Area: Bldg. 7

Equipment: R-4

Raw Materials:

- Castor Oil (Metal Drums)
- Maleic Anhydride (Bags)
- Alpha-Tocopherol (Vitamin E) (Metal Pail)

Process Description: Castor Oil and Maleic Anhydride are charged to R4 where they are degassed before heating. The batch is heated to 100°C using only the lower side jacket and stirred for 8 hours. It is sampled for Acid Value and % Completion and then cooled and packaged.

EMOLLIENTS

Process and Description

Product: Ceraphyl MTE Trial

Area: Bldg. 7

Equipment: R-4

Raw Materials:

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Process Description: No information available

EMOLLIENTS

Process and Description

Product: Ceraphyl ICA

Area: Bldg. 7

Equipment: R-1, 2, 3, 4

Raw Materials:

- Isocetyl Alcohol (Metal Drums)

Process Description: Isocetyl Alcohol (Jarcol I-16) is charged to the reactor at a temperature less than 40 °C. The batch is mixed for 30 minutes and sampled for % moisture (less then 0.1%), color (APHA 50 Max), and acid number (0.5 Max). The batch is then filtered for packaging.

EMOLLIENTS

Process and Description

Product: Ceraphyl 28

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- Hexadecanol (Metal Drums)
- Lactic Acid 88% (Plastic Drums)
- p-Toluene Sulfonic Acid 96% (Fiber Drums)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: Alfol-16 (1-Hexadecanol), 88% lactic acid and p-toluene sulfonic acid (pTSA) are charged to 3K1 and mixed. Maximum vacuum is applied and the batch is heated to 78-80°C for 5 hours and then sampled for acid value, sap value and color. The batch is washed 4 times (once with sodium bicarbonate) and then stripped to dryness. The product is filtered, checked for clarity and then packaged.

EMOLLIENTS

Process and Description

Product: Ceraphyl 31

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- Fatty Alcohol CO-1214 (Metal Drums)
- Lactic Acid 88% (Plastic Drums)
- p-Toluene Sulfonic Acid 96% (Fiber Drums)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: Fatty Alcohol CO-1214 , 88% lactic acid and p-toluene sulfonic acid (pTSA) are charged to 3K1 and mixed. Maximum vacuum is applied and the batch is heated to 78-80°C for 5 hours and then sampled for acid value, sap value and color. The batch is washed 4 times (once with sodium bicarbonate) and then stripped to dryness. The product is filtered, checked for clarity and then packaged.

EMOLLIENTS

Process and Description

Product: Ceraphyl 41

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- Neodol 25 (Plastic Drums)
- Lactic Acid 88% (Plastic Drums)
- p-Toluene Sulfonic Acid 96% (Fiber Drums)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: Neodol 25, 88% lactic acid and p-toluene sulfonic acid (pTSA) are charged to 3K1 and mixed. Maximum vacuum is applied and the batch is heated to 78-80°C for 5 hours and then sampled for acid value, sap value and color. The batch is washed 4 times (once with sodium bicarbonate) and then stripped to dryness. The product is filtered, checked for clarity and then packaged.

EMOLLIENTS

Process and Description

Product: Ceraphyl 45

Area: T-601 & T-602, Bldg. 7

Equipment: R4

Raw Materials:

- Malic Acid (Bags)
- 2-Ethylhexanol (T-601 & T-602)
- p-Toluene Sulfonic Acid 96% (Fiber Drum)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: No information available

EMOLLIENTS

Process and Description

Product: Ceraphyl 50

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- Myristyl Alcohol (Metal Drums)
- Lactic Acid 88% (Plastic Drums)
- p-Toluene Sulfonic Acid 96% (Fiber Drums)
- City Water
- Sodium Bicarbonate (Bags)

Process Description: Myristyl alcohol (Alfol 14), 88% lactic acid and p-toluene sulfonic acid (pTSA) are charged to 3K1 and mixed. Maximum vacuum is applied and the batch is heated to 78-80°C for 5 hours and then sampled for acid value, sap value and color. The batch is washed 4 times (once with sodium bicarbonate) and then stripped to dryness. The product is filtered, checked for clarity and then packaged.

EMOLLIENTS

Process and Description

Product: Ceraphyl 140

Area: Bldg. 7

Equipment: R1, 3, 4, T-741, T-742, T-743, Molecular stills 1, 2, 3

Raw Materials:

- Oleic Acid
- ALFOL 10
- pTSA
- Cyanox LTDP

Process Description: No information available

EMOLLIENTS

Process and Description

Product: Ceraphyl 140-A

Area: Bldg. 7

Equipment: T-742 & T-743

Raw Materials:

- Ceraphyl 420
- Ceraphyl 140
- Butylated Hydroxy Toluene (Fiber Drums)

Process Description: Blending 20% of the intermediate Ceraphyl 420 and 80% of the product Ceraphyl 140 produce Ceraphyl 140-A. Once combined, the batch is filtered, the preservative BHT is added and then it is packaged in closed head 55-gallon drums or 7-gallon polyethylene pails.

EMOLLIENTS

Process and Description

Product: Ceraphyl 424

Area: Bldg. 7

Equipment: T-711, R-1, 3, 4

Raw Materials:

- Myristic Acid (Bags)
- Lauric Acid (Bags)
- Dibutyltin Oxide (Pail)
- Myristyl Alcohol (Bulk Storage T-711)

Process Description: Myristic acid, lauric acid, Fascat (DBTO) and Alfol 14 are charged and heated to 250°C. The batch is stripped to an acid value of less than 2 and the color is checked before vacuum stripping and cooling to package.

EMOLLIENTS

Process and Description

Product: Ceraphyl 494

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 2, 3, 4

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Dibutyltin Oxide (Pail)
- Isocetyl Alcohol (Metal Drums)
- Celite (Bags)
- Filtrol Clay (Bags)

Process Description: Palmitic/Stearic Acid, Fascat (Dibutyltin Oxide-DBTO), and Jarcol 16 (Iso Cetyl Alcohol) are charged into the reactor and heated to 220 °C. They are reacted to an Acid Value of less than 2.0, cooled and filtered before packaging.

EMOLLIENTS

Process and Description

Product: Ceraphyl 791

Area: Bldg. 7 & 4

Equipment: T-712-T-716, R-1, 2, 3, 4, SS storage tank, 1K1, 3K1, plate and frame filter press

Raw Materials:

- Cenwax A (Bags)
- Eutanol GT-16 (Metal Drums)
- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Fascat 4201
- Celite (Bags)
- Darco (Bags)

Process Description: Ceraphyl 791 is a two-part reaction followed by Darco treatment and filtration. Cenwax A, Fascat (Dibutyltin Oxide-DBTO), and Eutanol 16 (Iso Cetyl Alcohol) are charged into the reactor and heated to 220 °C. Vacuum is applied and the material is reacted to an Acid Value of less than 1.0. The material is cooled. Palmitic Acid and additional Fascat (Dibutyltin Oxide-DBTO) is charged. The batch is then re-heated 220 °C, vacuum is re-applied and the batch is reacted to an Acid Value of less than 5.0. The batch is cooled and transferred. Darco and Celite are added and the batch is dried prior to filtration and packaging.

EMOLLIENTS

Process and Description

Product: Ceraphyl 847

Area: Bldg. 7 & 4

Equipment: T-712-T-716, R-1, 2, 3, 4, SS storage tank, 1K1, 3K1, plate and frame filter press

Raw Materials:

- Cenwax A (Bags)
- Jarcol I-18 (Metal Drums)
- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Fascat 4201
- Darco (Bags)

Process Description: Palmitic Acid, Cenwax A, Fascat (Dibutyltin Oxide-DBTO), and, Jarcol I-18 (Alkylalkanols) are charged into the reactor and heated to 220 °C. Vacuum is applied and the material is reacted to an Acid Value of less than 6.0. The batch is cooled and transferred. Darco is added and the batch is dried prior to filtration and packaging.

EMOLLIENTS

Process and Description

Product: Emulsynt GDL

Area: Bldg. 7

Equipment: T-712, T-713, T-603, T-604, R-1, 3, 4,

Raw Materials:

- Coconut Fatty Acid (T-712 & T-713)
- Glycerin (T-603 & T-604)

Process Description: No information available

EMULSIFIERS

Process and Description

Product: Cerasynt GMS

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603, T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin (T-603 & T-604)

Process Description: Palmitic/Stearic Acid and Glycerin are charged to either R1,3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 3. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt SD

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603, T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin (T-603 & T-604)

Process Description: Palmitic/Stearic Acid and Glycerin are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 3. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt SD-V

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603, T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin (T-603 & T-604)

Process Description: Palmitic/Stearic Acid and Glycerin are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 3. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt WM

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603, T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin T-603 & T-604
- Calcium Acetate (Bags)
- Stearyl Alcohol (Bags)
- Duponol C (Fiber Drums)

Process Description: Palmitic/Stearic Acid, Glycerin and Calcium Acetate are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. At this point the batch is vacuum stripped for one hour. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range the batch is further cooled to 85°C and Stearyl Alcohol and Duponol C are charged and stirred to mix. A sample is taken to make sure the materials are dissolved and any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt Q

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603, T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin T-603 & T-604
- Potassium Stearate(Bags)

Process Description: Palmitic/Stearic Acid and Glycerin are charged to either R1, 2 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. At this point the batch is vacuum stripped for one hour. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range, Potassium Stearate is charged and stirred to mix. Any material that is to be reprocessed is charged after this mix and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt 945

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-603 & T-604, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Glycerin T-603, T-604
- Lipicol L23 (Metal Drums)

Process Description: Palmitic/Stearic Acid and Glycerin are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. At this point the batch is vacuum stripped for 1&1/2 hours. The reactor is then cooled to 100°C and the agitator and nitrogen are shut off and the batch is allowed to settle for a minimum of two hours. At this point the bottom Glycerin layer is separated and the batch is sampled for the SAP value. When the sample results are in range, Lipicol is charged and stirred to mix. Any material that is to be reprocessed is charged after this mix and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt IP

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-772, T-773, T-774, T-771, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Ethylene Glycol (Metal Drums)
- Cerasynt MAM (ISP manufactured intermediate stored in T-771 or metal drums)

Process Description: Palmitic/stearic acid and ethylene glycol are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 3. The reactor is started cooling to 100°C and the batch is sampled for the saponification value. When the sample results are in range, Cerasynt MAM is charged and stirred to mix. Any material that is to be reprocessed is charged after this mix and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt IP-V

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-772, T-773, T-774, T-771, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Ethylene Glycol (Metal Drums)
- Cerasynt MAM (ISP manufactured intermediate stored in T-771 or metal drums)

Process Description: Palmitic/stearic acid and ethylene glycol are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 3. The reactor is started cooling to 100°C and the batch is sampled for the saponification value. When the sample results are in range, Cerasynt MAM is charged and stirred to mix. Any material that is to be reprocessed is charged after this mix and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt M

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Ethylene Glycol (Metal Drums)

Process Description: Palmitic/Stearic Acid and Ethylene Glycol are charged to either R1 or R4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. The reactor is started cooling to 100°C and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt MN

Area: Bldg. 7

Equipment: T-712-T-716, R-1, 3, 4, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Ethylene Glycol (Metal Drums)
- Caustic Potash 45% (Plastic Drum)

Process Description: Palmitic/Stearic Acid and Ethylene Glycol are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 6. The reactor is then cooled to 70-80°C and 45% Caustic Potash is charged and stirred to mix. At this point, the reactor is reheated to 100-110°C and vacuum is applied to the reactor for one hour (to dry the batch). The Sap value is checked and any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt LP

Area: Bldg. 7

Equipment: T- 761, Plate and frame filter press

Raw Materials:

- City Water
- Standapol (LiquiPak Drums)
- Hexylene Glycol (Metal Drum)
- Cerasynt M (ISP manufactured product stored in fiber drums)
- Glydant (Plastic Drum)

Process Description: In this process Standapol, hexylene glycol and water are charged to T-761 and heated before adding Cerasynt M. The Cerasynt M is melted and the batch is heated to 80-85°C where it is sampled for % solids. The batch is then cooled to 40-46°C and Glydant is added. Agitation is maintained throughout the process to avoid foaming and to avoid setting up during the gel phase at about 50°C. Before packaging, the batch is sampled for final specifications, circulated through a filter and checked for grit. Once approval is received, the batch is packaged into liquipacks and /or pails.

EMULSIFIERS

Process and Description

Product: Prolipid 131

Area: Bldg. 7

Equipment: T- 761, T-773, Flaker

Raw Materials:

- Cerasynt SD (ISP manufactured product stored in fiber drums)
- Palmitic Acid (Bags)
- Behenyl Alcohol (Bags)
- Ceraphyl GA-D (ISP manufactured product stored in metal drums)
- Lecithin, Fatty Acid and Alcohols (Bags)

Process Description: Cerasynt SD-V, Stearic Acid and Behenyl (Stenol) Alcohol are charged to T-761 and melted. The temperature is adjusted to 175 ± 3°F and GA-D is charged. Steam is removed from the jacket and replaced with hot water to avoid burning the product. The temperature is rechecked , and then Lecithin, Fatty Acid & Fatty Alcohols (Biophillic S) pellets are charged to melt. The product is transferred to the center feed tank and flaked immediately. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Prolipid 141

Area: Bldg. 7

Equipment: T- 761, T-773, Flaker

Raw Materials:

- Cerasynt SD (ISP manufactured product stored in fiber drums)
- Palmitic Acid (Bags)
- Behenyl Alcohol (Bags)
- Lecithin, Fatty Acid and Alcohols (Bags)

Process Description: Cerasynt SD, stearic acid and behenyl alcohol (Stenol) are charged to T-761 and melted. The temperature is adjusted to 80 ± 2°C and then lecithin (Biophillic S) pellets are charged to melt. The product is transferred to the center feed tank and flaked immediately. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Prolipid 151

Area: Bldg. 7

Equipment: T- 761, T-773, Flaker

Raw Materials:

- Cerasynt SD (ISP manufactured product stored in fiber drums)
- Palmitic Acid (Bags)
- Cetearyl Alcohol
- Ceraphyl SAQ (ISP manufactured intermediate stored in fiber drums)

Process Description: Cerasynt SD, Stearic Acid and Cetearyl Alcohol (Lanette O) are charged to T-761 and melted. The batch is heated and maintained at 80 ± 1°C and then Ceraphyl SAQ is charged to melt. The product is transferred to the center feed tank (T-773) and flaked immediately. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt Wax 507

Area: Bldg. 7

Equipment: T-711, R1, 2, T-772, T-773, T-774, Flaker

Raw Materials:

- Stearic Acid (Bags)
- Myristyl Alcohol (Bulk Storage T-711)
- Dibutyltin Oxide (Pail)

Process Description: Myristyl Alcohol (Alfol 14), Stearic Acid (Industrene 7018/Bags) and DBTO (Fascat) are charged to either R1 or R4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. At this point the batch is vacuum stripped for 15 minutes. The reactor is then cooled to 100°C and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

EMULSIFIERS

Process and Description

Product: Cerasynt Wax 10

Area: Bldg. 7

Equipment: R1, 3, 4, T-772, T-773, T-774, Flaker

Raw Materials:

- ALFOL 14
- Industrene 7018
- Fascat 4201
- Diethanolamine
- KOH Flakes

Process Description: No information available

OTHER ESTERS

Process and Description

Product: Cerasynt D

Area: Bldg. 7

Equipment: T-712-T-716, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Monoethanolamine (Metal Drums)

Process Description: Palmitic/Stearic Acid and Monoethanolamine are charged to either R1, 3 or 4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls between 10.5 and 19.5. The reactor is then cooled to 115°C and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks on the 3rd deck to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

OTHER ESTERS

Process and Description

Product: Cerasynt PA

Area: Bldg. 7

Equipment: T-712-T-716, T-605, T-606, T-772, T-773, T-774, Flaker

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Propylene Glycol (T-605 & T-606)

Process Description: Palmitic/Stearic Acid and Propylene Glycol are charged to either R1 or R4. The materials are then heated in stages until the temperature reaches 220°C where the batch is sampled until the acid number falls below 5. At this point the batch is vacuum stripped for one hour. The reactor is then cooled to 80°C and the batch is sampled for the SAP value. When the sample results are in range, any material that is to be reprocessed is charged and stirred to blend. The batch is then transferred through the flaker tanks to the flakers where the material solidifies and is chipped for packaging in the basement. The material is packaged in fiber drums and labeled for transfer to the warehouse.

OTHER ESTERS

Process and Description

Product: Cerasynt 303

Area: Bldg. 7

Equipment: T-712 – T-716, R2

Raw Materials:

- Diethylethanolamine (Metal Drums)
- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Tenox-2 (Butylated Hydroxy Anisole, Propyl Galate, Citric Acid)

Process Description: Diethylethanolamine, Palmitic Acid and Tenox-2 are charged. The batch is heated to 165°C and sampled until the Acid Value and Alkali Number is in range. The batch is cooled and packaged.

OTHER ESTERS

Process and Description

Product: Cerasynt 840

Area: Bldg. 7

Equipment: T-712-T-716, R1, 2, 3, 4

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Dibutyltin Oxide (Pail)
- PEG 1000
- *Celite (Bags)
- *Filtrol (Bags)

Process Description: Palmitic/Stearic Acid, Fascat (Dibutyltin Oxide-DBTO) and PEG 1000 are charged to the reactor and heated to 220 °C. They are reacted to an Acid Value of less than 5 and then cooled where the Color and Sap Value are checked before packaging. If the Color fails, there is a Supplemental Filtration Procedure at the end of the batch record.

* Needed if supplemental filtration is followed.

W / O EMULSIFIER

Process and Description

Product: Emulsynt 1055

Area: Bldg. 7

Equipment: R2 or 3, Filter Press

Raw Materials:

- Oleic Acid (Metal Drums)
- Polyglycerol (ISP manufactured intermediate stored in metal drums)
- Emulsynt 900 (ISP manufactured intermediate stored in metal drums)
- Celite (Bags)

Process Description: Oleic Acid and Polyglycerol are charged to the reactor and heated to react. The batch is stripped to an acid value and then vacuum is applied for one hour. The batch is cooled and unreacted Polyglycerol is separated. E-900 is charged and the viscosity is checked before filtering for clarity to package.

CONDITIONERS

Process and Description

Product: Ceraphyl 60

Area: Bldg. 4

Equipment: 3K1, T-493, T- 455, Filter press

Raw Materials:

- IPA
- Vitex 850
- Dimethylamino Propylamine
- Ethylene Chlorohydrin

Process Description: No information available

CONDITIONERS

Process and Description

Product: Ceraphyl 65

Area: Bldg. 7

Equipment: R2 or 3

Raw Materials:

- Mink Oil (Metal Drums)
- Dimethylamino Propylamine (Metal Drums)
- Sodium Hydroxide pellets (Drums)
- Propylene Glycol (Metal Drums)
- Ethylene Chlorohydrin (Metal Drums)
- Tri Decyl Phosphite (Pail)

Process Description: Mink oil, dimethylamino propylamine (DMAPA), caustic pellets (NaOH) and tridecyl phosphite (TDP) are charged and heated to react. The alkali value is checked and the batch is cooled to charge propylene glycol, ethylene chlorohydrin and tridecyl phosphite (TDP). The batch is reheated to react and then it is checked for ionic chlorides, total chlorides, color, acid value and alkali value before packaging.

CONDITIONERS

Process and Description

Product: Ceraphyl 70

Area: Bldg. 7

Equipment: R2

Raw Materials:

- Tallow Glyceride (Bags)
- Dimethylamino Propylamine (Metal Drums)
- Sodium Hydroxide pellets (Drums)
- Myristyl Chloro Acetate (ISP manufactured intermediate stored in metal drums)
- Propylene Glycol (Metal Drums)

Process Description: Tallow glyceride (Neustrene), caustic beads (NaOH) and dimethylamino propylamine (DMAPA) are charged to the reactor. The batch is then heated (there is an exothermic reaction present) and sampled for the alkali value. After cooling, propylene lycol and myristyl chloroacetate are added and the alkali value is resampled. Material to be reprocessed is added and the chlorides are checked before packaging.

CONDITIONERS

Process and Description

Product: Ceraphyl 85

Area: Bldg. 7

Equipment: R1, 2, 3, 4

Raw Materials:

- C1618 Tosylate (Ceraphyl 85 Pt. I)
- Amide – PG (Ceraphyl 85 Pt. II)

Process Description: Ceraphyl 85 is produced by combining two intermediates. First, the reactor is ensured to be dry. C1618 Tosylate and Amide PG are charged and the batch is heated to 130°C. The batch is reacted and sampled for Alkali and Acid Value. When in range an additional sample is taken for Alkali, Acid, SAP Value and Melting point and the batch is cooled. Partial and/or reprocessed material is charged and the material is packaged.

INTERMEDIATES

Process and Description

Product: Cerasynt MAM

Area: Bldg. 7

Equipment: T-712-T-716, R2 or 3, T-771

Raw Materials:

- Palmitic Acid (Bulk Storage T-712-T-716 or Bags)
- Crude MAM / AMP 95% (Metal Drums)

Process Description: Cerasynt MAM is used in the manufacturing of the emulsifiers Cerasynt IP and IP-V. Palmitic/Stearic Acid and MAM Crude/Amp 95% are charged to R2 or 3. The materials are then heated in stages until the temperature reaches 200°C where the batch is sampled until the acid number falls between 10 and 17. The reactor is then cooled to 85± 5°C and the batch is either transferred to the 771 holding tank on the 3rd deck or packaged in open-head drums for storage in the Hot Box.

INTERMEDIATES

Process and Description

Product: Ceraphyl 420

Area: Bldg. 7

Equipment: R1, 3, 4, T-741, T-742, T-743, Molecular stills 1, 2, 3

Raw Materials:

- Oleic Acid
- Iso C9-C11 Alcohols
- pTSA

Process Description: No information available

INTERMEDIATES

Process and Description

Product: Emulsynt 900

Area: Bldg. 7

Equipment: R2 or 3

Raw Materials:

- Propylene Glycol (Metal Drums)
- Polyethylene Glycol (PEG 400 Metal Drums)
- Coconut Fatty Acid (Metal Drums)

Process Description: Emulsynt 900 is manufactured as an intermediate for use in the production of the W/O emulsifier Emulsynt 1055. Propylene Glycol and Polyethylene Glycol (PEG 400) are charged to the reactor and heated. The batch is then cooled and Coconut Fatty Acid is added. The batch is then heated again and stripped to an Acid Value of less than 5. The batch is cooled and packaged.

INTERMEDIATES

Process and Description

Product: Polyglycerol

Area: Bldg. 7

Equipment: T-603, T-604, R2 or 3

Raw Materials:

- Glycerin USP 95% (T-603 & T-604)
- Caustic Soda 50% (Plastic Drums)

Process Description: Polyglycerol is manufactured as an intermediate for use in the production of the W/O emulsifier Emulsynt 1055. Glycerin and 50% Caustic Soda (Liquid) are charged to the reactor and heated to 250°C. Water is distilled and the batch is sampled for viscosity before cooling and packaging.

INTERMEDIATES

Process and Description

Product: Dodecyl Tosylate

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- C12 Alcohol (Metal Drums)
- Triethylamine (Metal Drums)
- p-Toluenesulfonyl Chloride (Poly-lined Metal Drums)
- Toluene (Metal Drums)

Process Description: Dodecyl Tosylate is used in the manufacturing of the sunscreen Escalol HP610. C12 alcohol, p-toluensulfonyl chloride and toluene are charged to 3K1 and the agitator is started. Triethylamine is charged in three increments, each resulting in an exotherm. After an 8-hour hold the batch is sampled for % tosyl chloride. When the results are in range, the batch is washed twice with water. Toluene is stripped out, water is added and the batch is stripped until the water content is below 0.1%. The batch is then packaged in open head drums.

INTERMEDIATES

Process and Description

Product: Myristyl Chloro Acetate

Area: Bldg. 4

Equipment: T- 711, 3K1, Filter press

Raw Materials:

- Myristyl Alcohol (Bulk Storage T-711)
- Monochloro Acetic Acid (Bags)

Process Description: Myristyl Chloro Acetate is used in the manufacturing of the conditioner Ceraphyl 70. Alfol-14 (Myristyl Alcohol) and Monochloro Acetic Acid are charged to 3K1. The agitator is started and the batch is heated to 110-120°C. The batch is held in this range for 3-hours. After the 3-hour hold is complete, vacuum is slowly applied until at least 26 inches Hg is reached. Once maximum vacuum is established, the batch is held for 2- hours. At the end of the 2-hour hold the batch is sampled for Acid Value. The batch is washed 5 times (once with sodium bicarbonate) and then vacuum dried for 1-hour and sampled for % moisture. After the % moisture is in range the batch is sampled for Total Chloride. When the Total Chloride is in specification the batch is filtered and packaged into open head drums for use in the production of Ceraphyl 70.

INTERMEDIATES

Process and Description

Product: Ceraphyl 85 Pt. I

Area: Bldg. 4

Equipment: 3K1

Raw Materials:

- C_{16} - C_{18} Alcohols (Metal Drums)
- Triethylamine (Metal Drums)
- p-Toluenesulfonyl Chloride (Poly-lined Metal Drums)
- Toluene (Metal Drums)
- Sodium Chloride (Bags)

Process Description: Ceraphyl 85 Pt. I is used in the manufacturing of the conditioner Ceraphyl 85. p-toluensulfonyl chloride, C_{16} - C_{18} alcohols and toluene are charged to 3K1 and the agitator is started. Triethylamine is charged in three increments, each resulting in an exotherm. After a 24-hour hold the batch is sampled for % tosyl chloride. When the results are in range, the batch is washed with once with plain water then, two salt-water solutions. Toluene is stripped out, water is added and the batch is stripped until the water content is below 0.1%. The batch is then packaged in open head drums.

INTERMEDIATES

Process and Description

Product: Ceraphyl 85 Pt. II

Area: Bldg. 7

Equipment: T-605, T-606, R1, 2, 3, 4

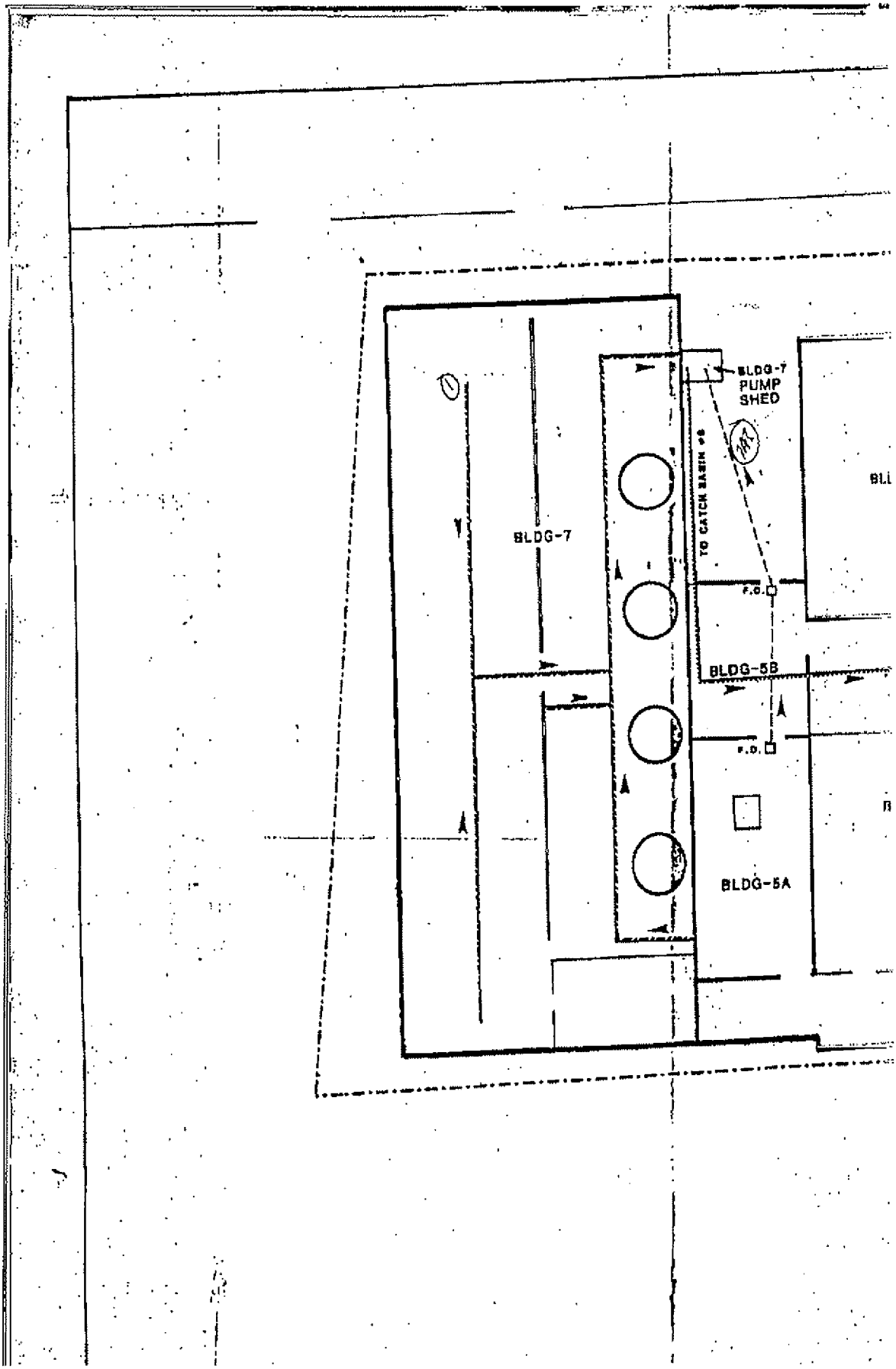
Raw Materials:

- Tallow Glyceride (Metal Drums)
- Dimethylaminopropylamine (Metal Drums)
- Sodium Hydroxide Pellets (Drums)
- Propylene Glycol (T-605 & T-606)

Process Description: Ceraphyl 85 Pt. II is used in the manufacturing of the Ceraphyl 85. Tallow glyceride (Neustrene), caustic pellets (NaOH) and dimethylamino propylamine (DMAPA) are charged to the reactor. The batch is then heated to 135°C (there is an exothermic reaction present) and sampled for the Alkali Value. After cooling, propylene glycol is added mixed before packaging.

APPENDIX R

FORMER VAN DYK SITE DRAINAGE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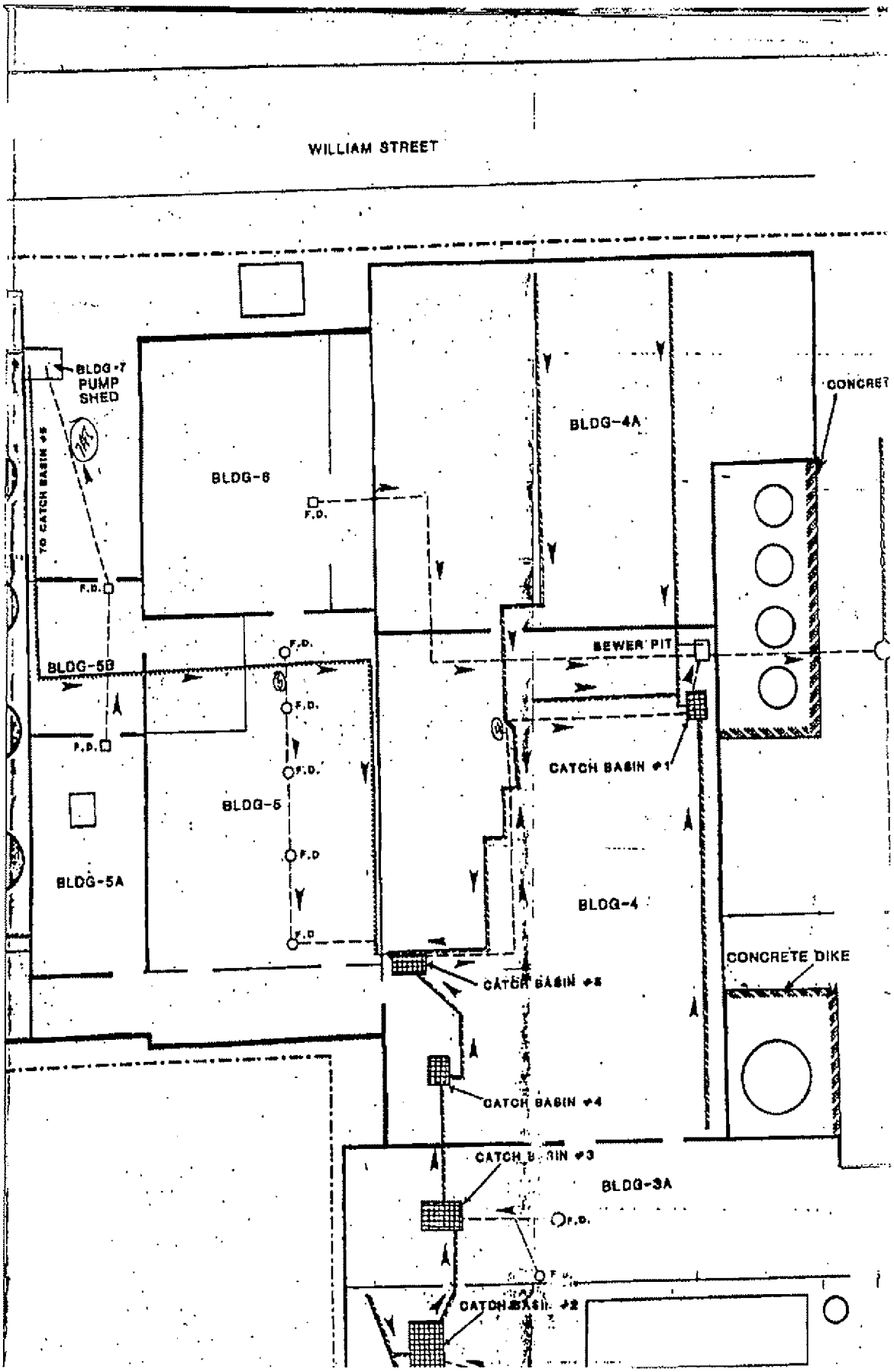
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BLDG-5
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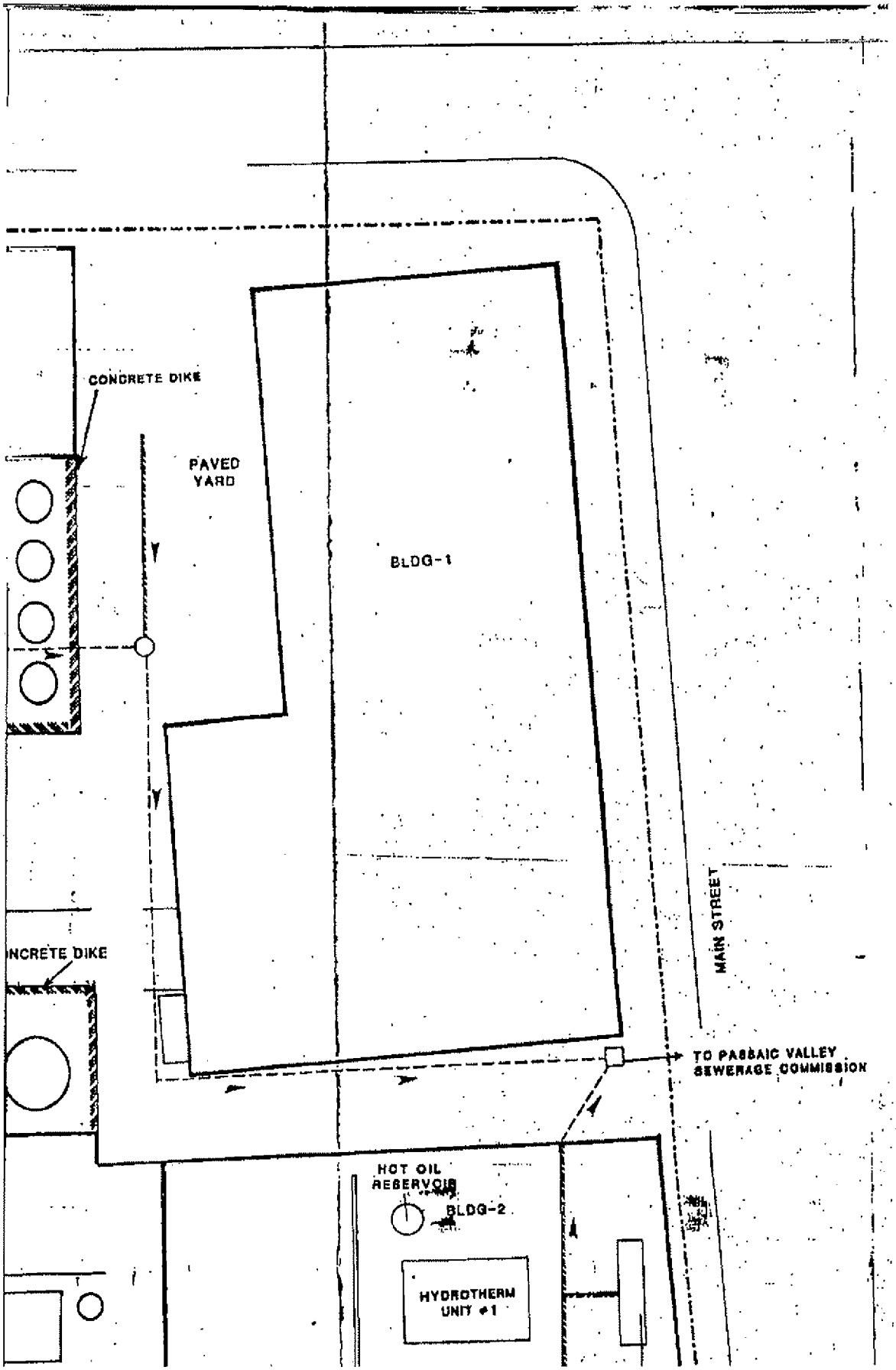
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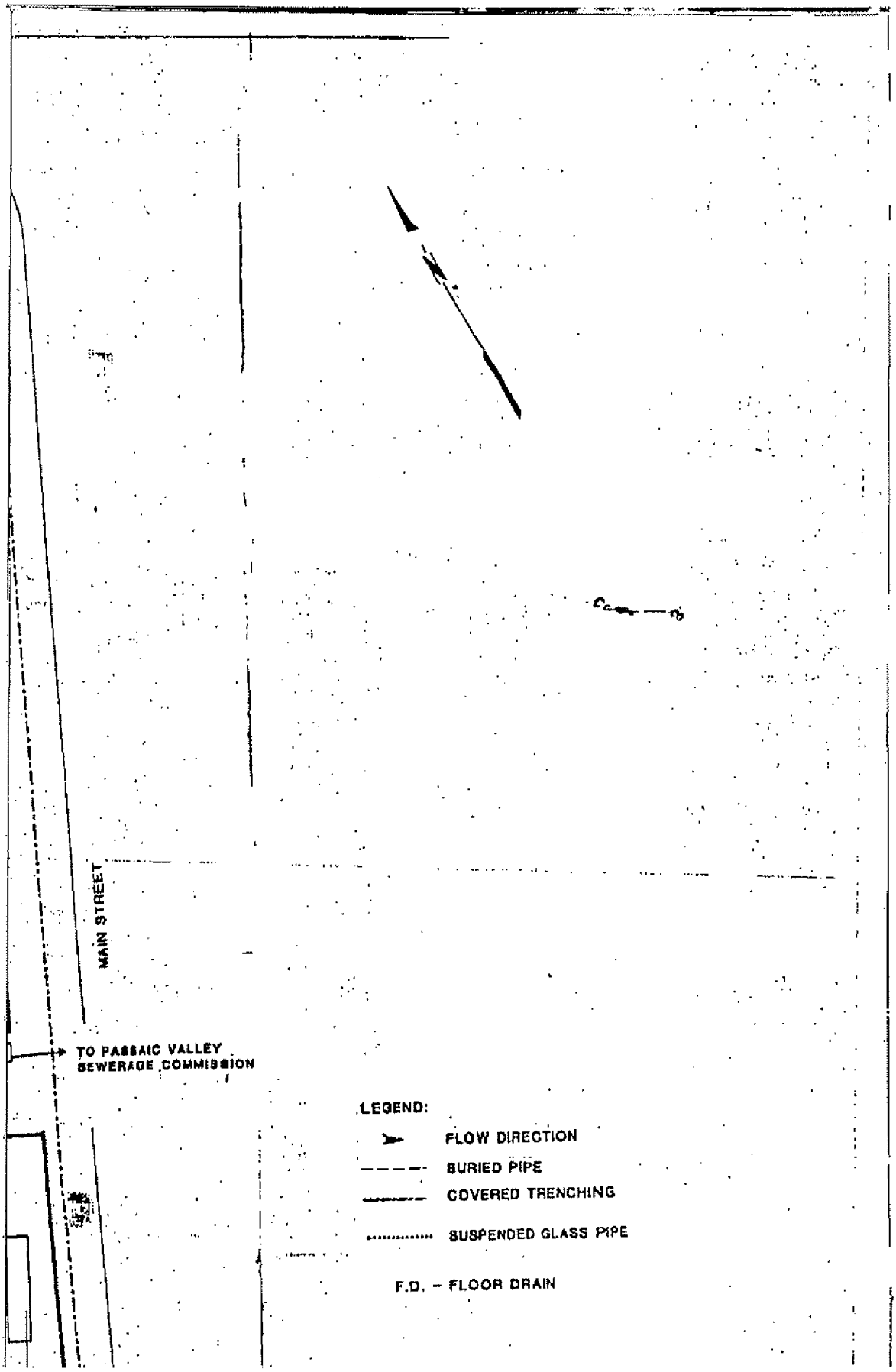
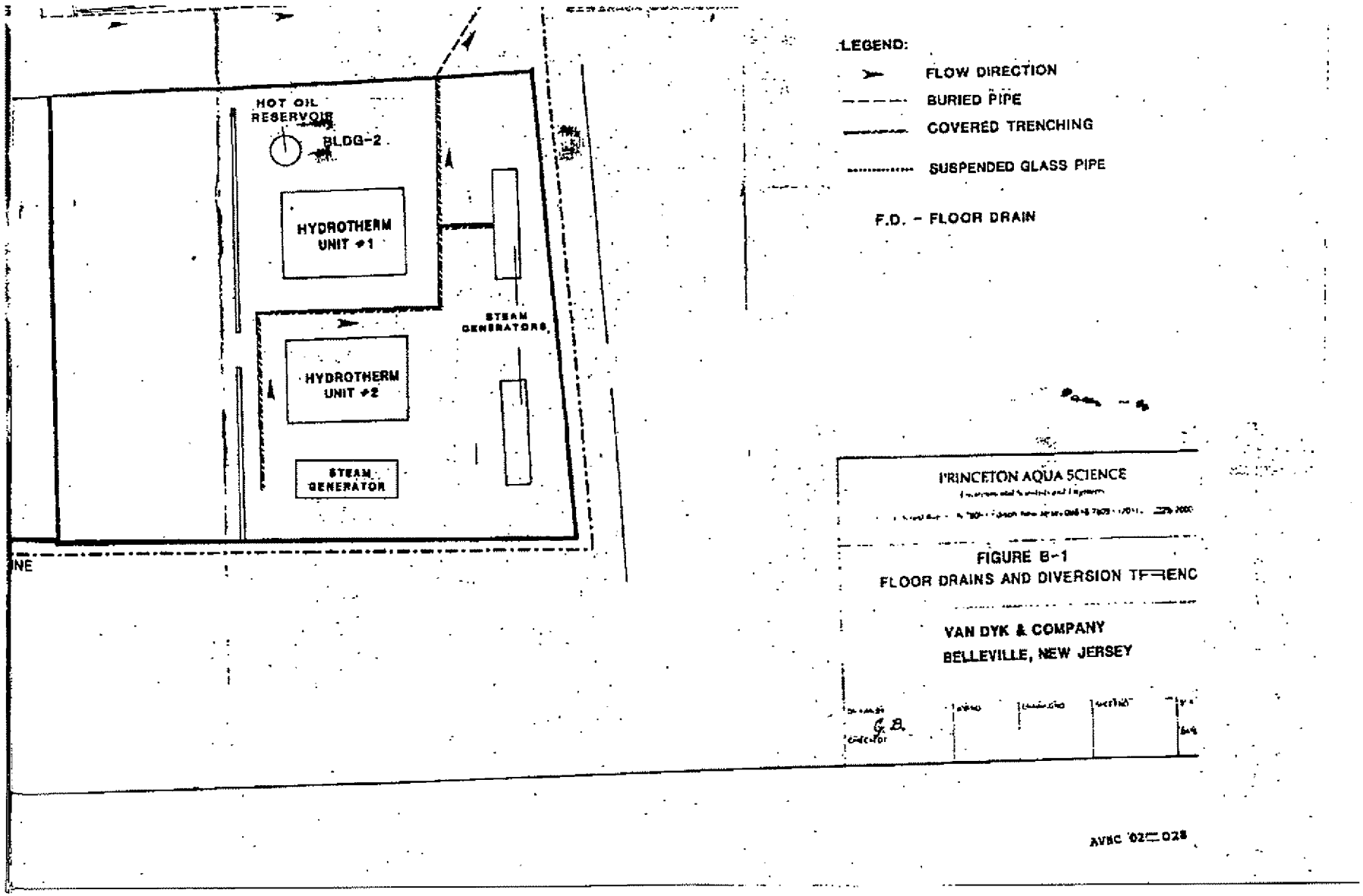
BLDG-2
HYDROTHERM UNIT #1


MAIN STREET
TO PASSAIC VALLEY
SEWERAGE COMMISSION
LEGEND:
FLOW DIRECTION
BURIED PIPE
COVERED TRENCHING
SUSPENDED GLASS PIPE
F.D. – FLOOR DRAIN

CATCH BASIN #2
CATCH BASIN #3
CATCH BASIN #4
BLDG-3
BLDG-3A

STEAM GENERATORS
HOT OIL RESERVOIR
BLDG-2
HYDROTHERM UNIT #1
HYDROTHERM UNIT #2
STEAM GENERATOR
PROPERTY LINE
BLDG-3A
BLDG-3
CATCH BASIN #4
CATCH BASIN #3
CATCH BASIN #2
C.B.



FINAL

PRELIMINARY ASSESSMENT FOR THE ISP CHEMICALS INC. FACILITY

ECRA CASE NO. 85817
ISRA CASE NO. 92154
ISRA CASE NO. E20010055

VOLUME III OF III

11 WILLIAM STREET
BELLEVILLE, NEW JERSEY 07109

Prepared for

ISP Chemicals Inc.
1361 Alps Road
Wayne, New Jersey 07470

August 30, 2002

Prepared by:

URS Corporation
201 Willowbrook Blvd.
Wayne, New Jersey 07474

47-01E04105.00

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN - 8 2006

GENERAL NOTICE LETTER
URGENT LEGAL MATTER
PROMPT REPLY NECESSARY
CERTIFIED MAIL-RETURN RECEIPT REQUESTED

President
ISP Chemicals, Inc.
1361 Alps Road
Wayne, NJ 07470

Re: Diamond Alkali Superfund Site
Notice of Potential Liability for
Response Actions in the Lower Passaic River Study Area, New Jersey

Dear Sir/Madam:

The United States Environmental Protection Agency ("EPA") is charged with responding to the release and/or threatened release of hazardous substances, pollutants, and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9601 et seq. EPA is seeking your cooperation in an innovative approach to environmental remediation and restoration activities for the Lower Passaic River.

EPA has documented the release or threatened release of hazardous substances, pollutants and contaminants into the six-mile stretch of the river known as the Passaic River Study Area, which is part of the Diamond Alkali Superfund Site ("Site") located in Newark, New Jersey. Based on the results of previous CERCLA remedial investigation activities and other environmental studies, including a reconnaissance study of the Passaic River conducted by the United States Army Corps of Engineers ("USACE"), EPA has further determined that contaminated sediments and other potential sources of hazardous substances exist along the entire 17-mile tidal reach of the Lower Passaic River. Thus, EPA has decided to expand the area of study to include the entire Lower Passaic River and its tributaries from Dundee Dam to Newark Bay ("Lower Passaic River Study Area").

By this letter, EPA is notifying ISP Chemcials, Inc. of its potential liability relating to the Site pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Under CERCLA, potentially responsible parties ("PRPs") include current and past owners and operators of a facility, as well as persons who arranged for the disposal or treatment of hazardous substances at the Site, or the transport of hazardous substances to the Site.

In recognition of our complementary roles, EPA has formed a partnership with USACE and the New Jersey Department of Transportation-Office of Maritime Resources ("OMR") ["the governmental partnership"] to identify and address water quality improvement, remediation, and restoration opportunities in the 17-mile Lower Passaic River Study Area. This governmental partnership is consistent with a national Memorandum of Understanding ("MOU") executed on July 2, 2002 between EPA and USACE. This MOU calls for the two agencies to cooperate, where appropriate, on environmental remediation and restoration of degraded urban rivers and related resources. In agreeing to implement the MOU, the EPA and USACE will use their existing statutory and regulatory authorities in a coordinated manner. These authorities for EPA include CERCLA, the Clean Water Act, and the Resource Conservation and Recovery Act. The USACE's authority stems from the Water Resources Development Act ("WRDA"). WRDA allows for the use of some federal funds to pay for a portion of the USACE's approved projects related to ecosystem restoration.

For the first phase of the Lower Passaic River Restoration Project, the governmental partners are proceeding with an integrated five-to-seven-year study to determine an appropriate remediation and restoration plan for the river. The study will involve investigation of environmental impacts and pollution sources, as well as evaluation of alternative actions, leading to recommendations of environmental remediation and restoration activities. The study is being conducted pursuant to CERCLA and WRDA.

Based on information that EPA evaluated during the course of its investigation of the Site, EPA believes that hazardous substances were released from the ISP Van Dyke, Inc. facility located at 1 Main Street/11 Williams Street in Wayne, New Jersey, into the Lower Passaic River Study Area. Hazardous substances, pollutants and contaminants released from the facility into the river present a risk to the environment and the humans who may ingest contaminated fish and shellfish. Therefore, ISP Chemicals, Inc. as successor to ISP Van Dyke, Inc. may be potentially liable for response costs which the government may incur relating to the study of the Lower Passaic River. In addition, responsible parties may be required to pay damages for injury to, destruction of, or loss of natural resources, including the cost of assessing such damages.

EPA is aware that the financial ability of some PRPs to contribute toward the payment of response costs at the Site may be substantially limited. If you believe, and can document, that you fall within that category, please inform Sarah Flanagan and William Hyatt in writing at the addresses identified below in this letter. You will be asked to submit financial records including federal income tax returns as well as audited financial statements to substantiate such a claim.

Please note that, because EPA has a potential claim against you, you must include EPA as a creditor if you file for bankruptcy. You are also requested to preserve and retain any documents now in the possession or control of your Company or its agents that relate in any manner to your facility or the Site or to the liability of any person under CERCLA for response actions or response costs at or in connection with the facility or the Site, regardless of any corporate document retention policy to the contrary.

Enclosed is a list of the other PRPs who have received notices of potential liability. This list represents EPA's findings on the identities of PRPs to date. We are continuing efforts to locate additional PRPs who have released hazardous substances, directly or indirectly, into the Lower Passaic River Study Area. Exclusion from the list does not constitute a final determination by EPA concerning the liability of any party for the release or threat of release of hazardous substances at the Site. Please be advised that notice of your potential liability at the Site may be forwarded to all parties on this list as well as to the Natural Resource Trustees.

We request that you become a "cooperating party" for the Lower Passaic River Restoration Project. As a cooperating party, you, along with many other such parties, will be expected to fund the CERCLA study. Upon completion of the study, it is expected that CERCLA and WRDA processes will be used to identify the required remediation and restoration programs, as well as the assignment of remediation and restoration costs. At this time, the commitments of the cooperating parties will apply only to the study. For those who choose not to cooperate, EPA may apply the CERCLA enforcement process, pursuant to Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. § 9606(a) and § 9607(a) and other laws.

You may become a cooperating party by participating in the Cooperating Parties Group ("Group") that has already formed to fund the CERCLA study portion of the Lower Passaic River Restoration Project.

We strongly encourage you to contact the Group to discuss your participation. You may do so by contacting:

William H. Hyatt, Esq.
Common Counsel for the Lower Passaic River Study Area Cooperating Parties Group
Kirkpatrick & Lockhart LLP
One Newark Center, 10th Floor
Newark, New Jersey 07102
(973) 848-4045
whyatt@kl.com

Written notification should be provided to EPA and Mr. Hyatt documenting your intention to join the Group and settle with EPA no later than 30 calendar days from your receipt of this letter. The result of any agreement between EPA and your Company as part of the Group will need to be memorialized in an Administrative Order on Consent. Your written notification to EPA

should be mailed to:

Sarah Flanagan, Assistant Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection Agency
290 Broadway - 17th Floor
New York, New York 10007-1866

Pursuant to CERCLA Section 113(k), EPA must establish an administrative record that contains documents that form the basis of EPA's decision on the selection of a response action for a site. The administrative record file and the Site file are located at EPA's Region 2 Superfund Records Center at 290 Broadway, New York, NY, on the 18th floor. You may call the Records Center at (212) 637-4308 to make an appointment to view the administrative record and/or the Site file for the Diamond Alkali Site, Passaic River.

As you may be aware, the Superfund Small Business Liability Relief and Brownfields Revitalization Act became effective on January 11, 2002. This Act contains several exemptions and defenses to CERCLA liability, which we suggest that all parties evaluate. You may obtain a copy of the law via the Internet at **http://www.epa.gov/swerosps/bf/sblrbra.htm** and review EPA guidances regarding these exemptions at **http://www.epa.gov/compliance/resources/policies/cleanup/superfund.**

Inquiries by counsel or inquiries of a legal nature should be directed to Ms. Flanagan at (212) 637-3136. Questions of a technical nature should be directed to Elizabeth Butler, Remedial Project Manager, at (212) 637-4396.

Sincerely yours,

R. Basso

Ray Basso, Strategic Integration Manager
Emergency and Remedial Response Division

Enclosure 6-06