



A

Interoffice Communication

To John D. Burns, Administration, Houston -
Timberway
From John Friend, Plant Manager, Aberdeen
Chemicals Plant
Date March 29, 1984
Subject ENVIRONMENTAL SURVEY

As requested, I have reviewed the attached environmental survey for the Aberdeen Chemicals Plant. It is my understanding that you will forward a copy of this report, along with this letter and the attached comments, to E. F. Ruppe, Vice President of the Materials and Logistics Department of Du Pont and that Du Pont and Conoco will refer to this material, as appropriate, in providing representations and warranties to Vista Chemical Company in connection with the sale of assets of Conoco Chemicals to Vista.

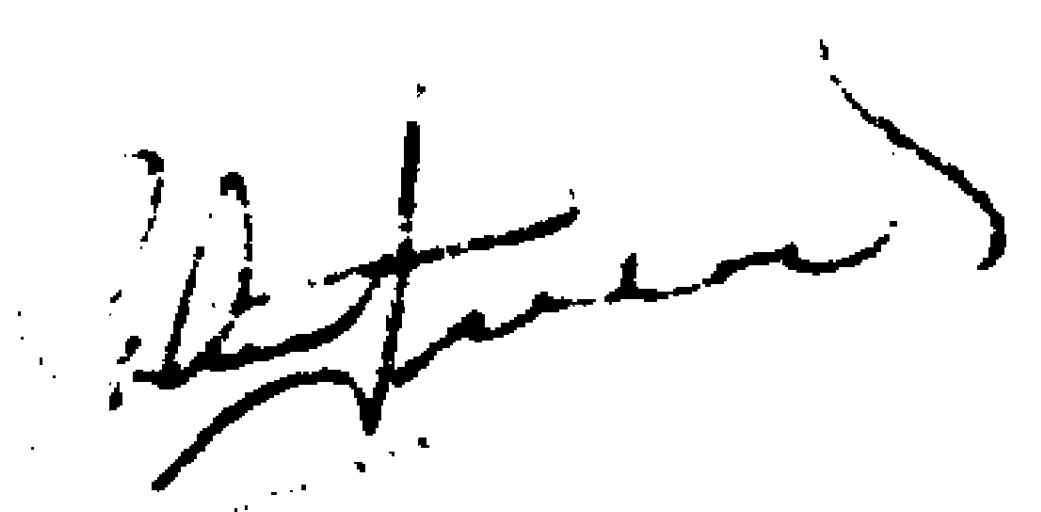
The "due inquiry" referred to in the attached response consisted of meeting with the following individuals and asking them to review the material contained in the survey and respond, to the best of their ability, to the matters contained therein:

Dick Froreich, Chief Process Engineer
Dave Mahler, Environmental Coordinator
Veldon Messick, Senior Process Engineer

The attached environmental survey was prepared by B. I. Raffle, Supervising Counsel, Environmental Group, of Conoco Inc. I believe he has received information, upon which portions of the report are based, from personnel at the Aberdeen Plant and from the Conoco Chemicals Biomedical and Environmental group. Except as set forth in the attached comments, to the best of my knowledge and belief, following due inquiry, the factual references set forth in the attached environmental survey are complete and accurately set forth the status of environmental matters at the Aberdeen Plant. However, I cannot make any representations, nor do I express any opinions, concerning legal matters such as status of lawsuits, interpretation of statutes, etc. Further, the comments and opinions I have set forth are intended as a disclosure device and while, to the best of my knowledge and belief are truthful and accurate, are given in the course of my employment and are not intended to be personal representations or warranties.

John D. Burns
March 29, 1984
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As to any factual matters, the environmental survey will be updated prior to the closing if an event occurs which would render the report inaccurate or incomplete.


ja
Enc.

cc: M. A. Fisher
R. D. Gamblin
F. L. Gannon
J. J. Hall
G. W. Inbody
R. E. Lehmkuhl
S. L. Litzau
G. Thomas

Distribution: Chemical Plant Managers:

R. A. Conrad
J. A. DeBernardi
R. T. Ferrell
H. D. Garrison
T. H. Huffman
J. B. Maher
R. W. Seymour



Interoffice Communication

To J. D. Burns, Administration, Houston -
Timberway
From J. Friend, Plant Manager, Aberdeen
Chemical Plant
Date March 29, 1984
Subject ENVIRONMENTAL SURVEY

The following comments result from the review of the Aberdeen Environmental Survey in the memorandum from B. I. Raffle to F. L. Gannon and H. D. Butter dated February 2, 1984. Section letters and item numbers refer to the numbering used in the subject memorandum by B. I. Raffle.

SECTION A - Water Pollution

1. Item 1, Water Permits, first paragraph. All stormwater runoff from the plant is not covered by our NPDES permit. Only the areas of the plant where stormwater runoff enters settling pits numbers 1 and 2 are covered by the permit. Also, monitoring and reporting obligations are imposed for three priority (toxic) pollutants: Vinyl Chloride, Bis (2-Ethyl-hexyl) Phthalate, and Di-N-Octyl Phthalate.
2. Item 2, Water Compliance, first paragraph. The plant is normally in compliance with the NPDES permit. There has been one BOD excursion in Outfall 001 in the last two years and none after installation of the "bio-disc". The remainder of the out-of-compliance incidents have resulted from spills or bypasses of untreated wastewater around the waste treatment system. The "bio-disc" system was installed primarily to meet more restrictive BOD limits imposed due to the recent resin expansion project. The operation of the "bio-disc" has resulted in a decrease of the vinyl chloride level in Outfall 001 but this is not the primary purpose of the "bio-disc".
3. Item 2, Water Compliance, second paragraph. The API oil-water separator does not overflow during heavy rainstorms, but has been observed to back up

through surface drains on four occasions. Thus, the water phase of the separator is discharged rather than the oil phase which floats on the surface of the API. The water which is discharged under these conditions enters a storm sewer which flows into a concrete settling basin. Any oil, if it did reach the concrete basin, would remain on the surface and later be skimmed off. The plant has no evidence that the oil layer in the API has been discharged from the plant.

The API oil-water separator has been observed to back up resulting in the by-pass of untreated wastewater on the following dates:

August 6, 1982
June 6, 1983
September 20, 1983
November 23, 1983

These four incidents were reported to the State. Discharges from this API separator are covered in the RCRA Addendum to the plant SPCC plan. The plant's SPCC is up to date.

4. Item 2, Water Compliance, third paragraph. The separator has been observed to back up resulting in a bypass four times and the State has been notified on each of these instances. These four incidents are all the plant is aware of.
5. Item 2, Water Compliance, fourth paragraph. The AFE request for funds to provide a new sewer from the API separator to pond #3 has been approved. Engineering is essentially complete and most materials for the sewer have been purchased.
6. Item, Water Compliance. Personnel from the Mississippi Bureau of Pollution Control visited the plant on February 14, 1984 to conduct an inspection and also investigated the causes of recent excursions to the NPDES permit (primarily bypasses from the API and other bypasses/spills). They indicated they were under pressure from the Regional EPA office to institute more enforcement action and stated continued excursions of our NPDES permit would likely result in enforcement action.

7. Item 3, Future Requirements and Potential Concerns, first paragraph. If the new effluent guidelines and pretreatment standards for the Organic Chemicals, Plastics, and Synthetic Fibers Industry (48FR 11828) are promulgated per the March 21, 1983 proposal, significant additional controls will likely not be required at the Aberdeen plant.

SECTION B - Air Pollution

1. Item 1, Air Permits, first paragraph. The construction permits have all expired. The plant has no active construction permits at this time. In order to continue to operate under a valid air permit, Vista has applied for a new operating permit to become effective on the date of closing.
2. Item 2, Air Compliance, second paragraph. In my opinion from a compliance standpoint, not only past discharges from relief valves but also from manual vents are a concern.
3. Item 2, Air Compliance, third paragraph. The study evaluating the possibility of future releases and identification of certain measures which have been implemented and which could be implemented in the future has been completed by the plant. This study was transmitted to the Conoco Legal Department February 2, 1983, for its review. To date, we have not received Conoco Legal's comments on the study.
4. Item 2, Air Compliance, fourth paragraph. In the opinion of the plant, the approximately twenty relief valve discharges which have occurred at the plant are emergency relief valve discharges. The investigation of possible unreported relief valve discharges during the 1977-1978 compliance waiver period has resulted in the reporting of possible emergency relief valve discharges and an emergency manual vent to the Mississippi DNR.
5. Item 2, Air Compliance, fifth paragraph. The Complaint was filed February 1, 1984, in the United States District Court, Northern District of Mississippi. The Complaint is identical to the draft Complaint.

6. Item 2, Air Compliance, seventh paragraph. The prescribed method for sampling and measuring reactor opening loss is impractical and unsafe for our operational procedure of stripping in the reactor. The method requires dumping of the slurry before the sample is taken since the method requires sampling at the bottom, middle, and top of the reactor. During the time period the hot slurry is being dumped from the reactor, VCM leaves the stripped slurry and enters the vapor space in the reactor resulting in an erroneously high VCM content of the reactor vapor space. If reactor opening loss measurements are made according to the prescribed method, the same VCM is essentially counted twice (i.e., once in the resin and once in the vapor space). Because of these complications the plant was forced to develop another procedure for determining reactor opening loss. The procedure the plant developed is described in the next paragraph.

Rather than sampling and analyzing the vapor space after slurry stripping is complete to determine the reactor opening loss for each reactor batch, the Aberdeen plant uses a calculational procedure based on purging steam through the reactor to show compliance with the reactor opening loss requirement. The plant requested this equivalency in a transmittal to EPA Region IV dated August 14, 1978. The request for equivalency was made because no sampling procedure could be developed to obtain a true sample of the reactor atmosphere, which is above 212°F and under a slight vacuum when stripping is complete. Also after slurry stripping to the required level (400 PPM) is complete, vinyl chloride continues to leave the slurry and to enter the reactor atmosphere.

The March 22, 1979 semiannual report to the Regional Administrator, Region IV, states:

"We originally requested an equivalency regarding the reactor opening loss requirements of the standard on August 14, 1978. As expressed in our letter of August 14, we are concerned about the safety of reactor opening loss sampling and do not believe the method is

accurate for our particular stripping operation. Therefore, we propose a calculational procedure based on a purge method that is employed to meet the requirements of the standard. This purge procedure shows we are in compliance with the reactor opening loss requirements throughout the period".

Each subsequent semiannual report states compliance with the reactor opening loss is attained by using standard operating procedures to strip the resin to less than 400 ppm vinyl chloride and purge the vinyl chloride from the reactor vapor space. These procedures are described in Section VI of the compliance manual which was submitted to EPA Region IV on August 14, 1978.

In my opinion the first sentence in this paragraph of the memorandum meant to say "rather than actually measuring, etc." instead of "rather than actually calculating."

7. Item 2, Air Compliance, eighth paragraph. In addition to possible enforcement action for reactor opening loss violations and slurry stripping, I am also concerned about possible enforcement action due to water stripping violations and that our past responses to detected VCM leaks could be judged unacceptable by EPA enforcement.

SECTION C - Solid Wastes

1. Item 1, Permits, second paragraph. The Conoco RCRA lawyer concurs that the plasticizer filter cake and API solid wastes generated from the plasticizer operation are not RCRA hazardous wastes. The plant manages these wastes as hazardous wastes just because we are conservative. The plant now has a contract with Stauffer Chemicals who will take our waste oil and burn it for fuel.
2. Item 2, Permits, fourth paragraph. The plant now has interim status authority for facilities which store (tanks and drum storage) hazardous wastes. We have deleted interim status authority for facilities which treat (oil/water separation) hazardous wastes.

3. Item 2, RCRA Compliance, first paragraph. As far as we know, we are in compliance with applicable hazardous waste management regulations, but inspectors may possibly find other technical non-compliance problems.
4. Item 3, Past Waste Disposal Activities, second paragraph. The plant does not have evidence that plasticizer filter cake from the plant was taken to the now inactive municipal landfill which was once operated by the City of Aberdeen and upon which an H.U.D. housing development has since been constructed. However, the plant suspects this to be the case. The Conoco RCRA lawyer concurs that the plasticizer filter cake is not a RCRA hazardous waste.
5. Item 3, Past Waste Disposal Activities, third paragraph. Conoco legal was aware and concurred with the covering of pond #2. Prior to covering the pond, verbal discussions were held with the Mississippi DNR. They stated there were no RCRA requirements for closing the pond. The closing procedure of grading, covering, and seeding has verbal concurrence of the Mississippi DNR.
6. Item 3, Past Waste Disposal Activities, fifth paragraph. No contaminants were found in the initial groundwater samples. Groundwater sampling was required initially and is to be done again six months after the first sampling. The ground water sampling plan was approved by the Mississippi DNR. The DNR was advised we would grade and seed the area to keep standing water off the area. The DNR did not respond to the grading and seeding plan. The grading and seeding of the area has been completed.
7. Item 3, Past Waste Disposal Activities, sixth paragraph. The location of the site where the Conoco-labeled drums were found was near Gattman, MS.
8. Item 3, Past Waste Disposal Activities, seventh paragraph. The drums containing DOP lead pigment will be disposed of at the Chemical Waste Management Facility at Emelle, Alabama. The drums

containing aluminum powder will be sent to a color concentrate manufacturer and be reclaimed.

9. Item 3, Past Waste Disposal Activities, eighth paragraph. The environmental coordinator discovered the drums while conducting a general inspection of plant property outside the plant fence, not while conducting a general environmental survey of the plant.
10. Item 3, Past Waste Disposal Activities, ninth paragraph. Drums containing the following materials were found:

- 30 drums contained waste oil (approximately 30 weight)
- 23 drums contained a thick viscous oil (approximately 140 weight)
- 3 drums contained glycerine
- 3 drums contained detergent
- 1 drum contained phyhalate plasticizer
- 49 drums were empty

Several samples of the oils were analyzed for PCBs and none were found. A composite sample of the oils was checked for priority pollutants. The results are:

- EP toxic metals - none detected
- Acid compounds - none detected
- Base neutral compounds - chrysene, 0.02%
- fluorene, 0.03%
- phenanthrene, 0.2%
- no others detected

The waste oil is currently stored in our waste oil storage tank and will be sent to Stauffer Chemicals which will burn it for heat recovery. The DNR did not request the contaminated soil be tested for priority pollutants.

SECTION E -- Other Matters, first paragraph. A formal protocol for Superfund reporting has not been developed for the Aberdeen plant. The plant currently follows the procedure of not reporting to Superfund "federally permitted" releases. These federally permitted releases include relief valve

John D. Burns
March 29, 1984
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discharges, manual vents and leaks covered by the plant's approved leak detection and elimination plan.

I have no knowledge of matters concerning the Aberdeen Transportation Terminal as set out in page 14 of the memorandum, since such facility is at the present time controlled and managed by the Conoco Inc. Transportation Department. However, on page 14 the statement in the third paragraph under Water Pollution says that the plant maintains a 10,000 gallon diesel storage tank at the terminal. This statement is incorrect. The tank belongs to the terminal, not the plant.

Two additional solid wastes which were not mentioned in the memorandum are generated at the plant. These are reactor culls which are oversized PVC particles produced in the polymerization process and filter elements which are used to filter the VCM before being charged to the reactors. Each of these wastes do contain some vinyl chloride but are not RCRA hazardous wastes according to Conoco legal. These wastes are currently disposed of at the Monroe County landfill. At some time in the future, these wastes may be classified as RCRA hazardous wastes and have to be treated as such.

Also attached are previous letters prepared by the plant covering environmental operations and potential environmental liabilities. All of the potential liabilities discussed in these letters are not specifically included in B. I. Raffle's memorandum of February 2, 1984.

ja
Enc.

cc: M. A. Fisher
R. D. Gamblin
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J. J. Hall
G. W. Inbody
R. E. Lehmkuhl
S. L. Litzau
G. Thomas

Interoffice Communication

To : M. J. Schneider
 From : V. E. Messick
 Date : November 1, 1983
 Subject : ENVIRONMENTAL INFORMATION

CONFIDENTIAL

Attached is a list of environmental permits that will have to be transferred in the event of a LBO. Listed below are other items concerning the environmental program at Aberdeen.

Potential Liabilities/Commitments

1. Under Superfund legislation, the plant submitted notification of 4 sites on plant property where plasticizer wastes were previously buried. Several plasticizers are now classified as hazardous. It is estimated that 10,000 cubic feet of plasticizer contaminated material was buried between 1963 and 1979. The Mississippi Department of Natural Resources sampled the sites and requested that the plant submit a landfill management plan and a groundwater sampling plan. These plans were submitted in October 1983. Wells are already in place to obtain the groundwater samples.
2. The plant also believes that plasticizer contaminated wastes were buried at the City of Aberdeen dump between 1970 and 1975. PVC compound and other PVC wastes were buried in the dump between 1963 and 1975. The Aberdeen city dump was closed in 1975 and a HUD housing development is in progress at the site.
3. Plasticizer contaminated waste material as well as PVC and PVC compound wastes have been disposed of at the Monroe County Landfill.
4. Approximately 20 million pounds of PVC resin is buried at wastewater treatment pond 2 here in the plant. The resin in pond 2 contains small amounts of plasticizers and residual VCM.
5. There is approximately 375,000 pounds of material in storage at Prairie from cleanout of the plant's building ventilation system and the vacuum system. This material consists mainly of PVC resin, fillers, dust, PVC dry blend, and PVC compound contaminated with lead stabilizers. Efforts to date to sell this material have not been successful although this effort is continuing.
6. Prior to 1972, wastewater containing PVC resin was discharged directly to James Creek which is located to the west of plant property. Old PVC resin was discovered outside the plant this year and was cleaned up. It is likely that more resin could be discovered at a later date and would need to be cleaned up.

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Potential Liabilities/Commitments (Continued)

7. Beginning in August of 1982, the plant has experienced several waste water bypasses as a result of the plant's sewer system being unable to handle large water flows during heavy rainfalls. Subsequent to these bypasses, the Plant has been required to submit to the State a Waste-water Bypass Prevention Plan. In these reports, the State has been informed that funds for a plant sewer system expansion are being requested in the 1984 Construction Forecast. (Item A-10)
8. As a result of emergency relief valve discharges that have occurred over the past few years, commitments have been made to the EPA and also the Mississippi Bureau of Pollution Control to reduce the possibility of reoccurrence. These commitments mainly include maintenance or procedural inspections or practices. Previous relief valve discharges have led to a show cause hearing and a meeting with the Department of Justice.

Environmental Services

1. The plant uses legal assistance for environmental matters such as renewal of permits, specific environmental incidents, waste disposal contracts and interpretation of environmental regulations. It is estimated that the plant uses 100-200 hours of environmental legal service annually, which would not include any large special environmental items.
2. The plant consults with Engineering and Research Departments in Ponca City regarding operation or improvement of wastewater treatment facilities. It is estimated that the plant uses 80-160 hours annually of this service which does not include large special projects or problems.
3. The plant consults with MED about premature rupture disc failures which have occurred. MED currently inspects discs for evidence of metallurgic and/or physical damage. It is estimated that this service is 50 to 150 hours annually.
4. In 1982, the Mississippi Bureau of Pollution Control requested that a study be conducted to assess potential areas for a vinyl chloride release. A study has been made and is presently under review in the legal department. Sufficient legal involvement will be needed in order to submit the findings of the study to the Bureau of Pollution Control.
5. Information concerning environmental deadlines, new regulations and environmental engineering topics are periodically received from Environmental conservation. This group also provides the plant with the Federal Register Summary. These services will be required to continue a sound environmental program.
6. The plant has applied for a license to operate a radioactive high level alarm on the reactors. Plans are to test the radioactive alarm and if successful, eventually install on all reactors to reduce the possibility of a relief valve discharge. The plant has relied heavily on the expertise from the health physicist in the Medical Division of Conoco on this project. This expertise will be necessary to continue the program to test the radioactive alarm.

ENVIRONMENTAL PERMITS

<u>Agency</u>	<u>Type</u>	<u>Expiration Date</u>	<u>Transferable</u>
Mississippi Bureau of Pollution Control	Air - Includes Particulates & VCM	March 1, 1986	No - Need New Permit
Mississippi Bureau of Pollution Control	Water	March 31, 1986	Yes - Notification Required
Mississippi Bureau of Pollution Control	RCRA Part A Application	N/A	N/A - Must Submit Revised Application

CONTRACT LIST

<u>Contract Co.</u>	<u>Subject</u>	<u>Term</u>	<u>Ex. Date</u>	<u>Decision Date By Whom</u>	<u>Notice Int./Type</u>	<u>Renewable</u>	<u>Authority</u>	<u>Assignable</u>
Industrial Waste Management	Hazardous Waste Disposal (1)	5 years	1/1/84	12 Months Notice To Cancel By Either Party	12 Months To Cancel With Written Notice	Yes 1 Yr.	General Manager	Uncertain
Organic Chemical	Waste Oil Disposal	Not Negotiated To Date						

Supplemental Information Documents (S.I.D.'s) apply to each waste stream.

A-55	API Solids	Anticipated SID's To Be Completed By 12/1. - Asbestos - Barium, Cadmium, Lead Sludge - Sorbent Rooms - Plasticizer Contaminated - Lead Pigment - Ethoxylated Tallow Amine - Aluminum Dust Pigments
A-57	Phthalic Anhydride	
A-58	Plasticizer Filter Cake	
A-56	Acetone	
A-98	Plasticizer/Phthalic Anhydride Material -	
A-99	Lead Sulfate	



Interoffice Communication

To : M. J. Schneider
From : V. E. Messick
Date : November 14, 1983
Subject : POTENTIAL ENVIRONMENTAL LIABILITIES

In addition to the liabilities mentioned in the attached letter from R. A. Frohreich dated November 11, 1983, the items listed below are potential liabilities.

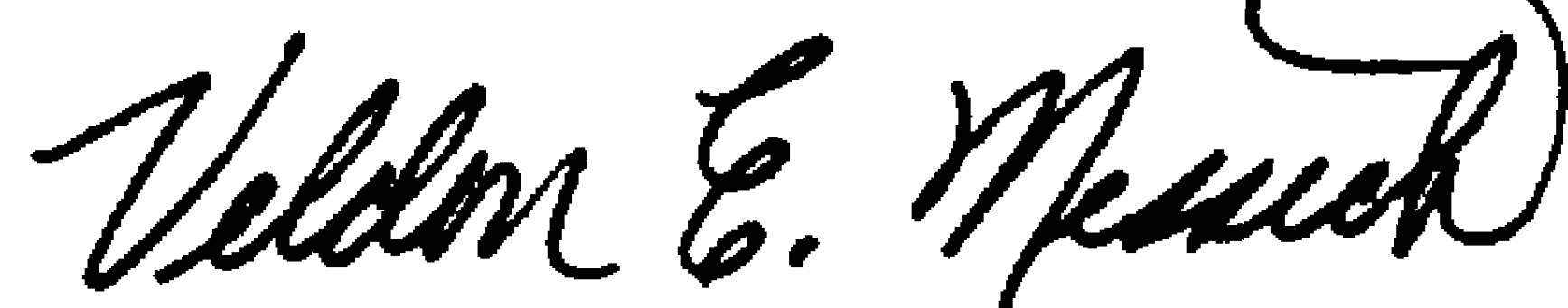
1. Any groundwater contamination due to plant superfund sites, bioponds, API separator leakage, underground tank leakage etc. that may have occurred or that may occur prior to closure. Liability for future groundwater contamination from superfund sites or from other buried material should remain with Conoco.
2. Groundwater contamination from local landfills or from hazardous waste landfills in which plant waste was sent prior to closure.
3. Any city water contamination due to backflow that may have occurred or may occur prior to closure.
4. Any liability due to failure to keep commitments to any federal, state, or local authority or agency.
5. Any liability due to improper disposal of PCB contaminated material in the past.
6. Any liability due to hearing damage to personnel prior to closure.
7. Any liability due to overexposure of personnel to VCM, lead, asbestos or other chemicals used in the plant prior to closure.
8. Any liability due to failure to keep proper records or report items prior to closure.
9. Any liability due to failure to administer the TOSCA 8E regulations properly.
10. Any liability due to products produced at the plant prior to closure.

A

M. J. Schneider
November 14, 1983
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11. Any liability due to toll processing TOTM plasticizer or phthalic anhydride prior to closure.
12. Any liability due to material discharged from the plant through process or storm water prior to closure.
13. Any liability due to odors, noise or other nuisance items prior to closure.

There also may be other items of which plant management is not aware of that may be liabilities. These items should remain with Conoco.



Veldon E. Messick
Senior Process Engineer

bls

Attachment

c: JF, RAF, DLM



Interoffice Communication

To : J. C. Ledvina
From : R. A. Frohreich
Date : November 11, 1983
Subject : LBO - POTENTIAL ENVIRONMENTAL LIABILITIES

Listed below are possible environmental liabilities associated with the Aberdeen Chemical Plant that should remain with Conoco.

1. All VCM relief valve discharges and other VCM releases which have occurred or may occur prior to the sale which are in non-compliance with the NESHAPS standard for vinyl chloride.
2. All days the VCM slurry residual exceeded 400 ppm VCM and all such days which may occur prior to sale.
3. All batch water stripper batches that have or may exceed 10 ppm VCM prior to the sale.
4. Any angiosarcoma cases that may develop in past or present workers who were employed prior to the date of the sale.
5. Any angiosarcoma cases that may develop in the community.
6. All incidents reported under Superfund and all that may occur prior to the sale.
7. All NPDES permit violations reported and any that may occur prior to the sale.
8. Any incinerator exhaust exceeding 10 ppm VCM.
9. Any lead or particulate noncompliance that have occurred or occur before the sale.
10. Any problems which may occur resulting from our reactor opening loss calculation to meet this NESHAPS requirement.
11. Any problems which may occur as a result of improper record-keeping or reporting as required by the NESHAPS standard.
12. Any AOL disease that may develop in past or present workers who were employed prior to the sale.

J. C. Ledvina

11/11/83

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13. Any problem which may occur due to problems with the Leak Detection and Elimination Plan required by the NESHAPS standard.
14. Any health problems which may occur which are related to the irritant.
15. Any health problems resulting from burning out PVC from pipes.
16. Any health problems resulting from exposure to chemicals used in the plant prior to the sale.
17. Any drinking water contamination which may occur in the future.

R. A. Frohreich

R. A. Frohreich
Chief Process Engineer

bls



Interoffice Communication

To : M. J. Schneider
From : V. E. Messick
Date : February 17, 1984
Subject : WASTEWATER EXCURSION REPORTS - ABERDEEN

On December 13, 1983 wastewater excursions were submitted from 1978 to the date of the document. Since that time we have discovered other documents that were not included. Below is a list of all wastewater excursion reports that we have knowledge of from 1978 to present. Attached are copies of these reports.

February 8, 1984 - outfall 003 - ph 5.5 - PA spill
December 30, 1983 - bypass - 50 gallons - pipe froze and broke
December 14, 1983 - outfall 002 - ph 4.6 - cause not determined
November 23, 1983 - bypass at API Separator
November 2, 1983 - D.O. not taken
September 22, 1983 - bypass at API Separator
September 3, 1983 - bypass - 100 gallons - contractor pumping
August 26, 1983 - outfall 002 - ph 8.7 - cooling water
August 19, 1983 - bypass - 1000 gallons - V-10 blend tank overflow
June 10, 1983 - bypass at API Separator
June 9, 1983 - outfall 001 - ammonia excursion
May 13, 1983 - bypass - resin reclaim sweco overflow - 100 gallons
April 18, 1983 - bypass - 10,000 gallons - contractor pumping
March 18, 1983 - outfall 001 - D.O. 4.8 - sample taken in wrong location
February 28, 1983 - phosphoric acid spill - 100 gallons
January 13, 1983 - outfall 002 - ph 9.3 - chem wash in sewer
December 22, 1982 - bypass - Pond 1 check valve - 10,000 gallons
December 10, 1982 - outfall 001 - BOD 63 mg/l
December 3, 1982 - outfall 001 - BOD 72 mg/l
November 24, 1982 - outfall 001 - BOD 62 mg/l
August 13, 1982 - bypass at API Separator
March 1, 1982 - outfall 001 - ph 9.2
January 18, 1982 - outfall 002 - ph 9.6 - caustic in sewer
September 8, 1981 - plasticizer in sewer from RD failure on reactor
August 11, 1981 - outfall 002 - ph 9.3 - cause not determined
July 17, 1981 - outfall 004 - temperature - 99°F
June 2, 1981 - outfall 002 - suspended solids 165 mg/l - rain
March 13, 1981 - outfall 002 - ph 10 and bypass
January 30, 1981 - outfall 001 - BOD 57 and outfall 002 - SS - 107 mg/l
January 23, 1981 - outfall 001 - BOD 53
February 26, 1980 - outfall 001 - ph 9.8
February 6, 1980 - outfall 001 - BOD 131
August 22, 1979 - outfall 001 - BOD 75