

December 2nd, 1998

Mr. James Hosch  
Wisconsin Department of Natural Resources  
1705 Tower Avenue  
Superior, WI 54880

RE: Release of Naphtha gasoline from Tank 40 on 10/17/98

Dear Mr. Hosch:

On behalf of Murphy Oil USA, Inc. I am providing written confirmation of the verbal notification given on October 17th, 1998, regarding the release of naphtha gasoline at TK40.

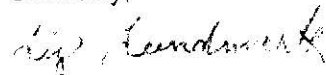
On October 17th, 1998, at 3:30 a.m., Murphy Oil experienced a release of approximately 165 gallons of gasoline. The release was the result of overfilling the tank. The information on for safe fill hight for the tank was not updated when the floating roof was installed in the tank. This information has been updated for TK40. Information for all tanks at the refinery has been reviewed for accuracy. The tank is located on the refinery property which is at 2400 Stinson Ave., Superior, WI. The map coordinates for the refinery are NW1/4, NW1/4, Sect. 36, T 49N, R 14N.

The material was released into the dike containment area of the tank. The dike drain was checked at the time of the release and was confirmed to be closed. The area was secured and the clean up of the spilled material was begun immediately. At no time was there any danger of the material moving off site. All product was recovered with a vac truck and placed in the #1 API separator for hydrocarbon recovery. The area was washed down with a fire hose and this water was also vacuumed up and put in the #1 API separator for hydrocarbon recovery.

This area has been field screened and seven geoprobes have been done to further investigate this site. We will be excavating based on the results of the probes. Analytical results for the geoprobes should be complete in a week to ten days. I have enclosed the work plan for the geoprobe work as well as results from the initial field screening.

If you have any questions or wish to discuss this matter further, please call me at (715)398-3533.

Sincerely,



Liz Lundmark  
Manager--Environmental and PSM

cc: Fred Green  
Kevin Melnyk  
Jim Britt  
Greg Neve

el.003





**GANNETT FLEMING, INC.**  
8025 Excelsior Drive  
Madison, WI 53717-1900  
**Office: (608) 836-1500**  
Fax: (608) 831-3337

November 12, 1998  
File #34265.003

Ms. Liz Lundmark  
Manager Safety & Env. Control  
Murphy Oil USA, Inc.  
2407 Stinson Avenue  
P.O. Box 2066  
Superior, WI 54880

Re: Work Plan for Soil Investigation — Tank 40 Releases  
Murphy Oil USA, Inc., Superior, Wisconsin

Dear Liz:

This letter provides our proposed work plan for an investigation to determine the extent and degree of unsaturated soil contamination within the diked area of Tank 40 at Murphy Oil's Superior refinery. A release from this tank of about 1,500 gallons of gasoline blended stock was reported in October 1998. During the investigation, we will also collect soil samples for physical parameter testing, and these data will be used in our contaminant transport modeling.

### **Initial Field-Screening**

On October 22, 1998, Twin Ports Testing used a hand auger to collect shallow soil samples (i.e., 1 to 1.5 feet and 2 to 2.5 feet below ground surface [bgs]) from 17 locations within the diked area of Tank 40. These samples were field-screened with both a flame-ionization detector (FID) and a photoionization detector (PID). The field-screening was completed in order to define the extent of soils likely affected by the release, and the results are attached. The hand-auger sampling locations and the FID field-screening results, which are more useful than the PID results due to the sensitivity of the instrument, are shown on Figure 1. Elevated FID readings were measured in virtually all samples. Readings for the deeper samples were generally as high as or higher than those for the shallow samples.

Mr. James A. Hosch  
Wisconsin Department of Natural Resources  
November 12, 1998

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### **Proposed Scope of Work**

Gannett Fleming, Inc. proposes to advance seven Geoprobe boreholes within the diked area at Tank 40 in order to define the degree of petroleum contamination in the unsaturated soils in this tank basin. All seven boreholes will be advanced to 6 feet bgs. The proposed locations for these boreholes are shown on Figure 1. These may be adjusted in the field, depending on the locations of underground utilities, pipelines, standing water, or other constraints on accessibility.

Soil samples will be collected from each borehole for chemical analysis and for testing of physical parameters. Figure 2 is a schematic representation of a typical borehole, showing the depths from which the samples for chemical and physical analysis will be collected from each borehole.

#### **Soil Sampling (Chemical Parameters)**

All the boreholes will be advanced with a Geoprobe equipped with a 4-foot-long, 2-inch-diameter, macro-core sampler. A new acetate liner will be inserted into the sampler to collect each soil core, and we will collect continuous soil samples from each borehole. The samples will be visually classified and logged. Soil samples will be collected from each borehole at 1 to 2 feet and 4 to 5 feet bgs. These samples will be placed in laboratory-supplied containers, preserved as necessary, placed on ice, and shipped to Commonwealth Technology, Inc. (CTI), a Wisconsin-certified laboratory in Baraboo, Wisconsin, for analysis of gasoline range organics (GRO), petroleum volatile organic compounds (PVOCs), and lead.

#### **Soil Sampling (Physical Parameters)**

In one of the seven boreholes, soil samples will be collected from each 1.25-foot interval to a depth of 5 feet and shipped to CTI for analysis of the organic carbon fraction in the sample. A separate macro-core sampler will also be advanced next to one of the seven boreholes in order to collect an undisturbed sample at 2 to 4 feet bgs. This sample will be shipped to a qualified laboratory for falling head permeability testing. The permeability and organic carbon results will be used to calibrate the model that will be used to develop site-specific residual contaminant levels (RCLs).

Mr. James A. Hosch  
Wisconsin Department of Natural Resources  
November 12, 1998

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Equipment Decontamination

All non-disposable sampling equipment will be decontaminated between samples using a detergent/potable water solution and rinsed with either potable or distilled water.

Project Documentation

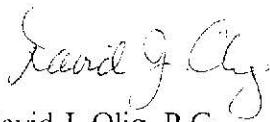
The following required forms will be completed and submitted to the Wisconsin Department of Natural Resources (WDNR) with the investigation report:

- Soil Boring Log Information (Form 4400-122).
- Well/Drill Hole/Borehole Abandonment (Form 3300-5B).

If it is acceptable to Murphy, we plan to have Twin Ports do the drilling. At the same time this work is being done, we will collect groundwater samples from the monitoring wells that were installed during the Phase 3 investigation we did in October. I will call you later this week to answer any questions you have and to discuss a schedule for completing the work.

Sincerely,

GANNETT FLEMING, INC.



David J. Olig, P.G.  
Senior Project Manager

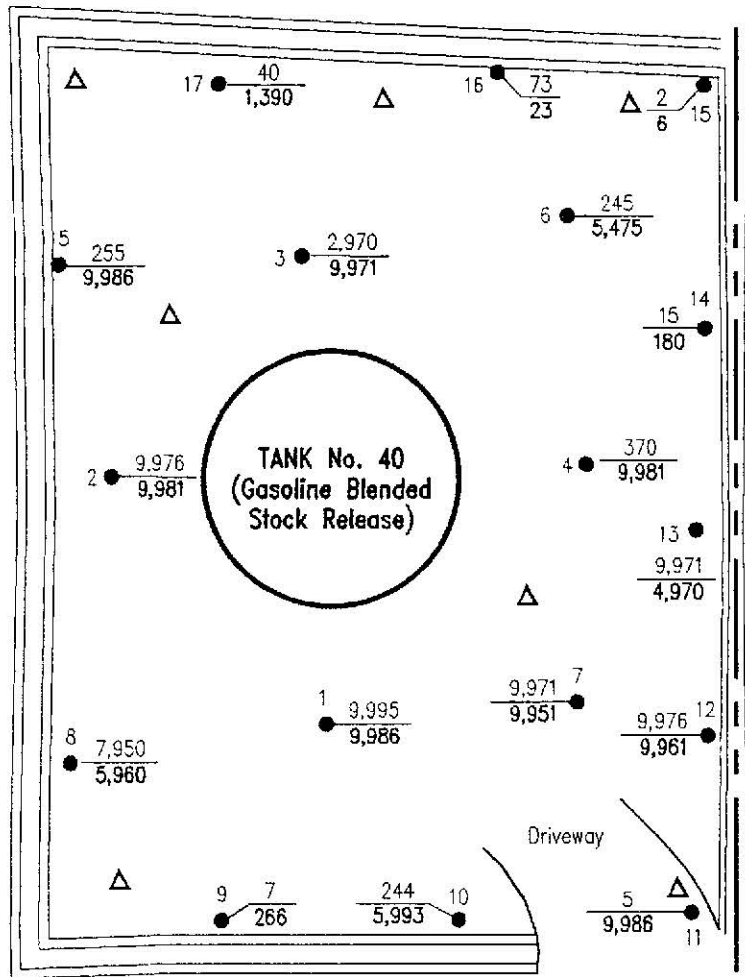


Jeffrey J. King  
Project Hydrogeologist

DJO/jec  
Enc.

MURPHY OIL U.S.A.  
SUPERIOR, WISCONSIN  
HAND AUGER BORING RESULTS  
TANK 40  
OCTOBER 22, 1998

Hand Auger Boring Identification	Sample Depth (ft.)	Soil Description	FID Background (ppm)	FID Reading (ppm)	PID Background (ppm)	PID Reading (ppm)
1	1	brown organic clay	6	10.001	0	651
	2	reddish brown clay	15	10.001	0	776
2	1	brown organic clay	25	10.001	0	446
	2	reddish brown clay	20	10.001	0	242
3	1	brown organic clay	30	3.000	0	218
	2	brown organic clay	30	10.001	0	469
4	1	sandy black organic clay	30	400	0	38
	2	reddish brown organic clay	20	10.001	0	534
5	1	reddish brown organic clay	20	275	0	64
	2	reddish brown organic clay	15	10.001	0	180
6	1	black to reddish organic clay	30	275	0	32
	2	black to reddish organic clay	25	5.500	0	253
7	1	black to reddish organic clay	30	10.001	0	299
	2	reddish brown clay	50	10.001	0	253
8	1	black to brown organic clay	50	8.000	0	265
	2	reddish brown clay	40	6.000	0	238
9	1	black to brown organic clay	10	17	0	1
	2	reddish brown clay	9	275	0	3
10	1	reddish brown clay	6	250	0	19
	2	reddish brown clay	7	6.000	0	263
11	1	black to brown organic clay	25	30	0	3
	2	black to brown organic clay	15	10.001	0	165
12	1	reddish brown organic clay	25	10.001	0	209
	2	reddish brown clay	40	10.001	0	171
13	1	black to brown organic clay	30	10.001	0	498
	2	black to brown organic clay	30	5.000	0	263
14	1	black to brown organic clay	30	45	0	5
	2	reddish brown clay	20	200	0	48
15	1	reddish brown clay	20	22	0	3
	2	reddish brown clay	15	21	0	3
16	1	black to brown organic clay	12	85	0	13
	2	reddish brown clay	12	35	0	3
17	1	sandy brown organic clay	10	50	0	3
	2	sandy brown organic clay	10	1,400	0	196



**LEGEND**

- Proposed Gannett Fleming*
- △ Geoprobe Soil Sample Location
- 18 ● Twin Ports Hand-Auger Field Screening Soil Sample Location (October 1998)
- Piping Run
- $\frac{11}{100}$  = FID Reading At 1 Foot Depth
- $\frac{100}{100}$  = FID Reading At 2 Foot Depth

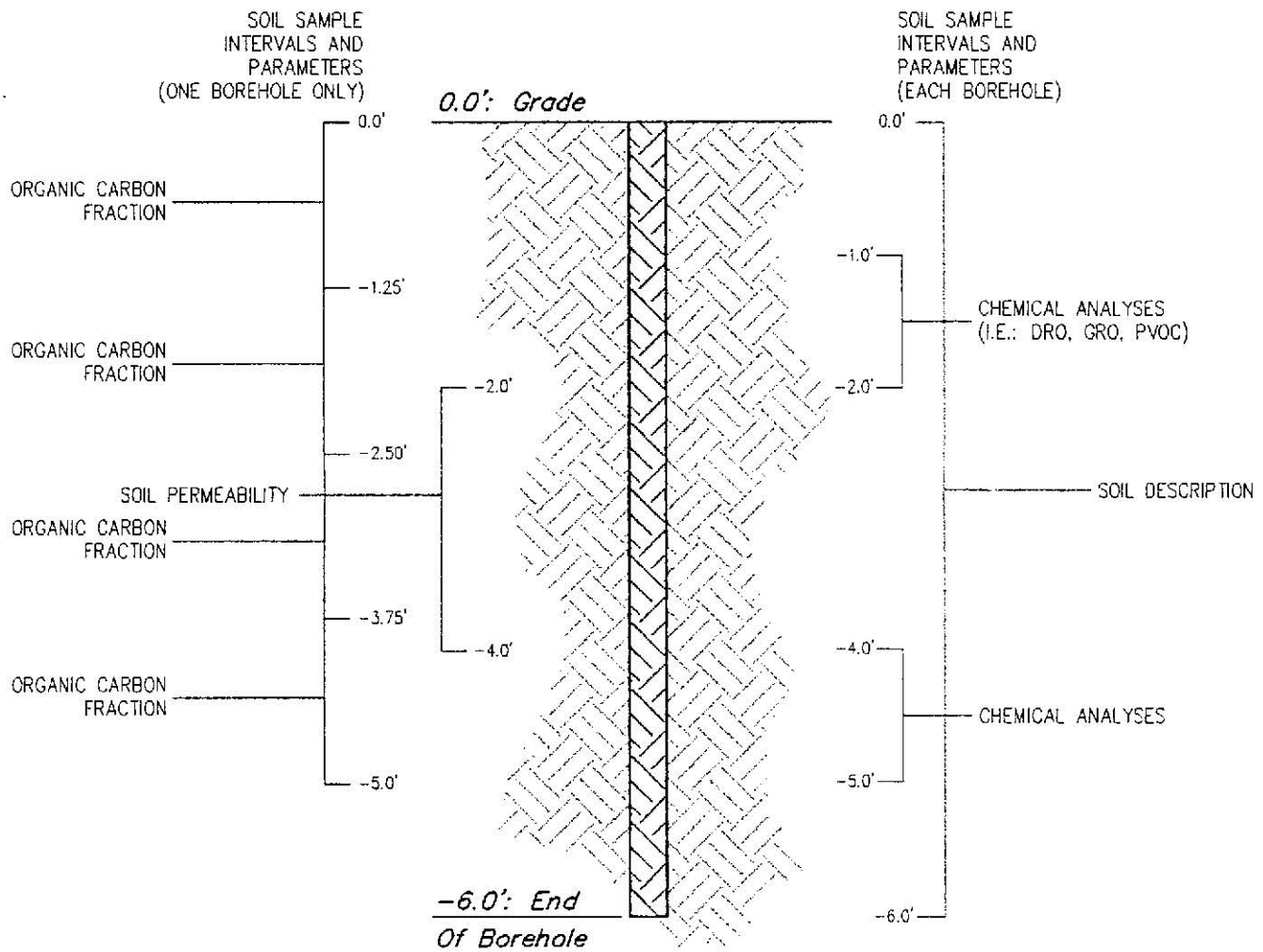
**NOTE**

*Locations Are Approximate Based On Field Measurements; Site Not Surveyed*



**SAMPLE LOCATIONS AND FID READINGS AT TANK NO. 40**

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN



**NOTES**

1. One Soil Sample Will Be Collected Per Tank Basin For Soil Permeability And Samples For Organic Carbon Fraction Analytes Will Only Be Collected From One Probehole Per Basin.
2. Samples For Chemical Analysis At Gasoline And Gasoline Blended Stock Release Sites Will Be Analyzed For GRO, PVOCs, And Lead.
3. Samples For Chemical Analysis At Fuel Oil And Crude Sites Will Be Analyzed For DRO, PVOCs, And PAHs.

Not To Scale

**PROPOSED SOIL SAMPLE INTERVALS AND ANALYTES**

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor  
George E. Meyer, Secretary  
William H. Smith, Regional Director

1705 Tower Avenue  
Superior, Wisconsin 54880  
Telephone 715-392-0802  
FAX 715-392-7993

February 1, 1999

Ms. Liz Lundmark  
Murphy Oil U.S.A  
PO Box 2066  
Superior, WI 54880

Subject: Spill of 165 gallons of Naptha gasoline from Tank 40, on October 17, 1998  
Superior Wisconsin

Dear Ms. Lundmark:

The purpose of this letter is to inform you of your legal responsibilities regarding the spill with which you are currently involved. Under State Law, section 292.11, Statutes, you must clean-up any contamination resulting from your spill to state standards. Because a hazardous substance has been discharged, you are responsible for restoring the environment.

The Hazardous Substance Spills Law, section 292.11(3), Wisconsin Statutes states:

"A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore to the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state."

The attached December 1997 Spill Containment and Cleanup Guidance will provide you with information on your cleanup responsibilities, consultant list, containment, sampling, treatment and disposal options.

Required Actions:

As the responsible party of the discharge of a hazardous substance, you have the responsibility to assess the immediate impact of the discharge on human health and the environment and to act immediately to minimize these impacts. Furthermore, you must clean-up the discharge to acceptable State standards and take any other actions necessary to restore the environment to the extent practicable. Following the initial response and clean-up, if impacts of the discharge remain in the soils, water and/or groundwater, additional investigation and clean up may be required by the Department.

Spill clean-up should occur as quickly as possible to prevent extensive migration of the spill and also keep response, cleanup, and restoration costs from escalating. Clean-up progress should be reported to the Department on a regular basis as the clean-up occurs. **Within 30 days of the date of this letter**, return a Narrative Clean-up Summary, Site Map, copies of documents covering the proper disposal of contaminated

*Quality Natural Resources Management  
Through Excellent Customer Service*

