THE PORT OF NEW YORK AUTHORITY
111 Eighth Avenue - at 15th Street, New York, N.Y. 10011

Planning and Development Department
Roger H. Gilman, Director

Hayden B. Johnson, Deputy Director Telephone 620-7225

November 18, 1971

Mr. Christian T. Hoffman, Jr.
Supervising Public Health Engineer
Water Pollution Control Program
New Jersey State Department of
Environmental Protection
P.O. Box 1540
Trenton, New Jersey 08625

Dear Mr. Hoffman:

At the meeting in the offices of the Interstate Sanitation Commission on October 4, it was agreed that we would submit to you, and to the New York State Department of Environmental Conservation and the Interstate Sanitation Commission, a list of all outfalls at Port Authority facilities which discharge into navigable waters. We have now developed such a list, a copy of which is enclosed for your information.

At the present time, we are analyzing each of the outfalls in detail to determine which may fall under the provisions of the Refuse Act of 1899. We expect, in the near future, to make application for the required permits to the Corps of Engineers for all such outfalls.

Sincerely,

Hayden B. Johnson, Coordinator
Office for Environmental Programs

BAA000012

INVENTORY OF
WASTE WATER OUTFALLS
AT PORT OF NEW YORK AUTHORITY FACILITIES
DISCHARGING INTO
NAVIGABLE WATERS OR TRIBUTARIES

The Port of New York Authority
Office for Environmental Programs
November 1971

INTRODUCTION

In May 1970, the Office for Environmental Programs was created within the Planning and Development Department of The Port of New York Authority. The new office was set up primarily to coordinate the many different activities and programs carried out throughout all phases of the Port Authority's operations which have a bearing on environmental matters.

Early in 1971, primarily on the basis of a forthcoming program under which the U.S. Army Corps of Engineers would issue permits for various outfalls discharging into navigable waters or their tributaries, the Office for Environmental Programs requested the Port Authority's Inspection and Safety Division to prepare an inventory of all such outfalls at Port Authority facilities. A preliminary report on this subject was made in May and further data developed over the summer.

The material which follows discusses the matter of storm and sanitary sewage outfalls at each of our facilities. It also sets forth programs now under way or being planned to eliminate all sanitary sewage outfalls and to take action to prevent contaminants from entering the storm sewer systems at each facility.

New Jersey

Hoboken Port Authority Marine Terminal

All sanitary sewage at the Hoboken piers is discharged into the municipal sewer system.

A separate storm sewer system discharges into the Hudson River.

Elizabeth Port Authority Marine Terminal

All sanitary sewage from the buildings at Elizabeth Port Authority Marine Terminals is discharged into the municipal sewer system with the exception of Buildings Nos. 104 and 193, which are served by septic tanks and leaching fields. The leaching fields are currently being investigated to assure that they are functioning correctly and are of adequate size and design.

A separate storm sewer system discharges into the Elizabeth Channel and Newark Bay.

Port Newark - Port Authority Marine Terminal

Sanitary sewage from most of Port Newark is now discharged into a combination storm-sanitary sewer system which discharges into Newark Bay and/or the Newark Channel at the rate of 100,000 gallons per day from various outfalls. A project for new sanitary sewers to divert all sanitary sewage presently discharged from the north side of Port Newark to the Doremus Avenue interceptor main is scheduled for completion by the end of 1971.

On the south side of Port Newark, contract documents are being prepared for an interceptor main which will receive sanitary sewage from all buildings on the south side of Newark Channel, including some sewage from various commercial uses. The project is scheduled for completion in the latter part of 1972.

When these projects are completed, only storm water will be discharged into the Newark Channel and Newark Bay through the storm sewer system.

PORT AUTHORITY TRANS HUDSON (PATH) SYSTEM

New Jersey and New York

All sanitary sewage from the PATH system is discharged into the various municipal sewer systems in the areas served by PATH.

There are two New Jersey outfalls and only one New York outfall in the PATH system. All three serve to discharge Hudson River water seepage back into the river.

PORT AUTHORITY TUNNELS AND BRIDGES

New York and New Jersey

George Washington Bridge

Storm water from the George Washington Bridge decks and roadways is discharged directly into the Hudson River. During winter months, some salt used for melting ice and snow is in the runoff. When the walls of the Bridge's tunnel approaches are washed, depending on soil accumulations, a small amount of water containing detergents and various automotive emission products deposited on walls from passing vehicles may also be discharged into the River. Detergents which are considered environmentally sound are specified for the washings.

All sanitary sewage from the toll booths and Administrative buildings is discharged into municipal sewer systems.

Goethals Bridge, Outerbridge Crossing and Bayonne Bridge

Storm water from the decks and roadways is discharged into various receiving bodies of water from these Bridges. During winter months, there is some salt, used for melting ice and snow, in the runoff.

The Goethals Bridge has its own package sewage treatment plant, with an estimated average daily discharge of 2,000 gallons a day. The plant's effluent is checked daily to determine its chlorine residual. Personnel operating the plant have had appropriate formal training, and a permit for the plant was obtained from the State of New York when operations began. Treated effluent from the plant is pumped into a drainage ditch which eventually reaches the Arthur Kill.

Sanitary sewage from the toll booths and administrative buildings at the Bayonne Bridge is discharged into the New York City municipal sewer system. At the Outerbridge Crossing two septic tanks on the New York side collect sanitary sewage from a field office and a garage. Plans are being developed to provide a package treatment plant at the Outerbridge Crossing similar to that currently operating at the Goethals Bridge.

Holland Tunnel

Storm water which accumulates on the Holland Tunnel roadways is pumped to both the New York and New Jersey shores and discharged directly into the Hudson River. This water may contain some detergents which are used for washing the tunnel walls as well as various automotive emission products deposited on walls from vehicles passing through the Tunnel. Detergents which are considered environmentally sound are specified for the washings.

The River Vent Buildings have toilets which discharge into the river, but the amount of these discharges is very small since there are no personnel routinely stationed in these buildings. The estimated gallons of sanitary sewage from the River Vent Buildings is approximately 150 gallons per day. The Authority is presently investigating the substitution of chemical toilets for water carriage toilets, as well as the feasibility of connecting the existing toilets to the City sewer system.

Lincoln Tunnel

Storm water which has accumulated on the Lincoln Tunnel roadways is pumped to the New York and New Jersey shores and discharged directly into the Hudson River. This water may contain some detergents used for washing the Tunnel walls as well as various automotive emission products

which are considered environmentally sound are specified for the washings.

Sanitary wastes from the New York River Buildings are discharged into the Hudson River, and septic tank effluent from the New Jersey River Buildings is discharged into the River, although some of this may be absorbed by surrounding soil. The estimated gallons of sanitary sewage from each of the River Vent Buildings is approximately 150 gallons per day. The Authority is currently investigating the effectiveness of the leaching system, and studies are also under way to determine the most feasible means of discharging storm and waste water into the municipal sewage system.

Staff is also investigating the feasibility of discharging sanitary wastes from the New York River Building into the peripheral sewer now being constructed along the Hudson River waterfront by the City of New York.

New Jersey

Newark Airport

All sanitary sewage from the new terminal complex will discharge into the Newark city sewer system. Plans are currently being prepared for a collector system to carry sanitary wastes from the existing facilities north of Runway 11/29, including the maintenance base at the northeast corner of Newark Airport, into the city system. The sewage from these buildings, which amounts to approximately 1,200 gallons per day, is currently discharged into the peripheral ditch which in turn discharges into the head of the Port Newark Channel.

Most of the storm water at Newark Airport also runs off into the Peripheral Ditch. Recently, the water entering this ditch from off Airport sources was evaluated and found to be of a very low quality, composed of natural land runoff water, storm water, industrial waste water and sanitary waste water. The presence of both industrial and sanitary wastes was demonstrated by laboratory tests. This condition can only be corrected by joint action with other agencies. However, the Authority is studying several short-term methods of improving the quality of the water in the ditch as it flows through airport property, including the installation of aeration equipment to increase the digestion rate of the wastes and the use of absorbent materials to remove oily wastes from the water.

Teterboro Airport

Storm water runoff from runways and taxiways at Teterboro Airport is discharged into two drainage ditches. Both of them, labeled the East River and West River ditches, originate off the airport and flow through

the property, eventually reaching the Hackensack River. Both ditches are maintained by Bergen County and, according to county officials, contain only storm water from the surrounding areas.

All sanitary sewage from the Administrative Building and other buildings on the airport is discharged into the municipal sanitary sewage system.

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 August 11, 1988

1. Industrial Establishment

Name Koppers Company, Inc. Port Newark

Address Maritime and Tyler Streets

City or Town Port Newark Zip Code 07114

Municipality New Jersey County Essex

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

Name	Owner/ Operator	From	To	Current Address
See Attachment 1				

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

Name Owner/Operator	Past Operations on Site
Weyerhaeuser Timber Company	Manufacture of treated lumber and forest products
American Lumber & Treating Co.	Manufacture of treated lumber and forest products
Central Railroad Co. of New Jersey	Sublease for the use of sidetrack facilities
Pennsylvania Railroad Company	Sublease of office space
Koppers Company, Inc.	Manufacture of treated lumber and forest products

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
078535	N/A	11/17/86	N/A	11/17/91

B. New Jersey Pollutant Discharge Elimination System (NJPDES)

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 # NJD000542282

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

D. Resource, Conservation, Recovery Act (RCRA) Permit # interim status

E. Bureau of Underground Storage Tank Registration Number(s) N/A

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

Agency Issuing Permit	Permit No.	Date of Approval or Denial	Expiration Date
None			

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

Check here if no enforcement actions are involved _____

A. Date of Action August 13, 1987

Section of Law or Statute violated Resource Conservation and Recovery Act

Type of Enforcement Action Notice of Deficiency

Description of the Violation Deficiency in contingency plan, no drills

How was the violation resolved? $1,500 fine

B. Date of Action _____

Section of Law or Statute violated _____

Type of Enforcement Action _____

Description of the Violation _____

How was the violation resolved? _____

4. Site Map

Is this map enclosed? X Yes (See Attachment # 3) _____ No

If No, state the reason _____

(Attach additional pages, if necessary)

5. Decription of Operations:

Is this report enclosed? X Yes (See Attachment # 4) ____ No

If No, state the reason _____

6. Description of Building Heating System:

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

How long has the Industrial Establishment been heated by the above fuel/energy source: _____years
Natural gas used for over 20 years; fuel oil was added 1 year ago to heat office bldg.

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: There are no underground fuel oil tanks at the site.

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 There are no underground fuel oil tanks at the site.

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

A. **Discharge Period**

From	To	Discharge Type	Treatment By
1954	Present	process wastewater/noncontact cooling water/sanitary	Public Treatment Works
prior to 1954		Unknown	

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 Commission Telephone # 201/344-1800

Street Address 600 Wilson Avenue

Municipality Newark State NJ Zip Code 07105

	Date(s) of Discharge	Nature of Discharge
1.	1954 to present	process wastewater/ noncontact cooling water/sanitary
2.	prior to 1954	unknown
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
Storage tank	1940	57,000 gallons	Creosote	Steel	Tank #3	See Section B.5 of Sampling Plan
Fuel oil tank	1987	11,000 gallons	#6 fuel oil	Steel	Tank #2	See Section B.5 of Sampling Plan
Work tank	1940	57,000 gallons	Creosote	Steel	Tank #1	See Section B.5 of Sampling Plan
Fuel tank	Unknown	1,000 gallons	Diesel fuel	Steel	Tank #8	See Section B.5 of Sampling Plan
Settling tank	1940	5,400 gallons	Oil/water	Steel	Tank #4	See Section B.5 of Sampling Plan
Settling tank	1940	5,400 gallons	Oil/water	Steel	Tank #5	See Section B.5 of Sampling Plan
Settling tank	1980	30,000 gallons	Oil/water	Steel	Tank #6	See Section B.5 of Sampling Plan
Settling tank	1980	21,600 gallons	Oil/water	Steel	Tank #7	See Section B.5 of Sampling Plan

(continued on Attachment #5)

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)
Creosote	100,000 gal.	Nonhazardous storage pad, Tank #3,Tank #1, creosote cylinder	Steel tank/57,000 gal.	900,000 gal.	No
Hydraulic	200 gal.	Raw materials area	Steel tank/275 gal.	1,000 gal.	No
Transmission fluid	200 gal.	Raw materials area	Steel tank/275 gal.	1,000 gal.	No
Motor oil	200 gal.	Raw materials area	Steel tank/275 gal.	1,000 gal.	No
#6 fuel oil	11,000 gal.	Tank #2	Steel tank/11,000 gal.	20,000 gal.	No
#2 diesel fuel	1,000 gal.	Tank #8	Steel tank/1,000 gal.	12,000 gal.	No

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
A leaking effluent system pipe originating from the top of the creosote/water separation tank caused the release of approximately 50 gal. of effluent/creosote on the ground. Approximately 5-10 gal. of creosote may have been released and was not a discharge of pure creosote, but creosote mixed with effluent water.	Spill occurred 7/11/84. Sand was used to absorb the spill and the contaminated sand was drummed, labelled, and placed in the RCRA container storage area. The pipe originating from the top of the effluent system was blanked off to prevent any future releases.

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?

__X__ Yes _____ 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? __X__ Yes (See Attachment #_____) No_____
Sampling plan is enclosed.
If sampling is not proposed, please explain below. *(Attach additional sheets if necessary)*

B. Is groundwater sampling proposed? __X__ Yes _____ 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.

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.

All existing wood treating operations at the plant will continue; therefore, there are no plans to decontaminate/decommission equipment and buildings.

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
(See Appendices A, B, and C of Sampling Plan.)

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

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

Description	Attachment #
None	

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	
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	$5,400.00
2. Sampling Data Review	
3. Negative Declaration Review	
4. Cleanup Plan Review	
5. Oversight of Cleanup Plan Implementation	
TOTAL FEE ENCLOSED	$ 5,400.00

ARE FEES ENCLOSED? X **YES**

CERTIFICATIONS:

A. 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-8.

Typed/Printed Name James R. Batchelder Title Vice President and Manager Technical & Environmental Service Tar & Wood Products Sector

Signature James R. Batchelder Date August 12, 1988

Sworn to and Subscribed Before Me
on this 12th
Date of August 19 88

Mary Holland
Notary

MARY HOLLAND, NOTARY PUBLIC
PITTSBURGH, ALLEGHENY COUNTY
MY COMMISSION EXPIRES APRIL 8, 1991
Member, Pennsylvania Association of Notaries

B. 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-8.

Typed/Printed Name James R. Batchelder Title Vice President and Manager Technical & Environmental Service Tar & Wood Products Sector

Signature James R. Batchelder Date August 12, 1988

Sworn to and Subscribed Before Me
on this 12th
Date of August 19 88

Mary Holland
Notary

MARY HOLLAND, NOTARY PUBLIC
PITTSBURGH, ALLEGHENY COUNTY
MY COMMISSION EXPIRES APRIL 8, 1991
Member, Pennsylvania Association of Notaries

ECRA-002A
12/87

Appendix = _____

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY GEOLOGICAL SURVEY

REQUEST FOR HYDROGEOLOGIC ASSESSMENT — ECRA PROGRAM

(To be completed whenever groundwater sampling is proposed or required as part of a Sampling Plan)

Preparer James C. Lampe Date August 11, 1988

Name of Industrial Establishment Koppers Company, Inc.

Address Maritime and Tyler Streets

City/Township Port Newark County Essex

USGS Quadrangle Elizabeth, NJ N40375 - W7407.5/7.5 photo revived in 1981

Latitude 40 41 ' 30 " Longitude 74 9 ' 30 "

1. Attach a site map or photo copy of the USGS "Quad" with the location of the site circled or outline in RED and any relevant information (e.g. analyses, well logs, etc.)

2. A. Are wells nearby? _X_ Yes _____ No

   B. Are wells contaminated? _____ Yes _____ No Never Sampled

   C. To your knowledge, is there an imminent health hazard? _____ Yes _X_ No

   D. Mark the location of any known wells near the facility, and complete the following if such information is available. *(Use back of sheet for additional remarks.)*

	Well Owner	Distance from Edge of Property (ft.)	Depth	Use*	Remarks
1.	Locations are marked in figure 2 Attachment 1 of the Sampling Plan.				
2.					
3.					
4.					
5.					

* *P = Public Supply F = Irrigation I = Industrial M = Monitoring D = Domestic*

3. Briefly describe the nature of the operation (present/past) at this facility.

The site has been used for the manufacture of treated lumber and forest products since 1940. Koppers Company, Inc. began leasing the site in 1954 from the Port of New York Authority. Since 1954, Koppers has treated wood with grade one creosote, NCX (noncombustible exterior), and CCA (Chromated Copper Arsenate). The NCX process was discontinued in 1982 and CCA treatment was discontinued in 1986.

Appendix = _____

4. Check known or suspected sources of ground water or soil contamination:

____ Drums	__X__ Spill(s)	____ Lagoon(s)
____ Septic Tank(s)		____ Seepage Pit(s)
__X__ Below-ground Storage		____ Above-ground Storage
____ Landfill(s)		____ Industrial Accident
____ Discharge(s) onto Ground		____ Other - *Explain Below*

5. Additional Comments

None

Attachment #1

Name	Owner/Operator	From	To	Current Address
Weyerhaeuser Timber Co. (30 acres)	Leased from: City of Newark	6/1/26	6/30/76	Tacoma, WA 98-477
Koppers Company, Inc. (3.42 acres)	Leased from: The Port of New York Authority	6/11/54	12/31/56	436 Seventh Avenue Pittsburgh, PA 15219
Koppers Company, Inc. (10 acres)	Leased from: The Port of New York Authority Subleased from: Weyerhaeuser Timber Co.	11/8/56	6/30/76	436 Seventh Avenue Pittsburgh, PA 152[illegible]
Koppers Company, Inc. (8.11 acres)	Leased from: Port Authority of New York and New Jersey	6/14/76	Present	436 Seventh Avenue Pittsburgh, PA 15219
American Lumber and Treating Co. (10 acres)	Leased from: City of Newark Subleased from: Weyerhaeuser Timber Co.	4/1/40	5/1/56	Unknown
Central Railroad Company of New Jersey	Leased From: The Port of New York Authority Subleased from: Koppers Company, Inc.	8/25/54	12/31/56	Jersey City Terminal Jersey City, New Jersey
Pennsylvania Railroad Co.	Leased from: The Port of New York Authority Subleased from: Koppers Company, Inc.	12/15/58	12/15/60	Pennsylvania Station New York, New York

ARC 8/18/82

02NJ045

Facility Name: Koppers Company, Inc (Seaboard Plant)

Location: Fish House Rd, Kearny, Hudson Co, NJ

EPA Region: II

Person(s) in Charge of the Facility: Anthony Farro
Alphonse Iannuzzi

Name of Reviewer: Richard Katz Date: 7/31/82

General Description of the Facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Active site comprising over 300 acres covered with about 10 feet of oil, tars, and byproducts left from a now defunct coal gasification operation. The site borders a river with obvious releases to both surface and groundwater. The company has no plans to clean the site and several NJDEP investigations are ongoing.

Scores: S_M = 13.10 (S_{gw} = 6.12 S_{sw} = 21.82 S_a = 0)

S_{FE} =

S_{DC} =

Figure 1

HRS COVER SHEET

BAD000005

GROUND WATER ROUTE WORK SHEET

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			26	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			3	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			3510	57,330	
7 Divide line 6 by 57,330 and multiply by 100	S_{gw} = 6.12				

SURFACE WATER ROUTE WORK SHEET

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 (12) 15 (18)	1	18	18	✓
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	✓
Total Waste Characteristics Score			26	26	✓
5 Targets					4.5
Surface Water Use	0 (1) (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			12	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			14,040	64,350	
7 Divide line 6 by 64,350 and multiply by 100	S_{SW} = 21.82				

AIR ROUTE WORK SHEET

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1		45	5.1
Date and Location: 7/28/82 on site					
Sampling Protocol: PID					
If line 1 is 0, the S = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100 S_a = 0					

	S	S^2
Groundwater Route Score (S_{gw})	6.12	37.45
Surface Water Route Score (S_{sw})	21.82	476.11
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		513.56
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		22.66
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73$		$S_M = 13.10$

WORKSHEET FOR COMPUTING S_M

FIRE AND EXPLOSION WORK SHEET

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 5 by 1,440 and multiply by 100			S_{FE} =		

DIRECT CONTACT WORK SHEET

	Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1	Observed Incident	0 45	1		45	8.1
	If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2	Accessibility	0 1 2 3	1		3	8.2
3	Containment	0 15	1		15	8.3
4	Waste Characteristics Toxicity	0 1 2 3	5		15	8.4
5	Targets					8.5
	Population Within a 1-Mile Radius	0 1 2 3 4 5	4		20	
	Distance to a Critical Habitat	0 1 2 3	4		12	
	Total Targets Score				32	
6	If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				21,600	
7	Divide line 6 by 21,600 and multiply by 100 S_{DC} =					

SHOTWELL

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Captain of the Port
U. S. Coast Guard
Governors Island
New York, NY 10004
26 MAR 1982
1646

Vince

Koppers Company, Inc.
Environmental Resources and Occupational Health
Pittsburg, PA 15219

Dear Mr. Dern:

Your letter dated 19 March 1982 has been reviewed by this office. The proposed installation of a passive system of containment and recovery coupled with a vigorous program of inspections and maintenance may be effective in dealing with seepage. Initially, it is requested that you conduct inspections three time per week. These inspections should occur during mid-tide. The Coast Guard will continue to inspect your property. Should the Coast Guard determine that your system is inadequate, additional measures to mitigate the effects of seepage from your property will be required.

As observed during the on site inspection of 17 February 1982, the seepage from your property has commenced once again. Pending the installation of your new system in early April 1982 it is expected that you will continue to utilize your prior method of containment and removal.

If you have any questions concerning this matter please contact LTJG TETREAU at (212) 668-7835.

Sincerely,

M. W. PIERSON
Lieutenant Commander
U. S. Coast Guard
Port Safety Officer
By direction of the
Captain of the Port

Copy:
Mr. Karl F. Birns
New Jersey DEP
Office of Hazardous Substance Control
120 Route 56
Yardville, NJ 08620

Mr. Fred Ruble, Chief
Emergency Response Branch
U. S. EPA Region II
Edision, NJ 08817

Mr. Peter Lynch
New Jersey DEP
Room 510
1100 Raymond Blvd
Newark, NJ 07102

BAA000007

DE. RTMENT OF TRANSPORTATIO.

UNITED STATES COAST GUARD

Captain of the Port
U.S. Coast Guard
Governors Island
New York, NY 10004

16465

04 NOV 1981

Mr. Jordan Dern, Manager
Environmental Regulatory Programs
Koppers Company Incorporated
Koppers Bldg
Pittsburg, PA 15219

Dear Mr. Dern:

On 22 October 1981 your facility in Kearny, New Jersey was inspected by Captain of the Port, New York (COTP NY) investigators. The observations noted this date were the same as had been noted and discussed with you previously. Two areas of medium seepage and one area of heavy seepage were observed. In all three seepage areas the actions that have been taken to contain and remove the oil are inadequate. On 27 October 1981 your facility was again visited by COTP NY investigators. During this visit your personnel were required to double the sorbent boom around the northernmost point of seepage. This double sorbent boom must be maintained until the Coast Guard determines that ice conditions make this impractical.

In my letters dated 01 December 1980 and 04 May 1981 (see enclosures) an abatement plan was requested with an outline of work to be performed and a schedule for completion of the individual steps. On 11 August 1981 you informed LTJG TETREAU the abatement plan would be delivered within six weeks. To date this plan has not been received. Action to effectively mitigate the effects of this seepage must be taken immediately.

On 13 November 1981, your facility will be inspected by COTP NY investigators. At this time the abatement plan previously requested some 11 months ago is to be submitted to the investigators. This plan must outline the steps you will take to adequately contain and remove oil seeping into the Hackensack River. A schedule for timely implementation coupled directly to the observance of seepage and the absence of ice must be included.

Should your company fail to meet the schedule outlined above, the Coast Guard will begin the steps to initiate a Government Funded Cleanup under the authority of section 311(c)(1) of the Federal Water Pollution Control Act (FWPCA). The Koppers Company will be billed by the Coast Guard for all actual costs incurred by the Federal Government as set forth in section 311(f) of the FWPCA and 33 Code of Federal Regulations (CFR) Subpart 153. At this

BAA000011

time Koppers Company, Inc. will be subject to a violation for failure to conduct proper removal of discharged oil (33 CFR 153.305).

Copies of all correspondence in this matter should be forwarded to Mr. Fred Rubel of U.S. Environmental Protection Agency Region II, Edison, New Jersey and Mr. Karl Birns of New Jersey Department of Environmental Protection. All questions concerning this matter should be directed to LTJG TETREAU at (212) 668-7835.

Sincerely,

B. E. JOYCE
Captain
U.S. Coast Guard
Captain of the Port, New York

Encl: (1) COTP NY ltr dated 01 December 1980.
(2) COTP NY ltr dated 04 May 1981.

Copy to:

Mr. Fred Rubel
Chief Emergency Response Branch
U.S. EPA, Region II
Edison, New Jersey 08817

Mr. Karl Birns
New Jersey DEP
Office of Hazardous Substance Control
120 Route 156
Yardville, New Jersey 08620

Captain of the Port
U.S. Coast Guard
Governors Island
New York, NY 10004

16465 04 MAY 1981

Mr. Jordan Dern, Manager
Environmental Regulatory Programs
Koppers Company Incorporated
Koppers Bldg.
Pittsburg, PA 15219

Ref: My ltr. dtd. 01 December 1980

Dear Mr. Dern:

On 14 April 1981 your facility was visited by LTJG TETREAU and MST2 REARDON of Captain of the Port New York. On this date two areas of heavy seepage were observed. The sorbent boom which had been deployed to contain and remove this oil was inadequate. Oil was observed moving past the boom and entering the Hackensack River.

On 01 December 1980 I requested an abatement plan with an outline of work to be performed and a schedule for completion of the individual steps. To date this plan has not been received. With the type of seepage noted above, action to effectively mitigate the effects of this seepage must be taken immediately. Initiation of this action cannot be delayed until the land is purchased at some future date.

The plan originally requested in my letter referenced above, should be submitted to Captain of the Port New York within 21 days of the date on this letter. If additional time is necessary, your reasonable request will be entertained. Any questions concerning this matter should be directed to LTJG TETREAU at (212) 668-7835.

Copies of all correspondence in this matter should be forwarded to Mr. Fred Rubel of U.S. Environmental Protection Agency Region II, Edison, New Jersey and Mr. Karl Sirns of New Jersey Department of Environmental Protection.

Sincerely,

M. L. LAVACHE
Lieutenant Commander
U.S. Coast Guard
Port Safety Officer
By direction of the
Captain of the Port, New York

Copy to: Mr. Fred Rubel
Chief, Emergency Response Branch
U.S. Environmental Protection Agency, Region II
Edison, New Jersey 08817

BAA000012

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Captain of the Port
U.S. Coast Guard
Governors Island
New York, NY 10004

16465

1980

Mr. Jordan Dern, Manager
Environmental Regulatory Programs
Koppers Company Incorporated
Koppers Bldg.
Pittsburg, PA 15219

Dear Mr. Caldwell:

On 23 October 1980, your facility in Kearny, NJ was visited by Coast Guard inspectors. On this date approximately 5 areas of oil seepage were noted. Two areas of particular concern were noted where black oil was surfacing at a rate of approximately 2 gallons per hour. Several areas were noted where heavy sheen was escaping the sorbent boom and entering the Hackensack River. These observations, considered in conjunction with results from other similar inspections, have led to a determination that the measures taken by your company to contain and remove oil seeping into the Hackensack River have been inadequate.

It is requested that you provide the Captain of the Port with a long range plan for the abatement of seepage from you property into navigable waters of the United States. This plan must include an outline of work to be performed to define the problem and eliminate the source, a detailed description of the steps to be taken to eliminate the discharge from your property, and a schedule for completion of the individual steps. This plan should be submitted within 30 days of the date of this letter.

If additional time is necessary, your reasonable request will be entertained. Any questions concerning this matter should be directed to LTJG TETREAU at 212-668-6336.

Copies of all correspondence in this matter should be forwarded to Mr. Fred Rubel of U.S. Environmental Protection Agency Region II, Edison, New Jersey and Mr.

BAA000013

C.O.T.P. ltr. 16465 to Mr. Jordan Dern (cont.)

Karl Birns of New Jersey Department of Environmental Protection.

Sincerely,

M. L. LAVACHE
Lieutenant Commander
U.S. Coast Guard
Port Safety Officer
By direction of the
Captain of the Port, New York

Copy to: Mr. Fred Rubel
Chief, Emergency Response Branch
U.S. Environmental Protection Agency, Region II
Edison, New Jersey 08817

Mr. Karl Birns
N.J. Department of Environmental Protection
Office of Hazardous Substances Control
120 Route 156
Yardville, New Jersey 08620

KOPPERS COMPANY, INC.
SEABOARD PLANT
KEARNY, NEW JERSEY

WORKING PAPER NO. 1

SITE REHABILITATION ALTERNATIVES

JANUARY 5, 1981

Preface

This working paper was prepared in an expedited manner by the joint efforts of Geraghty & Miller, Inc., D'Appolonia Consulting Engineers, Inc., and Koppers Company, Inc. during December 1980. It is to be presented to the New Jersey Department of Environmental Protection on January 7, 1981, as a basis for discussing site rehabilitation alternatives at the Seaboard Plant Site, Kearny, New Jersey. It was prepared in an expedited manner to accommodate the timetable of the New Jersey Department of Corrections for selecting a site for a medium security prison.

1.0 Introduction and Scope

On November 24, 1980, Koppers retained Geraghty & Miller, Inc. in regard to site rehabilitation at its Seaboard Tar Plant in Kearny, New Jersey. The site is the location of a former coke plant which operated from the early 1900's through about 1979. Most of the plant has been demolished and only the office building and three tanks remain standing. Contamination problems involve oils, pitches, and coal tar formed by the industrial process. These materials exist as a separate phase resting on the ground water and are reported in borings to depths of 10 to 15 feet below ground surface. The materials cannot be seen on the surface of the ground, but along the northern river bank, seeps occur in three areas, and the oils can be found from 1 to 3 inches below the surface around the tideline. Because of its high viscosity and the relatively low permeability of the ground materials, the tar phase moves very slowly and seeps into the river at an extremely low rate.

Koppers wishes to rehabilitate this site in an acceptable manner and has retained Geraghty & Miller, Inc. to investigate alternatives for control of contamination areas. Geraghty & Miller, Inc. will be responsible for ground water considerations, and the firm of D'Appolonia Consulting Engineers, Inc., will consider the geotechnical aspects of the problems. This working paper contains recommendations formulated from an analysis of a report prepared for Koppers in July 1979 by the firm of Conestoga-Rovers & Associates, data collected by Koppers in December 1980, and a field reconnaisance of the site by Geraghty & Miller and D'Appolonia in December 1980.

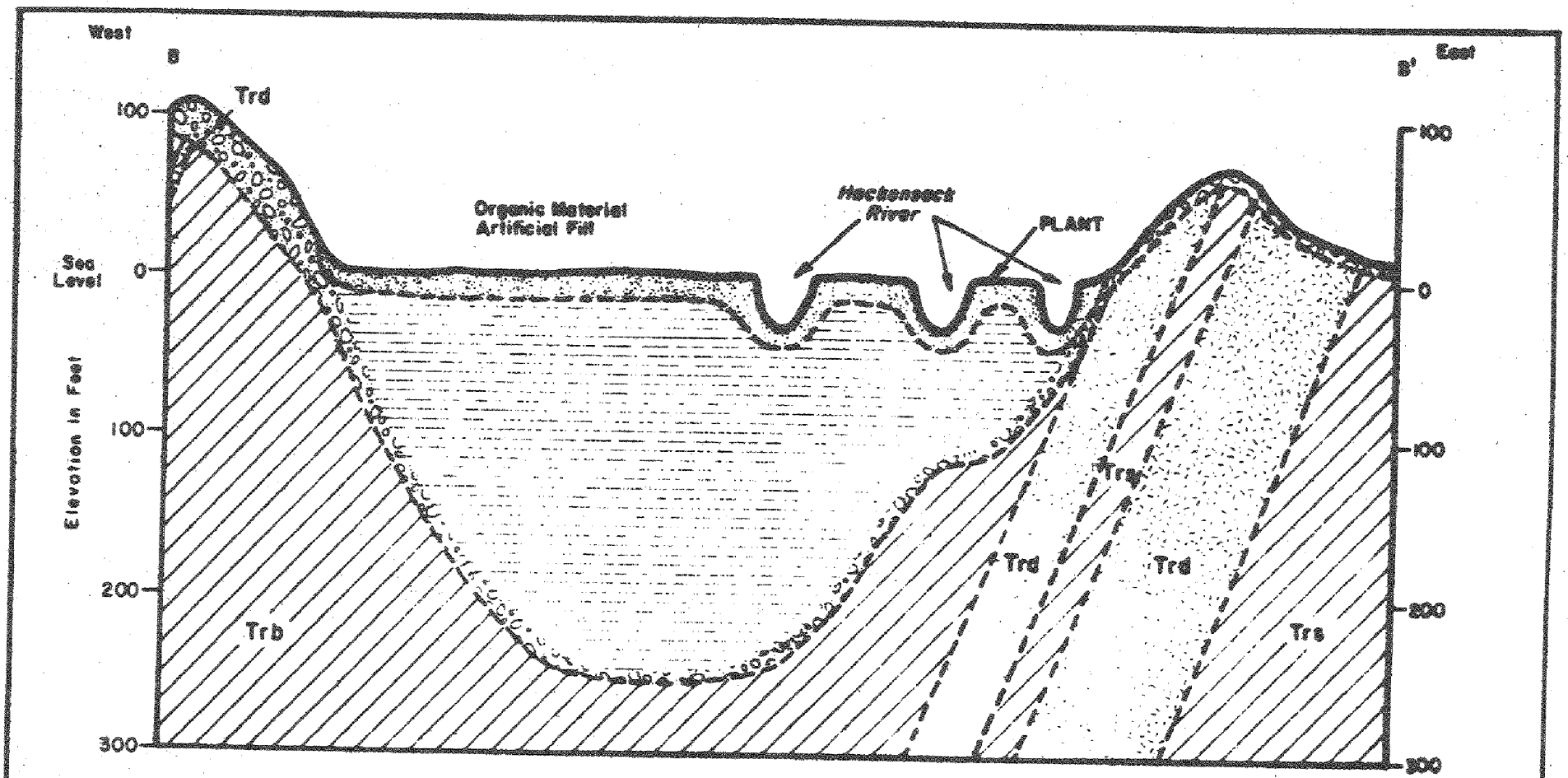
2.0 Definition of Hydrogeologic Conditions

2.1 Geologic Setting

The Seaboard plant site is located in the south-central portion of the Hackensack River Basin on unconsolidated glacial and alluvial deposits which fill an underlying glacial valley (Figure 1). The valley was formed prior to the Wisconsin glaciation of the Pleistocene Epoch and cuts through the Triassic mudstone and sandstone of the Brunswick Formation in its north-south alignment through this portion of the river basin. The unconsolidated sediments comprising the valley-fill predominantly consist of varied silt and clay, glacial till (boulders, gravel, sand, silt, and clay) and a surficial covering of artificial fill.

Site specific information collected during a recent (July 1979) hydrogeologic investigation conducted for Koppers at the Seaboard plant by the consulting firm of Conestoga-Rovers & Associates indicates that the first 20 feet of unconsolidated material immediately underlying the plant consists of such fill material as sand and gravel, cobbles, slag, building rubble, and timbers. This appears to be underlain by about 5 feet of silty, clayey sand containing significant amounts of peat, which in turn is underlain by at least 10 feet of clayey silt.

This information, although limited in scope, supports U.S. Geological Survey (USGS) findings for this area, as reported by Catswell in his 1976 Appraisal of Water Resources in the Hackensack River Basin, New Jersey (Water-Resources



EXPLANATION

Till (Boulders, Gravel, Sand, Silt and Clay)

Varved Silt and Clay (Lake Deposits)

Triassic Sandstone and Mudstone
Trb, Brunswick Formation; Trs, Stockton Formation

Triassic Diabase, Trd

0 1 Mile

Vertical Exaggeration 33.4x

PREPARED FOR
KOPPERS COMPANY INC.
SEABOARD, NEW JERSEY

TITLE
REGIONAL CROSS-SECTION OF
HACKENSACK RIVER BASIN

DRAWN BY	Geraghty & Miller, Inc. Syosset, N.Y	DATE 12-28-80
CHECKED BY		REVISED
APPROVED BY	SCALE	SHT 1

FIGURE 1

Investigations 76-74). The latter investigation goes on to state that the unconsolidated deposits which fill the buried valley in the area of the plant, may extend to a depth of between 100 to 150 feet below land surface.

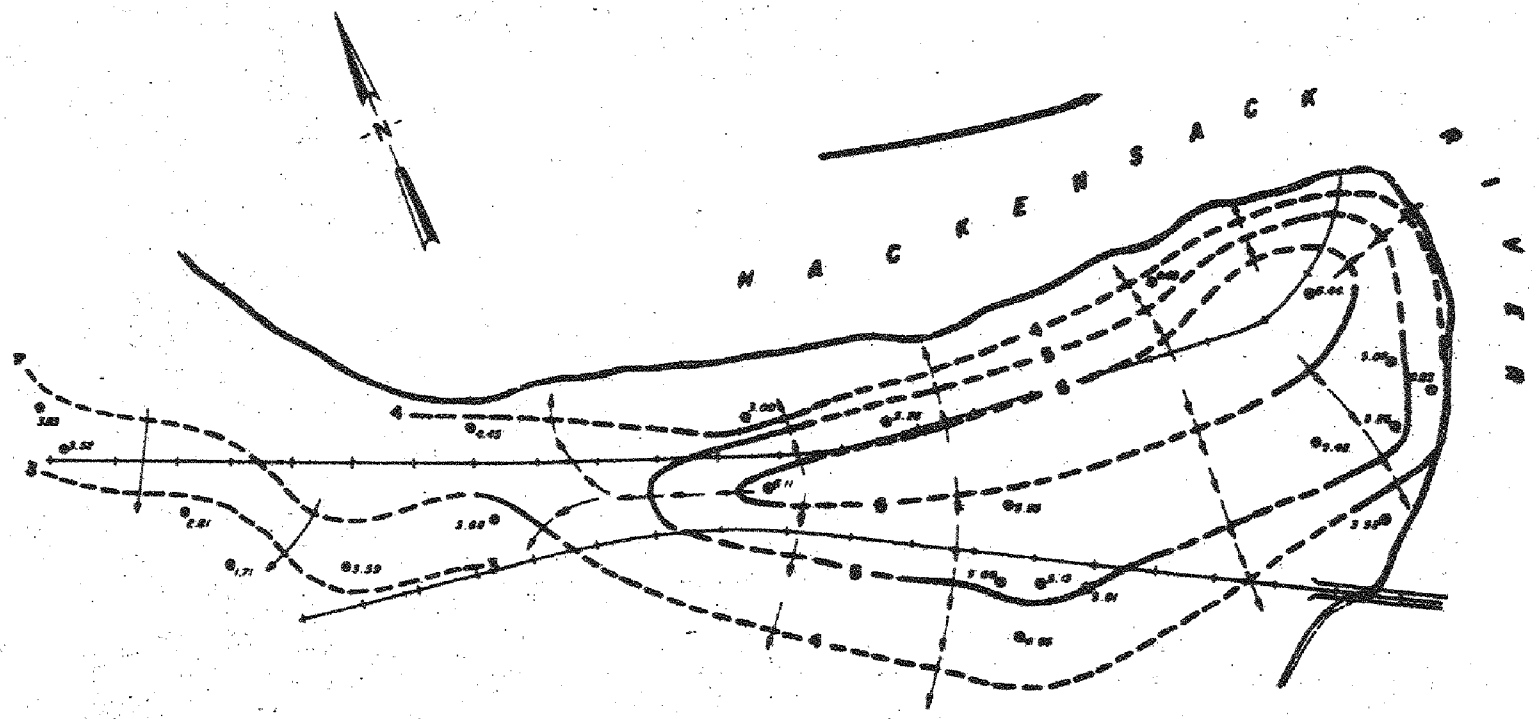
The basal segment of these deposits consists of till which is believed to be about 15 feet thick. The till immediately overlies the Brunswick Formation throughout most of the valley. The exception may exist along the valley's eastern wall where Triassic diabase has intruded into the state of the Newark Group (Grunswick, Stockton, and Lockstong Formations) and cuts the Brunswick Formation at a high angle, thus forming a part of the valley wall.

In view of this information it is currently anticipated that the clayey silt initially encountered at a depth of 25 feet is probably continuous to a depth of between 80 and 100 feet below the plant site.

2.2 Hydrologic Setting

Ground water is typically encountered under the Seaboard plant site at depths of between 1 to 3 feet. In order to provide the precise water-level data necessary to evaluate the local pattern(s) of ground water flow, 36 monitoring wells were installed and their measuring points were established with respect to a common datum (sea level) by Conestoga-Rovers & Associates during July 1979.

On December 11, 1980, 22 of these monitoring wells were measured for water levels by representatives of Koppers. These measurements have been plotted and contoured in Figure 2 to illustrate the general directions of ground water flow under the plant site.



EXPLANATION

- Well Location
- 3.52 — Elevation Of Water Level, In Feet Above Mean Sea Level
- — 4 — Isopotential Line Showing Elevation In Feet Above Mean Sea Level (Dashed Where Inferred)
- ← — Direction Of Ground-Water Flow

0 2000ft.

FIGURE 2

PREPARED FOR KOPPERS COMPANY INC. SEABOARD, NEW JERSEY

TITLE

WATER - TABLE ELEVATIONS

DECEMBER 11-12, 1980

COMPILED BY R Carpenter	Geraghty & Miller, Inc. Syosset, N.Y	DATE 12-22-80
DRAWN BY C Robertson		REVISED
CHECKED BY E Worth	SCALE 1" = 833'	JOB #

Figure 2 shows the presence and apparent extent of a ground water mound or water-table high located immediately to the south of the old tar plant. Ground water in this area flows predominantly away from the mound to the north and south under the influence of an east-west trending ground water divide with only small components of flow to the east and west.

This localized mound is probably the result of underlying soils which are slightly more permeable than those in the surrounding areas. Such increases in permeability allow a greater percentage of recharge to reach the water table and thus account for a build up or mound in its surface.

The limited information available for the remaining northern half of the peninsula indicates that ground water is disharging to the Hackensack River along the peninsula's entire northern and eastern perimeter. Figure 2 also shows that hydraulic gradients, which together with soil permeability and fluid viscosity control flow rates, appear to be greatest in the northeast corner of the area for which information is currently available.

No other conclusions can be drawn from the information currently available.

2.3 Geochemical Setting

The major industrial process conducted at the site was coal coking. This process heats coal in the absence of air and distills the volatile components leaving coke as a porous carbonaceous residue. The volatile components are fractionally condensed into streams of increasingly high boiling substances. In aggregate, these substances are known as coal tar.

The fractions of volatile components obtained in a typical operation include light oil (5 percent), middle oil (17 percent), heavy oil (7 percent), anthracene oil (9 percent), and pitch (62 percent). The oil products are further refined to produce compounds used in organic synthesis. The high boiling pitches are used for electrodes in electrolytic pots in the aluminum industry, as roofing tars, as road paving tars especially for underpaving, as asphalt sealers, and as targets in trap shooting.

The bulk of the coal tar is comprised of the bitumen pitches. These are extremely resistant to water, which makes them useful as underpaving for petroleum-based road paving, for roof coatings, and for coating underground pipelines. The pitches may soften at temperatures as low as about 100°F. This phenomenon is reported to have been observed at the site. In hot weather, there are locations along the river bank and on the ground surface where the tars seep.

The coal tar is a viscous material which flows only when heated. It is unlikely to undergo significant lateral migration in the ground because of its viscosity and hydrophobic nature. If the tar were deposited as a liquid dissolved in the oil fractions, it probably would migrate a short distance into the ground before becoming dispersed in the soil's pores.

The coal oil fractions would behave in the subsurface in a manner similar to the heavier fuel fractions of petroleum. That is, their mobilities would be very much less than the ground water. This situation is caused by the higher viscosity of the oil and the difficulty with which hydrophobic oil moves through wet soil in the capillary fringe

above the water table. Thus, although the oil floats on the water table, the ground water moves beneath it at a faster rate than the oil.

The behavior of the coal tar and oil in the subsurface provides difficulties for recovery. The tars cannot be pumped and the oils will yield to a well or trench extremely slowly. Because slowly permeable materials like clay are effective in stopping the flow of oil, a method of containment such as a slurry wall provides an effective, passive system. Oil which has migrated beyond the river bank cannot be satisfactorily recovered by pumping. Therefore, capture by an oil boom on the river's surface is the most practical and only really effective way of recovering the oil.

regulations. Hazardous materials should be deposited in a permitted secure landfill and demolition or other non-hazardous materials should be sent to a permitted standard industrial landfill.

3.2 Tar Plant Area Rehabilitation

The tar plant and an area extending some distance to the south are aparently underlain by coal tar and oil fractions derived from the industrial process conducted at the site. These materials are moving slowly both northward and southward on top of the ground water body. Contaminants carried by northward flow can be seen seeping into the Hackensack River along its banks from the coke plant extending to within about 600 feet of the old acid plant. Because of the material's viscosity, it moves very slowly and the amount of seepage is small. It is not known whether the tars and oils are continuous in this area or occur in smaller isolated bodies. This would have to be determined by additional boring work. It is recommended that the body of tar and oil be surrounded by a slurry wall and covered by a cap of some impermeable material.

3.2.1 Proposed Utilization of Slurry Wall

The slurry wall concept consists of a low permeability barrier installed from the surface, which would surround the tar and oil, and effectively prevent further lateral movement. The depth of the slurry wall has to be considered. One plan would be to install the slurry wall to a sufficient depth to key it into a low permeablity bed, thereby sealing it at the bottom. The top would be covered with a low permeability cap to prevent precipitation from percolating into the enclosed area. Monitoring wells would be installed to determine if water levels are rising inside the enclosure and a

system of French drains would have to be installed to remove ground water if the water level ever begins to rise. The drains should be installed slightly above the prevailing water table and sloped to one or more conveniently located collected sumps. The sumps would be equipped with pumps to remove ground water and remove oil. Once the system is in place, it should be possible to build recreation fields, parking lots, etc. on top of it.

An interesting variation on the slurry wall scheme discussed above, would be to install what is known as a hanging slurry wall. In this case, the wall would be constructed surrounding the coal tar and oil as described above, except that the bottom would not be keyed into a low permeability bed. In this case, if water entered the enclosure from the top, causing the water table to rise, the increased head would force ground water to be discharged at the bottom of the slurry wall, thereby eliminating or at least minimizing the need for pumping to maintain a constant depth to water in the enclosure. The tars and oils, being lighter than water, would float on top of the water body and there should be little chance of them seeping under the bottom of the slurry wall.

3.2.2 Hydrogeologic Impact of Slurry Wall

Once the slurry wall or walls are in place, there should be no real impact on the ground water system underlying the property, except in the enclosures themselves. If an adequate seal can be maintained, preventing water from moving into the slurry wall from land surface, there should be very little change in the water level inside the slurry wall. It will be necessary, however, to monitor water levels and

a water collection system will have to be constructed to remove excess water if the water levels begin to rise. The water table is only a short distance below the existing grade and only a small rise in water level might cause water logging and possible surficial contamination in low areas, or in utility pits or basements, if any are constructed on the property. An adequate monitoring system and a system of horizontal drains constructed at the existing water table should handle any rise in water level and prevent it from causing a problem.

3.2.3 Geotechnical Considerations

For the installation of a soil-bentonite slurry wall cutoff to be feasible, the ground must be suitable for excavation with conventional equipment and must be free of boulders or buried debris which might impede the excavation or render the trench unstable even using the slurry technique. The site investigation conducted by Conestoga-Rovers suggests this is the case. This investigation also suggests that a relatively impervious soil layer exists at a reachable depth, if it is determined that the slurry trench should be tied into such a layer.

3.3 Proposed River Bank Rehabilitation

3.3.1 Proposed Utilization of Permanent Boom

The objectives in controlling oil slicks on the river are both esthetic and protective of the aquatic environment. Water birds and aquatic animals living and reproducing in the littoral environment may be harmed by deposits of oil on the water. The oil inhibits oxygen exchange between water and air and gives the water an appearance

of degraded quality. Oil may also accumulate in sediments along the river bank where small aquatic animals may be adversely affected.

Information presently available reports coal tar residues extending from the embankment on the Hackensack River along the river bottom as far as the low tide line. Coal tar oils slowly seep from these residues and are added to the oil that seeps from the embankment or along the shoreline. The coal tar residues appear to extend beyond the position where a slurry wall would prevent river contamination.

Thus, the proposal is for a combination of slurry wall and permanent boom. The oil slick problem is a surface phenomenon. A physical barrier which effectively prevents oil from migrating on the water's surface should be satisfactory in controlling the migration on the water's surface should be satisfactory in controlling the migraton of floating oil. For example, there are oil terminals along Newtown Creek in Brooklyn, New York, that have permanent oil-control booms. Temporary floating booms such as those now in place at the Koppers site are also used during loading and unloading operations.

The slow oil seepage from the river bottom observed at the Koppers site will continue for the indefinite future. Residues beneath the river may be expected to release oil for months to several years. One or more skimming and pumping devices will be required within each boom enclosure to remove accumulated oil. This oil will be tanked and subsequently disposed of in an approved manner.

3.3.2 Hydrogeologic Impact of the Boom

The oil recovery boom will be constructed so that it will float and accommodate changes of river level broght on by the tides. This device will have no hydrologic effect as it will not influence either river or ground water flow. The pumping of accumulated oil by recovery skimmers is a relatively clean separation. The amount of water pumped in the skimming process is only a small percentage of the volume of oil pumped.

NPDES PLANT INSPECTION
AND
STATUS REPORT FORM

Company Name : Koppers Company Inc
Permit No. : N.J. 0107694
Location : Secaucus Plant
Mailing Address: Harrison Turnpike
Kearny N.J. 07032

Date of Inspection: March 28, 1976
Date(s) of Previous Inspection(s): Feb. 2, 1976
Inspector(s): E.P.A.
Receiving Waters: Hackensack River
W.Q. Classification: Tw-3
Weather Condition: clear, sunny 65°F

Company Representative(s), Title(s):
FRANK SPINOLA - ASSISTANT PLANT SUPERINTENDENT

Number of Discharges Reported: 2
Number od Discharges Observed: 2
Action Taken or Planned on Unreported Discharges:
COMPANY REPORTED TO U.S.E.P.A. ON OCTOBER 30, 1974, ITS INTENDED DISCONTINUED USE OF DISCHARGE # 002. KOPPERS CEASED USING DISCHARGE #002 IN APRIL, 1975. U.S.E.P.A ISSUED A REVISED PERMIT LISTING ONLY DISCHARGE # 001.

(1) PROCESS
(a) Industrial Process: The fractionation and distillation of coal tar into various pitches, creosote, naphthalene, etc.
(b) Reported Production: use of 1,116,000 lbs. of raw material
(c) Current Production use of approx. 500,000 lbs. of raw material.
(d) Rated Production: 500,000 LBS PER DAY.
(e) Raw Materials Used: Crude Coke oven tar (Coal tar)
(f) What process modification, expansions, etc. have been made that would either increase or decrease raw waste loads, water usage, etc. that have not been previously reported: COMPANY HAS CEASED USING STILL #1.

(g) Process flow diagram indicating wastewater sources (attach copy if on file and verify with company): See inserted schematic, page I-A

(h) Continuity of Operation: _____ Batch _____ Semi-Continuous
X Continuous

(2) EFFLUENT LIMITATIONS VIOLATIONS (Based upon Self-Monitoring Data)

Discharge No.	Parameter	Permit Limitation	Reported Discharge	Date/Period of Violation

No apparent violations

BAA000041

(2.1) EFFLUENT DISCHARGE NO. 001 Picture Taken: None

(a) Wastewater Flow:
(b) Measuring Device used for Flow: None except
(c) Wastewater Characteristics: River water used as non-contact cooling water
(d) Type of treatment units and treatment sequence sketch (attach copy if on file and verify with company): Not treated except for oil separator.

(e) Appearance of Effluent(s):
(1) visible oil None
(2) foam None
(3) floating solids None
(4) Suspended Solids None
(5) color Clear
(6) Temperature —
(7) Odor None
(8) other —

(f) Appearance of Receiving waters: Hackensack River
(1) visible oil Some
(2) foam None
(3) floating solids Much Debris
(4) turbidity rather turbid
(5) sludge deposits —
(6) color greyish-green
(7) temperature —
(8) odor yes
(9) other —

(2.2) EFFLUENT DISCHARGE NO. 002 Picture Taken:

(a) Wastewater Flow: Present, but not in use.
(b) Measuring Device used for Flow:
(c) Wastewater Characteristics:
(d) Type of treatment units and treatment sequence sketch (attach copy if on file and verify with company):

(e) Appearance of Effluent(s):
(1) visible oil _____
(2) foam _____
(3) floating solids _____
(4) suspended solids _____
(5) color _____
(6) temperature _____
(7) odor _____
(8) other _____

(f) Appearance of Receiving waters:
(1) visible oil _____
(2) foam _____
(3) floating solids _____
(4) turbidity _____
(5) sludge deposits _____
(6) color _____
(7) temperature _____
(8) odor _____
(9) other _____

(2.3) EFFLUENT DISCHARGE Picture Taken:

(a) Wastewater Flow:
(b) Measuring Device used for Flow:
(c) Wastewater Characteristics:
(d) Type of treatment units and treatment sequence sketch (attach copy if on file and verify with company):

(e) Appearance of Effluent(s):
(1) visible oil _____
(2) foam _____
(3) floating solids _____
(4) suspended solids _____
(5) color _____
(6) temperature _____
(7) odor _____
(8) other _____

(f) Appearance of Receiving waters:
(1) visible oil _____
(2) foam _____
(3) floating solids _____
(4) turbidity _____
(5) sludge deposits _____
(6) color _____
(7) temperature _____
(8) odor _____
(9) other _____

(3) COMPLIANCE

(a) Is company complying with schedule of compliance? YES.

(b) What is the current projection of the company regarding compliance with future dates in Compliance Schedule?

(c) Is company complying with any additional compliance requirements such as a special report submittal to either EPA or another Agency?

(d) Has company notified EPA of any non-compliance with permit conditions?

(e) Has company requested modification of any permit conditions other than permit sampling schedules?

(f) Are any modifications appropriate? COMPANY CURRENTLY USES HACKENSACK RIVER WATER IN ITS PROCESS. COMPANY IS SEEKING TO UTILIZE KEARNY'S POTABLE WATER IN ITS PROCESS. WHEN AND IF THIS OCCURS, IT APPEARS THE MONITORING OF INTAKE WATERS WILL NOT BE NECESSARY. COMPANY WILL ADVISE E.P.A. ACCORDINGLY.

(4) SELF-MONITORING PROGRAM

(a) Does quantity of reported self-monitoring data and signing official comply with requirements of permit? yes

(b) What is the apparent quality of plant records that are required under the conditions of the permit? Good

(c) If net values are applicable, is the surface water intake sampled and analyzed? yes.

(d) Is there any additional monitoring being performed by the plant that has not been reported? If yes, what parameters and frequency is involved and what conclusions can be drawn from data? No

(e) Do sampling locations appear to be adequate to obtain representative samples? yes

(f) Has company identified effluent sampling point used for each discharge pipe by providing a sketch of flow diagram? yes

(g) How frequently and accurately is continuous monitoring equipment calibrated, and how well is the equipment maintained?

No continuous monitoring equipment used. OUTFALL SUBJECT TO TIDAL ACTION.

(h) In your judgement, do sampling procedures, frequency and type of sample typify plant's daily discharge (i.e. are maximum production periods, batch discharges, etc. reflected in monitoring data)? yes.

(i) Does plant perform its own analysis? yes, but not on these premises
If not, what laboratory is analysis contracted to? Monroeville Research Center, Penn.
If yes, what is the appearance of plant's laboratory? UNDER SUPERVISION OF R. D. HEPNER.

(j) Do all sampling and analytical methods conform to the guidelines published pursuant to Section 304(g) of 1972 FWPCAA? yes

(k) Has plant requested modification to permit sampling schedules? No.

(l) Are any modifications appropriate? Possible relaxation of time schedule for the testing of Nickel to once a month.

(5) MISCELLANEOUS

(a) Did the permit application truly represent conditions at the plant site? yes.

(b) Are any of the following toxic pollutants per Section 307(a) of 1972 FWPCAA being discharged that would require modification of the permit: Aldrin, dieldrin, benzidine and its salts, cadmium and all cadmium compounds, cyanide and all cyanide compounds, DDD (TDE), DDE, DDT, endrin, mercury and all mercury compounds, polychlorinated biphenyls, and toxaphene? No.
If yes, what modifications are necessary?

(c) Is sludge being generated at plant? No
If yes, is plant reporting on its disposal?
If sludge disposal is at plant site, is there any visual evidence of entry of this material into navigable waters?
If not at plant, where is the disposal site, and is it acceptable to regulatory agencies?

(d) What is the appearance of plant grounds? PLANT GROUNDS COVERED WITH COAL TAILINGS. MANY AREAS ALSO COVERED WITH COAL TAR OR DERIVITIVES. ALL STORM SEWERS ARE PLUGGED. A SAND DIKE WAS PLACED ALONG THE RIVER BANK TO PREVENT SPILLS OR RUNOFF FROM PARTICULATE MATTER. HOWEVER EVIDENCE EXISTS THAT COMPANY PRODUCT CONTINUES TO LEACH INTO THE RIVER FROM THE BANK.

(e) Is there any discharge of unreported contaminated storm runoff?
NONE VISIBLE TO THE INVESTIGATORS.

(f) Is the treatment system maintained in good working order and operated efficiently as possible? There is no treatment system per se

(g) Is a full time registered treatment plant operator required? Yes.
If yes, does the permittee have one?
Mr. Harold Paulson S-IN

(h) What alternate power supply provisions exist for waste treatment facilities? Not Applicable - mechanical process.
If none, what happens to the wastewater when there is a power failure?

(i) Have all bypasses of waste treatment facilities been eliminated:
If not, why? If not, is flow monitoring installed in bypass? No bypasses.

(j) Are there any obvious air emission, noise, radiation, pesticides, or solid wastes problems at the plant? YES.
What are they? SEE ITEM 5(d).
If yes, send copy of this report to the appropriate personnel.

(k) Does plant require a Spill Prevention Control Countermeasure Plan? Yes
(Note: SPCC plan is required if the permittee stores more than:
1. 1,320 gallons of oil above ground;
2. 660 gallons of oil in a single container above ground;
3. 42,000 gallons of oil underground.)

If so, is the plan approved by a licensed P.E? yes, see attached copy.

DONALD LEE ODELL, P.E.
REGISTRATION # P.A. 9000

SUMMARY AND RECOMMENDATIONS

Violations and/or Problems	Recommended Action
* RAILROAD TANK CARS ARE SUBJECT TO "BURPING" WHILE BEING UNLOADED. THIS PRODUCES COAL TAR SPILLS AT THE COMPANY'S ON-SITE RAIL SIDING. AT PRESENT, NO FACILITIES APPARENTLY EXIST TO CONTAIN OR ADEQUATELY CLEAN-UP THESE SPILLS WHEN THEY OCCUR. IT IS SUGGESTED SOME FORM OF PORTABLE COLLECTION SYSTEM BE INSTALLED UNDER EACH TANK CAR WHILE BEING LOADED OR UNLOADED TO CONTAIN ANY FUTURE SPILLS.	

Comments

Inspector Signature: [signature]
Name, Title, & Date: Environmental Specialist
[signature]
Environmental Tech.
March 29, 1991

Copies to: (check if sent)

State _____
EPA Attorney _____
Original to Group File _____
Other _____(Indicate)

Initialled:

Group Leader: _____

Section Chief: _____