Wisconsin
Department of Commerce

Environmental & Regulatory Services
PECFA
2129 Jackson Street
Oshkosh, Wisconsin 54901

Tommy G. Thompson, Governor
Brenda J. Blanchard, Secretary

May 12, 1999

Joliet Refinery
Attn: Mike Holland
PO Box 874
Joliet IL 60434

Subject: **Close-out** of Mobil Oil Bulk Plant Property Petroleum Contamination Site
S. Park Street & RR Tracks, Merrill, WI
COMMERCE #54452-9999-99-A WDNR #02-35-000463

Dear Mr. Holland:

On May 12, 1999 the above site (pre sale environmental assessment) was reviewed for closure by the Site Review staff of the PECFA Bureau. Because the site involved only soil contamination, without a threat to groundwater, **all issues** relating to this site are administered by the staff within the Department of Commerce's PECFA Bureau. Upon reviewing all the data collected for this site, the Department considers **no further action** is necessary at this time. However upon facility upgrade or decommission, a site investigation/remedial action needs to address the whole site.

If, in the future, site conditions indicate that any contamination that might remain poses a threat, the need for further remediation would be determined and required if necessary. If subsequent information indicates a need to reopen this case, any original claim under the PECFA fund would also reopen and you may apply for assistance to the extent of remaining eligibility. Please submit a copy of this letter with your PECFA submittal as notification of case closure.

Thank you for your efforts in the protection of the environment. If you have any additional questions, please call me at 920-424-0046.

Sincerely,

Dee Zoellner
Hydrogeologist
Department of Commerce

cc: Case File
Tom Kettinger - Handex

CORRESPONDENCE/MEMORANDUM — **State of Wisconsin**

DATE: November 10, 1998 FILE REF: 02-35-000463

TO: Janet Kazda

FROM: Ken Markart

SUBJECT: Mobil Oil Bulk Plant No.48-356 Merrill, WI
South Park St.

Enclosed is the complete file for the Mobil Oil Bulk Plant (Fermanich Oil). I am recommending this case be sent to Commerce, because the fascility is active and continues to have releases of petroleum from daily operations. The spill that was reported to the Department was cleaned up and a site investigation completed. The degree and extent of the contamination has been determined, but is undifferentiatable from current release occurring at the fascility. Based upon the work completed, there appers to be no off site migation of petroleum contaminants. Groundwater is probalbly not impacted because of the thin soils; the lack of an aquifer; and, the presence of an impermeable weathered granitic bedrock.

I have included a memo to the file which summarizes the case, the status and recommendations.

WDNR notified 9-12-89
Case transfer: 11-30-98

02-35-000463

WARZYN

March 2, 1993

Mr. Kenneth D. Markart
Wisconsin Department of Natural Resources
107 Sutliff Avenue
Rhinelander, Wisconsin 54501

Re: Results of Supplemental Soil Investigation
Former Mobil Bulk Plant No. 48-356
Merrill, Wisconsin

Dear Mr. Markart:

The purpose of this letter is to provide the results of the supplemental soil investigation performed at the former Mobil Bulk Plant No. 48-356 in Merrill, Wisconsin, and to provide recommendations for possible future actions. The scope of work for this investigation was previously described in the report titled "Supplemental Soil and Groundwater Investigation", which was prepared by Warzyn for Mobil and was submitted to the WDNR in September 1991.

BACKGROUND

The petroleum bulk plant located on South Park Street in Merrill, Wisconsin is operated by Fermanick Oil Company. The property is leased by Mobil Oil Corporation and subleased to Fermanick. Evidence of past petroleum releases at the site have previously been described in the Warzyn report titled "Soil Investigation, Mobil Bulk Plant No. 48-356, Merrill, Wisconsin," dated July 1990.

In short, previous reports have indicated the presence of petroleum contamination in site soils. Because of the shallow depth to competent granite bedrock, however, groundwater does not consistently occur within unconsolidated site soils and no evidence of site groundwater contamination has been detected. A sewer trench, which was blasted in bedrock south of the site, has been identified as a possible migration route for contamination.

INVESTIGATION OBJECTIVES

The objectives of the supplemental investigation as stated in the September 1991 report were to:

- Investigate the horizontal and vertical extent of affected soil within the sewer trench located south of the bulk plant.

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608/231-4747
FAX 608/231-4777

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- Investigate whether water within the sewer trench has been affected by petroleum product contamination and whether the trench is intercepting any contaminants which may be migrating to the south.

To achieve the first objective, 23 soil gas samples were collected within and to the south of the sewer line trench located at the southern border of the site. Target Environmental Services, Inc. (Target) conducted the soil gas survey on February 25 and 26, 1992. The soil gas samples were collected from shallow (1 to 4 ft) and deep (6 to 8 ft) depths and were analyzed for petroleum hydrocarbons.

To achieve the second objective, Warzyn attempted to collect water samples within the sewer line trench, and south of the sewer line trench on February 25 and 26, 1992. However, no water was encountered in the trench at that time. The decision to eliminate water sampling was made in the field with your concurrence.

RESULTS AND CONCLUSIONS

The highest levels of volatiles were detected in the samples collected from the deep depths of the western (upgradient) portion of the trench. Specifically, samples 4-8 and 7-8 had chromatogram signatures typical of unweathered gasoline and diesel fuel, respectively. Negligible contamination was detected in soil gas samples collected south of the trench. Complete investigation results are included in the attached report.

Warzyn concludes that migration of petroleum contaminants does not extend beyond the fill materials in the sewer line trench. Contaminants have not migrated any further south because of the shallow (0 to 6 ft), highly impermeable bedrock south of the trench. Soil gas samples collected within the trench do not indicate evidence of off-site contaminant migration via the sewer trench. To the contrary, the highest concentrations observed in the trench were upgradient of the site.

Warzyn recommends that no action be taken to remediate either site groundwater or site soils at this time. No evidence exists to suggest that groundwater has been, or will be, impacted. The shallow, impermeable bedrock is likely preventing infiltration of product to the water table.

Mobil recommends that any further WDNR requests related to possible on-site remediation be directed to Fermanick Oil Company, the site operators. Based on this present investigation, Mobil concludes that past operations at the site have not resulted in off-site contamination.

WARZYN

If you have any questions, please call us at (608) 231-4747.

Sincerely,

WARZYN INC.

Mark A. Lovejoy, P.E.
Environmental Engineer

Douglas J. Bach, P.E.
Project Manager

MAL/ms/DJB
[mad-102-246]
1515101/50155

Enclosures: March 11, 1992 Soil Gas Survey by Target Environmental Services, Inc.

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES
Carroll D. Besadny
Secretary

North Central District Headquarters
P. O. Box 818
Rhinelander, Wisconsin 54501
(715)362-7616

September 7, 1990

Mr. Craig M. LaBelle
Environmental Advisor
Mobil Oil Corporation
3225 Gallows Road
Fairfax, Virginia 22037-0001

Dear Mr. LaBelle:

The Department of Natural Resources, North Central District, has reviewed the Warzyn Engineering, Inc., report titled "Soil Investigation, Mobil Bulk Plant No. 48-356, Merrill, WI, July 1990." This report was received on August 22, 1990.

Based upon this review, the Department makes the following recommendation:

1. The Department agrees with the Warzyn Report that the bulk storage facility must be upgraded to prevent future fuel component releases to the environment.

2. The Department agrees contaminated soils must be remediated. However, alternative methods must be proposed and evaluated for soil treatment. The Department encourages soil treatment to disposal in a landfill, if practicable.

3. Current guidance requires cleanup of fuel component contamination soils to 5 ppm TPH or less.

4. The Warzyn Report only discussed soil contamination on the Mobil Oil property. To properly evaluate the degree and extent of contamination, surveys need to be conducted beyond the property limits to the point where no contamination is detected.

5. The Warzyn report indicated that the blasted bedrock sewer line may be a pathway for contaminant movement. However, no recommendation was made to evaluate this. To properly define the limits and degree of contamination, an investigation of this pathway must be investigated.

6. The report indicated the Wisconsin River was within 100 yards of the spill site. However, no evaluation was made to determine if fuel component contaminated groundwater was being discharged to the river.

   Please be advised that the adjoining property between your facility and the Wisconsin River is being remediated for pentachlorophenol groundwater contamination. The majority of the investigation and remediation is occurring down river, southeast of your facility. If you need additional information concerning this, please contact Mr. Scott Watson at (715)369-8961.

7. Please be advised that all groundwater monitor well construction is now regulated under NR 141, Wisconsin Administrative Code. Your consultant is most likely aware of this. In the report, the consultant failed to sign the monitor well construction report. He should do so immediately and submit it to the Department.

Also, as reported there is a 12" PVC pipe presently used for monitoring near one of the tanks. The Department recommends you evaluate this well, as a potential pathway for surface water contamination to the groundwater. If this well is of no further use, it should be abandoned per code as soon as possible.

Prior to the initiation of any further remediation work at this facility, the Department requires the submittal of work plans for our approval. This is necessary to ensure if remedial work is commenced, it will meet the extent and requirements of state clean-up guidelines.

If you have any questions concerning this letter, please contact me at (715)369-8959.

Sincerely,

Kenneth D. Markart
Hydrogeologist

KDM:da
cc: Scott Watson, Rhinelander
Archie Wilson, Rhinelander

WARZYN

September 18, 1991

Mr. Kenneth Markart
Wisconsin Department of Natural Resources
North Central District Headquarters
P.O. Box 818
Rhinelander, Wisconsin 54501

Re: Work Plan for Supplemental Soil and Groundwater Investigation
Mobil Bulk Plant No. 48-356
Merrill, Wisconsin

Dear Mr. Markart:

On behalf of Mobil Oil Corporation (Mobil), attached for your review and comment is one copy of the above referenced report for Mobil Bulk Plant No. 48-356 in Merrill, Wisconsin. The Work Plan was developed in response to concerns raised in a Wisconsin Department of Natural Resources (WDNR) letter dated September 7, 1990, which recommended an assessment of contamination beyond the site property limits, and an investigation of a sewer line trench as a potential pathway for contaminant movement. The sewer line trench borders the property to the south and was blasted into shallow granitic bedrock to a depth of approximately 15 ft.

Warzyn proposes to investigate the sewer line trench as a potential contaminant pathway by performing a soil gas survey and sampling groundwater with a Hydropunch (or equivalent) in the trench fill. Soil sampling indicated that petroleum contaminated soil was predominantly limited to the area near the fill pipe valves southeast of the aboveground tanks. The competent bedrock surface was encountered at depths of 1.5 to 8 ft in this area.

Subsurface contaminant movement in soil above the bedrock surface toward the southern property boundary would be intercepted by the more permeable sewer line trench fill. Further movement across the trench to the south is likely prevented by the granitic bedrock wall on the south side of the sewer trench. To evaluate the role of the sewer line trench as an impediment to migration to the south, Warzyn also proposes to sample off-site soil gas and groundwater (if possible) south of the sewer line trench.

As described in the Work Plan, Mobil has indicated to Warzyn that other issues raised by the WDNR in the September 7, 1990 WDNR letter regarding improvements to the bulk storage facilities, soil remediation and evaluation of the 12-in. PVC well are the responsibility of the present facility operator.

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FAX (608) 273-2513

As requested, also enclosed is a signed copy of the monitoring well construction form, which was inadvertently left unsigned in the Warzyn July 1990 Report titled "Soil Investigation, Mobil Bulk Plant No. 48-356, Merrill, Wisconsin."

Mobil is prepared to schedule field activities upon your approval of the Work Plan. Your expedient review of the enclosed Work Plan is appreciated.

Sincerely,

WARZYN INC.

Kevin D. Swanson
Project Hydrogeologist

Douglas J. Bach, P.E.
Project Manager

KDS/ccf/DJB/TFL
[mad-109-72]
15151.00

Enclosures: As Stated

cc: Terry Jagiello, Mobil Oil Corporation (w/encl.)

te of Wisconsin
partment of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A 8-89

acility/Project Name: Mobil Merrill/15151

cility License, Permit or Monitoring Number:

Grid Location: ft. ☐ N. ☐ S. / ft. ☐ E. ☐ W.

Well Name: W1

Wis. Unique Well Number: DNR Well Number:

ype of Well: Water Table Observation Well ☒ 11 / Piezometer ☐ 12

Section Location: SW 1/4 of SE 1/4 of Section 12, T 31 N, R 6 ☒ E ☐ W

Date Well Installed: 03/05/90 (m m / d d / y y)

Distance Well Is From Waste/Source Boundary: ft.

Well Installed By: (Person's Name and Firm): Kevin Swanson / Warzyn Engineering Inc.

Well A Point of Enforcement Std. Application? ☒ Yes ☐ No

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☒ Not Known

. Protective pipe, top elevation ft. MSL

Well casing, top elevation ft. MSL

. Land surface elevation ft. MSL

Surface seal, bottom ft. MSL or 10 ft.

2. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP
☒ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH
☐ Bedrock

3. Sieve analysis attached? ☐ Yes ☐ No

. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

. Drilling additives used? ☐ Yes ☒ No

Describe

. Source of water (attach analysis):

Bentonite seal, top ft. MSL or 10 ft.

Fine sand, top ft. MSL or ft.

Filter pack, top ft. MSL or 38 ft.

Well screen, top ft. MSL or 49 ft.

Well screen, bottom ft. MSL or 94 ft.

Filter pack, bottom ft. MSL or 86 ft.

. Borehole, bottom ft. MSL or 94 ft.

Borehole, diameter 8.25 in.

O.D. well casing 2.30 in.

I.D. well casing 2.0.0 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 40 in.
b. Length: 50 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:

3. Surface seal: Bentonite ☐ 30 / Concrete ☐ 01 / Soil / Other ☒
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Annular space seal ☒ / Other ☐
5. Annular space seal: Granular Bentonite ☒ 33 / Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35 / Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31 / % Bentonite . . . . Bentonite-cement grout ☐ 50
1.3 Ft³ volume added for any of the above
How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: Bentonite granules ☐ 33 / ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite pellets ☐ 32 / NA / Other ☐
7. Fine sand material: Manufacturer, product name and mesh size: NA
Volume added ft³
8. Filter pack material: Manufacturer, product name and mesh size: #20 Red Flint Sand, Eau Claire
Volume added 1.2 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: SCH 40 PVC
Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
Manufacturer: Northern Air
Slot size: 0.01 in.
Slotted length: 4.7 ft.
11. Backfill material (below filter pack): None ☒ / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Kevin Swanson Firm: Warzyn, Inc

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation.

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

Date: November 10, 1998 **File Ref.:** 02-35-000463

To: Former Mobil Bulk Plant No. 48-356 File

From: K. D. Markart, NOR-Rhinelander

Subject: Purpose of this memo is to summarize this case, its status and recommended course of action.

The petroleum bulk plant is located on South Park Street, Merrill, Wisconsin. Currently, the property is leased by Mobil Oil Corporation to Fermanich Oil Company. The Department of Natural Resources became involved with this property in 1985 as a result of a reported spill of 400 gallons of fuel oil. Mobil Oil responded to this release by removing ponded fuel oil and excavating approximately 60 yards of contaminated soil. A non-conforming monitor well was placed into the excavated area before backfilling. After two months of observation, no free product was observed in this well.

As a result of the potential sale of the property in 1989, Mobil undertook a soil gas survey of the site and subsequent soil borings in 1990. The results of these investigations indicated significant petroleum contaminated soils at the site. This includes areas about the bulk plant, the loading/unloading areas and various pipe valve locations. The soil borings indicated a thin (5-7 feet) unconsolidated fill or soil over weathered granite bedrock. Petroleum contamination is restricted to the property, but a potential existed for migration to a 20 foot deep sewer lateral blasted into bedrock on the south side of the property. No soil borings were conducted off the property boundary. Groundwater was not encountered during the soil borings. The groundwater flow direction is assumed to be to the south toward the Wisconsin River.

Based upon the 1990 soil gas survey/soil boring work, the Department requested additional work to define the extent of the contamination. Of concern was the need to determine if any off-site migration occurred and if the sewer line was acting as a preferential petroleum pathway for contamination migration.

In 1992, Mobil conducted the requested additional soil gas survey work. Based upon the results of this investigation, soil contamination as determined by the soil gas survey is restricted to the confines of the property. It is not migrating southward. Petroleum contamination was detected in the sewer trench, but appeared to be migrating into it from an upgradient source not associated with the Mobil Oil property.

The current status of this case is that it is an operating petroleum bulk plant. No facility upgrades have occurred and most likely minor spills continue to occur as a result of daily operations. The spill reported in 1985 resulted in soil removal and a site investigation. Areas of impacted soil have been delineated and are a result of the combination of the reported spill and subsequent operational spillages. Because the site is situated on thin soils on weathered granite bedrock, the degree and extent of groundwater contamination is undeterminable because of the lack of an aquifer. Potential offsite migration pathways have been investigated and do not appear to carry any petroleum contamination offsite from the Mobil facility at this time.

To request additional remediation or investigation of the 1985 spill appears nonproductive at this time, because the bulk plant continues to operate and minor petroleum spills will continue to occur without significant upgrades to the property.

Recommendations

1. Consistent with a recommendation made to Mobil in 1990, the bulk plant facility needs to be upgraded to prevent or minimize fuel releases. Until that time, requiring soil/site remediation would be futile.

2. PECFA funding should not be approved for this site until either the facility is upgraded or decommissioned.

3. The potential for off-site migration of contaminated groundwater is low, but periodic monitoring of the sewer trench should be undertaken to determine if this is acting as a contaminant pathway.

4. Off-site, upgradient sources need to be evaluated if remediation of this site occurs.

5. The most current contact for the Mobil Oil site is Mr. Mike Holland, Mobil Oil Corporation at Joliet, IL. The telephone number is (815)423-7664.

KDM:da