

September 22, 2005 File #34265.003-C GANNETT FLEMING, INC. 8025 Excelsior Drive Madison, WI 53717-1900 Office: (608) 836-1500 Fax: (608) 831-3337 www.gannettfleming.com

REGENCED

SEP 2 3 2005

FRE DIVISION

Mr. Will Myers
Wisconsin Department of Commerce
Environmental & Regulatory Services Division
Bureau of PECFA
201 W. Washington Ave.
P.O. Box 8044
Madison, WI 53708-8044

Re: Results of Site Investigation and Request for Site Closure

Murphy Oil USA, Inc., Superior Former Marine Terminal Site WDNR BRRTS No. 03-16-000320

54000-0456-663

Dear Will:

On behalf of Murphy Oil USA, Inc., Gannett Fleming, Inc. is submitting this letter report describing the results of a May 2005 site investigation completed at Murphy's former Marine Terminal site in Superior. Two underground storage tanks (USTs), one to store ship ballast water and the other to store spilled petroleum products, were formerly located at the site. Both USTs were removed in December 1990. Soil confirmation samples collected after the USTs were removed identified the presence of petroleum-impacted soil, as well as the presence of a sheen in the water that infiltrated into both UST basins. The purpose of Gannett Fleming's investigation was to determine the degree and extent of any residual petroleum impacts remaining at the site.

Only one of the seven soil samples collected by Gannett Fleming in May 2005 contained any petroleum-related compound at a concentration above an NR 720 residual contaminant level (RCL). That single sample contained both benzene and diesel range organics (DROs) above NR 720 RCLs; however, the benzene concentration was well below its applicable NR 746 free product indicator and direct-contact concentrations. In addition, a groundwater sample collected from that boring did not have any detectable concentrations of petroleum volatile organic compounds (PVOCs) or polycyclic aromatic hydrocarbons (PAHs), confirming that the residual petroleum-impacted soil has not impacted the groundwater.

The results of the site investigation confirm that there is no threat to human health and the environment from the storage of petroleum products in the two USTs formerly located at Murphy's Marine Terminal site. Based on these results, on behalf of Murphy, we request that the Wisconsin Department of Commerce (Commerce) provide Murphy with a closure letter for this release site. Attachment A contains Commerce's "Case Summary and Close Out Form."



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Because this site is not a high priority site, per NR 746, Commerce has administrative authority for this project. On August 3, 2005, Gannett Fleming sent a letter to the Wisconsin Department of Natural Resources (WDNR) requesting that the project file for this site be transferred to Commerce. The WDNR confirmed the transfer of the file in an August 17, 2005, letter to Liz Lundmark of Murphy.

#### Background

The Marine Terminal site is located along the south shore of St. Louis Bay at a ship loading slip, approximately 2,000 feet north of Winter Street in the City of Superior. Figure 1 is a site location map. The site is located in the NE 1/4 of the NE 1/4 of Section 16, Township 49 North, Range 14 West of Douglas County.

The site and property adjacent to the site is currently vacant; however, property in this area is currently and has historically been used for industrial purposes. The ship loading slip is immediately west of the site. Approximately 2,200 feet south of the site is a former petroleum terminal that was operated by Amoco. This terminal and other nearby properties associated with the terminal are currently undergoing petroleum contamination remediation (BRRTS Nos. 02-16-000331, 02-16-284811, 02-16-117873, 02-16-297993, 02-16-297979). Amoco has identified the presence of dissolved- and free-phase hydrocarbons in and on the groundwater approximately 300 feet east and 1,100 feet south of Murphy's former Marine Terminal. Figure 2 shows Murphy's Marine Terminal site and some of the monitoring wells and the approximate extent of dissolved- and free-phase contamination associated with the Amoco sites.

Murphy's Marine Terminal site was formerly used as a petroleum product loading facility. An underground pipeline, which originated at Murphy's Superior refinery, transported unleaded and possibly leaded gasoline, No. 1 fuel oil, and No. 2 fuel oil to this site for off-loading into ships. According to Twin Ports Testing's (TPT) March 15, 1991, *Tank Excavation Observation* report addressed to Murphy and the WDNR, two USTs and one aboveground tank were formerly located at the site. The two USTs consisted of an 8,500-gallon steel tank (8 feet by 22 feet), which held ballast water released from ships loading at the slip, and a 1,000-gallon steel tank (3 feet by 14 feet), which was part of the site's spill containment system that was used to contain spilled petroleum products. The aboveground tank separated oil from the ballast water. Figure 3 is a site plan showing the locations of all three tanks.

#### Removal of USTs (December 1990)

The following section summarizes the information provided by TPT in its March 1991 report and by Itasca Petroleum Tank Testing (Itasca) of Superior in its December 12, 1990, *Tank Removal Report: Murphy West Marine Terminal Dock*. Gannett Fleming obtained copies of these reports



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from WDNR's Superior office during a review of the project files for this site. Itasca's December 12<sup>th</sup> report includes the Petroleum Product Tank Inventory forms and provides the details of the removal of the two USTs. Please refer to these reports for additional details.

From November 28 through December 4, 1990, Itasca removed the two USTs from the site. On December 3 and 4, 1990, TPT was on site to collect soil confirmation samples and document site conditions as the USTs were being removed. As noted earlier, Figure 3 also shows the former locations of the UST basins.

Based on Itasca's report, the excavations associated with the removal of the 1,000- and 8,500-gallon USTs extended about 5 feet and 10 feet below ground surface (bgs), respectively. Itasca reported that the 8,500-gallon UST was attached to concrete anchors, and the 1,000-gallon UST was encased in concrete. Itasca reported that there was not any underground piping associated with either of these two USTs. TPT did not observe any holes in either of the USTs and noted silty-sand and sand fill in the UST basins and native red clay outside the basins. Water was encountered about 4 feet bgs in the 1,000-gallon UST basin and between 5 to 6 feet bgs in the 8,500-gallon UST basin. Following the removal of the USTs, TPT observed a sheen on top of the water that accumulated in each UST basin.

Following the removal of the USTs, TPT collected soil samples from the UST basins. Figure 3 shows the sample locations. The soil samples were field-screened for the presence of organic vapors using a photo-ionization detector. Table 1 and Figure 3 show the field-screening results. Based on the presence of elevated field-screening concentrations, TPT excavated approximately 36 cubic yards of soil that was adjacent to the former 8,500-gallon UST. The excavated soil was disposed of at the Moccasin Mike Landfill in Superior.

Based on the field-screening results, select soil samples were submitted to a laboratory for analysis of select volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), Resource Conservation and Recovery Act (RCRA) metals using the Toxicity Characteristic Leaching Procedure (TCLP), and polychlorinated biphenyls (PCBs). Figure 3 also shows the locations of samples that were submitted to the laboratory, and Table 2 lists the analytical results. Except for a relatively low concentration of 1,4-dichlorobenzene in soil sample SS#2 (7.8 milligrams per kilogram), none of the analyzed VOCs were measured above the laboratory's detection limit. The U.S. Environmental Protection Agency reports that 1,4-dichlorobenzene is primarily used as a fumigant for the control of moths, molds, and mildews and as a space deodorant for toilets and refuse containers (<a href="http://www.epa.gov/ttn/atw/hlthef/dich-ben.html">http://www.epa.gov/ttn/atw/hlthef/dich-ben.html</a>); thus, its presence in soil sample SS#2 is not associated with the USTs formerly located at the site.

Reportable concentrations of TPH were quantified as fuel oil in three of the four soil samples. Figure 3 lists the TPH results for each sample. Three or more of the RCRA metals were



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confirmed in the TCLP extract, with concentrations above the detection limits in each of the four soil samples; however, all concentrations were well below 40 CFR Part 261 maximum allowable toxicity characteristics concentrations. A soil sample for PCB analysis was only collected from the soil stockpile. This sample (SS#5) did not have a detectable concentration of PCBs.

As stated above, Murphy's Marine Terminal is approximately 300 feet from Amoco's site where dissolved- and free-phase petroleum contamination in the shallow aquifer has been confirmed. It is unclear if the petroleum-related impacts identified when the USTs were removed from the Marine Terminal were the result of a past on-site petroleum release or the result of an off-site source. In any case, the concentrations measured during the removal of the USTs were significantly below the concentrations confirmed in monitoring wells installed at the nearby Amoco site.

On February 13, 2004, the WDNR sent a letter to Murphy indicating that the Marine Terminal site was listed as an open site in its records. On March 16, 2004, on behalf of Murphy, Gannett Fleming sent a letter to the WDNR providing the status of several Murphy sites that the WDNR had listed as open; this letter included the Marine Terminal site. As stated in our March 16<sup>th</sup> letter, Murphy searched its historical records and as of March 16<sup>th</sup> had not yet located any written documentation related to the Marine Terminal site. In lieu of being able to find information in its records, Murphy instructed Gannett Fleming to review the contents of WDNR's file for this project; on July 28, 2004, we copied the contents of WDNR's Superior office project file.

As described above, soil confirmation samples collected after the USTs were removed in 1990 identified the presence of petroleum-impacted soil, as well as the presence of a sheen in the water that infiltrated into both UST basins. Based on these results, Gannett Fleming prepared a work plan to define the degree and extent of petroleum impacts identified when the USTs were removed in 1990 and sent the work plan to the WDNR on May 6, 2005.

#### May 2005 Site Investigation

On May 26, 2005, Gannett Fleming conducted the site investigation by collecting and analyzing soil samples from seven Geoprobe borings, GP-1 through GP-7. Figure 3 shows the Geoprobe locations. Soil Essentials of New Glarus, Wisconsin, operated the Geoprobe and collected soil samples from each boring continuously to 8 feet bgs in GP-1 and GP-4 and to 4 feet bgs in the other five borings. All soil samples were collected in a 4-foot-long sampler. Soil samples were collected from 0 to 2 feet bgs in GP-1 and GP-4 through GP-7 and from 2 to 3 feet bgs in GP-2 and GP-3. All soil samples were submitted to U.S. Filter of Rothschild, Wisconsin, for analysis of DRO, gasoline range organics (GRO), PVOCs, PAHs, and lead. Attachment B contains the boring logs, and Attachment C contains the chain of custody record and analytical report for the soil samples.



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The Geoprobe borings were sampled as close to the former UST basins as possible; however, because of the presence of standing water and/or uneven terrain, we were unable to collect samples within the former 8,500-gallon UST basin. Fill generally consisting of silty-sand, sand, gravel, and clay was encountered throughout the site. Groundwater was encountered approximately 2 to 3 feet bgs in all seven borings. As stated above, boring logs are included in Attachment B.

Because of the tightness of the shallow aquifer and its inability to yield groundwater in a reasonable amount of time, we were only able to collect groundwater samples from GP-1 (1,000-gallon UST) and GP-4 (8,500-gallon UST). Groundwater samples were collected using a 4-footlong, stainless steel screen attached to the bottom of the Geoprobe rods. The screen was inserted into the probe hole to intersect the water table; the screened interval was approximately 3 to 7 feet bgs for both probe holes. We purged approximately one liter prior to sampling GP-1, but because of slow groundwater recovery in GP-4, we did not purge any groundwater prior to the collection of samples. The samples were pumped directly from the Geoprobe screen into appropriate laboratory-supplied containers through tubing attached to a truck-mounted peristaltic pump. New tubing was used in each borehole. The samples were placed in an iced cooler and submitted to U.S. Filter for GRO and PVOC analyses, and a sample from GP-1 was submitted for PAH analysis. Because of the low yield of the shallow aquifer, we were unable to collect a sufficient volume of groundwater from GP-4 for PAH analysis. Attachment C contains the chain of custody record and analytical report for the groundwater samples

All non-disposable equipment was washed with a solution of detergent and potable water and rinsed with potable water following the collection of the samples from each borehole.

Following the collection of the groundwater samples, the boreholes were abandoned according to NR 141 requirements. Boring abandonment forms are included in Attachment B.

#### **Investigation Results**

Table 3 lists the analytical results of the soil samples collected from GP-1 through GP-7. Geoprobes GP-1 through GP-3 were advanced where the 1,000-gallon spill containment UST was formerly located. GP-4 through GP-7 were advanced where the 8,500-gallon ballast water tank was formerly located. Except for DRO and benzene in the soil samples collected from 0 to 2 feet bgs in GP-1, the concentrations of all parameters analyzed were less than applicable NR 720 and NR 746 RCLs. Benzene and DRO concentrations in the samples collected from GP-1 were above their applicable NR 720 RCLs, but were well below applicable NR 746 direct contact and free product indicator concentrations. As shown in Figure 3, GP-1 was advanced within the former basin of the 1,000-gallon UST.



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GP-3 was advanced near the location where the samples with the most elevated field-screening and TPH results were collected when the 1,000-gallon UST was removed in 1990. The analytical results for the samples collected from GP-3 by Gannett Fleming in May 2005 would suggest that there is no residual petroleum-contaminated soil in this area that exceeds applicable WDNR standards.

Table 4 lists the groundwater analytical results of the samples collected from GP-1 and GP-4. Neither sample contained any petroleum-related compound above the laboratory's method of detection limits, and the detection limits were well below the applicable NR 140 preventative action limits.

Based on the results of our site investigation, we were not able to determine the direction of groundwater flow, but based on the proximity of St. Louis Bay to the site, we believe the local groundwater flow direction is to the west toward St. Louis Bay.

#### **Discussion of Results**

As stated above, on May 26, 2005, Gannett Fleming personnel collected soil samples from seven Geoprobe borings at Murphy's Marine Terminal site. In addition, groundwater samples were collected from two of the Geoprobe borings. The borings were advanced as close as possible to the former locations of a 1,000-gallon UST and an 8,500-gallon UST that formerly contained petroleum products and ballast water, respectively. Soil samples collected when the USTs were removed in 1990 identified soil with slight petroleum impacts.

Based on the results of our May 26<sup>th</sup> investigation, except for one soil sample, all soil and groundwater samples were below applicable promulgated WDNR standards. A soil sample collected from 0 to 2 feet bgs at GP-1 had benzene and DRO concentrations above the applicable NR 720 RCLs, but well below applicable NR 746 direct contact and free product indicator concentrations. In addition, a groundwater sample collected at GP-1 did not contain any detectable concentrations of petroleum-related compounds, including benzene (detection limit of 0.31 micrograms per liter) and PAHs. Per NR 720, RCLs are based on the protection of groundwater. Even though the soil sample collected at GP-1 had a concentration of benzene above its generic NR 720 RCL, the groundwater sample collected from GP-1 confirms that this residual soil concentration has not resulted in an exceedance of the benzene NR 140 PAL. Groundwater in this area has not been impacted. Since there is not any NR 140 standard for DRO, the PAH compounds encompass the major constituents of concern in the DRO range of compounds. Like benzene, since all PAH compounds in the groundwater sample collected from GP-1 were below their respective detection limits, the residual DRO concentration in the soil has not affected groundwater quality in this area.



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#### **Request for Site Closure**

Although benzene and DRO concentrations above applicable generic NR 720 RCLs were present in one of the seven soil samples collected during the May 2005 investigation, the groundwater at the site has not been impacted. Based on the investigation results, on behalf of Murphy Oil USA, Inc., we request that the Wisconsin Department of Commerce issue an unconditional case closure letter for this site.

Senior Associate

Please let us know if you have any questions or comments regarding this letter.

Sincerely,

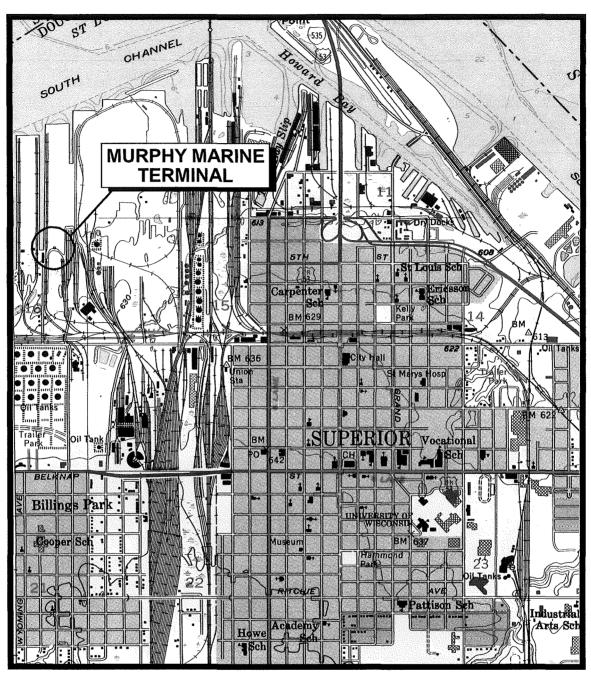
GANNETT FLEMING, INC.

Yeffilely J. King, P.G. Project Hydrogeologist

JJK/jec Enc.

cc: Corey Mead (Murphy Oil-Superior)

Liz Lundmark (Murphy Oil-Superior) Lee Vail (Murphy Oil-New Orleans)



SCALE: 1 INCH = 2000 FEET CONTOUR INTERVAL = 10 FEET



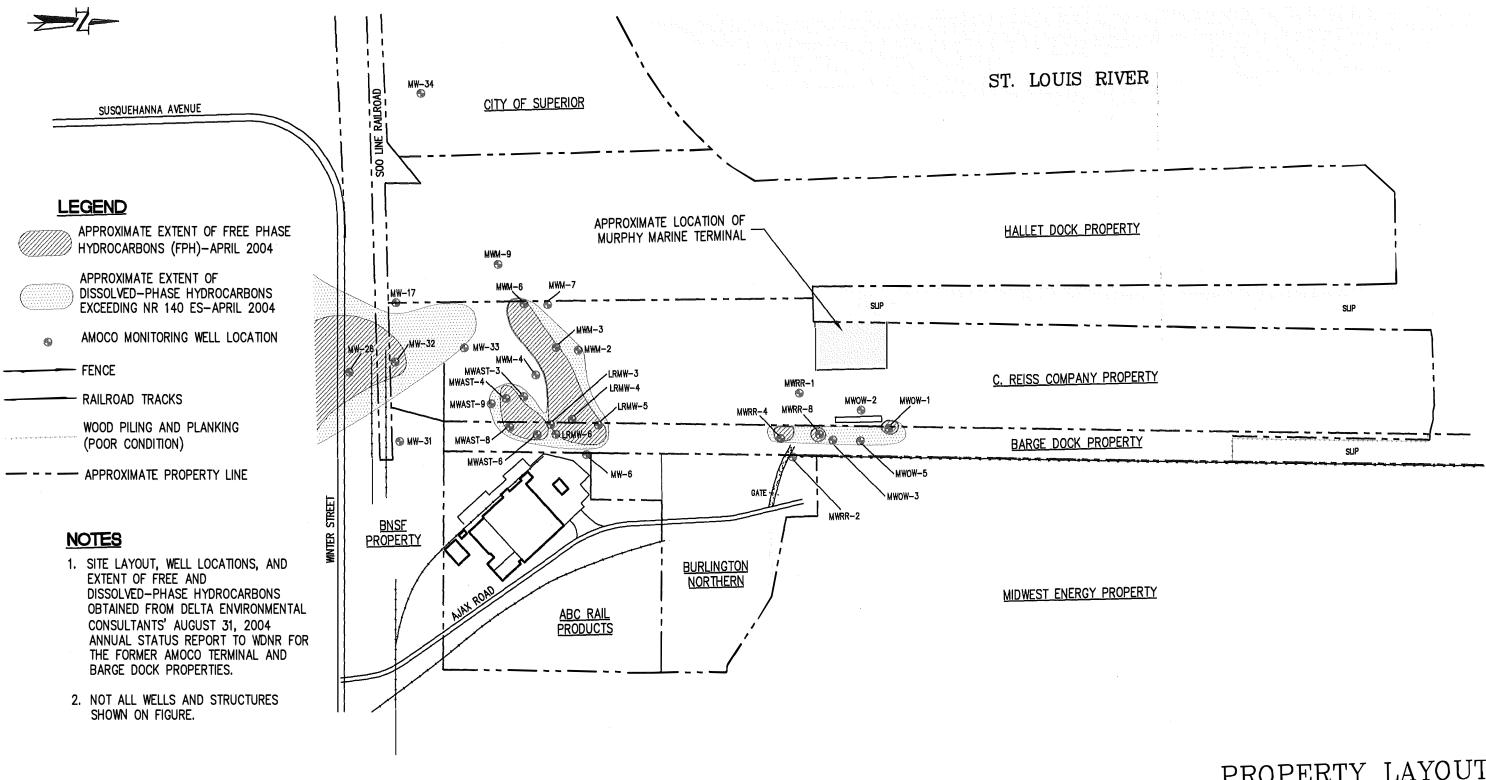
7.5 MIN TOPOGRAPHIC MAP SUPERIOR, WISCONSIN 1954 PHOTOREVISED 1983



**LOCATION MAP** 

MURPHY MARINE TERMINAL MURPHY OIL USA, INC. SUPERIOR, WISCONSIN

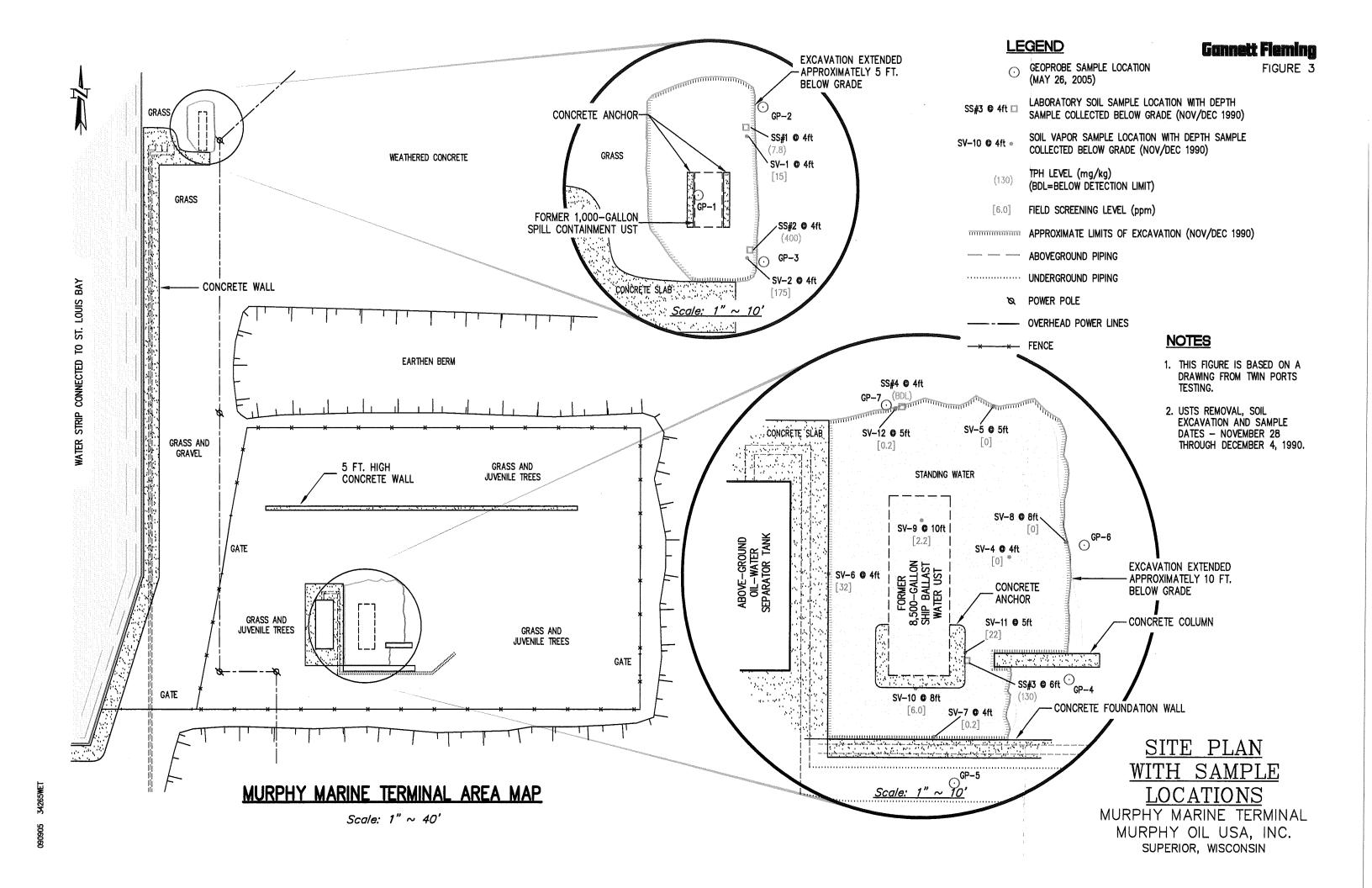
FIGURE 2



400 Approximate Scale In Feet

PROPERTY LAYOUT ADJACENT TO MARINE TERMINAL SITE MURPHY OIL USA, INC

SUPERIOR, WISCONSIN



# MURPHY OIL USA, INC. SUPERIOR, WISCONSIN

TABLE 1

# ORGANIC VAPOR HEADSPACE CONCENTRATIONS FOR SOIL SAMPLES COLLECTED DURING THE 1990 REMOVAL OF THE USTs AT THE MARINE TERMINAL SITE

Sample I.D.	Sample Depth (ft bgs)	Organic Vapor Headspace Concentration (ppm)	Sample Soil Type
SV-1	4	15	Silty sand
SV-2	4	175	Silty sand
SV-3	Soil stockpile A	2.5	Silty sand
SV-4	4	0	Clay
SV-5	5	0	Clay
SV-6	4	32	Clay
SV-7	4	0.2	Silty sand
SV-8	8	0	Sand
SV-9	10	2.2	Clay
SV-10	8	6.0	Sand
SV-11	5	22	Silty sand with gravel
SV-12	5	0.2	Clay
SV-13	Soil stockpile B		Silty sand
SV-14	Soil stockpile B	3.5	Silty sand
SV-15	Soil stockpile B	6.5	Silty sand

#### **NOTES:**

Table based on information in Twin Ports Testing March 15, 1991, "Tank Excavation Observation" report to Murphy Oil USA and the Wisconsin Department of Natural Resources.

Soil samples collected and field screened by Twin Ports Testing on December 3 and 4, 1990.

Samples field screened using an Hnu Model PI-101 photo-ionization detector.

Stockpile A was soil that formerly covered the 1,000 underground storage tank.

Stockpile B was soil that formerly covered the 8,500 underground storage tank.

ft bgs

= Feet below ground surface.

ppm

= Parts per million based on isobutylene.

# MURPHY OIL USA, INC. SUPERIOR, WISCONSIN

TABLE 2

# SOIL ANALYTICAL RESULTS FOR SAMPLES COLLECTED AFTER THE 1990 REMOVAL OF THE USTs (mg/kg) AT THE MARINE TERMINAL SITE

		Sample	I.D. and D	epth (bgs)			40 CFR Part 261
Parameter	SS#1	SS#2	SS#3	SS#4	SS#5	NR 720 RCL	Max. Toxicity
	4 ft.	4 ft.	6 ft.	4 ft.	Stockpile B		Concentration (mg/l)
ТРН	7.8	400	130	<2.0	<2.0	NS	NS
Benzene	< 0.25	<5	<0.25	< 0.25	<0.25	0.0055	NS
Ethylbenzene	< 0.25	<13	< 0.25	< 0.25	<0.25	2.9	NS
Toluene	< 0.25	<5	< 0.25	<0.25	<0.25	1.5	NS
1,4-Dichlorobenzene	< 0.25	7.8	< 0.25	<0.25	<0.25	NS	NS
Arsenic (mg/l) (1)	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	NS	5.0
Barium (mg/l) <sup>(1)</sup>	0.3	0.4	0.6	1.0	0.5	NS	100.0
Cadmium (mg/l) (1)	0.02	0.02	0.03	0.03	0.03	NS	1.0
Total Chromium (mg/l) (1)	<0.05	<0.05	< 0.05	<0.05	< 0.05	NS	5.0
Lead (mg/l) (1)	0.1	0.1	0.1	0.1	0.1	NS	5.0
Mercury (mg/l) (1)	0.0002	<0.0002	<0.0002	<0.0002	< 0.002	NS	0.2
Selenium (mg/l) (1)	0.008	<0.005	0.006	0.012	<0.005	NS	1.0
Silver (mg/l) (1)	<0.02	< 0.02	< 0.02	< 0.02	<0.02	NS	5.0
PCBs	NA	NA	NA	NA	<1.0	NS	

#### **NOTES:**

Table based on information provided by Twin Ports Testing in its March 15, 1991, "Tank Excavation Observation" report to Murphy Oil USA and the Wisconsin Department of Natural Resources.

Soil samples collected by Twin Ports Testing on December 3 and 4, 1990.

Unless noted otherwise, sample results reported in units of milligrams per kilogram (mg/kg).

Soil samples analyzed for volatile organic compounds, other than benzene, ethylbenzene and toluene, only detected compounds shown in table.

BDL = Below detection limit.

NS = No standard. NA = Not analyzed.

bgs = Below ground surface.

TPH = Total petroleum hydrocarbons

#### **FOOTNOTE:**

(1) Concentration measured in TCLP extract.

## MURPHY OIL USA, INC. SUPERIOR, WISCONSIN

TABLE 3

SOIL ANALYTICAL RESULTS OF SAMPLES COLLECTED DURING MAY 2005 SITE INVESTIGATION
AT THE MARINE TERMINAL SITE

	Sample I.D., Sample Depth (ft), and Date Collected								NR 746 Table 1	NR 746 Table 2
Parameter	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	RCL	Free Product Indicator	Direct Contact
<b>,</b>	0-2	2-3	2-3	0-2	0-2	0-2	0-2		Concentration	Concentration
	05/26/05	05/26/05	05/26/05	05/26/05	05/26/05	05/26/05	05/26/05			
Lead	14.3	3.57	2.04	8.54	11.5	6.65	10.50	500*	NS	NS
DRO	467	<5.97	<5.85	97.7	43.8	<6.67	15.1	250	NS	NS
GRO	8.22	<5.97	5.85	<5.71	<5.90	<6.67	<6.46	250	NS	NS
1,2,4-Trimethylbenzene	0.439	<0.025	< 0.025	< 0.025	0.0325	< 0.025	<0.025	NS	83	83
1,3,5-Trimethylbenzene	0.16	<0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	NS	11	11
Benzene	0.35	<0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.0055	8.5	1.1
Ethylbenzene	0.268	<0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	2.9	4.6	4.6
MTBE	< 0.025	<0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	NS	NS	NS
Toluene	0.886	<0.025	< 0.025	< 0.025	0.0408	< 0.025	<0.025	1.5	38	
Total Xylenes	1.444	<0.050	< 0.050	<0.0568	0.0896	< 0.050	< 0.050	4.1	42	42
Polycyclic Aromatic Hydrocarbo	ns (PAHs)		-				-			
Acenaphthalene	< 0.0541	< 0.00562	<0.0055	0.559	<0.0554	< 0.00627	11	NS	NS	NS
Acenaphthylene	< 0.0759	<0.00789	<0.00772	< 0.151	<0.0778	<0.0088	<1.71	NS	NS	NS
Anthracene	< 0.0242	<0.00251	<0.00246	1.23	1.71	<0.0028	29.3	NS	NS	NS
Benzo(a)anthracene	0.108	<0.0049	<0.0048	1.36	2.64	< 0.00547	16.5	NS	NS	NS
Benzo(a)pyrene	0.137	<0.00275	<0.00269	0.863	1.86	0.00579 J	7.24	NS	NS	NS
Benzo(b)fluoranthene	0.227	<0.00251	<0.00246	0.971	2.42	0.00345 J	8.88	NS	NS	NS
Benzo(k)fluoranthene	0.0792	< 0.00346	<0.00339	0.473	1.02	< 0.00387	3.42	NS	NS	NS
Benzo(ghi)perylene	0.234	< 0.00251	< 0.00246	0.773	1.54	0.0232	3.53	NS	NS	NS
Chrysene	0.106	< 0.00275	< 0.00269	1.04	2.03	0.00399 Л	10.7	NS	NS	NS
Dibenzo(a,h)anthracene	< 0.0161	< 0.00167	<0.00164	< 0.032	<0.0165	<0.00187	< 0.362	NS	NS	NS
Fluoranthene	0.856	0.0106	< 0.00257	6.07	9.98	0.0066	84.1	NS	NS	NS
Fluorene	< 0.023	< 0.00239	< 0.00234	0.578	<0.0236	< 0.00267	12.9	NS	NS	NS
Indeno(1,2,3-cd)pyrene	0.15	<0.00191	< 0.00187	0.434	1.25	0.0074	2.65	NS	NS	NS
1-Methylnaphthalene	0.203	<0.00418	<0.00409	<0.08	<0.0413	< 0.00467	<0.904	NS	NS	NS
2-Methylnaphthalene	0.305	<0.0049	<0.0048	< 0.0937	<0.0483	< 0.00547	<1.06	NS	NS	NS
Naphthalene	0.386	<0.00191	< 0.00187	< 0.0366	<0.0189	<0.00213	<u>3.98</u>	NS	2,700	2,700
Phenanthrene	0.482	0.0062 J	<0.00269	4.59	5.64	0.004 J	74.5	NS	NS	NS
Pyrene	<0.0242	<0.00251	<0.00246	5.13	4.09	0.00625 J	77.0	NS	NS	NS

#### NOTES:

Samples collected by Gannett Fleming using a Geoprobe.

Results reported in units of milligrams per kilogram (mg/kg).

Results in bold exceed applicable NR 720 residual contaminant level (RCL).

NS = No standard.

<sup>\* =</sup> NR 720 Table 2 industrial direct contact Residual Contaminant Level (non-industrial direct contact standard is 50 mg/kg).

J = Estimated concentration between laboratory's level of detection and level of quantitation.

# MURPHY OIL USA, INC. SUPERIOR, WISCONSIN

TABLE 4

# GROUNDWATER ANALYTICAL RESULTS FOR SAMPLES COLLECTED DURING MAY 2005 SITE INVESTIGATION AT THE MARINE TERMINAL SITE

	Sample I.D. an	d Date Collected		
Parameter	GP-1	GP-4	NR 140 PAL	NR 140 ES
	05/26/05	05/26/05		
GRO	<50.0	<50.0	NS	NS
Total Trimethylbenzenes	<0.4	<0.4	96	480
Benzene	<0.31	<0.31	0.5	. 5
Ethylbenzene	<0.5	<0.5	140	700
мтве	<0.3	<0.3	12	60
Toluene	<0.3	<0.3	200	1000
Total Xylenes	<0.92	<0.92	1,000	10,000
Polycyclic Aromatic Hydrocarbons	(PAHs)		+ .	
Acenaphthalene	<0.06	NA	NS	NS
Acenaphthylene	<0.06	NA	NS	NS
Anthracene	<0.05	NA	600	3,000
Benzo(a)anthracene	<0.04	NA	NS	NS
Benzo(a)pyrene	< 0.017	NA	0.02	0.2
Benzo(b)fluoranthene	<0.02	NA	0.02	0.2
Benzo(k)fluoranthene	<0.04	NA	NS	NS
Benzo(ghi)perylene	<0.05	NA	NS	NS
Chrysene	<0.02	NA	0.02	0.2
Dibenzo(a,h)anthracene	<0.06	NA	NS	NS
Fluoranthene	<0.06	NA	80	400
Fluorene	<0.12	NA	80	400
Indeno(1,2,3-cd)pyrene	<0.05	NA	NS	NS
1-Methylnaphthalene	<0.08	NA	NS	NS
2-Methylnaphthalene	<0.11	NA	NS	NS
Naphthalene	<0.1	<0.8	8	40
Phenanthrene	<0.08	NA	NS	NS
Pyrene	<0.09	NA	50	250

#### **NOTES:**

Samples collected by Gannett Fleming using a Geoprobe.

Results reported in units of micrograms per liter.

### ATTACHMENT A

COMMERCE'S "CASE SUMMARY AND CLOSE OUT FORM



Wisconsin Department of Commerce Environmental and Regulatory Services Division

Site Review Section

#### CASE SUMMARY AND CLOSE OUT FORM

	Personal infor	nation	you p	rovide	may l	be use	a for s	econd	asty b	unpos	ist Isu	vacy Law, s. 15.04 (1)(m)]
	San and the san	N	Ø	Ň	E		А	5	5	: ; '	- G	<u>₩</u> - <u>ED</u> Coffice use only)
<b>1.</b> (	Commerce Number:	Ž.	. <u> </u>		ė	0	^	<u> </u>	2	2	·ስ	
١	WDNR BRRTS Number:	<u>v</u>		1.					<u> </u>			
. :	Site Name, Address, City	, and	Zip (	Code							ı	
	Murphy Oil USA, Inc. NE1/4 of NE1/4 of Se Superior, WI 54880	ction	16,	T491	N, R	14W	,	•		. ,		thickness or more during multiple measurements.
) ?a	Responsible Party or Or and Phone Number	wner i	Nam	e, Add	ress	, City,	Stat	e, Zij	Coc	ie,		Potable well contaminant(s) > PAL per ch. NR 140. An enforcement clandard is
	Murphy Oil USA, Inc. 2407 Stinson Avenue Superior, WI 54880 (715) 398-3533						· · · · · · · · · · · · · · · · · · ·	٠			<u></u>	exceeded within 1,000 feet of a municipal well as defined in s. 196.01 (5a) or within 100 feet of any other well used to provide water for human consumption.  An enforcement standard is exceeded in bedrock
	Responsible Party Signal	ure; _	PL	izal	reb	1		لگ	<u>م</u> حط	X		Date: <u>09 / 15 / 0ぢ</u>
<b>D.</b>	Gannett Fleming, Inc 8025 Excelsior Drive Madison, WI 53717	<b>.</b>	(	608)	836	-1500	)					
	information relating to correspondence is true	the mand : and : (Mus	emec accu	ilation rate, :	at 1 and 1	lhis si lhat it	ite, th	hat (	he ir ofess	iona	ation Lopini	at I have reviewed all the environment contained in this form and follows ion that this site meets all regulato currently licensed by the Department
	Consultant Signature:	14	ple	1	Sin	3				· · · · · · · · · · · · · · · · · · ·		Date: 09/19/05
	Date Copy Of Completed	Form	Sen	To R	6/	<u></u>	<del></del>	,				The state of the s
	(Check the one that	applie	<b>s</b> ):		0	1/08/	05					SCONS
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						-	770-				nse#	☆ PEFFREM J. \公
		rologi:				_				LICE	12G #	S I KING I S
÷.		Scien	tist			-		, .	<u>``</u>	Lice	nse#	WADISON,

•			
3. Receptors			
ist All Potential receptors:			
St. Louis Bay	· ·.		
or Education	,		
		4.5	a legislation of the legislation
H. Soil Information			
	Admiran	= double of contam	Jastinos 4ft
Soil type(s): Precumbian sands	lona Maximu	m depui di contail Dooth to hadrook	ination: 4 ft. About 400 ft
Are any NR 720 generic and/or SSF	Cl evendance(c) pmr	and le iver	No
rie any IAR 720 generic and/or Son	ior exceedince(s) bies	500 01-51.5	e request for reason (
ii yes, allaçii complete sepa	rate son GIS package	- Soil n	egistry is not necessar
			egistry is her necessar
Comm 46 Table 2 exceedance(s) pr	esent Yes N	10 	lendfill
Was soil excavated? Yes No		المراط بمع الجميدات الأرادان	and the same and t
Disposal documentation included:	Trea Eno It No, expla	W. Saurio Comin p	A ADIAL THE LEGISLES
Disposal documentation included: L Does pathway to closure include so Type:Cap SoilI	i performance standard Building Other (spe	(SPS)?Yes L cify)	No
l. Groundwater Information (if a	pplicable – if not applica	ble, provide estima	ated depth To GW)
Brief description of remedial action (	aken: None required	<u></u>	
Depth(s) to groundwater/flow directi	on(s): 2-3 ft/west	#	of sample rounds: 1
# of NR 141 monitoring wells sample		lled	
			sumps sampled: None installed
Potable wells within 1200 feet of site			
# of municipal wells sampled:	· · · · · · · · ·	dec they been sain	
NR 140 preventive action limit curre		as W No	A CONTRACTOR OF THE PROPERTY O
NR 140 enforcement standard curre			
If yes, attach complete sepa			
Maximum concentration of MTBE de		daa	
Measurable free product detected?		4 F F -	and the second s
			(eu.
J. Proposed Institutional Contro	Is (Check all that apply)		
Unrestricted			
Deed restriction			
Type of restriction(s) propos	ed:		(A. 19)
DNR GIS Registry of Closed Site			
If checked, has the GW GIS			•
	•		Yes No If yes, provide street
addresses below for each p		· ———	
DNR GIS Registry of Closed Site			
If checked, has the Soil GIS			
for each property (attach ad			No If yes, provide street addresses below
Property #1		Property #2	_
☐ Soil ☐ Ground W	ater	□ Soil	Ground Water
			the control of the state of the control of the cont
Street Address: City, State Zip Code:		_ Street Address:	

### ATTACHMENT B

### **BORING LOGS AND ABANDONMENT FORMS**



,		

State of Wisconsin	
Department of Natural	Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

			Rout	e To:				☐ Wast ent [x] O											
					- 10		,									Page	1	of	)
Facility									Licens	e/Perr	nit/Mo	nitorin	g Num	ber	Boring	Numl	oer		
Boring	Drille	d By:	rine To Name	of cr	ew chie	f (first, la	ast) and F	irm	Date I	GP-1 Date Drilling Started Date Drilling Completed Drilling Method									nod
First Name: Dave Last Name: Paulson  Firm: Soil Essentials							05	$\left  \frac{0.5}{m} \frac{26}{m} \frac{2005}{d} \frac{\sqrt{2005}}{d} \frac{\sqrt{y}}{y} \frac{\sqrt{y}}{y} \right  \frac{0.5}{m} \frac{26}{m} \frac{2005}{d} \frac{\sqrt{2005}}{y} \frac{\sqrt{y}}{y} $ Geoprobe											
	ique W			DNR	Well II	No.	Well Nam	1e		inal Static Water Level Surface Elevation Borehol					ole Dia	meter			
Local	Grid O	rigin	 (es	timated	1: 🗖 )	or Bor	ing Location	on x			Feet M		Local	Grid L	_Feet l			ir	nches
State F	lane _				_ N, _			_E		at	0 '					N			□ E
Facilit	y ID	NE	_1/4 of	Section	County	,	9_N, R_	14 W	Lor County C		Civil'	Town/	City/ o	r Villaį					□ W
C			T _			DOU	GLAS		16_			gental <u>Stations and a</u>		وستعالج ويسو	Marine Marine		uperio		
Sam		S.	et rufface)			Soil/Roc	k Descript	tion							2011	Prope	ties		
유 당	h Att. ered (	Count	in Fc		A	and Geole	ogic Origii Major Uni	n For		S	ا ن	   E	£	essive th	일보	_	ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)			Laci	wiajor Om	ı		usc	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	36		2 3	\ 0.0 0.1	<u>- 0.1</u> - 4.0	Brown	opsoil and -black silty -avel, wet a	sand FIL	/ L with	FIL)							ř		
2 I here	24	tifu ti	1 4 1 5 1 6 1 7 1 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		- 8.0		s above	ue and cor	rect to t		t of m		wledg						
Signat	· -	1. J	iat the	intori	пацоп	on this f	orm is tru	ue and cor	Firm						37/-				
	(	451	Sm	17						Gann	ett Fle	ming, I	пс М	ladison	, w I				

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Sta	te of	Wisco	nsin	
De	partn	nent of	Natural	Resources

Signature

### SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98 Watershed/Wastewater Waste Management Route To: Remediation/Revelopment [x] Other Page License/Permit/Monitoring Number Facility/Project Name Boring Number GP-2 Murphy Oil - Marine Terminal Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Completed Drilling Method Date Drilling Started First Name: Dave Last Name: Paulson  $\frac{05}{m} \frac{26}{d} \frac{2005}{y} \frac{y}{y} \frac{y}{y}$  $\frac{05}{m} / \frac{26}{d} / \frac{2005}{y} \frac{1}{y}$ Geoprobe Firm: Soil Essentials Well Name Final Static Water Level WI Unique Well No. DNR Well ID No. Surface Elevation Borehole Diameter Feet MSL Feet MSL inches Local Grid Origin □ (estimated: □ ) or Boring Location Local Grid Location State Plane  $\Box$  E  $\square$  N 0 N, R 14 NE 1/4 of NE 1/4 of Section 16 49 Long Feet S Feet□ W Facility ID County Code Civil Town/City/ or Village County 16 **DOUGLAS** City of Superior Soil Properties Sample Depth in Feet (Below ground surface) Length Att. & Recovered (in) Soil/Rock Description Blow Counts Compressive Strength And Geologic Origin For PID/FID Moisture Content Plasticity Index Graphic Each Major Unit Liquid Limit P 200 Black topsoil and grass 36 - 0.1 Black sand-sized coal fragments, 0.1 - 2.0 **FILL** Brown fine to medium sand, FILL,  $\overline{I2.0}$ - 4.0 FILI wet at 3 feet I hereby certify that the information on this form is true and correct to the best of my knowledge.

This form a authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Firm

Gannett Fleming, Inc. - Madison, WI

Sta	te of	Wisco	nsin	
De	partn	nent of	Natural	Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater Waste Management Remediation/Revelopment [x] Other Page Facility/Project Name License/Permit/Monitoring Number Boring Number Murphy Oil - Marine Terminal Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Last Name: Paulson First Name: Dave  $\frac{05}{m} \frac{26}{d} \frac{2005}{y} \frac{y}{y} \frac{y}{y}$  $\frac{05}{m} \frac{26}{d} \frac{2005}{\sqrt{y}}$ Geoprobe Firm: Soil Essentials Final Static Water Level WI Unique Well No. DNR Well ID No. Well Name Surface Elevation Borehole Diameter Feet MSL Feet MSL inches Local Grid Origin (estimated: ) Boring Location Local Grid Location OT State Plane  $\square$  N  $\Box$  E 11 0 49 N, R 14 NE 1/4 of NE 1/4 of Section 16 Long Feet □ S Feet□ W Facility ID Civil Town/City/ or Village County County Code 16 **DOUGLAS** City of Superior Sample Soil Properties Depth in Feet (Below ground surface) Ē Soil/Rock Description Compressive Strength Blow Counts Length Att. Recovered And Geologic Origin For USCS PID/FID Moisture Content Plasticity Index Number Each Major Unit Graphic Liquid Limit P 200 TO 36 0.0 - 0.1 Black topsoil and grass - 2.0 Black sand-sized coal fragments, FII 0.12.0 Brown fine to medium sand, FILL, - 4.0 FILI I hereby certify that the information on this form is true and correct to the best of my knowledge. Signature Firm Gannett Fleming, Inc. - Madison, WI

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State of \	Visconsin	
Departme	ent of Natura	al Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

			Rout	e To:		I/Wastewater  Won/Revelopment [x]												
									_		•				Page	1	of	1
Facility	y/Proje	ct Nar	ne					Licens	e/Perr	nit/Mo	nitorin	g Num	ber	Boring	Numi		_ 0	
Mur	phy Oi	l - Ma	rine T			•										Gl	P-4	
			Name	of cre	ew chief (fir	st, last) and Firm			•	Starte			_	-		Drillin	g Metl	nod
	ame: Da Soil E		als	Last	Name: Paulso	n		$\frac{05}{m}$	$\frac{26}{d}$	$\frac{2005}{y}$	<u>y</u> <u>y</u>	$\frac{05}{m}$	$\frac{26}{d}$	$\frac{200}{y}$	<u>5</u>	Geop	robe	•
	ique W			DNR	Well ID No.	Well Name		Final S		Water L Feet M		Surfac	e Elev	ation Feet l		Boreho 2		meter nches
Local	Grid O	rigin	(es	timate	: 🗆 ) or	Boring Location, x		1,		0 1	11	Local	Grid L					101103
State F	'lane 1/4 of .	NE	1/4 of	Section	_N, on_16, T	E 49_N, R_14V	W	Lor	.at 1g	۰			F	eet 🗆	N S_			□ E · □ W
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Sam	nle I		ତ			3002113			_	<u> </u>		ŀ	l .		Prope	_		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Fect (Below ground surface)		And C	Rock Description eologic Origin For ach Major Unit			uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Ī	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
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	ture (		√					Firm		ett Fle				n, WI				

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Sta	te of	Wisco	nsin		
De	partm	ient of	Natural	Reso	rces

Signature

SOIL BORING LOG INFORMATION Rev. 7-98 Form 4400-122 Watershed/Wastewater Waste Management Route To: Remediation/Revelopment [x] Other Page Facility/Project Name License/Permit/Monitoring Number Boring Number GP-5 Murphy Oil - Marine Terminal Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Last Name: Paulson First Name: Dave  $\frac{05}{m} / \frac{26}{d} / \frac{2005}{y} \overline{y} \overline{y}$  $\frac{05}{m}$  /  $\frac{26}{d}$  /  $\frac{2005}{y}$   $\frac{1}{y}$ Geoprobe Firm: Soil Essentials Final Static Water Level Surface Elevation DNR Well ID No. Well Name WI Unique Well No. Borehole Diameter Feet MSL Feet MSL inches Local Grid Origin (estimated: ) or Boring Location XI Local Grid Location State Plane N.  $\square$  N  $\Box$  E 0 1/4 of Section 16 49 N, R 14 NE 1/4 of NE Long Feet□ W Feet 
S Facility ID County Code Civil Town/City/ or Village 16 **DOUGLAS** City of Superior Sample Depth in Feet (Below ground surface) Soil Properties વ્ય Soil/Rock Description Blow Counts Length Att. Recovered And Geologic Origin For Number and Type PID/FID Plasticity Moisture Content Graphic Each Major Unit Liquid Limit Index P 200 Black-brown silty sand with - 4.0 0,0 little clay, gravel and brick fragments, FILL, wet at 2 feet

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Firm

Gannett Fleming, Inc. - Madison, WI

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

Sta	te of	Wisco	nsin	
De	partn	nent of	Natural	Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

			Route	e To:		Vastewater												
				•	Nomodiano	, its tolopinom L	-, 04	<u>L</u>	-						Page	1	_ of	_
Facilit	y/Proje	ct Na	me					Licen	se/Perr	nit/Mo	nitorin	g Num	iber	Boring	Num			
			rine To			last) and Eine		***************************************									P-6	
	lame: D		Name		w chief (first, lame: Paulson	last) and Firm			-	Starte			_	-		Drillin	g Met	hod
	Soil E		als					$\frac{1}{m}\frac{1}{m}$	$\frac{20}{d}$	$\frac{200}{y}$	<u>ज</u> ज	$\frac{1}{m}\frac{5}{m}$	$\frac{26}{d}$	, <u>200</u> ,	<u>ਤ</u> <u>y</u> y	Geop	robe	
	nique W			DNR'	Well ID No.	Well Name	ينحراس الكانينسيس والا			Water I			e Elev	ation		Boreho	ole Dia	meter
Y	<u> </u>			· · · · · · · ·	. <b>.</b>	ring Location X	,			Feet M	ISL	<del>, ,</del>	<u> </u>	_Feet l		<u>2</u>	i	nches
State F	Plane_	rigin	L (es	ıımateo	_N,	E	ч	1	.at	<u>°                                    </u>		LOCH	Grid L		n N			□ E
NE	1/4 of	NE	1/4 of	Section	n <u>16</u> , T_	49 N, R 14	$\mathbf{w}$	Lo	ng	<u> '</u>			F	eet 🗖				
Facili					County	JGLAS	C	ounty C	ode	Civil'	Town/	City/ o	r Villa		ity of S	uperio	r	
Sarr	ple		ହ				•		1			1		Soil	Prope	rties		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)		And Geo	ock Description ologic Origin For n Major Unit			USCS	Graphic		PID/FID	Compressive Strength	ł	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	40	a'-C- ah		0.0	- 4.0 Red-l	orown gravel and orown CLAY, mo	ist to w		CL									
		tify th	at the	inforn	nation on this	form is true and	d corn		he bes	st of m	y kno	wledg	e.					
Signat	ure	Q.						Firm	Gann	ett Fle	ming.	Inc N	/ladisor	ı. WI				

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State of Wisconsin	
Department of Natural	Resources

#### SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

Watershed/Wastewater Waste Management Route To: Remediation/Revelopment [x] Other Page License/Permit/Monitoring Number Boring Number Facility/Project Name GP-7 Murphy Oil - Marine Terminal Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Completed Drilling Method Date Drilling Started Last Name: Paulson First Name: Dave  $\frac{05}{m} \frac{26}{d} \frac{2005}{y} \frac{y}{y} \frac{y}{y}$  $\frac{05}{m} / \frac{26}{d} / \frac{2005}{y}$ Geoprobe Firm: Soil Essentials DNR Well ID No. Well Name Final Static Water Level Surface Elevation WI Unique Well No. Borehole Diameter Feet MSL Feet MSL inches Local Grid Origin (estimated: ) or Boring Location Local Grid Location 0 Lat  $\square$  N  $\Box$  E 0 NE 1/4 of NE 1/4 of Section 16 Т 49 N, R 14 Long Feet□ W Feet □ S Civil Town/City/ or Village Facility ID County Code County City of Superior 16 **DOUGLAS** Sample Soil Properties Depth in Feet (Below ground surface) Recovered (in) Soil/Rock Description Blow Counts Length Att. And Geologic Origin For and Type USCS PID/FID Moisture Content Plasticity Index Graphic Each Major Unit Liquid Limit P 200 Red-brown gravel and clay, FILL 36 - 0.5 FII = 1 = 2 = 3 = 4 - 4.0 Red-brown CLAY, moist to wet CLI hereby certify that the information on this form is true and correct to the best of my knowledge. Signature Firm Gannett Fleming, Inc. - Madison, WI

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#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manag	
(1) GENERALINFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
GP-1	Facility ID License/Permit/Monitoring No.
Common Well Name GP-1 Gov't Lot (If applicable)	
NE 1/4 of NE 1/4 of Sec. 16; T. 49 N; R. 14   R. 191   1/4 of Sec. 16	Street Address of Well
Grid Location [X] W	~2,000 ft north Winter St.
ft. N. S., ft. E. W.	City, Village, or Town
	City of Superior
Local Grid Origin (estimated: □) or Well Location [X]	Present Well Owner Original Owner
Lat Long or	Murphy Oil USA, Inc.
St. Planeft. Nft. E. SCN Zone	Street Address or Route of Owner
St. Planeft. Nft. E Zone	
Reason For Abandonment WI Unique Weii No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 05/26/2005	Pump & Piping Removed? Yes No [x] Not Applicable
<b>—</b>	Liner(s) Removed? [X] Yes No Not Applicable
Monitoring Well  If a Well Construction Report	Screen Removed? Yes No X Not Applicable
is available, please attach.	Casing Left in Place? Yes [X] No
[X] Borehole / Drillhole	Was Casing Cut Off Below Surface? Yes [X] No
Construction Type:	Did Sealing Material Rise to Surface? [X] Yes No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	
[X] Other (Specify) Geoprobe	Did Material Settle After 24 Hours? Yes [X] No
	If Yes, Was Hole Retopped? Yes No
Formation Type:	Required Method of Placing Sealing Material
[X] Unconsolidated Formation Bedrock	[X] Conductor Pipe-Gravity Conductor Pipe-Pumped
Total Well Depth (ft.) 8 Casing Diameter (in.)	Screened & Poured Other (Explain)
(Every group develope)	(Bentonite Chips)
Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) 2	Neat Cement Grout monitoring well boreholes only
W. W. A. A. G. C. C. C. D. V. W. W. D. Ubassas	Sand-Cement (Concrete) Grout [X] Bentonite Chips
Was Well Annular Space Grouted?	Concrete Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 ib./gal. wt.)  Bentonite - Cement Grout
B 4 - W - G - A - 2	Bentonite-Sand Slurry " "
Depth to Water (Feet) 2	☐ Bentonite Chips ☐ Bentonite - Sand Slurry
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio
	From (Ft.) To (Ft.) Sacks Sealant or Mud Weight
Bentonite Chips	Surface 8 0.3
Dentonite Cinps	
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	mant
	FOR DNR OR COUNTY USE ONLY
Soil Essentials 05/26/2005	Date Received   Noted By
Signature of Person Doing Work  Date Signed	
JAK Sin of Gannett Fleming 9/21/05	—— Comments
Street of Roote Telephone Number	
W6306 State Road 39 (608) 527-2355	
City, State, Zip Code  New Cleans WI 53574	

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manag	
(1) GENERAL INFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
CommonWellName GP-2 Gov't Lot (If applicable)	Facility ID License/Permit/Monitoring No.
$\frac{\text{NE}}{\text{Grid Location}} \frac{1/4 \text{ of Sec.}}{1/4 \text{ of Sec.}} \frac{16}{\text{j. T. 49}} \text{ N; R. } \frac{14}{\text{j. N; R. }} \frac{\text{E}}{\text{j. N; R. }} \frac{1}{\text{l. N; R. }} \frac{1}{l.$	Street Address of Well ~2,000 ft north Winter St.
ft. N. S.,ft. E. W.	City, Village, or Town
	City of Superior
Local Grid Origin (estimated: ) or Well Location X	Present Well Owner Original Owner
Lat Long or	Murphy Oil USA, Inc.
St. Planeft. Nft. E. S C N Zone	Street Address or Route of Owner 2407 Stinson Ave
Reason For Abandonment   WI Unique Well No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
	Pump & Piping Removed?  Yes No X Not Applicable
Original Construction Date 05/26/2005	Liner(s) Removed?   X Yes No Not Applicable
Monitoring Well	Screen Removed?   Yes   No   Not Applicable
Water Well  If a Well Construction Report is available, please attach.	Casing Left in Place? Yes [X] No
[X] Borehole / Drillhole	Was Casing Cut Off Below Surface? Yes [X] No
Construction Type:  Drilled Driven (Sandpoint) Dug	Did Sealing Material Rise to Surface? [X] Yes No
	Did Material Settle After 24 Hours? Yes [X] No
[X] Other (Specify) Geoprobe	If Yes, Was Hole Retopped? Yes No
Formation Type:	Required Method of Placing Sealing Material
[X] Unconsolidated Formation	[X] Conductor Pipe-Gravity Conductor Pipe-Pumped
Total Well Depth (ft.) 4 Casing Diameter (in.)	Screened & Poured Other (Explain)
(From groundouglage)	(Bentonite Chips)
Casing Depth (ft.)  Lower Drillhole Diameter (in.) 2	Sealing Materials  For monitoring wells and monitoring well boreholes only
	Sand-Cement (Concrete) Grout   [X] Bentonite Chips
Was Well Annular Space Grouted?  Yes X No Unknown	Concrete Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 lb./gal. wt.)
Depth to Water (Feet) 3	Bentonite-Sand Slurry " "
Deptil to Water (Feet)	Bentonite Chips Bentonite - Sand Slurry
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
Bentonite Chips	Surface 4 0.1
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	
Soil Essentials 05/26/2005	FOR DNR OR COUNTY USE ONLY
Signature of Person Doing Work  MI Since Of Mannett Flm: 13 9/2005	Date Received Noted By
Street of Rouge Telephone Number	Comments
W6306 State Road 39 (608) 527-2355	
City, State, Zip Code	
New Glarus WI 53574-	보기 얼마나가 불렀 밤하다는 중 불빛이 좀 됐다니?

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manag	
(1) GENERAL INFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No. DNR Well ID No. County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
Common Well Name GP-3 Gov't Lot (If applicable)	Facility ID License/Permit/Monitoring No.
	Street Address of Well
$\frac{\text{NE}}{\text{Grid Location}} \frac{1/4 \text{ of } \frac{\text{NE}}{\text{IV}} \frac{1/4 \text{ of Sec.} 16}{\text{IV}} ; T. 49 \text{ N; R. } 14 \text{ [X] w}$	~2,000 ft north Winter St.
Gilu Location	City, Village, or Town
ft. N. S.,ft. E. W.	City of Superior
Local Grid Origin (estimated: ) or Well Location X	Present Well Owner Original Owner
Lat Long or	Murphy Oil USA, Inc.
в с и	Street Address or Route of Owner
St. Planeft. Nft. E. □□□Zone	
Reason For Abandonment WI Unique Well No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date <u>05/26/2005</u>	Pump & Piping Removed? Yes No X Not Applicable
Monitoring Well	Liner(s) Removed?  X  Yes   No   Not Applicable
Water Well Well Construction Report	Screen Removed?  Yes No X Not Applicable Casing Left in Place?  Yes X No
[X] Borehole / Drillhole is available, please attach.	
Construction Type:	Waa Casing Cut Off Below Surface? Yes [X] No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Sealing Material Rise to Surface? [X] Yes [ No
[X] Other (Specify) Geoprobe	Did Material Settle After 24 Hours? Yes [x] No
	If Yes, Was Hole Retopped? Yes No
Formation Type:	Required Method of Placing Sealing Material
[X] Unconsolidated Formation	[X] Conductor Pipe-Gravity
Total Well Depth (ft.) 4 Casing Diameter (m.)	Screened & Poured Other (Explain)
(F g dougless)	(Bentonite Chips)
Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) 2	☐ Neat Cement Grout monitoring well boreholes only ☐ Sand-Cement (Concrete) Grout ! Ix1 Bentonite Chins
Was Well Annular Space Grouted?	Congrete
	Clay-Sand Shirey (11 lb /gal wt)
If Yes, To What Depth? Feet	Bentonite-Sand Slurry " " Bentonite - Cement Grov
Depth to Water (Feet) 3	Bentonite Chips Bentonite - Sand Slurry
(a) M. (111, 121 PH N. 107, 111 1	Mix Patio
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant or Mud Weight
D 4 14 CH	Surface 4 0.1
Bentonite Chips	Surface 4 0.1
•	
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	ment
Soil Essentials 05/26/2005	FOR DNR OR COUNTY USE ONLY
Signature of Person Doing Work Date Signed	Date Received Noted By
Al Sign of Genrett Flain 9/21/25	
Street or Flouid Telephone Number	Comments
W6306 State Road 39 (608) 527-2355	
City, State, Zip Code	
New Glarus WI 53574-	<ul><li>● 大大大學 (大大學 ) 中央 (大大學 ) 中央 (大学 ) 大学 (大學 ) 中央 (大學 ) 中央 (大學 ) 中央 (大學 ) 中央 (大學 )</li></ul>

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manag	
(1) GENERAL INFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
GP-4	Facility ID License/Permit/Monitoring No.
CommonWellName GP-4 Gov'tLot (If applicable)	
$\frac{\text{NE}}{\text{Grid Location}} \frac{1/4 \text{ of } \frac{\text{NE}}{\text{NE}}}{\text{I/4 of Sec.}} \frac{1/4 \text{ of Sec.}}{\text{I/4}} ; T.49 \text{ N; R.} \frac{14}{\text{I/4}} \stackrel{\square}{\text{E}} \text{ [X] W}$	Street Address of Well
Grid Location [X] W	~2,000 ft north Winter St.
ft. N. S., ft. E. W.	City, Village, or Town
	City of Superior
Local Grid Origin (estimated: □) or Well Location [X]	Present Well Owner Original Owner
Lat Long or	Murphy Oil USA, Inc.
S C N	Street Address or Route of Owner
St. Planeft. Nft. E. □□□ Zone	
Reason For Abandonment WI Unique Well No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 05/26/2005	Pump & Piping Removed? Yes No X Not Applicable
	Liner(s) Removed?  X  Yes   No   Not Applicable
Monitoring Well  If a Well Construction Report	Screen Removed? Yes No X Not Applicable
is available, please attach	Casing Left in Place? Yes X No
[X] Borehole / Drillhole	
Construction Type:	
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Sealing Material Rise to Surface? [X] Yes No
[X] Other (Specify) Geoprobe	Did Material Settle After 24 Hours? Yes [X] No
	If Yes, Was Hole Retopped? Yes No
Formation Type:	Required Method of Placing Sealing Material
X Unconsolidated Formation Bedrock	[X] Conductor Pipe-Gravity Conductor Pipe-Pumped
Total Well Depth (ft.) 8 Casing Diameter (in.)	Screened & Poured Other (Explain)
(From anoundousfood)	(Bentonite Chips)
(From groundsurface) Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) 2	☐ Neat Cement Grout monitoring well boreholes only
——————————————————————————————————————	Sand-Cement (Concrete) Grout     X   Bentonite Chips
Was Well Annular Space Grouted?	Concrete Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 lb./gal. wt.)
-	Bentonite-Sand Slurry " " Bentonite - Cement Grou
Depth to Water (Feet) 1.5	☐ Bentonite Chips ☐ Bentonite - Sand Slurry
(5) Material Used To Fill Well/Drillhols	From (Ft.) To (Ft.) Soules Soules 4 Mix Ratio
(b) Material Code To I iii Wen/Diffinioi	From (Ft.) To (Ft.) Sacks Sealant or Mud Weight
Pontonite China	Surface 8 0.3
Bentonite Chips	0 0.5
(6) Comments;	
(7) Name of Person or Firm Doing Sealing Work Date of Abandoni	The state of the s
Soil Essentials 05/26/2005	FOR DNR OR COUNTY USE ONLY
Signature of Person Doing Work Date Signed	Date Received Noted By
Jeff Zin of Ganrett Flyning 9/21/05	Contribute
Speet or Roote Telephone Number	Comments
Sheet or Roote W6306 State Road 39 Telephone Number (608) 527-2355	Comments
Speet or Roote Telephone Number	Comments

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manag	ement Remediation/Redevelopment Other
(1) GENERAL INFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
Common Well Name GP-5 Gov't Lot (If applicable)	Facility ID License/Permit/Monitoring No.
	0
$\frac{\text{NE}}{\text{Crid L certifier}} \frac{1/4 \text{ of } \frac{\text{NE}}{\text{NE}} = 1/4 \text{ of Sec.} \frac{16}{\text{IS}} ; \text{ T.} \frac{49}{\text{N}}; \text{ R.} \frac{14}{\text{IS}} = \frac{\text{IS}}{\text{IS}} = \frac{1}{\text{IS}} = \frac$	Street Address of Well
Grid Location [A] H	~2,000 ft north Winter St.
ft. N. S.,ft. E. W.	City, Village, or Town
Local Grid Origin (estimated: ) or Well Location X	City of Superior  Present Well Owner   Original Owner
— <u> </u>	Murphy Oil USA, Inc.
Lat Long or	Street Address or Route of Owner
St. Planeft. Nft. E. $\overset{s}{\square}\overset{c}{\square}\overset{N}{\square}$ Zone	
Reason For Abandonment   WI Unique Well No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
p1240p146011611611611	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 05/26/2005	
Monitoring Well	M 100 m 10 [ ] Hearth-mark
Water Well Construction Report	I to   1 No [x] No inplicable
[X] Borehole / Drillhole is available, please attach.	
Construction Type:	Was Casing Cut Off Below Surface? Yes [X] No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Sealing Material Rise to Surface? [X] Yes [ No
	Did Material Settle After 24 Hours? Yes [X] No
[X] Other (Specify) Geoprobe	If Yes, Was Hole Retopped?
Formation Type:	Required Method of Placing Sealing Material
X Unconsolidated Formation Bedrock	[X] Conductor Pipe-Gravity Conductor Pipe-Pumped
To a serio Dispose (Ca)	Screened & Poured Other (Explain)
Total Well Depth (ft.) 4 Casing Diameter (in.) (From groundsurface)	(Bentonite Chips)
(From groundsurface) Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) _2	☐ Neat Cement Grout monitoring well boreholes only
	Sand-Cement (Concrete) Grout   K Bentonite Chips
Was Well Annular Space Grouted?	☐ Concrete ☐ Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 lb./gal. wt.)
	Bentonite-Sand Slurry " "
Depth to Water (Feet) 2	☐ Bentonite Chips ☐ Bentonite - Sand Slurry
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
	Suction 1
Bentonite Chips	Surface 4 0.1
•	
(6) Comments:	
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	mont
0 11 12 5 12 0 0 11	FOR DNR OR COUNTY USE ONLY
Soil Essentials 05/26/2005	Date Received   Noted By
Signature of Person Doing Work  June of General Floring 9/21/05	
	Comments
	■ . 그 # 전 시 그냥 강대 도시 그는 합니다. 그래의 스타지 바라당한 문학생 등을 제하는데 있는 사는 것이 없는 것 같다.
W6306 State Road 39 (608 )527-2355  City, State, Zip Code	

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: Drinking Water Watershed/Wastewater Waste Manage	
(1) GENERAL INFORMATION	(2) FACILITY/ OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
Common Well Name GP-6 Gov't Lot (If applicable)	Facility ID License/Permit/Monitoring No.
NE 1/4 of NE 1/4 of Sec. 16; T. 49 N; R. 14   X   W	Street Address of Well
Grid Location [X] W	~2,000 ft north Winter St.
ft. N. S.,ft. E. W.	City, Village, or Town
Local Grid Origin (estimated: ) or Well Location [X]	City of Superior
	Present Well Owner Original Owner
Lat Long 1 0 1	Murphy Oil USA, Inc.
St. Plane ft. N ft. E. $\overset{s}{\square} \overset{c}{\square} \overset{N}{\square}$ Zone	Street Address or Route of Owner 2407 Stinson Ave
Reason For Abandonment   WI Unique Well No.	City, State, Zip Code
No longer needed of Replacement Well	Superior WI 54480-
	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 05/26/2005	Pump & Piping Removed? Yes No X Not Applicable Liner(s) Removed? X Yes No Not Applicable
☐ Monitoring Well	Screen Removed?   Yes   No   Not Applicable
Water Well  If a Well Construction Report is available, please attach.	Casing Left in Place? Yes  X  No
[X] Borehole / Drillhole	
Construction Type:	Was Casing Cut Off Below Surface? Yes [X] No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Sealing Material Rise to Surface? [X] Yes No
[X] Other (Specify) Geoprobe	Did Material Settle After 24 Hours? Yes [X] No
	If Yes, Was Hole Retopped? Yes No
Formation Type:	Required Method of Placing Sealing Material
[X] Unconsolidated Formation Bedrock	[X] Conductor Pipe-Gravity
Total Well Depth (ft.) 4 Casing Diameter (in.)	Screened & Poured Other (Explain) (Bentonite Chips)
(From groundsurface) Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) 2	☐ Neat Cement Grout monitoring well boreholes only
	Sand-Cement (Concrete) Grout [X] Bentonite Chips
Was Well Annular Space Grouted? Yes X No Unknown	Concrete Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 lb./gal. wt.) Bentonite - Cement Grou
Depth to Water (Feet) 2	Bentonite-Sand Slurry " "
Depth to Water (Feet) 2	Bentomic emps
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
Bentonite Chips	Surface 4 0.1
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	
Soil Essentials 05/26/2005	FOR DNR OR COUNTY USE ONLY  Date Received INoted By
Signature of Person Poing Work Date Signed	Date Received Noted By
Jeff 3 of Garrot Fleming 9/21/05	Comments
Street of Route Telephone Number	
W6306 State Road 39 (608) 527-2355	<ul> <li>大型工具工作。 表示 化基础系列 网络工程 化工程管理工程 化对应工程管理管理 化工程管理 化工程度 化工程度 化工程度 化工程度 化工程度 化工程度 化工程度 化工程度</li></ul>
City, State, Zip Code New Glarus WI 53574-	
New Glarus WI 53574-	

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Route to: UDrinking Water UWatershed/Wastewater U Waste Manag	ement Remediation/Redevelopment Other
(1) GENERALINFORMATION	(2) FACILITY/OWNER INFORMATION
WI Unique Well No.   DNR Well ID No.   County	Facility Name
DOUGLAS	Murphy Oil-Marine Terminal
Common Well Name GP-7 Gov't Lot (If applicable)	Facility ID License/Permit/Monitoring No.
NE 1/4 of NE 1/4 of Sec. 16; T. 49 N; R. 14 [X] W	Street Address of Well
Grid Location [X] w	~2,000 ft north Winter St.
ft. N. S.,ft. E. W.	City, Village, or Town City of Superior
Local Grid Origin (estimated: ) or Well Location X	Present Well Owner Original Owner
Lat. Long or	Murphy Oil USA, Inc.
0 0 1	Street Address or Route of Owner
St. Planeft. Nft. E. D Zone  Reason For Abandonment   WI Unique Well No.	2407 Stinson Ave
No longer needed of Replacement Well	Superior WI 54480-
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 05/26/2005	Pump & Piping Removed? Yes No [x] Not Applicable
Monitoring Well	Liner(s) Removed?  X  Yes   No   Not Applicable
Water Well  If a Well Construction Report	Screen Removed? Yes No X Not Applicable
is available, please attach.	Casing Left in Place? Yes [X] No
	Was Casing Cut Off Below Surface? Yes [X] No
Construction Type:	Did Sealing Material Rise to Surface? [X] Yes No
☐ Driven (Sandpoint) ☐ Dug	Did Material Settle After 24 Hours? Yes [X] No
[X] Other (Specify) Geoprobe	If Yes, Was Hole Retopped? Yes No
Formation Type:	
X Unconsolidated Formation Bedrock	Required Method of Placing Sealing Material
	X] Conductor Pipe-Gravity Conductor Pipe-Pumped
Total Well Depth (ft.) 4 Casing Diameter (in.)	Screened & Poured Other (Explain) (Bentonite Chips)
(From groundsurface) Casing Depth (ft.)	Sealing Materials For monitoring wells and
Lower Drillhole Diameter (in.) 2	☐ Neat Cement Grout monitoring well boreholes only
Was Well Annular Space Grouted? Yes X No Unknown	Sand-Cement (Concrete) Grout   X Bentonite Chips
	☐ Concrete ☐ Granular Bentonite
If Yes, To What Depth? Feet	Clay-Sand Slurry (11 lb./gal. wt.) Bentonite - Cement Grou
Dorth to Water (Fact) 2	Bentonite-Sand Slurry " "
Depth to Water (Feet) 2	Dentonic emps
(5) Material Used To Fill Well/Drillhole	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
Bentonite Chips	Surface 4 0.1
(6) Comments:	
(7) Name of Person or Firm Doing Sealing Work Date of Abandon	
Soil Essentials 05/26/2005	FOR DNR OR COUNTY USE ONLY  Date Received Noted By
Signature of Resson Doing Work  Date Signed  1/31/05	
Street of Route Telephone Number	— Comments
W6306 State Road 39 (608) 527-2355	이 설 소전 등이 살았습니다. 나는 한 형당이 했다. 모든 무료를 된다.
City, State, Zip Code	
New Glarus WI 53574-	Description of the section of the se

#### ATTACHMENT C

# CHAIN OF CUSTODY RECORDS AND ANALYTICAL REPORTS FOR SOIL AND GROUNDWATER SAMPLES





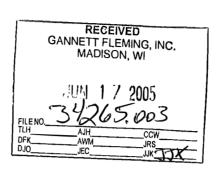
ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

TELEPHONE FACSIMILE WEBSITE

800-338-7226 715-355-3221 www.usfilter.com

June 15, 2005

Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717



Attn: Jeff King/ Liz Lundmark

**REPORT NO.: 178217** 

PROJECT NO.: 34265.003

Please find enclosed the analytical report, including the Sample Summary, Sample Narrative and Chain of Custody for your sample set received June 1, 2005.

All analyses were performed in accordance with NELAC Standards using approved methods as indicated on this report.

If you have any questions about the results, please call. Thank you for using USFilter, Enviroscan Services for your analytical needs.

Sincerely,

USFilter, Enviroscan Services

James R. Salkowski

Laboratory Director

I certify that the data contained in this report has been generated and reviewed in accordance with the USFilter, Enviroscan Services Quality Assurance Program. Exceptions, if any, are discussed in the sample narrative. Samples will be retained for 30 days from the date of this report, then disposed in an appropriate manner. USFilter,

Enviroscan Services reserves the right to return samples identified as hazardous. Release of this Final Report is authorized as verified by the following signature.

Approved by:

Certifications:

Wisconsin 737053130 Minnesota 055-999-302 Illinois 100317



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474 TELEPHONE FACSIMILE WEBSITE

800-338-7226 715-355-3221 www.usfilter.com

#### Sample Summary

178217.2

Lab Id	Client Sample ID	Date/Time	<u>Matrix</u>
178217	GP1 0-2	05/26/05 09:55	SOIL
178218	GP2 2-3	05/26/05 10:20	SOIL
178219	GP3 2-3	05/26/05 10:30	SOIL
178220	GP4 0-2	05/26/05 11:00	SOIL
178221	GP5 0-2	05/26/05 11:35	SOIL
178222	GP6 0-2	05/26/05 11:45	SOIL
178223	GP7 0-2	05/26/05 12:00	SOIL
178224	GP1	05/26/05 10:05	GROUNDWATER
178225	GP4	05/26/05 11:15	GROUNDWATER

#### Sample Narrative/Sample Status

LOGIN:

**GENERAL:** 

**ANALYSES:** 

QA/QC:

REPORTING:

#### **Definitions**

LOD = Limit of Detection (Not dilution corrected)
LOQ = Limit of Quantitation (Not dilution corrected)
< = Less Than
COMP = Complete
SUBCON = Subcontracted analysis
mv = millivolts
pCi/l = picocurie per liter
ml/l = milliters/Liter
mg = milligrams

μg/l = Micrograms per liter = parts per billion (ppb)
μg/kg = Micrograms per kilogram = parts per billion (ppb)
mg/l = Milligrams per liter = parts per million (ppm)
mg/kg = Milligrams per kilogram = parts per million (ppm)
NOT PRES = Not Present
ppth = Parts per thousand
(S) = Surrogate Compound
mg/m3 = Milligrams/meter cube
ng/l = Nanograms per liter



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

TELEPHONE FACSIMILE WEBSITE 800-338-7226 715-355-3221 www.usfilter.com

PROJECT NO.: 34265.003 REPORT NO.: 178217.3 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc.

8025 Excelsior Drive Madison, WI 53717

Sample ID: GP1 0-2	Matrix	: SOIL	Samp	ole Date/Ti	Lab No. 17	Lab No. 178217		
	Result	<u>Units</u>	<u>LOD</u>	LOQ	Dilution <u>Factor</u> <u>Qualifiers</u>	Date <u>Analyzed</u>	Analyst	
EPA 160.3 Total Solids	86.9	%	-	0.33	1	06/02/05	EAZ	
EPA 3050 Metal Prep	COMP		-	-		06/02/05	DJB	
<u>EPA 6010</u> Total Lead	14.3	mg/kg	0.53	1.76	1	06/03/05	DJB	
EPA 8021 (Only positively								
Benzene	0.352	mg/kg	0.008	0.027	1	06/04/05	LMP	
Ethylbenzene	0.268	mg/kg	0.007	0.023	1	06/04/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1	06/04/05	LMP	
Toluene	0.886	mg/kg	0.007	0.023	1	06/04/05	LMP	
1,2,4-Trimethylbenzene	0.439	mg/kg	0.012	0.04	1	06/04/05	LMP	
1,3,5-Trimethylbenzene	0.16	mg/kg	0.01	0.033	1	06/04/05	LMP	
m- & p-Xylene	1.00	mg/kg	0.015	0.05	1	06/04/05	LMP	
o-Xylene	0.444	mg/kg	0.008	0.027	1	06/04/05	LMP	
PID Surrogate Recovery (S)	97.2	<b>37</b> 1.3	-	-	i	06/04/05	LMP	
EPA 8310	,							
Acenaph thene	<0.0541	mg/kg	0.0047	0.016	10	06/10/05	LMP	
Acenaphthylene	<0.0759	mg/kg	0.0066	0.022	10	06/10/05	LMP	
Anthracene	<0.0242	mg/kg	0.0021	0.007	10	06/10/05	LMP	
Benzo(a)Anthracene	0.108	mg/kg	0.0041	0.014	10	06/10/05	LMP	
Benzo(a)Pyrene	0.137	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Benzo(b)Fluoranthene	0.227	mg/kg	0.0023	0.007	10	06/10/05	LMP	
	0.0792		0.0021	0.007	10			
Benzo(k)Fluoranthene	0.0792	mg/kg			10	06/10/05	LMP	
Benzo(ghi)Perylene		mg/kg	0.0021	0.007		06/10/05	LMP	
Chrysene	0.106	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Dibenzo(a,h)Anthracene	<0.0161	mg/kg	0.0014	0.0047	10	06/10/05	LMP	
Fluoranthene	0.856	mg/kg	0.00221	0.0074	10	06/10/05	LMP	
Fluorene	<0.023	mg/kg	0.002	0.0067	10	06/10/05	LMP	
Indeno(1,2,3-cd)Pyrene	0.15	mg/kg	0.0016	0.0053	10	06/10/05	LMP	
1-Methyl Naphthalene	0.203	mg/kg	0.0035	0.012	10	06/10/05	LMP	
2-Methyl Naphthalene	0.305	mg/kg	0.0041	0.014	10	06/10/05	LMP	
Naphthalene	0.386	mg/kg	0.0016	0.0053	10	06/10/05	LMP	
Phenanthrene	0.482	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Pyrene	<0.0242	mg/kg	0.0021	0.007	10	06/10/05	LMP	
9,10-Diphenylanthracene (S)	78.9	%	-		10	06/10/05	LMP	
Method 3550 Ultrasonic Ext.	COMP		-	-	•	06/09/05	JEG	
WI DNR								
Soil Diesel Range Organics	467.	mg/kg	-	5.0	1 D2A D2B	06/10/05	LMP	
Soil Org Ext - DRO	COMP	<b>.</b> .	-	-		06/06/05	JEG	
Soil Gasoline Range Organic	8.22	mg/kg	-	5.0	1 G2 G6	06/04/05	LMP	



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

TELEPHONE FACSIMILE WEBSITE 800-338-7226 715-355-3221 www.usfilter.com

PROJECT NO.: 34265.003 REPORT NO.: 178217.4 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc.

8025 Excelsior Drive Madison, WI 53717

Sample ID: GP2 2-3	Matrix	: SOIL	Samp	ole Date/T	ime: 05/26/05 10:20	Lab No. 17	Lab No. 178218	
	<u>Result</u>	<u>Units</u>	LOD	LOQ	Dilution <u>Factor</u> <u>Qualifiers</u>	Date <u>Analyzed</u>	<u>Analyst</u>	
<u>EPA 160.3</u> Total Solids	83.7	%	<del>.</del>	0.33	1	06/02/05	EAZ	
EPA 3050 Metal Prep	COMP		-	-	-	06/02/05	DJB	
EPA 6010 Total Lead	3.57	mg/kg	0.53	1.76	1	06/03/05	DJB	
EPA 8021 (Only positively Benzene	identified	l analytes mg/kg	are report	ted on a di 0.027	ry weight basis 1	06/04/05	LMP	
Ethylbenzene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.007	0.023	1			
Toluene	<0.025			0.08	1	06/04/05	LMP	
		mg/kg	0.007		1	06/04/05	LMP	
1,2,4-Trimethylbenzene	<0.025	mg/kg	0.012	0.04	1	06/04/05	LMP	
1,3,5-Trimethylbenzene	<0.025 <0.025	mg/kg	0.01 0.015	0.033 0.05	1	06/04/05	LMP	
m- & p-Xylene	<0.025	mg/kg	0.008	0.03	1	06/04/05	LMP	
o-Xylene		mg/kg °∕	0.000	0.027	1	06/04/05	LMP	
PID Surrogate Recovery (S)	97.2	%	-	-	1	06/04/05	LMP	
EDA 9710								
EPA 8310	<0.00562	41	0.00/7	0.017	1	04 440 405	1.445	
Acenaphthene	<0.00789	mg/kg	0.0047 0.0066	0.016 0.022	1	06/10/05	LMP	
Acenaphthylene	<0.00769	mg/kg		0.022	1	06/10/05	LMP	
Anthracene	<0.00251	mg/kg	0.0021 0.0041	0.007	1	06/10/05	LMP	
Benzo(a)Anthracene		mg/kg			1	06/10/05	LMP	
Benzo(a)Pyrene	<0.00275	mg/kg	0.0023	0.0077	The state of the s	06/10/05	LMP	
Benzo(b)Fluoranthene	<0.00251	mg/kg	0.0021	0.007	1	06/10/05	LMP	
Benzo(k)Fluoranthene	<0.00346	mg/kg	0.0029	0.0097	1 1	06/10/05	LMP	
Benzo(ghi)Perylene	<0.00251 <0.00275	mg/kg	0.0021	0.007		06/10/05	LMP	
Chrysene		mg/kg	0.0023	0.0077	1	06/10/05	LMP	
Dibenzo(a,h)Anthracene	<0.00167	mg/kg	0.0014	0.0047	1	06/10/05	LMP	
Fluoranthene	0.0106	mg/kg	0.00221	0.0074	1	06/10/05	LMP	
Fluorene	<0.00239	mg/kg	0.002	0.0067	1	06/10/05	LMP	
Indeno(1,2,3-cd)Pyrene	<0.00191	mg/kg	0.0016	0.0053	1	06/10/05	LMP	
1-Methyl Naphthalene	<0.00418	mg/kg	0.0035	0.012	1	06/10/05	LMP	
2-Methyl Naphthalene	< 0.0049	mg/kg	0.0041	0.014	1	06/10/05	LMP	
Naphthalene	<0.00191	mg/kg	0.0016	0.0053	1	06/10/05	LMP	
Phenanthrene	0.0062	mg/kg	0.0023	0.0077	1 J	06/10/05	LMP	
Pyrene	<0.00251	mg/kg	0.0021	0.007	1	06/10/05	LMP	
9,10-Diphenylanthracene (S)	86.8	%	-	<b>+</b>	1	06/10/05	LMP	
Method 3550 Ultrasonic Ext.	COMP		-	-	-	06/09/05	JEG	
LIT DAID								
WI DNR	4E 07	41		F 0	4	0/ /10 /05	1.45	
Soil Diesel Range Organics	<5.97	mg/kg	-	5.0	1	06/10/05	LMP	
Soil Org Ext - DRO	COMP	4	-	-	_	06/06/05	JEG	
Soil Gasoline Range Organic	<5.97	mg/kg	-	5.0	1	06/04/05	LMP	



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

TELEPHONE FACSIMILE WEBSITE 800-338-7226 715-355-3221 www.usfilter.com

PROJECT NO.: 34265.003 REPORT NO.: 178217.5 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717

Sample ID: GP3 2-3	Matrix	: SOIL	Samp	le Date/Ti	me: <b>05/26/05 10:30</b>	Lab No. 178219		
	<u>Result</u>	<u>Units</u>	<u>LOD</u>	LOQ	Dilution <u>Factor</u> <u>Qualifiers</u>	Date <u>Analyzed</u>	<u>Analyst</u>	
EPA 160.3 Total Solids	85.5	%	-	0.33	1	06/02/05	EAZ	
EPA 3050 Metal Prep	COMP		-	-	w.	06/02/05	DJB	
EPA 6010_ Total Lead	2.04	mg/kg	0.53	1.76	1	06/03/05	DJB	
EPA 8021 (Only positively					·	07.407.405	1.45	
Benzene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP	
Ethylbenzene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1	06/04/05	LMP	
Toluene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP	
1,2,4-Trimethylbenzene	<0.025	mg/kg	0.012	0.04	1	06/04/05	LMP	
1,3,5-Trimethylbenzene	<0.025	mg/kg	0.01	0.033	1	06/04/05	LMP	
m- & p-Xylene	<0.025	mg/kg	0.015	0.05	1	06/04/05	LMP	
o-Xylene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP	
PID Surrogate Recovery (S)	97.2	%	-	-	1	06/04/05	LMP	
EPA 8310								
Acenaphthene	<0.0055	mg/kg	0.0047	0.016	1	06/10/05	LMP	
Acenaphthylene	<0.00772	mg/kg	0.0066	0.022	i	06/10/05	LMP	
Anthracene	<0.00246	mg/kg	0.0021	0.007	i	06/10/05	LMP	
Benzo(a)Anthracene	<0.0048	mg/kg	0.0041	0.014	· i	06/10/05	LMP	
Benzo(a)Pyrene	<0.00269	mg/kg	0.0023	0.0077	1	06/10/05	LMP	
Benzo(b)Fluoranthene	<0.00246	mg/kg	0.0021	0.007	i	06/10/05	LMP	
Benzo(k)Fluoranthene	<0.00339	mg/kg	0.0029	0.0097	1	06/10/05	LMP	
Benzo(ghi)Perylene	<0.00246	mg/kg	0.0021	0.007	i	06/10/05	LMP	
Chrysene	<0.00269	mg/kg	0.0023	0.0077	1	06/10/05	LMP	
Dibenzo(a,h)Anthracene	<0.00164	mg/kg	0.0014	0.0047	i	06/10/05	LMP	
Fluoranthene	<0.00257	mg/kg	0.00221	0.0074	1	06/10/05	LMP	
Fluorene	<0.00234	mg/kg	0.002	0.0067	i	06/10/05	LMP	
Indeno(1,2,3-cd)Pyrene	<0.00187	mg/kg	0.0016	0.0053	i	06/10/05	LMP	
1-Methyl Naphthalene	<0.00409	mg/kg	0.0035	0.012	i	06/10/05	LMP	
2-Methyl Naphthalene	<0.0048	mg/kg	0.0041	0.014	<u>i</u>	06/10/05	LMP	
Naphthalene	<0.00187	mg/kg	0.0016	0.0053	i	06/10/05	LMP	
Phenanthrene	<0.00269	mg/kg	0.0023	0.0077	i	06/10/05	LMP	
Pyrene	<0.00246	mg/kg	0.0021	0.007	i	06/10/05	LMP	
9,10-Diphenylanthracene (S)	83.0	<b>3</b> , <b>3</b>	-	-	i	06/10/05	LMP	
Method 3550 Ultrasonic Ext.	COMP	~	-	-	· -	06/09/05	JEG	
LIT DAID								
WI DNR	∠E OF	ma (ka		E 0	1	04/10/05	LMD	
Soil Diesel Range Organics	<5.85	mg/kg	-	5.0	1	06/10/05	LMP	
Soil Org Ext - DRO	COMP <5.85	mg/kg	_	5.0	1	06/06/05	JEG LMP	
Soil Gasoline Range Organic	(0.0)	illy/ ky	-	٠.٠	ı	06/04/05	LMP	



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Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717

PROJECT NO.: 34265.003 REPORT NO.: 178217.6 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Sample ID: GP4 0-2	Matrix	: SOIL	Samp	le Date/Tir	me: <b>05/26/05 11:00</b>	Lab No. 178220	
	Danula	llmāba	1.00	1.00	Dilution	Date	81
	<u>Result</u>	<u>Units</u>	LOD	<u>Loq</u>	<u>Factor</u> <u>Qualifiers</u>	<u>Analyzed</u>	<u>Analyst</u>
EPA 160.3							
Total Solids	87.5	%	-	0.33	1	06/02/05	EAZ
EDA 7050							
EPA 3050_ Metal Prep	COMP			-	<b>.</b>	06/02/05	DJB
necut rrep	00/11					00,02,03	505
EPA 6010_							
Total Lead	8.54	mg/kg	0.53	1.76	1	06/03/05	DJB
EPA 8021 (Only positively	identified	anal vtes	are report	ed on a dry	/ weight basis		
Benzene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP
Ethylbenzene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1	06/04/05	LMP
Toluene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP
1,2,4-Trimethylbenzene	<0.025	mg/kg	0.012	0.04	1	06/04/05	LMP
1,3,5-Trimethylbenzene	<0.025	mg/kg	0.01	0.033	1	06/04/05	LMP
m- & p-Xylene	0.0318	mg/kg	0.015	0.05	1	06/04/05	LMP
o-Xylene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP
PID Surrogate Recovery (S)	97.2	%	•	-	1	06/04/05	LMP
EPA 8310							
Acenaphthene	0.559	mg/kg	0.0047	0.016	20	06/14/05	LMP
Acenaphthylene	<0.151	mg/kg	0.0066	0.022	20	06/14/05	LMP
Anthracene	1.23	mg/kg	0.0021	0.007	20	06/14/05	LMP
Benzo(a)Anthracene	1.36	mg/kg	0.0041	0.014	20	06/14/05	LMP
Benzo(a)Pyrene	0.863	mg/kg	0.0023	0.0077	20	06/14/05	LMP
Benzo(b)Fluoranthene	0.971	mg/kg	0.0021	0.007	20	06/14/05	LMP
Benzo(k)Fluoranthene	0.473	mg/kg	0.0029	0.0097	20	06/14/05	LMP
Benzo(ghi)Perylene	0.773	mg/kg	0.0021	0.007	20	06/14/05	LMP
Chrysene	1.04	mg/kg	0.0023	0.0077	20	06/14/05	LMP
Dibenzo(a,h)Anthracene	<0.032	mg/kg	0.0014	0.0047	20	06/14/05	LMP
Fluoranthene	6.07	mg/kg	0.00221	0.0074	20	06/14/05	LMP
Fluorene	0.578	mg/kg	0.002	0.0067	20	06/14/05	LMP
Indeno(1,2,3-cd)Pyrene	0.434	mg/kg	0.0016	0.0053	20	06/14/05	LMP
1-Methyl Naphthalene	<0.08	mg/kg	0.0035	0.012	20	06/14/05	LMP
2-Methyl Naphthalene	<0.0937	mg/kg	0.0041	0.014	20	06/14/05	LMP
Naph thal ene	<0.0366	mg/kg	0.0016	0.0053	20	06/14/05	LMP
Phenanthrene	4.59	mg/kg	0.0023	0.0077	20	06/14/05	LMP
Pyrene	5.13	mg/kg	0.0021	0.007	20	06/14/05	LMP
9,10-Diphenylanthracene (S)	131.	%	-	-	20	06/14/05	LMP
Method 3550 Ultrasonic Ext.	COMP		-	-	-	06/09/05	JEG
WI DNR							
Soil Diesel Range Organics	97.7	mg/kg	_	5.0	1 D3 D4	06/10/05	LMP
Soil Org Ext - DRO	COMP	פא זפייי	_	-	-	06/06/05	JEG
Soil Gasoline Range Organic	<5.71	mg/kg	-	5.0	1	06/04/05	LMP
Ş							



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

TELEPHONE FACSIMILE WEBSITE 800-338-7226 715-355-3221 www.usfilter.com

PROJECT NO.: 34265.003 REPORT NO.: 178217.7 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717

Sample ID: GP5 0-2	Matri	c: SOIL	Samp	le Date/Ti	me: 05/26/05 11:35	Lab No. 17	Lab No. 178221	
	<u>Result</u>	<u>Units</u>	LOD	LOQ	Dilution <u>Factor</u> <u>Qualifiers</u>	Date <u>Analyzed</u>	Analyst	
EPA 160.3 Total Solids	84.8	%	-	0.33	1	06/02/05	EAZ	
EPA 3050 Metal Prep	COMP		-	-	-	06/02/05	DJB	
EPA 6010 Total Lead	11.5	mg/kg	0.53	1.76	1	06/03/05	DJB	
<u>EPA 8021</u> (Only positively								
Benzene	<0.025	mg/kg	0.008	0.027	1.1	06/04/05	LMP	
Ethylbenzene	<0.025	mg/kg	0.007	0.023	1.1	06/04/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1.1	06/04/05	LMP	
Toluene	0.0408	mg/kg	0.007	0.023	1.1	06/04/05	LMP	
1,2,4-Trimethylbenzene	0.0325	mg/kg	0.012	0.04	1.1	06/04/05	LMP	
1,3,5-Trimethylbenzene	<0.025	mg/kg	0.01	0.033	1.1	06/04/05	LMP	
m- & p-Xylene	0.0548	mg/kg	0.015	0.05	1.1	06/04/05	LMP	
o-Xylene	0.0348	mg/kg	0.008	0.027	1.1	06/04/05	LMP	
PID Surrogate Recovery (S)	97.2	""37 N3 %	-	-	1	06/04/05	LMP	
• • • •								
EPA 8310								
Acenaphthene	<0.0554	mg/kg	0.0047	0.016	10	06/10/05	LMP	
Acenaphthylene	<0.0778	mg/kg	0.0066	0.022	10	06/10/05	LMP	
Anthracene	1.71	mg/kg	0.0021	0.007	10	06/10/05	LMP	
Benzo(a)Anthracene	2.64	mg/kg	0.0041	0.014	10	06/10/05	LMP	
Benzo(a)Pyrene	1.86	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Benzo(b)Fluoranthene	2.42	mg/kg	0.0021	0.007	10	06/10/05	LMP	
Benzo(k)Fluoranthene	1.02	mg/kg	0.0029	0.0097	10	06/10/05	LMP	
Benzo(ghi)Perylene	1.54	mg/kg	0.0021	0.007	10	06/10/05	LMP	
Chrysene	2.03	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Dibenzo(a,h)Anthracene	<0.0165	mg/kg	0.0014	0.0047	10	06/10/05	LMP	
Fluoranthene	9.98	mg/kg	0.00221	0.0074	50	06/14/05	LMP	
Fluorene	<0.0236	mg/kg	0.00221	0.0074	10	06/10/05	LMP	
			0.002	0.0057	10			
Indeno(1,2,3-cd)Pyrene	1.25	mg/kg				06/10/05	LMP	
1-Methyl Naphthalene	<0.0413	mg/kg	0.0035	0.012	10	06/10/05	LMP	
2-Methyl Naphthalene	<0.0483	mg/kg	0.0041	0.014	10	06/10/05	LMP	
Naphthalene	<0.0189	mg/kg	0.0016	0.0053	10	06/10/05	LMP	
Phenanthrene	5.64	mg/kg	0.0023	0.0077	10	06/10/05	LMP	
Pyrene	4.09	mg/kg	0.0021	0.007	10	06/10/05	LMP	
Method 3550 Ultrasonic Ext.	COMP		-	-	-	06/09/05	JEG	
WI_DNR								
Soil Diesel Range Organics	43.8	mg/kg	-	5.0	1 D3 D4	06/10/05	LMP	
Soil Org Ext - DRO	COMP	-· <del>-</del>	-	-	-	06/06/05	JEG	
Soil Gasoline Range Organic	<5.90	mg/kg	-	5.0	1.1	06/04/05	LMP	



ENVIROSCAN SERVICES 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474 TELEPHONE FACSIMILE WEBSITE 800-338-7226 715-355-3221 www.usfilter.com

PROJECT NO.: 34265.003 REPORT NO.: 178217.8 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc.

8025 Excelsior Drive

Madison, WI 53717

recent bott terrigy and administra										
Sample ID: GP6 0-2	Matrix: SOIL Sample Date/Time: 05/26/05 11:45							Lab No. 178222		
					Dilution		Date			
								Analyat		
	<u>Result</u>	units	LOD	LOQ	<u>Factor</u>	<u>uua i i fiers</u>	Analyzed	<u>Analyst</u>		
EPA 160.3										
Total Solids	75.0	%	-	0.33	1		06/02/05	EAZ		
EPA 3050_										
Metal Prep	COMP		•	-	-		06/02/05	DJB		
EPA 6010_							04 407 405			
Total Lead	6.65	mg/kg	0.53	1.76	1		06/03/05	DJB		
EPA 8021 (Only positively	identifie	l analytes	are report	od on a dry	v woight b	acic				
EPA 8021 (Only positively Benzene	<0.025	mg/kg	0.008	0.027	y weight b	a515	06/04/05	LMP		
	<0.025		0.007	0.027	i		06/04/05	LMP		
Ethylbenzene		mg/kg								
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1		06/04/05	LMP		
Toluene	<0.025	mg/kg	0.007	0.023	1		06/04/05	LMP		
1,2,4-Trimethylbenzene	<0.025	mg/kg	0.012	0.04	1		06/04/05	LMP		
1,3,5-Trimethylbenzene	<0.025	mg/kg	0.01	0.033	1		06/04/05	LMP		
m- & p-Xylene	<0.025	mg/kg	0.015	0.05	1		06/04/05	LMP		
o-Xylene	<0.025	mg/kg	0.008	0.027	1		06/04/05	LMP		
PID Surrogate Recovery (S)	97.2	%	-	-	1		06/04/05	LMP		
EPA 8310										
Acenaphthene	<0.00627	mg/kg	0.0047	0.016	1		06/10/05	LMP		
Acenaphthylene	<0.0088	mg/kg	0.0066	0.022	1		06/10/05	LMP		
Anthracene	<0.0028	mg/kg	0.0021	0.007	1		06/10/05	LMP		
Benzo(a)Anthracene	<0.00547	mg/kg	0.0041	0.014	1		06/10/05	LMP		
Benzo(a)Pyrene	0.00579	mg/kg	0.0023	0.0077	1	J	06/10/05	LMP		
Benzo(b) Fluoranthene	0.00345	mg/kg	0.0021	0.007	1	J	06/10/05	LMP		
Benzo(k)Fluoranthene	<0.00387	mg/kg	0.0029	0.0097	1		06/10/05	LMP		
Benzo(ghi)Perylene	0.0232	mg/kg	0.0021	0.007	1		06/10/05	LMP		
Chrysene	0.00399	mg/kg	0.0023	0.0077	1	J	06/10/05	LMP		
Dibenzo(a,h)Anthracene	<0.00187	mg/kg	0.0014	0.0047	i	•	06/10/05	LMP		
	0.0066	mg/kg	0.00221	0.0074	1	J	06/10/05	LMP		
Fluoranthene	<0.00267		0.00221	0.0067	1	U	06/10/05	LMP		
Fluorene		mg/kg			1			LMP		
Indeno(1,2,3-cd)Pyrene	0.0074	mg/kg	0.0016	0.0053			06/10/05			
1-Methyl Naphthalene	<0.00467	mg/kg	0.0035	0.012	1		06/10/05	LMP		
2-Methyl Naphthalene	<0.00547	mg/kg	0.0041	0.014	1		06/10/05	LMP		
Naphthalene	<0.00213	mg/kg	0.0016	0.0053	1	_	06/10/05	LMP		
Phenanthrene	0.004	mg/kg	0.0023	0.0077	1	J	06/10/05	LMP		
Pyrene	0.00625	mg/kg	0.0021	0.007	1	J	06/10/05	LMP		
9,10-Diphenylanthracene (S)	87.0	%	-	-	1		06/10/05	LMP		
Method 3550 Ultrasonic Ext.	COMP		-	-	-		06/09/05	JEG		
MT DMD										
WI DNR	11 17	4		E 0	4		04 /10 /05	LMD		
Soil Diesel Range Organics	<6.67	mg/kg	•	5.0	1		06/10/05	LMP		
Soil Org Ext - DRO	COMP		-	-			06/06/05	JEG		
Soil Gasoline Range Organic	<6.67	mg/kg	-	5.0	1		06/04/05	LMP		



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Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717

PROJECT NO.: 34265.003
REPORT NO.: 178217.9
DATE REC'D: 06/01/05
REPORT DATE: 06/15/05
PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Sample ID: GP7 0-2	Matrix	: SOIL	Samp	ole Date/Ti	Lab No. 1	Lab No. 178223		
					Dilution	Date		
	<u>Result</u>	<u>Units</u>	LOD	LOQ	<u>Factor</u> <u>Qualifiers</u>	<u>Analyzed</u>	<u>Analyst</u>	
EPA 160.3								
Total Solids	77.4	%	-	0.33	1	06/02/05	EAZ	
EPA 3050								
Metal Prep	COMP		-	-	-	06/02/05	DJB	
<u>EPA 6010</u> Total Lead	10.5	mg/kg	0.53	1.76	1	06/03/05	DJB	
Totat Lead	10.5	פאקפייי	0.55	1.70	•	00,03,03	000	
EPA 8021 (Only positively						04 404 405	1.445	
Benzene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP	
Ethylbenzene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.025	mg/kg	0.018	0.06	1	06/04/05	LMP	
Toluene	<0.025	mg/kg	0.007	0.023	1	06/04/05	LMP	
1,2,4-Trimethylbenzene	<0.025	mg/kg	0.012	0.04	1	06/04/05	LMP	
1,3,5-Trimethylbenzene	<0.025	mg/kg	0.01	0.033	1	06/04/05	LMP	
m- & p-Xylene	<0.025	mg/kg	0.015	0.05	1	06/04/05	LMP	
o-Xylene	<0.025	mg/kg	0.008	0.027	1	06/04/05	LMP	
PID Surrogate Recovery (S)	97.2	%	-	-	1	06/04/05	LMP	
EPA 8310								
Acenaphthene	11.0	mg/kg	0.0047	0.016	200	06/14/05	LMP	
Acenaphthylene	<1.71	mg/kg	0.0066	0.022	200	06/14/05	LMP	
Anthracene	29.3	mg/kg	0.0021	0.007	200	06/14/05	LMP	
Benzo(a)Anthracene	16.5	mg/kg	0.0041	0.014	200	06/14/05	LMP	
Benzo(a)Pyrene	7.24	mg/kg	0.0023	0.0077	200	06/14/05	LMP	
Benzo(b)Fluoranthene	8.88	mg/kg	0.0021	0.007	200	06/14/05	LMP	
Benzo(k)Fluoranthene	3.42	mg/kg	0.0029	0.0097	200	06/14/05	LMP	
Benzo(ghi)Perylene	3.53	mg/kg	0.0021	0.007	200	06/14/05	LMP	
Chrysene	10.7	mg/kg	0.0023	0.0077	200	06/14/05	LMP	
Dibenzo(a,h)Anthracene	<0.362	mg/kg	0.0014	0.0047	200	06/14/05	LMP	
Fluoranthene	84.1	mg/kg	0.00221	0.0074	200	06/14/05	LMP	
Fluorene	12.9	mg/kg	0.002	0.0067	200	06/14/05	LMP	
Indeno(1,2,3-cd)Pyrene	2.65	mg/kg	0.0016	0.0053	200	06/14/05	LMP	
1-Methyl Naphthalene	<0.904	mg/kg	0.0035	0.012	200	06/14/05	LMP	
2-Methyl Naphthalene	<1.06	mg/kg	0.0041	0.014	200	06/14/05	LMP	
Naphthalene Naphthalene	3.98	mg/kg	0.0016	0.0053	200	06/14/05	LMP	
Phenanthrene	74.5	mg/kg	0.0023	0.0077	200	06/14/05	LMP	
Pyrene	77.0	mg/kg	0.0021	0.007	200	06/14/05	LMP	
Method 3550 Ultrasonic Ext.	COMP		-	-	-	06/09/05	JEG	
WI DNR								
Soil Diesel Range Organics	15.1	mg/kg	-	5.0	1 D3 D4	06/10/05	LMP	
Soil Org Ext - DRO	COMP		-		-	06/09/05	JEG	
Soil Gasoline Range Organic	<6.46	mg/kg	-	5.0	1	06/04/05	LMP	



**ENVIROSCAN SERVICES** 301 WEST MILITARY ROAD ROTHSCHILD, WI 54474

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PROJECT NO.: 34265.003 REPORT NO. : 178217.10 DATE REC'D : 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Gannett Fleming, Inc.

8025 Excelsior Drive Madison, WI 53717

Sample ID: GP1	Matri	k: GRD₩TR	Sai	mple Date/Ti	Lab No. 178224			
	Result	Units	Dilution <u>LOD LOQ Factor</u> Qualifie				Date <u>Analyzed</u>	Apolyat
	Kesutt	Offics	LOD	<u> </u>	ractor	<u>quatifiers</u>	Anatyzeu	<u>Analyst</u>
EPA 8021								
Benzene	<0.31	μg/l	0.31	1.03	1		06/07/05	LMP
Ethylbenzene	<0.5	μg/l	0.5	1.67	1		06/07/05	LMP
Methyl t-Butyl Ether(MTBE)	<0.3	μg/l	0.3	1.0	1		06/07/05	LMP
Toluene	<0.3	μg/l	0.3	1.0	1		06/07/05	LMP
1,2,4-Trimethylbenzene	<0.4	μg/l	0.4	1.33	1		06/07/05	LMP
1,3,5-Trimethylbenzene	<0.31	μg/l	0.31	1.03	1		06/07/05	LMP
m- & p-Xylene	<0.62	μg/l	0.62	2.06	1		06/07/05	LMP
o-Xylene	<0.3	μg/l	0.3	1.0	1		06/07/05	LMP
PID Surrogate Recovery (S)	94.1	%	-	-	1		06/07/05	LMP
EPA 8310								
Acenaphthene	<0.06	μg/l	0.06	0.20	1		06/07/05	LMP
Acenaphthylene	<0.06	μg/l	0.06	0.20	1		06/07/05	LMP
Anthracene	<0.05	μg/l	0.05	0.17	1		06/07/05	LMP
Benzo(a)Anthracene	<0.04	μg/l	0.04	0.13	1		06/07/05	LMP
Benzo(a)Pyrene	<0.017	μg/l	0.017	0.057	1		06/07/05	LMP
Benzo(b)Fluoranthene	<0.02	μg/l	0.02	0.067	1		06/07/05	LMP
Benzo(k)Fluoranthene	<0.04	μg/l	0.04	0.13	1		06/07/05	LMP
Benzo(ghi)Perylene	<0.05	μg/l	0.05	0.17	1		06/07/05	LMP
Chrysene	<0.02	μg/l	0.02	0.067	1		06/07/05	LMP
Dibenzo(a,h)Anthracene	<0.06	μg/l	0.06	0.20	1		06/07/05	LMP
Fluoranthene	<0.06	μg/l	0.06	0.20	1		06/07/05	LMP
Fluorene	<0.12	μg/l	0.12	0.40	1		06/07/05	LMP
Indeno(1,2,3-cd)Pyrene	<0.05	μg/l	0.05	0.17	1		06/07/05	LMP
1-Methyl Naphthalene	<0.08	μg/l	0.08	0.27	1		06/07/05	LMP
2-Methyl Naphthalene	<0.11	μg/l	0.11	0.37	1		06/07/05	LMP
Naphthalene	<0.1	μg/l	0.1	0.33	1		06/07/05	LMP
Phenanthrene Phenanthrene	<0.08	μg/l	0.08	0.27	1		06/07/05	LMP
Pyrene	<0.09	μg/l	0.09	0.30	1		06/07/05	LMP
9,10-Diphenylanthracene (S)	86.2	%	-	-	1		06/07/05	LMP
Method 3510 Liquid Ext.	COMP		-	-	-		06/01/05	MJG
WI DNR								
Gasoline Range Organics	<50.0	μg/l	-	50.0	1		06/07/05	LMP



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Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717 PROJECT NO.: 34265.003 REPORT NO.: 178217.11 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

Attn: Jeff King/ Liz Lundmark

Sample ID: GP4	Matrix: GRDWTR Sample Date/Time: 05/26/05 11:15					Lab No. 178225		
	<u>Result</u>	<u>Units</u>	LOD	<u>L0Q</u>	Dilution <u>Factor</u> <u>Qualifier</u>	Date <u>Analyzed</u>	Analyst	
EPA 8021_								
Benzene	<0.31	μg/l	0.31	1.03	1	06/07/05	LMP	
Ethylbenzene	<0.5	μg/l	0.5	1.67	1	06/07/05	LMP	
Methyl t-Butyl Ether(MTBE)	<0.3	μg/l	0.3	1.0	-1	06/07/05	LMP	
Naphthalene	<0.8	μg/l	0.8	2.66	1	06/07/05	LMP	
Toluene	<0.3	μg/l	0.3	1.0	1	06/07/05	LMP	
1,2,4-Trimethylbenzene	<0.4	μg/l	0.4	1.33	1	06/07/05	LMP	
1,3,5-Trimethylbenzene	<0.31	μg/l	0.31	1.03	1	06/07/05	LMP	
m- & p-Xylene	<0.62	μg/l	0.62	2.06	1	06/07/05	LMP	
o-Xylene	<0.3	μg/l	0.3	1.0	1	06/07/05	LMP	
PID Surrogate Recovery (S)	94.2	%	-	-	1	06/07/05	LMP	
WI DNR								
Gasoline Range Organics	<50.0	μg/l	-	50.0	1	06/07/05	LMP	



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Gannett Fleming, Inc. 8025 Excelsior Drive Madison, WI 53717

Attn: Jeff King/ Liz Lundmark

PROJECT NO.: 34265.003 REPORT NO.: 178217.12 DATE REC'D: 06/01/05 REPORT DATE: 06/15/05 PREPARED BY: JRS

## Qualifier Descriptions

D2A	The chromatogram is characteristic for a light petroleum product. (i.e. gasoline, aged or degraded gasoline, mineral spirits, etc.)
D2B	The chromatogram is characteristic for a heavier petroleum product other than diesel. (i.e. motor oil, hydraulic oil, etc.)
G2	The chromatogram has characteristics of an aged gasoline sample.
G6	The chromatogram contains a significant number of peaks and a raised baseline outside the GRO window.
J	Estimated concentration below laboratory quantitation level.
D3	The chromatogram is not characteristic for diesel or any single common petroleum product.
D4	The chromatogram contained significant peaks outside the DRO window.



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## Sample Receipt Report

Client:	Gannett Fleming Date Received: 51 05
Analyti	cal No.: 20178217 Through 2017825
	all deviations from EPA or WDNR sample protocol.
[]	Sample(s) received at°C which is above the EPA and WDNR limit of 4°C.
[]	VOC vial(s) received with headspace. Explain:
[]	Sample(s) received in bottles not furnished by Enviroscan. Preservation method, if used, is unknown.
[]	Sample(s) not properly preserved per EPA/WDNR protocol for the following:
[]	Sample(s) received beyond EPA holding time for:
[]	Sample date/time not supplied by client. Actual holding time unknown.
[]	GRO/PVOC/VOC/DRO (circle appropriate) sample(s) are < 19.5 gms and this report is the flag for that information. Sample(s) under-weight:
[] (	GRO/PVOC/VOC (circle appropriate) sample(s) were between 26.4-35.4 gms so methanol was added in a 1:1 ratio. Sample(s) included: 2017821712ml
[]	GRO/PVOC/VOC/DRO (circle appropriate) sample(s) were >35.4 gms and are required to be rejected. Sample(s) included:
[]	Other:
Client	contact concerning the above deviations:
Client at	(contact name) notified of the above deviation(s) on//_  : am/pm by and the client ordered:  (signature)
	Proceed with analyses as ordered.  Proceed with analyses after taking the following corrective action:
	[] Do NOT proceed with analyses.

## REQUEST FOR SERVICES

ENVIROSCAN SE	ERVICES	30	1 W. MILI	TARY RD.	ROTI	HSCH	HLD,	WI :	5447	4	1-800	-338-SC	AN
REPORT TO:	ff King	- Ganne	eff Flein	'nç	BILL TO Name: _	0: (if c	differe	nt fro	m Re				
		celsion 9	Dr.		Compar	ny: _	MM			<u> </u>	SAIn	<u>C</u>	
Address: Mø	dixon,	W1 53	717		Address	s:	<u> 240</u>	7	5+12	1301	Ave.	-015	
Phone: ( <u>(008</u> )	83	6-1500	2		Phone:	(	Shp)	P.L.Y.\*0	r, h	/[	548	80	<del></del>
P.O.#	~ ~ ~ ~		,,	1.77									
Project # 34265 Location Marphy	.003 1-Marix	Quote + VL_T(rm;'n	4	630153	•							QUESTS	S
Sample Ty	ne	Turnarou	ınd Time					(us	e sep	arate	sheet if r	necessary)	
(Check all that Groundwa Wastewate	<i>apply)</i> ter	Norm Rush	nal n (Pre-appro				/	/ /	/ /	/ /			
Soil/Solid Drinking W Dil Vapor Other	Vater	Approved	ded By				/ 20/	10				/ `	
LAB USE ONLY	DATE	TIME	No. of Containers	SAMF	PLE ID	/6		0/2			36x	REMAR	ĸs
0178217	5/26/05	0955	3	GP1(0	7-2)				1		( regar)	7-301/0	
20178218	1 :	1020		GP 26	⊋-3) 3)						F		
20178219		1030		GP36	g-3)								
20178220		1100		GP-41	(0-2)								
20178221		1135		GP-50	8-2								
0178222		1145		GP-6(	0-2)				İ				-
20178223		1200	V	GP-7(	(0-2)	V	V	V	V		V	مدراه ۵	Ander
0178224		1005	3	GP-1			HAM	1	-	14	GRO	IPVac/P	AH NP
20178225	W	1115	2	GP4			KAA			~	শ		
		mus	<u>,</u> }			<u> </u>		Deľv: Ship. (			omm.	N N/A	
CHAIN OF	CUST			RD			9	Sampl Seals	les le OK?	aking		® N/A N N/A 3 N N/A 3	) } •
SAMPLERS: (Signate	ure) Je	Zing						Rec'd Comn				TN NNA <u>≃</u>	_
REVINOUISHED BY: (S	Signature)	5/3)/o	TIME 5 HJOS	RECEIVED B	3Y: (Signatur	re)	]   -						_ _
RELINDUISHED BY: (S	Signature)	DATE/		RECEIVED E	3Y: (Signatur	re)	-					•	<u> </u>
RELINQUISHED BY: (S	Signature)	DATE/	/TIME	RECEIVED F	OR LABOR	ATORY		DATE/	TIME				