

## GIS REGISTRY INFORMATION

<b>SITE NAME:</b>	Superior Refinery/Murphy Oil		<b>FID #</b>	
<b>BRRTS #:</b>	02-16-222628		(if appropriate):	
<b>COMMERCE #</b> (if appropriate):	54880-0456-07			
<b>CLOSURE DATE:</b>	December 09, 2004			
<b>STREET ADDRESS:</b>	2400 Stinson Ave			
<b>CITY:</b>	Superior			
<b>SOURCE PROPERTY GPS COORDINATES</b> (meters in WTM91 projection):	<b>X =</b>	361703	<b>Y =</b>	693079
<b>CONTAMINATED MEDIA:</b>	Groundwater	<input type="checkbox"/>	Soil	<input type="checkbox"/>
			Both	<input checked="" type="checkbox"/>
<b>OFF-SOURCE GW CONTAMINATION &gt;ES:</b>	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
• <b>IF YES, STREET ADDRESS:</b>				
• <b>GPS COORDINATES</b> (meters in WTM91 projection):	<b>X =</b>		<b>Y =</b>	
<b>OFF-SOURCE SOIL CONTAMINATION</b> >Generic or Site-Specific RCL (SSRCL):	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
• <b>IF YES, STREET ADDRESS 1:</b>				
• <b>GPS COORDINATES</b> (meters in WTM91 projection):	<b>X =</b>		<b>Y =</b>	
<b>CONTAMINATION IN RIGHT OF WAY:</b>	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
<b>DOCUMENTS NEEDED</b>				
Closure Letter, and any conditional closure letter issued				<input checked="" type="checkbox"/>
Copy of most recent deed, including legal description, for all affected properties				<input checked="" type="checkbox"/>
Certified survey map or relevant portion of the recorded plat map (if referenced in the legal description) for all affected properties				<input checked="" type="checkbox"/>
County Parcel ID number, if used for county, for all affected properties				<input checked="" type="checkbox"/>
Location Map which outlines all properties within contaminated site boundaries on USGS topographic map or plat map in sufficient detail to permit the parcels to be located easily (8.5x14" if paper copy). If groundwater standards are exceeded, the map must also include the location of all municipal and potable wells within 1200' of the site.				<input checked="" type="checkbox"/>
Detailed Site Map(s) for all affected properties, showing buildings, roads, property boundaries, contaminant sources, utility lines, monitoring wells and potable wells. (8.5x14", if paper copy) This map shall also show the location of all contaminated public streets, highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding ch. NR 140 ESs and soil contamination exceeding ch. NR 720 generic or SSRCLs.				<input checked="" type="checkbox"/>
Tables of Latest Groundwater Analytical Results (no shading or cross-hatching)				<input checked="" type="checkbox"/>
Tables of Latest Soil Analytical Results (no shading or cross-hatching)				<input checked="" type="checkbox"/>
Isoconcentration map(s), if required for site investigation (SI) (8.5x14" if paper copy). The isoconcentration map should have flow direction and extent of groundwater contamination defined. If not available, include the latest extent of contaminant plume map.				<input checked="" type="checkbox"/>
GW: Table of water level elevations, with sampling dates, and free product noted if present				<input checked="" type="checkbox"/>
GW: Latest groundwater flow direction/monitoring well location map (should be 2 maps if maximum variation in flow direction is greater than 20 degrees)				<input checked="" type="checkbox"/>
SOIL: Latest horizontal extent of contamination exceeding generic or SSRCLs, with one contour				<input checked="" type="checkbox"/>
Geologic cross-sections, if required for SI. (8.5x14" if paper copy)				<input checked="" type="checkbox"/>
RP certified statement that legal descriptions are complete and accurate.				<input checked="" type="checkbox"/>
Copies of off-source notification letters (if applicable)				<input type="checkbox"/>
Letter informing ROW owner of residual contamination (if applicable)(public, highway or railroad ROW)				<input type="checkbox"/>
Copy of (soil or land use) deed restriction (s) or deed notice if any required as a condition of closure				<input checked="" type="checkbox"/>



ENVIRONMENTAL & REGULATORY SERVICES DIVISION  
BUREAU OF PECFA  
P.O. Box 8044  
Madison, Wisconsin 53708-8044  
TDD #: (608) 264-8777  
Fax #: (608) 267-1381  
**Jim Doyle, Governor**  
**Cory L. Nettles, Secretary**

December 09, 2004

Liz Lundmark  
Murphy Oil USA Inc  
2407 Stinson Ave  
Superior, WI 54880

**RE: Final Closure**

**Commerce # 54880-0456-07x**      **WDNR BRRTS # 02-16-222628**  
Superior Refinery/Murphy Oil, 2400 Stinson Ave, Superior

Dear Ms. Lundmark:

The Wisconsin Department of Commerce (Commerce) has received all items required as conditions for closure of the site referenced above. This case is now listed as "closed" on the Commerce database and will be included on the Wisconsin Department of Natural Resources (WDNR) Geographic Information System (GIS) Registry of Closed Remediation Sites to address residual contamination. It is in your best interest to keep all documentation related to the environmental activities that were conducted.

If residual contamination is encountered in the future, it must be managed in accordance with all applicable state and federal regulations. If it is determined that any remaining contamination poses a threat, the case may be reopened and further investigation or remediation may be required.

Thank you for your efforts to bring this case to closure. If you have any questions, please contact me in writing at the letterhead address or by telephone at (608) 261-7718.

Sincerely,

Will M. Myers  
Geologist  
Site Review Section

cc: Dennis Kugle, Gannett Fleming, Inc.



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P.O. Box 8044  
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TDD #: (608) 264-8777  
Fax #: (608) 267-1381  
<http://www.commerce.state.wi.us>  
<http://www.wisconsin.gov>  
Jim Doyle, Governor  
Cory L. Nettles, Secretary

September 15, 2003

Liz Lundmark  
Murphy Oil USA  
2400 Stinson Ave  
PO Box 2066  
Superior, WI 54880

RE: **Conditional Case Closure**

**Commerce # 54880-0456-07**      **WDNR BRRTS # 02-16-222628**  
Superior Refinery/Murphy Oil, 2400 Stinson Ave, Superior

Dear Ms. Lundmark:

The Wisconsin Department of Commerce (Commerce) has reviewed the additional information prepared and provided by your consultant, Gannett Fleming Inc., for the site referenced above. Commerce has determined that this site does not pose a significant threat to the environment and human health if the following condition is met. No further investigation or remedial action is necessary.

**The following condition must be satisfied to obtain final closure:**

A deed restriction (including the figure and table referenced below) shall be recorded with the county Register of Deeds and attached to the property deed. **A copy of the Deed Restriction and attached information including the Register of Deeds recording information, shall be submitted to Commerce.** This restriction is being required as a result of elevated levels of residual soil contamination on-site. Residual soil contamination is present at levels above the established standards indicating a direct contact threat to human health. **The restriction requires limited access to the site.** To comply with the requirement of limited access, fencing, which encompasses and restricts access to the site, shall remain in place until it is determined that the threat to human health has been remediated. Any person entering the site must be knowledgeable of the contamination that is present and wear appropriate personal protective gear. A figure, which indicates the estimated extent of residual soil contamination exceeding the direct contact threat level (prior approval of the figure should be obtained from Commerce before recording the figure with the Register of Deeds), **and Table 2 (Included with the GIS Registry packet) must be attached to the Deed Restriction to be recorded with the Register of Deeds, and include recording information when submitted to Commerce.**

A draft copy of the deed restriction is enclosed for your convenience. If you prefer to draft your own restriction, you shall obtain departmental approval prior to recording the document with the Register of Deeds. If a document other than the document provided is recorded without approval, final closure will not be granted.

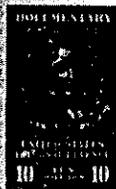
THIS INDENTURE, Made by Lake Superior Refining Co., a Wisconsin corporation, grantor, of Douglas County, Wisconsin, hereby conveys and warrants to Murphy Corporation, a Louisiana corporation, grantee, whose principal office is in Eldorado, Union County, Arkansas, in accordance with the plan of complete liquidation and dissolution adopted by the Board of Directors and Stockholders of the grantor hereinabove mentioned, the following tracts of land and personal property in Douglas County, State of Wisconsin:

All of the following described lands being on West Twenty-third (23) Street, Townsite of Superior, in the City of Superior, Douglas County, Wisconsin:

All of Block Fifteen (15);  
 All of Block Sixteen (16);  
 North one-half ( $N\frac{1}{2}$ ) of Block Seventeen (17);  
 Southeast Quarter ( $SE\frac{1}{4}$ ) of Block Seventeen (17);  
 All of Block Eighteen (18);  
 All of Block Nineteen (19), except Lots 314, 316, 318 and 320 on West Twenty-second (22) Street in Bayfront Division;  
 All of Block Twenty (20);  
 All of Block Twenty-two (22), except Lots 343, 344, 345, 346, 347, 348, 349, 350, 351 and 352 in Bayfront Division, a part of said Block Twenty-two (22);  
 All of Block Twenty-four (24);  
 All of Block Twenty-six (26);  
 All of Block Twenty-eight (28);  
 All of Block Thirty (30);

The following described Lots being on West Twenty-fifth (25) Street in the Townsite of Superior, in the City of Superior, Douglas County, Wisconsin:

All of Block Thirteen (13), subject to the Northern Pacific Railway Company easement for a right-of-way on Newton Avenue;  
 All of Block Fourteen (14), subject to the Northern Pacific Railway Company easement for a right-of-way on Newton Avenue;  
 All of Block Fifteen (15);  
 All of Block Sixteen (16);  
 All of Block Seventeen (17);  
 All of Block Eighteen (18);  
 All of Block Nineteen (19);  
 All of Block Twenty (20);  
 All of Block Twenty-one (21);



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All of Block Twenty-two (22);  
All of Block Twenty-three (23);  
All of Block Twenty-four (24);  
All of Block Twenty-five (25);  
All of Block Twenty-six (26);  
All of Block Twenty-seven (27);  
All of Fractional Block Twenty-eight (28);  
All of Block Twenty-nine (29);  
All of Block Thirty (30);

The following described Lot being on West Twenty-sixth (26) Street in the Townsite of Superior, in the City of Superior, Douglas County, Wisconsin:

All of Block Thirty-two (32);

The following described Lots being on West Twenty-seventh (27) Street in the Townsite of Superior, in the City of Superior, Douglas County, Wisconsin:

All of Block Nine (9);  
All of Block Thirteen (13), subject to the Northern Pacific Railway Company easement for right-of-way on Newton Avenue;  
All of Block Fourteen (14), subject to Northern Pacific Railway Company easement for right-of-way on Newton Avenue;  
All of Block Fifteen (15);  
All of Block Sixteen (16);  
All of Block Seventeen (17);  
All of Block Eighteen (18);  
All of Block Nineteen (19);  
All of Block Twenty (20);  
All of Block Twenty-one (21);  
All of Block Twenty-two (22);  
All of Block Twenty-three (23);  
All of Block Twenty-four (24);  
All of Fractional Block Twenty-five (25);  
All of Block Twenty-six (26);  
All of Fractional Block Twenty-seven (27);  
All of Block Twenty-eight (28);  
All of Block Twenty-nine (29);  
All of Block Thirty (30);  
All of Block Thirty-one (31);  
All of Block Thirty-two (32), subject to the Northern Pacific Railway Company easement for right-of-way on Newton Avenue;

The following described Lots being on West Twenty-ninth (29) Street in the Townsite of Superior, in the City of Superior, Douglas County, Wisconsin:

All of Block Seven (7);  
All of Block Thirteen (13), subject to the Northern Pacific Railway Company easement for right-of-way on Newton Avenue;  
All of Block Fourteen (14), subject to the Northern Pacific Railway Company easement for right-of-way on Newton Avenue;  
All of Block Fifteen (15);

All of Block Sixteen (16);  
All of Block Seventeen (17);  
All of Block Eighteen (18);  
All of Block Nineteen (19);  
All of Block Twenty (20);  
All of Block Twenty-one (21);  
All of Block Twenty-two (22);  
All of Block Twenty-three (23);  
All of Block Twenty-four (24);  
All of Block Twenty-five (25);  
All of Block Twenty-six (26);  
All of Block Twenty-seven (27);  
All of Block Twenty-eight (28);  
All of Block Twenty-nine (29);  
That part of Block Thirty (30) lying East of the  
East line of the Wisconsin Central Railway  
Company right-of-way;  
That part of Block Thirty-one (31) lying East of  
the East line of the Wisconsin Central Railway  
Company right-of-way;

Also the following easements:

1. A right-of-way easement five feet (5') in width for the purpose of laying, maintaining, operating, patrolling, altering, repairing, renewing and removing, in whole or in part, a six inch (6") supply pipe line for the transportation of crude petroleum from the storage tanks of the Lakehead Pipe Line Company, Inc. to the refinery owned and operated by Lake Superior Refining Co., together with the necessary fixtures, equipment and appurtenances over, through, upon, under, and across that portion of the Lakehead Pipe Line Company, Inc. property now traversed by said pipe line as it is presently laid and located; and as shown on the sketch or plat attached to that certain deed from Lakehead Pipe Line Company, Inc. to Superior Refinery Owners, Inc. dated July 23, 1952; and recorded in 232 of Deeds, page 231, in the office of the Register of Deeds for Douglas County, Wisconsin, said property being situated in Douglas County, Wisconsin, together with the rights of ingress and egress to and from said right-of-way through and over said above described land for any and all purposes necessary to the exercise by the grantee of the rights therein granted. Said easement to be effective as long as crude oil is taken through the pipe line system of Lakehead Pipe Line Company, Inc., subject to the restrictions contained in said easement deed.
2. That certain easement for a six inch (6") pipe line between Superior Refinery Owners, Inc. and the tank farm of the Lakehead Pipe Line Company, Inc. located in the City of Superior, Douglas County, Wisconsin, and described as follows: Commencing at a point on Twenty-sixth Avenue East and East Twenty-third Street; thence generally in an Easterly direction along the North property line

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of the Lakehead Pipe Line Company, Inc. to East Twentieth Street; thence in a southeasterly direction to Tank No. 5, a total distance of approximately eight hundred fifty (850) feet, in the City of Superior, Douglas County, Wisconsin; thence on East Twenty-third Street from the Lakehead Pipe Line Company, Inc. property line to Twenty-third Avenue East; thence beneath the tracks of the Northern Pacific Railway Company on Newton Avenue on Twenty-fifth Avenue East (formerly Newton Avenue) and the tracks of the Northern Pacific Railway Company's ore dock line between Twenty-fifth Avenue East and Twenty-sixth Avenue East along a line parallel with and distant ten (10) feet Southwesterly, measured at right angles, from the center line of East Twenty-third Street in the City of Superior, Douglas County, Wisconsin; and thence crossing Block Nine (9) on West Twenty-third Street and Block Ten (10) on West Twenty-first Street, in the City of Superior, according to the recorded plat thereof, along a line parallel with and distant two hundred forty (240) feet Southerly, measured at right angles, from the center line of the main track of the Northern Pacific Railway Company's Oregon dock line as now constructed; and crossing the Northern Pacific Railway Company's property in Block Seven (7) on West Twenty-first Street in the City of Superior, Douglas County, Wisconsin, along a line parallel with and distant twenty-seven (27) feet, more or less, Northeasterly, measured at right angles, from the Southwesterly line of said Block Seven (7), from the Northwesterly line of said Block Seven (7), to a point distant two hundred fifty (250) feet Southerly, measured at right angles, from said track center line; together with all easements, rights, contracts, grants, licenses, assignments, and permits of any nature, whether oral or written, and whether recorded or unrecorded, and all rights and interests arising out of adverse possession, or use of any kind or nature respecting the laying of pipe lines used in connection with the operation of said refinery and belonging to Lake Superior Refining Co., or in which it has some right, title or interest, and the maintenance, use, operation, repair, replacement and removal thereof upon, over, under and across the lands of others, and all pipe or pipes, pumps, compressors, motors, valves, controls, meters and all other equipment and apparatus constituting a part of or used in the operation of said pipe lines, including but not limited to said six inch (6") pipe line between the tank farm of said Lakehead Pipe Line Company, Inc. and said refinery of Lake Superior Refining Co.

3. That part of the West one-half (W $\frac{1}{2}$ ) of Section Thirty-six (36), Township Forty-nine (49) North, Range Fourteen (14) West, more fully described as follows: Commencing at the North Quarter (N $\frac{1}{4}$ ) corner of said Section Thirty-six (36), thence due South along the North-South quarter line, being the center line of Bardon Avenue, a distance of 1456.64 feet to the South property line of Twenty-sixth (26) Avenue extended; thence South 48° 36' West along the South property line of Twenty-sixth Avenue, a distance of 481 feet to the point of beginning; thence continuing in the same straight line a distance of 1323.53 feet to a point; thence South 89° 46' West, a distance of 151.91 feet to a point; thence South 48° 36' West a distance of 162.43 feet to a point; thence South 41° 24' East, a distance of 751 feet to a point; thence North 48° 36' East, a distance of 1463.36 feet to a point on the West line of Bardon Avenue; thence due North along the West line of Bardon Avenue, a distance of 207.10 feet to a point; thence North 41° 24' West a distance of 495.66 feet to the point of beginning, containing 24.18 acres, more or less, all in the City of Superior, Douglas County, Wisconsin.

In the area covered by these descriptions most of the streets and alleys have been vacated. Where these descriptions abut on streets and alleys which have been vacated the title of Lake Superior Refining Co. extends to the center of such street or alley.

Also all buildings, structures, fixtures, machinery, equipment and tools comprising and used in and about the conduct and operation of the oil refinery of Lake Superior Refining Co., located upon the tracts of land above described or otherwise, and including but not limited to the following, to-wit:

1. STORAGE	CAPACITY (BBLs)	CONSTRUCTION
<u>Present Tank Nos.</u>		
1, 2, 3 and 4	1,000 each	Welded
5 and 6	1,200 each	Welded
7, 8, 9, 10, 11 and 12	2,600 each	Welded
13 and 14	3,500 each	Welded
15 (formerly 62)	5,000	Welded
21 and 22	25,000 each	Welded
25, 26 and 27	217,000 each	Welded
30, 31, 32, 33, 34 and 35	5,000 each	Bolted
36 and 37	50,000 each	Welded
38 and 39	15,000 each	Welded

<u>STORAGE</u>	<u>CAPACITY (BBLs)</u>	<u>CONSTRUCTION</u>
<u>Present Tank Nos.</u>		
40 and 41	5,000 each	Welded
42	56,000	Welded
50 (F-2)	500	Welded
51	2,300	Welded
52	9,500	Welded
53	20,000	Welded
54	25,000	Welded
60 and 61	5,000 each	Welded
63 and 64	10,000 each	Welded
65 and 66	16,500 each	Welded
67	20,000	Welded
68 and 69	48,000 each	Welded
80 and 81	1,200 each	Welded, insulated
82 and 83	1,800 each	Welded, insulated
84 and 85	2,500 each	Welded, insulated
86 and 87	16,500 each	Welded
88 and 89	35,000 each	Welded
90 and 91	36,000 each	Welded
92, 93, 94	1,700 each	Welded
96	250	Welded
F-1 (formerly B-1)	250	Welded
S-1	600	Welded
S-2	250	Welded

2. PLATFORMING UNIT - NO. 1

- a. Platforming furnace
- b. Reactors (3)
- c. Exchangers - heat
- d. Separator
- e. Compressors (2)
- f. Stabilizing tower
- g. Pumps and controls
- h. Platform control house
- i. Suction drum
- j. Stripper tower
- k. Absorber tower
- l. Amine regenerator

PLATFORMING UNIT - NO. 2

- a. Platforming furnace
- b. Reactors (3)
- c. Unifiners
- d. Exchangers - heat
- e. Compressors (2)
- f. Stabilizing tower
- g. Pumps and controls
- h. Platform control house
- i. Suction drum
- j. Stripper tower

3. CRUDE UNITS NO. 1 AND NO. 2

- a. Crude furnaces (2)
- b. Exchangers - heat
- c. Pumps and controls
- d. Crude Tower A
- e. Crude Tower B
- f. Condenser box and coils
- g. Receivers and caustic scrubbers

4. THERMAL CRACKING UNIT

- a. Cracking furnace
- b. Fractionating tower
- c. Reaction chamber
- d. Flash tower
- e. Stabilizing tower
- f. Exchangers - heat
- g. Condenser box and coils
- h. Pumps and controls
- i. Hot oil pump

5. ASPHALT UNIT

- a. Asphalt furnace
- b. Vacuum tower
- c. Oxidizing tower
- d. Exchangers - heat
- e. Pumps and controls

6. POLYMERIZATION UNIT

- a. Poly furnace
- b. Compressor
- c. Poly tower
- d. Exchanger - heat
- e. 2 Reactors

7. BUILDINGS

- a. Boiler house--contains two 35,000 lbs. per hour steam boilers
- b. Boiler house--contains two 10,000 lbs. per hour steam boilers
- c. Pump and control house
- d. Transfer pump house
- e. Linde treating house
- f. Office building and addition
- g. Warehouse building
- h. Ethyl house
- i. Hot oil pump house
- j. Asphalt control and pump house
- k. Truck loading racks (2)
- l. Employees change house and addition
- m. No. 2 Unit control house

8. RAILROAD SIDINGS

- a. Ethyl unloading siding
- b. Double track crude unloading and product loading siding

Together with all of the Lake Superior Refining Co.'s right, title and interest in and to any and all other buildings, structures, plants, facilities, fixtures and improvements and all other machinery, tools, apparatus, equipment, and all other personal property of whatsoever kind or nature now or hereafter located on the lands above described or located elsewhere and used or useful in connection with the conduct and operation of said refinery and pipe lines located on such lands and also any and all real property, rights, grants, liberties, estates, rights of way, servitudes, easements, franchises, privileges, immunities, consents, permits, patents and patent rights, licenses, leasing agreements, switch track agreements and leasing contracts now owned by Lake Superior Refining Co.

Subject to the rights of Lakehead Pipe Line Company, Inc. regarding some of the above captioned real estate to repurchase lands conveyed by Lakehead Pipe Line Company, Inc. upon discontinuance of the use of said lands for an oil refinery or allied purposes.

IN WITNESS WHEREOF, the said grantor has caused these presents to be signed by Russell Marks, its President, and attested by J. A. O'Connor, Jr., its Secretary, at El Dorado, Arkansas, and its corporate seal to be hereunto affixed this the 10th day of April, A. D. 1961, to be effective for all purposes as of 7:00 o'clock A. M. on January 1, 1961.

Signed and Sealed in  
Presence of:

*[Signature]*  
\_\_\_\_\_  
*[Signature]*  
\_\_\_\_\_  
03'00

LAKE SUPERIOR REFINING CO.

By *[Signature]*  
\_\_\_\_\_  
Russell Marks  
President.

ATTEST:  
*[Signature]*  
\_\_\_\_\_  
J. A. O'Connor, Jr.  
Secretary.

STATE OF ARKANSAS)  
( ss.  
COUNTY OF UNION )

Personally came before me, this 10<sup>th</sup> day of April,  
A. D. 1961, Russell Marks, President, and J. A. O'Connor, Jr.,  
Secretary of the above named corporation, to me known to be the  
persons who executed the foregoing instrument, and to me known  
to be such President and Secretary of said corporation, and ac-  
knowledged that they executed the foregoing instrument as such  
officers as the deed of said corporation, by its authority.



William J. Wynne  
Notary Public, Union County, Arkansas.  
My Commission expires Sept. 1, 1962.

This instrument was drafted by  
Paul L. Witkin, Attorney.

4250  
J.F. New

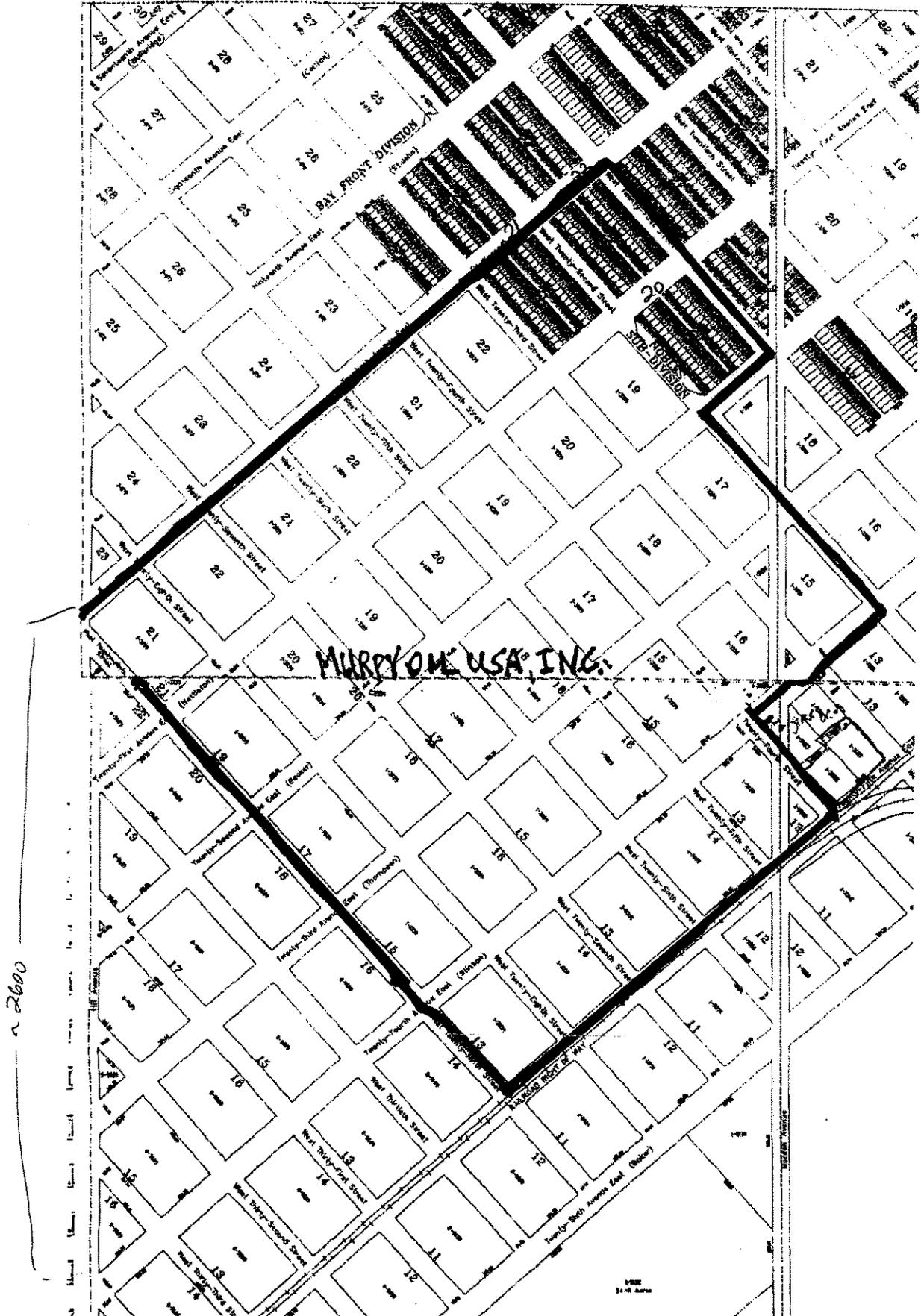
Office RECORDER OF DEEDS  
Rowland County, Ark.  
I hereby certify that the above instrument  
was filed in this office for record on the 10<sup>th</sup>  
day of April, A. D. 1961  
at 5:00 o'clock P.M., and was  
fully recorded in book 246  
Deeds, page 647  
\_\_\_\_\_  
RECORDER OF DEEDS  
ROWLAND COUNTY, ARKANSAS

453215

# SOUTH 1/2 SEC. 25

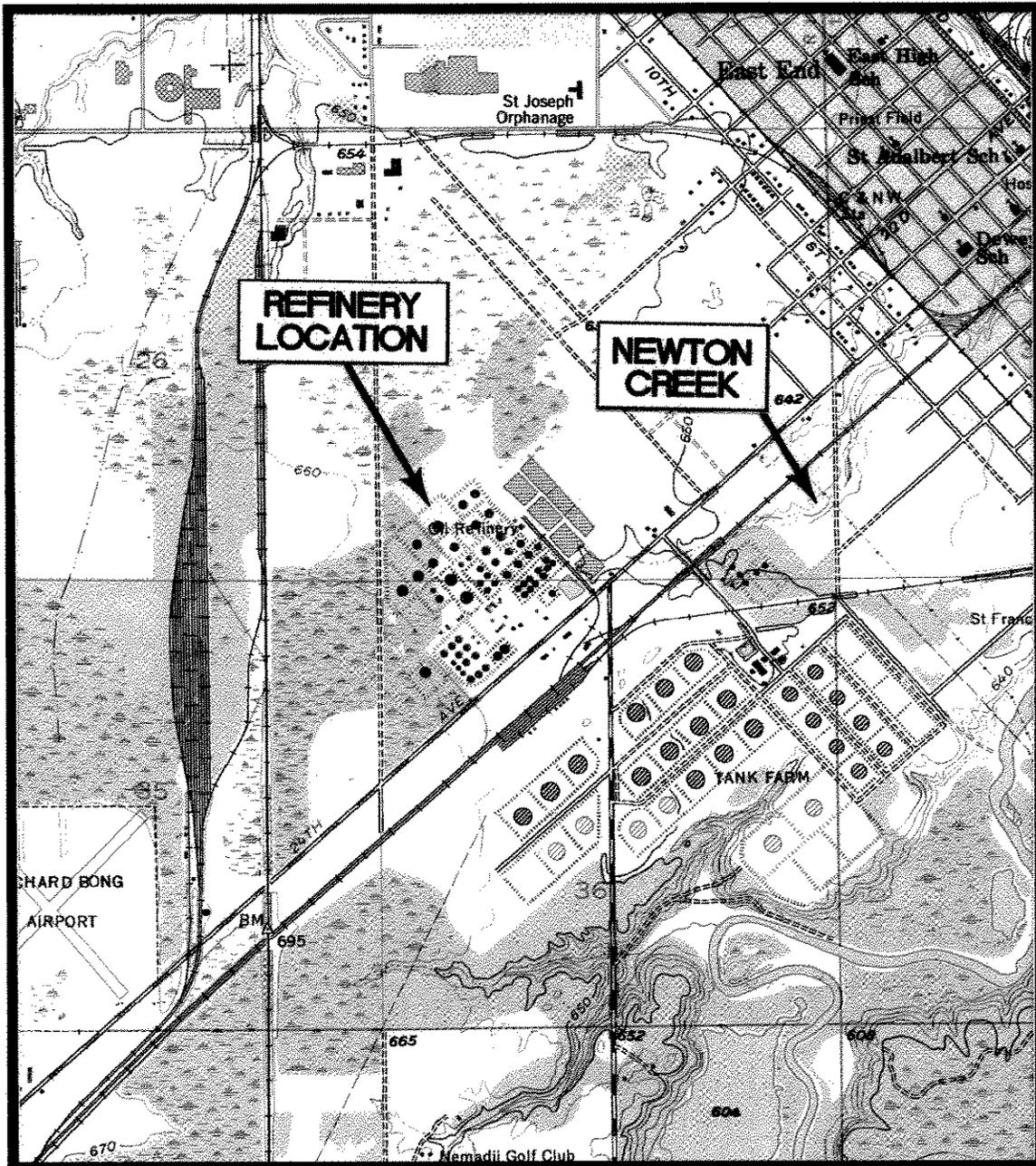
SCALE IN FEET  
0 20 40 60 80 100

Prepared By:  
Douglas County Clerk's Office, R.W. Esch  
29 June 1992



Parcel Identification Number

01-801-03339-00



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

7.5 MIN TOPOGRAPHIC MAP  
SUPERIOR, WISCONSIN  
1954  
PHOTOREVISED 1983



## LOCATION MAP

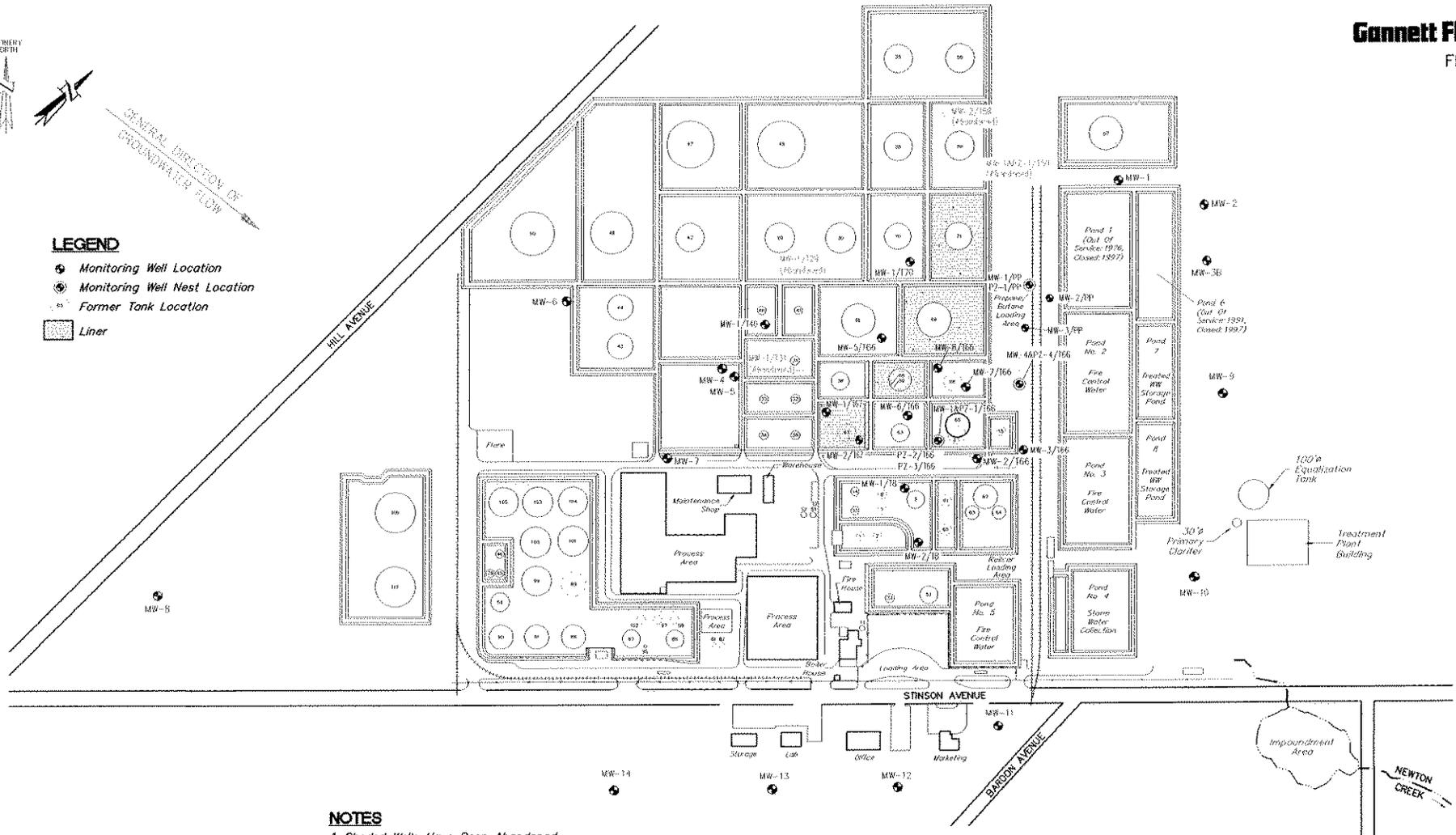
MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN



GENERAL DIRECTION OF  
GROUNDWATER FLOW

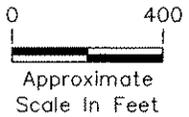
**LEGEND**

- Monitoring Well Location
- ⊙ Monitoring Well Nest Location
- Former Tank Location
- ▨ Liner



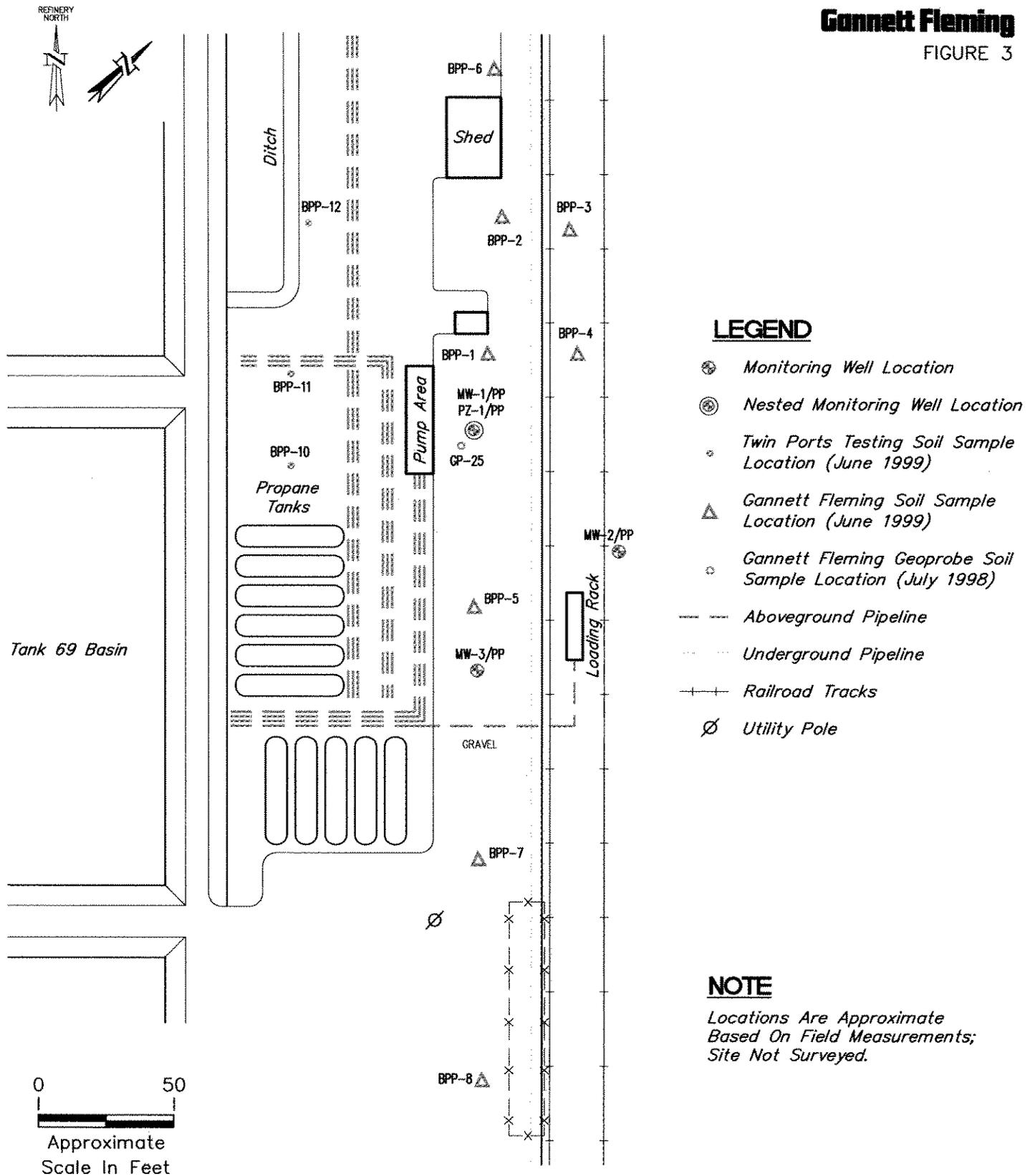
**NOTES**

1. Shaded Wells Have Been Abandoned.
2. Monitoring Well Locations Are Based On Field Sketches From The Field Investigation Reports And Are Approximate.



EXCEEDANCE OFF  
0703013  
34265WCS

**SITE PLAN**  
MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN



**SAMPLE LOCATIONS AT  
PROPANE LOADING AREA**

MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 1

ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES  
FROM MONITORING WELLS AND PIEZOMETER AT PROPANE LOADING AREA (ug/l)

Well I.D. and Sample Date	Parameter										
	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Trimethylbenzenes	MTBE	Naphthalene	n-Butylbenzene	sec-Butylbenzene	
MW-1/PP											
12/17/98	37,000	12,000	700	22,000	13,500	3,200	<2.0	100	270	12	
04/06/99	50,300	9,030	627	14,800	13,220	3,780	<30	NA	NA	NA	
09/08/99	52,400	9,560	313	10,730	13,400	3,855	<30	NA	NA	NA	
12/09/99	22,400	3,910	95.9	675	6,420	2,426	<30	NA	NA	NA	
03/09/00	17,000	3,800	290	3,100	3,500	1,550	<31	NA	NA	NA	
06/14/00	25,000	6,800	400	4,800	5,300	1,450	<47	310	NA	NA	
09/12/00	22,000	6,000	320	3,400	5,500	1,600	<47	NA	NA	NA	
MW-2/PP											
04/06/99	<50	<0.2	<0.5	<0.5	<1	<1	<0.3	<1	<0.5	<0.5	
09/08/99	62.5	<0.15	<0.5	5.59	<0.55	0.6	<0.3	NA	NA	NA	
12/09/99	<50	<0.15	<0.5	<0.4	<0.55	<0.55	<0.3	NA	NA	NA	
03/09/00	<100	<0.32	<0.34	<0.35	<1	<0.99	<0.31	NA	NA	NA	
06/14/00	<100	<0.39	<0.4	0.79J	<1.4	<1.03	<0.47	<0.53	NA	NA	
09/12/00	<100	<0.39	<0.4	3	<1.4	<1.03	<0.47	NA	NA	NA	
MW-3/PP											
09/08/99	5,700	428	86.8	<40	773	419	<30	<80	<15	<15	
12/09/99	5,420	1,220	14.6	42.9	589	274	<3.0	NA	NA	NA	
03/09/00	5,100	1,900	38	13J	570	400	<6.2	NA	NA	NA	
06/14/00	3,300	1,100	21	8.8J	<1.4	210	<4.7	110	NA	NA	
09/12/00	4,600	1,600	59	10J	340	350	<9.4	NA	NA	NA	
PZ-1/PP											
06/03/99	2,640	398	112	442	868	247	<3	50.8	<5	<5	
09/08/99	735	60.2	29.5	19.3	232	93.7	<0.15	NA	NA	NA	
12/09/99	1,460	175	48.1	62.5	398	174	<1.5	NA	NA	NA	
03/09/00	800	68	27	17	200	107	<0.31	NA	NA	NA	
06/14/00	490	49	13	11	87	57	<0.47	11	NA	NA	
09/12/00	550	72	17	16	80	62	<0.47	NA	NA	NA	
NR 140 PAL	NS	0.5	140	200	1,000	96	12	8	NS	NS	
NR 140 ES	NS	5	700	1,000	10,000	480	60	40	NS	NS	

Table 1 Continued . . .

Well I.D. and Sample Date	Parameter					
	1,2-Dichloroethane	Diisopropyl ether	Isopropylbenzene	p-Isopropyltoluene	n-Propylbenzene	Dissolved Lead
MW-1/PP						
12/17/98	<b>210</b>	68	42	3.0J	56	18
04/06/99	NA	NA	NA	NA	NA	19.1
09/08/99	NA	NA	NA	NA	NA	15.2
12/09/99	NA	NA	NA	NA	NA	11.5
03/09/00	NA	NA	NA	NA	NA	NA
06/14/00	NA	NA	NA	NA	NA	NA
09/12/00	NA	NA	NA	NA	NA	NA
MW-2/PP						
04/06/99	<0.5	<0.5	<0.5	<0.5	<0.5	<1
09/08/99	NA	NA	NA	NA	NA	<1.0
12/09/99	NA	NA	NA	NA	NA	<1.0
03/09/00	NA	NA	NA	NA	NA	NA
06/14/00	NA	NA	NA	NA	NA	NA
09/12/00	NA	NA	NA	NA	NA	NA
MW-3/PP						
09/08/99	<12	<25	<15	<20	<15	3.23
12/09/99	NA	NA	NA	NA	NA	<1.0
03/09/00	NA	NA	NA	NA	NA	NA
06/14/00	NA	NA	NA	NA	NA	NA
09/12/00	NA	NA	NA	NA	NA	NA
PZ-1/PP						
06/03/99	<2	<5	<5	<5	8.24	<1
09/08/99	NA	NA	NA	NA	NA	<1.0
12/09/99	NA	NA	NA	NA	NA	<1.0
03/09/00	NA	NA	NA	NA	NA	NA
06/14/00	NA	NA	NA	NA	NA	NA
09/12/00	NA	NA	NA	NA	NA	NA
NR 140 PAL	0.5	NS	NS	NS	NS	1.5
NR 140 ES	5	NS	NS	NS	NS	15

NOTES:

Results reported in units of micrograms per liter (ug/l).

Initial round of samples collected from each well analyzed for VOCs.

Results in bold exceed NR 140 ES standard.

Only detected parameters shown on table.

NA = Not analyzed.

NS = No standard.

J = Estimated concentration below laboratory quantitation level.

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 2

ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

Parameter	Sample I.D. and Depth												NR 720 RCL	NR 746 Direct-Contact Soil Contaminant Concentration in Top 4 feet of Soil Column	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	GP-25		BPP-1		BPP-2		BPP-3		BPP-4		BPP-5				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
FID (ppm)	NM	NM	1	>1000	0.8	>1000	0.4	NM	1.4	>1000	6.4	>1000	NS		NS
Lead	15.4	NA	9.74	4.08	<0.56	5.58	9.57	4.8	5.5	5.85	39.9	3.78	500		NS
DRO	1,100	120	NA	250		NS									
GRO	540	880	<5.2	280	<5.3	79	<5.4	845	<5.5	14.1	12.9	743	250		NS
Benzene	5.7	13	<0.026	4.816	<0.026	<0.033	<0.027	<0.270	<0.027	<0.031	<0.028	0.855	0.0055		1.1
Ethylbenzene	<0.55	19	0.036	5.479	<0.026	0.075	<0.027	0.888	<0.027	0.327	<0.028	5.533	2.9		4.6
Toluene	<0.55	66	0.051	16.099	<0.026	<0.033	<0.027	<0.540	<0.027	0.033	<0.028	12.732	1.5		38
Total Xylenes	21	145	0.187	35.723	<0.052	0.14	<0.054	0.861	<0.054	0.147	<0.056	24.176	4.1		42
Trimethylbenzenes	49	98	0.073	22.149	<0.052	2.496	<0.054	34.397	<0.054	0.207	<0.056	32.385	NS		94
MTBE	<0.45	<0.45	<0.026	<0.536	<0.026	<0.033	<0.027	<0.540	<0.027	<0.031	<0.028	<0.269	NS		NS
Ethylene Dibromide	<0.35	<0.35	NA	NS		NS									
Fluoranthene	3.9	0.068	NA	NS		NS									
Indeno(1,2,3-cd)pyrene	0.17	<0.0094	NA	NS		NS									
Naphthalene	19	1.8	NA	NS		2.7									
1-Methyl Naphthalene	13	1	NA	NS		NS									
2-Methyl Naphthalene	27	2.4	NA	NS		NS									
Phenanthrene	0.77	0.054	NA	NS		NS									
Pyrene	5.1	0.094	NA	NS		NS									

Table 2 Continued . . .

Parameter	Sample I.D. and Depth												NR 720 RCL	NR 746 Direct-Contact Soil Contaminant Concentration in Top 4 feet of Soil Column	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	BPP-6		BPP-7		BPP-8		BPP-10		BPP-11		BPP-12				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
FID (ppm)	0.4	1.2	400	>1000	600	4	264	4,500	62	3,400	105	1,511	NS	NS	NS
Lead	13.6	4.77	20.5	5.91	8.63	5.18	695	5.46	319	4.71	5.59	21.9	500	NS	NS
DRO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	250	NS	NS
GRO	<7.4	<6.8	25.6	668	216	<6.3	417	702	22.7	45.4	35.9	266	250	NS	NS
Benzene	<0.037	<0.034	0.076	2.048	0.954	<0.032	<0.140	0.824	<0.035	<0.272	<0.131	<0.138	0.0055	1.1	8.5
Ethylbenzene	<0.037	<0.034	0.133	4.871	1.477	<0.032	<0.280	4.85	<0.035	0.867	<0.261	0.627	2.9	4.6	4.6
Toluene	<0.037	<0.034	<0.028	14.578	0.589	<0.032	0.303	2.12	<0.035	<0.544	<0.261	<0.277	1.5	38	38
Total Xylenes	<0.074	<0.068	0.345	22.58	18.118	<0.064	0.884	22.8	0.064	1.15	<0.522	0.859	4.1	42	42
Trimethylbenzenes	<0.074	<0.068	0.564	23.642	24.355	<0.064	<0.560	47.2	<0.070	<0.070	<0.522	13.6	NS	94	94
MTBE	<0.037	<0.034	<0.028	<0.545	<0.570	<0.032	<0.280	<1.37	0.04*	<0.544	<0.261	<0.277	NS	NS	NS
Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2.7	2.7
1-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
2-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS

## NOTES:

Sample GP-25 collected by Gannett Fleming on July 22, 1998.

Samples BPP-1 through BPP-8 collected by Gannett Fleming on June 2 and 3, 1999.

Samples BPP-10 through BPP-12 collected by Twin Ports Testing on June 14, 1999.

Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.

Results in bold exceed applicable NR 720 RCL.

Result shaded exceed applicable NR 746 direct contact standard.

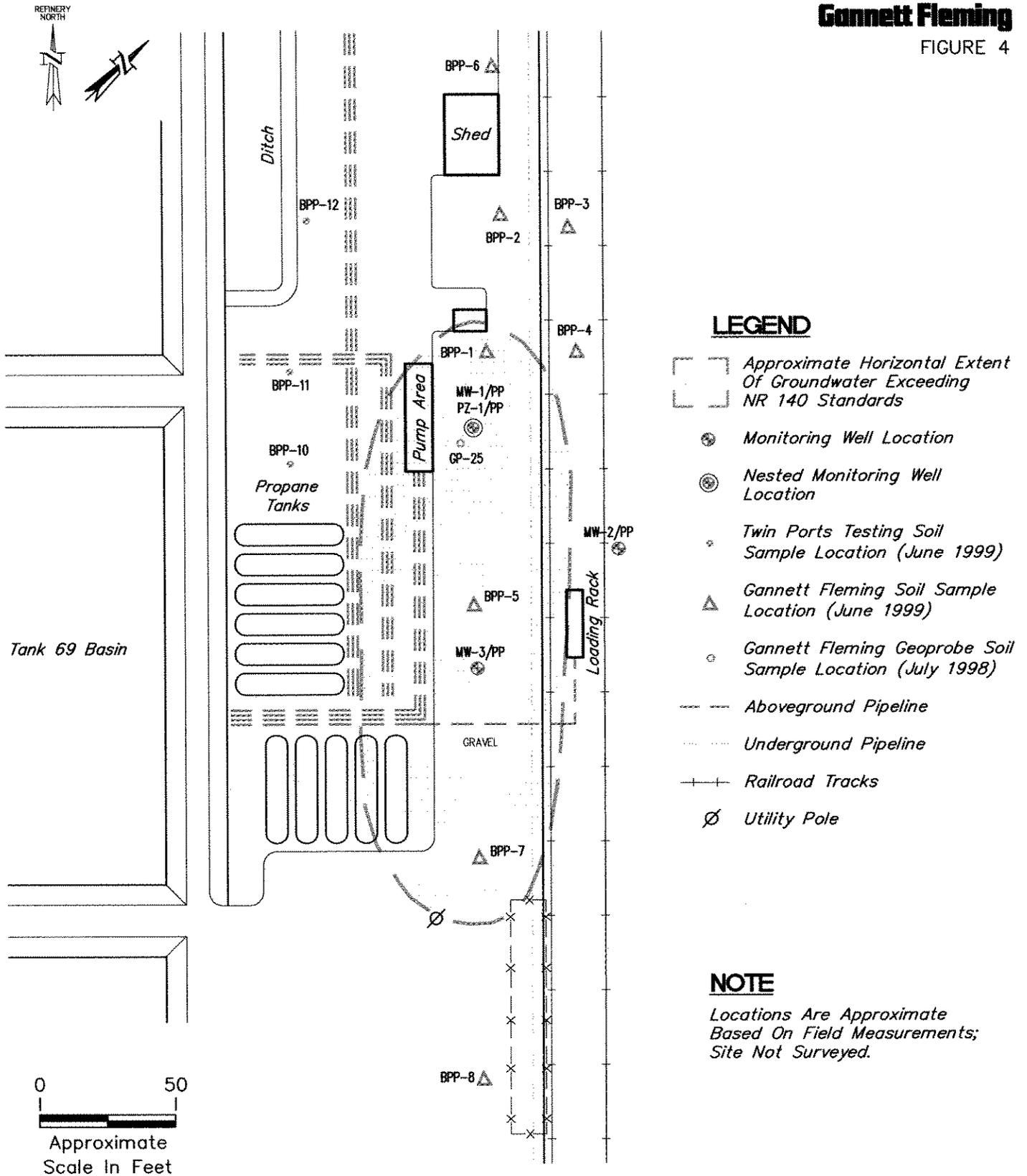
FID = Flame ionization detector.

ppm = Parts per million.

NA = Not analyzed.

NS = No standard.

\* = Questionable result due to possible manufacturer derived contaminant in methanol.



**EXTENT OF GROUNDWATER IMPACTS  
FROM PROPANE LOADING AREA**

MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 3

DEPTH TO GROUNDWATER MEASUREMENTS AND GROUNDWATER ELEVATIONS  
PROPANE/BUTANE RELEASE SITE

Well Number	Diameter (Inches)	Relative Well Elevation (TOC)	Relative Groundsurface Elevation (AMSL)	Depth to Water From TOC (ft)	Depth to Water (ft bgs)	Water Elevation (ft)	Screened Interval (ft)	Total Depth From TOC (ft)	Date Measured
MW-1/PP	2	657.18	657.9	Dry	Dry	Dry	654.9-639.9	17.55	11/06/98
				Dry	Dry	Dry			11/18/98
				15.41	16.13	641.77			12/02/98
				14.91	15.63	642.27			12/17/98
				11.79	12.51	645.39			01/15/99
				10.47	11.19	646.71			01/29/99
				7.33	8.05	649.85			03/03/99
				6.76	7.48	650.42			03/10/99
				5.52	6.24	651.66			03/26/99
				2.44	3.16	654.74			04/06/99
				3.85	4.57	653.33			11/15/99
				12.26	12.98	644.92			11/17/99
				13.25	13.97	643.93			11/22/99
				14.60	15.32	642.58			11/24/99
				13.69	14.41	643.49			12/02/99
				13.85	14.57	643.33			12/07/99
				13.42	14.14	643.76			12/16/99
				12.99	13.71	644.19			12/28/99
				13.04	13.76	644.14			01/06/00
				12.74	13.46	644.44			01/18/00
				13.20	13.92	643.98			01/27/00
				12.41	13.13	644.77			02/10/00
				10.51	11.23	646.67			03/01/00
				10.20	10.92	646.98			03/17/00
				1.79	2.51	655.39			03/23/00
				0.79	1.51	656.39			04/05/00
				5.08	5.80	652.1			04/13/00
				1.75	2.47	655.43			05/12/00
				3.33	4.05	653.85			06/08/00
				2.65	3.37	654.53			07/11/00
3.73	4.45	653.45	08/09/00						
4.17	4.89	653.01	09/07/00						
MW-2/PP	2			17.08					03/26/99
				13.72					04/06/99
				4.18					11/15/99
				9.13					11/17/99
				10.03					11/22/99
				11.84					11/24/99
				10.21					12/02/99
				10.60					12/07/99
				9.79					12/16/99
				8.91					12/28/99
				9.30					01/06/00
				9.07					01/18/00
				9.81					01/27/00
				9.37					02/10/00
				9.27					02/24/00
				10.09					03/02/00
				8.30					03/17/00
				9.42					03/23/00
				8.14					04/05/00
				8.85					04/13/00
				5.73					05/12/00
				5.07					06/08/00
				4.90					07/11/00
4.95			08/09/00						
4.45			09/07/00						

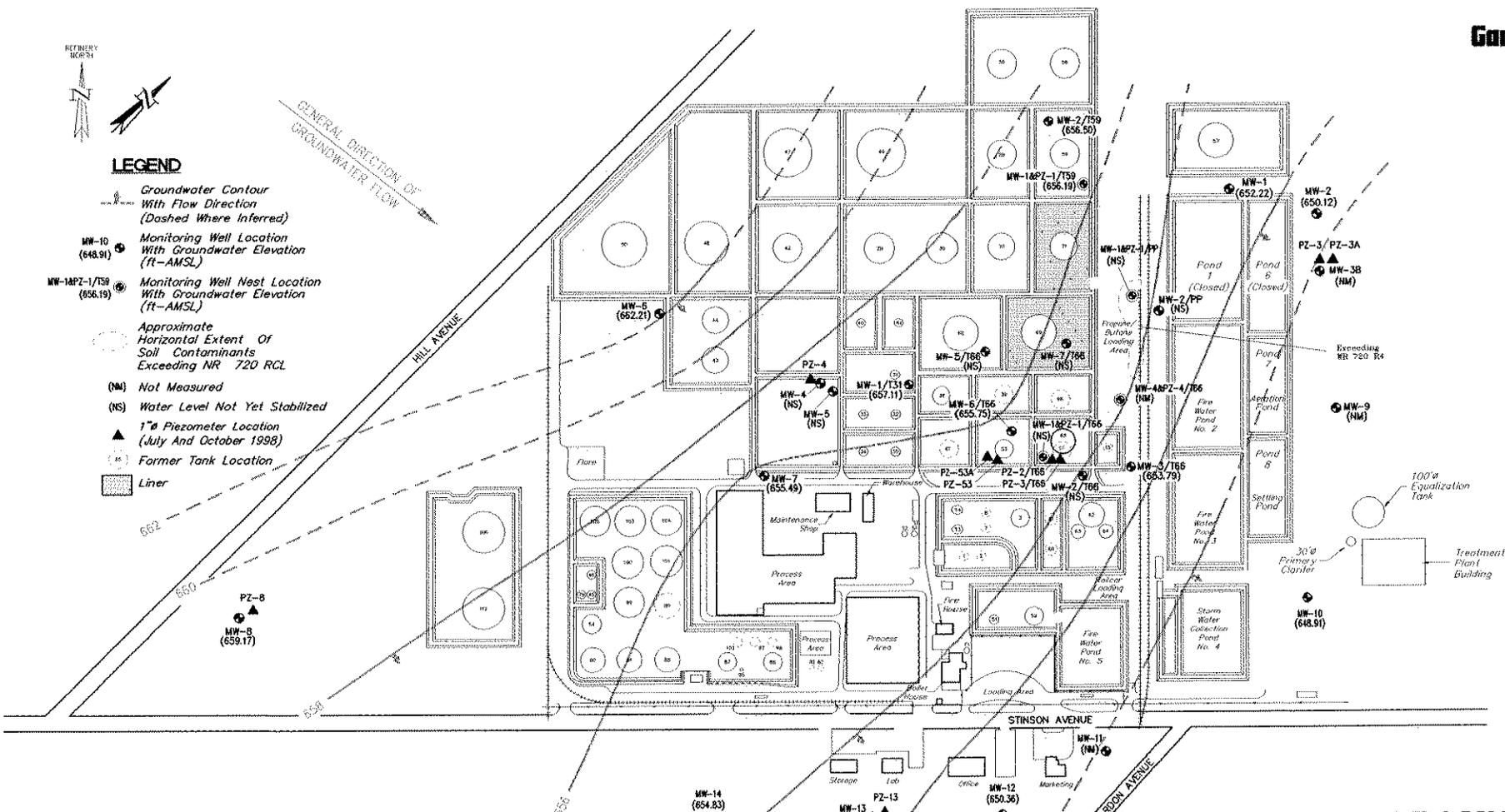
TABLE 3

DEPTH TO GROUNDWATER MEASUREMENTS AND GROUNDWATER ELEVATIONS  
PROPANE/BUTANE RELEASE SITE

Well Number	Diameter (inches)	Relative Well Elevation (TOC)	Relative Groundsurface Elevation (AMSL)	Depth to Water From TOC (ft)	Depth to Water (ft bgs)	Water Elevation (ft)	Screened Interval (ft)	Total Depth From TOC (ft)	Date Measured
MW-3/PP	2			2.18					11/15/99
				4.80					11/17/99
				2.24					11/22/99
				3.96					11/24/99
				1.52					12/02/99
				1.68					12/07/99
				2.42					12/16/99
				4.17					12/28/99
				3.74					01/06/00
				4.96					01/18/00
				5.47					01/27/00
				5.50					02/10/00
				4.00					03/01/00
				1.28					03/17/00
				0.97					04/05/00
				1.36					04/13/00
				1.16					05/12/00
				2.35					06/08/00
				1.31					07/11/00
				1.78					08/09/00
1.38					09/07/00				
PZ-1/PP	2			30.76					03/26/99
				28.99					04/06/99
				19.16					11/15/99
				27.64					11/17/99
				25.22					11/22/99
				28.16					11/24/99
				24.79					12/02/99
				25.47					12/07/99
				25.38					12/16/99
				22.25					12/28/99
				23.33					01/06/00
				23.27					01/18/00
				23.70					01/27/00
				21.58					02/10/00
				19.59					03/01/00
				22.60					03/17/00
				24.39					03/23/00
				22.03					04/05/00
				24.37					04/13/00
				17.82					05/12/00
18.04					06/08/00				
19.11					07/11/00				
18.33					08/09/00				
17.83					09/07/00				

NOTES:

- TOC       = Top of casing.
- AMSL      = Above mean sea level.

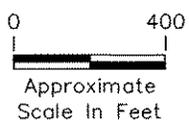


**LEGEND**

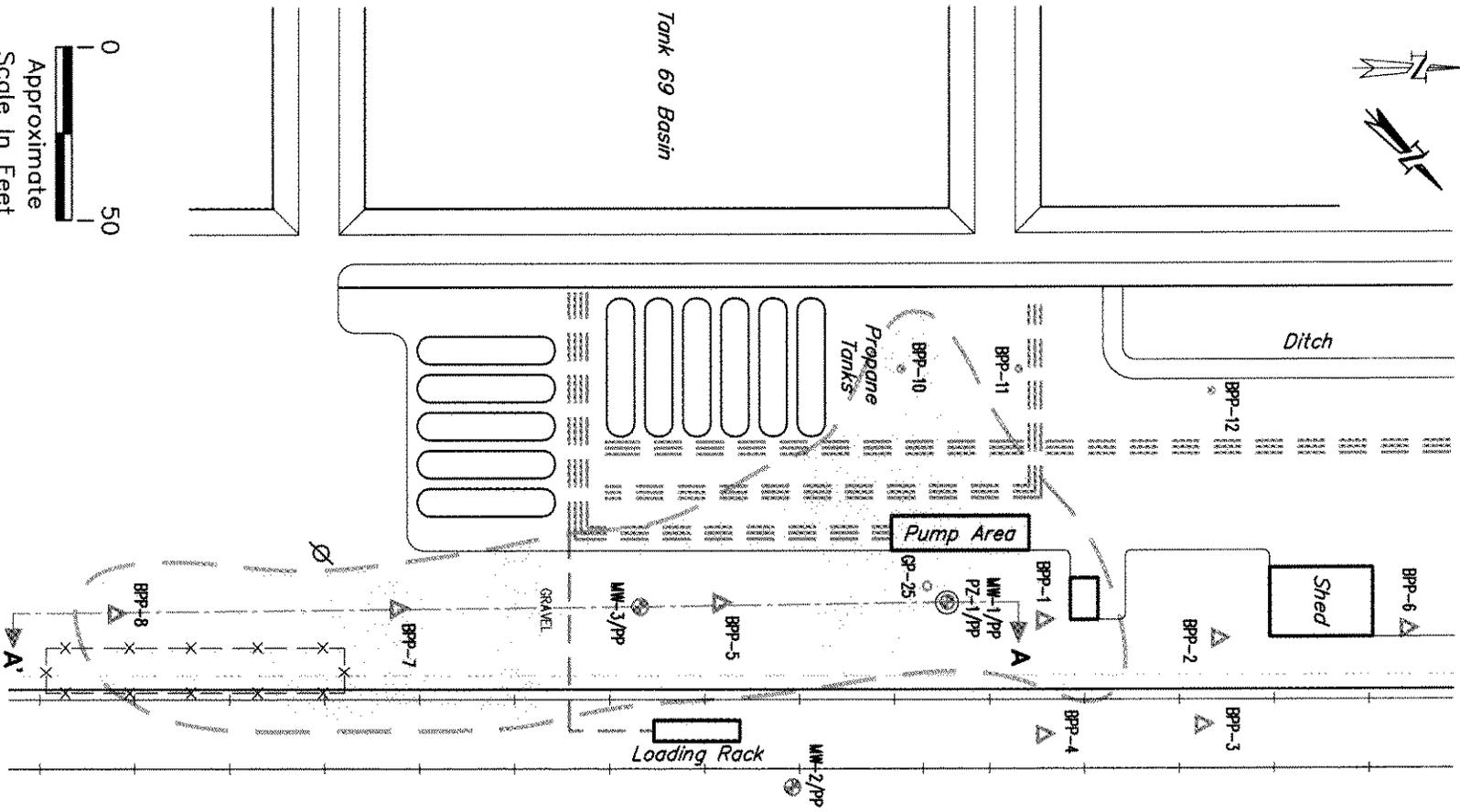
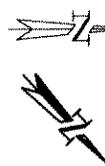
- Groundwater Contour With Flow Direction (Dashed Where Inferred)
- MW-10 (648.91) Monitoring Well Location With Groundwater Elevation (ft-AMSL)
- MW-1MPZ-1/759 (656.19) Monitoring Well Nest Location With Groundwater Elevation (ft-AMSL)
- Approximate Horizontal Extent Of Soil Contaminants Exceeding NR 720 RCL
- (NM) Not Measured
- (NS) Water Level Not Yet Stabilized
- 1" Piezometer Location (July And October 1998)
- Former Tank Location
- Liner

**NOTES**

1. Shaded Wells Have Been Abandoned.
2. Monitoring Well Locations Are Based On Field Sketches From The Field Investigation Reports And Are Approximate.
3. Groundwater Elevations Were Measured On March 10 And 11, 1999, Except For MW-2/759, Which Was Measured On March 3, 1999.



**GROUNDWATER  
CONTOUR MAP  
(MARCH 1999)**  
MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN



**Gannett Fleming**  
FIGURE 6

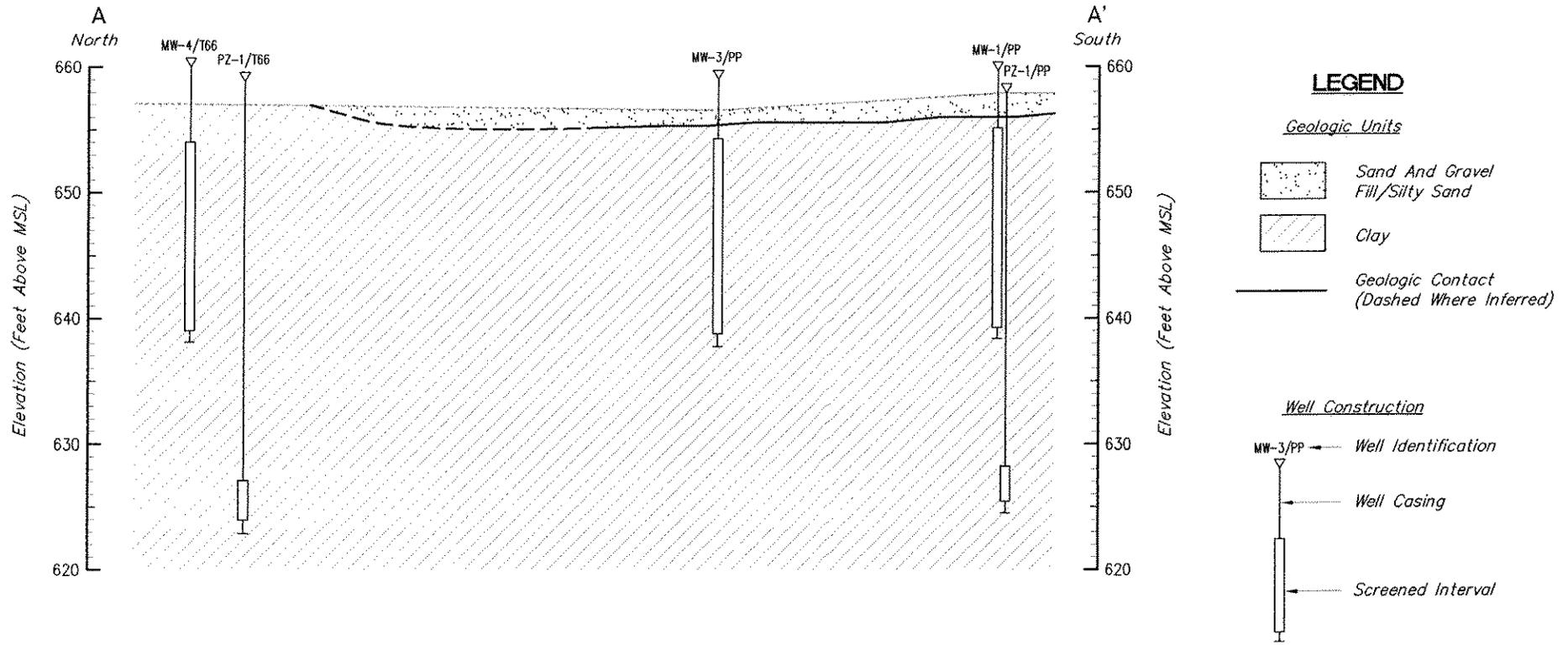
**LEGEND**

- Approximate Horizontal Extent Of Soil Exceeding NR 720 And/Or NR 746 Standards
- Monitoring Well Location
- Nested Monitoring Well Location
- Twin Parts Testing Soil Sample Location (June 1999)
- Gannett Fleming Soil Sample Location (June 1999)
- Gannett Fleming Geoprobe Soil Sample Location (July 1998)
- Aboveground Pipeline
- Underground Pipeline
- Railroad Tracks
- Utility Pole
- Cross Section Cut (See Figure 7)

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

**EXTENT OF SOIL IMPACTS AT  
PROPANE LOADING AREA**

MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN



Horizontal Scale: 1" = 40'  
 Vertical Scale: 1" = 10'  
 Vertical Exaggeration: 40x

**CROSS SECTION A-A'**  
**(PROPANE LOADING AREA)**

MURPHY OIL USA, INC.  
 SUPERIOR, WISCONSIN

MURPHY OIL USA, INC.  
2400 STINSON AVENUE  
SUPERIOR, WISCONSIN  
PROPANE/BUTANE LOADING AREA RELEASE SITE  
BRRTS No.: 02-16-222628  
COMM No.: 54880-0456-07-X

I hereby state that the legal description of the Murphy Oil refinery in Superior as stated in the deed dated January 1, 1961, and included as Attachment A to this GIS Registry submittal is complete and accurate for all the property associated with the propane/butane loading area release site that has groundwater contamination that exceeded Ch. NR 140 standards and soil that exceeded NR 720 and/or NR 746 standards at the time that closure was requested.

David J. Podratz

Printed Name

Refinery Manager

Title



Signature

7/21/03

Date



Exhibit 4, which is attached hereto and incorporated by reference, and labeled "Figure 4" for the Slop Oil Manifold; Exhibit 5, which is attached hereto and incorporated by reference, and labeled "Figure 5" for the Tanks 65/66 Basin; Exhibit 6, which is attached hereto and incorporated by reference, and labeled "Figure 6" for Propane/Butane Loading Area; Exhibit 7, which is attached hereto and incorporated by reference, and labeled "Figure 7" for Tanks 32/33 Basin, and Exhibit 8, which is attached hereto and incorporated by reference, and labeled "Figure 8" for the Vapor Recovery Unit.

Section 2. Petroleum discharges have occurred at this property. Soils with concentrations of petroleum-related compounds above applicable Wisconsin Administrative Code NR 720.09 residual contaminant levels exist on this property at the Crude Unit Process Area, Tanks S-1 and S-2, Slop Oil Manifold, Tanks 65/66 Basin, Propane/Butane Loading Area, Tanks 32/33 Basin, and the Vapor Recovery Unit. Soils with concentrations of petroleum-related compounds above applicable Wisconsin Administrative Code NR 746.06 direct-contact levels exist on this property at Tanks S-1 and S-2, Slop Oil Manifold, Tanks 65/66 Basin, Propane/Butane Loading Area, Tanks 32/33 Basin, and the Vapor Recovery Unit.

Section 3. It is the desire and intention of the property owner to impose restrictions on the designated portions of the property that will not make it necessary to conduct additional soil remediation activities at the above-described six areas at the present time. The owner hereby declares that all such designated portions of the property described herein are held and shall be held, conveyed or encumbered, leased, rented, used, occupied, and improved subject to the following limitations and/or restrictions described for each of the six areas noted above.

### **Crude Unit Process Area**

That the location of the Crude Unit Process Area (WDNR #02-16-222638) has been surveyed and identified as follows:

All that part of Block 18, West 27<sup>th</sup> Street, Townsite of Superior, Douglas County, Wisconsin, described as follows:

Commencing at the most easterly Corner of Block 18, West 27<sup>th</sup> Street, Townsite of Superior; thence South 48 degrees 50 minutes 03 seconds West, along the southeasterly line of said Block 18, a distance of 56.46 feet; thence North 41 degrees 09 minutes 57 seconds West, a distance of 6.35 feet to the Point of Beginning; thence South 46 degrees 05 minutes 39 seconds West, a distance of 23.58 feet; thence North 42 degrees 02 minutes 43 seconds West, 35.27 feet; thence North 49 degrees 34 minutes 13 seconds East, a distance of 24.60 feet; thence South 40 degrees 19 minutes 17 seconds East, a distance of 33.82 feet to the Point of Beginning.

Exhibit 9, which is attached hereto and incorporated herein by reference, and labeled "Sheet 3 of 15," is a survey drawing showing the Crude Unit Process Area with its legal description.

Soil containing concentrations of petroleum compounds above the applicable NR 720.09 residual contaminant levels (RCLs) that were in effect on the signature date of this document remains at this location at depths from approximately 1 foot to at least 5 feet below ground surface. The compounds that remain with concentrations above their applicable RCLs include diesel range organic (DRO) compounds, with concentrations as high as 1,500 milligrams per kilogram (mg/kg) and benzene, with concentrations as high as 0.366 mg/kg.

It has been shown that these residual contaminant levels are protective of the environment (groundwater) with the installation and maintenance of a barrier cap. In the event that petroleum-impacted soil is excavated from this area in the future, it will have to be managed in accordance with all applicable regulations and standards in effect at that time and may be considered a solid waste.

A surface barrier cap, currently consisting of concrete, shall be maintained over the area of petroleum-contaminated soil for the protection of groundwater until such time that 1) the soil is actively remediated or removed or 2) sampling shows contamination has degraded to concentrations that meet applicable regulatory requirements. The property owner shall maintain the integrity of the surface barrier cap in this area.

The concrete surface barrier cap shall be maintained in the Crude Unit Process Area shown on Exhibit 9 (Sheet 3 of 15), unless another barrier with an infiltration rate of  $10^{-7}$  cm/sec or less is installed and maintained in its place. The existing concrete cap and any replacement barrier with an infiltration rate of  $10^{-7}$  cm/sec or less shall be maintained in the above described area in compliance with the "Maintenance Plan for Surface Cap" dated May 2004 that was submitted to the Wisconsin Department of Natural Resources on May 6, 2004, by Gannett Fleming, Inc. on behalf of Murphy Oil USA, Inc., as required by section NR 724.13(2), Wis. Adm. Code (1997).

### **Tanks S-1 and S-2 Basin**

That the location of the Tanks S-1 and S-2 Basin (WDNR #02-16-222670) has been surveyed and identified as follows:

All that part of Block 17, West 27<sup>th</sup> Street, Townsite of Superior, Douglas County, Wisconsin described as follows:

Commencing at the most southerly corner of Block 17, West 27<sup>th</sup> Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the southeasterly line of said Block 17, a distance of 141.61 feet; thence North 41 degrees 09 minutes 57 seconds West, a distance of 37.37 feet to the Point of Beginning; thence North 39 degrees 54 minutes 44 seconds West, a distance of 38.44 feet; thence North 47 degrees 09 minutes 10 seconds East, a distance of 39.69 feet; thence North 33 degrees 46 minutes 23 seconds West, a distance of 1.00 feet; thence North 47 degrees 13 minutes 41 seconds East, a distance of 13.45 feet; thence South 41 degrees 51 minutes 06 seconds East, a distance of 39.85 feet; thence South 47 degrees 39 minutes 25 seconds West, a distance of 54.58 feet to the Point of Beginning.

Exhibit 10, which is attached hereto and incorporated herein by reference, and labeled "Sheet 6 of 15," is a survey drawing showing the Tanks S-1 and S-2 basin with its legal description.

Soil containing concentrations of petroleum compounds above the applicable NR 720.09 RCLs that were in effect on the signature date of this document remains at this location to a depth of at least 0.5 feet bgs. The compounds that remain with concentrations above their applicable RCLs include DRO, with concentrations as high as 43,200 mg/kg; benzene, with concentrations as high as 6.362 mg/kg; ethylbenzene, with concentrations as high as 20.915 mg/kg; and total xylenes, with concentrations as high as 64.48 mg/kg. In addition, soil containing concentrations of petroleum compounds that exceed the NR 746.06 direct-contact concentrations for benzene, ethylbenzene, toluene, total xylenes, trimethylbenzenes, and naphthalene also remains within 4 feet of the ground surface.

It has been shown that these residual contaminant levels are protective of human health and the environment with the installation and maintenance of a barrier cap. In the event that petroleum-impacted soil is excavated from this area in the future, it will have to be managed in accordance with all applicable regulations and standards in effect at that time and may be considered a solid waste.

A surface barrier cap, currently consisting of concrete, shall be maintained over the area of petroleum-contaminated soil for the protection of groundwater and for the protection of human health from direct contact until such time that 1) the soil is actively remediated or removed or 2) sampling shows contamination has degraded to concentrations that meet applicable regulatory requirements. The property owner shall maintain the integrity of the surface barrier cap in this area.

The concrete surface barrier cap shall be maintained in the Tanks S-1 and S-2 basin shown on Exhibit 10 (Sheet 6 of 15), unless another barrier with an infiltration rate of  $10^{-7}$  cm/sec or less is installed and maintained in its place. The existing concrete cap and any replacement barrier with an infiltration rate of  $10^{-7}$  cm/sec or less shall be maintained in the above described area in compliance with the "Maintenance Plan for Surface Cap" dated May 2004 that was submitted to the Wisconsin Department of Natural Resources on May 6, 2004, by Gannett Fleming, Inc. on behalf of Murphy Oil USA, Inc. as required by Section NR 724.13(2), Wis. Adm. Code (1997).

#### **Slop Oil Manifold Area**

That the location of the Slop Oil Manifold Area (WDNR #02-16-246715) has been surveyed and identified as follows:

That part of Block 15, West 27<sup>th</sup> Street and that part of vacated Thompson Avenue (23<sup>rd</sup> Avenue East), Townsite of Superior, Douglas County, Wisconsin described as follows:

Commencing at the most westerly Corner of Block 15, West 27<sup>th</sup> Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the northwesterly line of said Block 15, a distance of 120.16 feet to the Point of Beginning; thence North 40 degrees 37 minutes 53 seconds West, a distance of 50.00 feet; thence North 48 degrees 50 minutes 03 seconds East,

along the centerline of said vacated Thompson Avenue, a distance of 32.93 feet; thence South 40 degrees 26 minutes 04 seconds West, a distance of 39.48 feet; thence South 50 degrees 06 minutes 04 seconds West, a distance of 7.37 feet; thence 40 degrees 33 minutes 29 seconds East, a distance of 5.33 feet; thence North 49 degrees 26 minutes 31 seconds East, a distance of 29.52 feet; thence South 40 degrees 37 minutes 53 seconds East, a distance of 22.11 feet; thence South 49 degrees 22 minutes 07 seconds West, a distance of 54.94 feet; thence North 40 degrees 37 minutes 53 seconds West, a distance of 16.56 feet to the Point of Beginning.

Exhibit 11, which is attached hereto and incorporated herein by reference, and labeled "Sheet 4 of 15," is a survey drawing showing the Slop Oil Manifold Area with its legal description.

Structural impediments existing at the time of soil remediation made it impractical to remove all contaminated soil in this area of the property. If the structural impediments in this area are removed, the property owner shall conduct an investigation to determine the degree and extent of petroleum contamination. To the extent that contamination is found at that time, the Wisconsin Department of Natural Resources shall be notified immediately, and the contamination shall be remediated in accordance with applicable statutes and rules.

Soil containing concentrations of petroleum compounds above the applicable NR 720.09 RCLs that were in effect on the signature date of this document remains at this location to a depth of at least 1.5 feet bgs. The compounds that remain with concentrations above their applicable RCLs include DRO, with concentrations as high as 11,600 mg/kg; gasoline range organic compounds, with concentrations as high as 830 mg/kg; benzene, with concentrations as high as 2.252 mg/kg; ethylbenzene, with concentrations as high as 48.615 mg/kg; toluene, with concentrations as high as 25.399 mg/kg; and total xylenes, with concentrations as high as 185.035 mg/kg. In addition, soil containing concentrations of petroleum compounds that exceed the NR 746.06 direct-contact concentrations for benzene, ethylbenzene, total xylenes, trimethylbenzenes, and naphthalene also remains within 4 feet of the ground surface.

It has been shown that these residual contaminant levels are protective of human health and the environment with the installation and maintenance of a barrier cap. In the event that petroleum-impacted soil is excavated from this area in the future, it will have to be managed in accordance with all applicable regulations and standards in effect at that time and may be considered a solid waste.

A surface barrier cap, currently consisting of a 60-mil, high-density polyethylene (HDPE) liner, shall be maintained over the area of petroleum-contaminated soil for the protection of groundwater and for the protection of human health from direct contact until such time that 1) the soil is actively remediated or removed or 2) sampling shows contamination has degraded to concentrations protective of the environment and human health. The property owner shall maintain the integrity of the surface barrier cap in this area.

The HDPE surface barrier cap shall be maintained in the Slop Oil Manifold Area shown on Exhibit 11 (Sheet 4 of 15), unless another barrier with an infiltration rate of  $10^{-7}$  cm/sec or less is installed and maintained in its place. The existing HDPE cap and any replacement barrier with an infiltration rate of  $10^{-7}$  cm/sec or less shall be maintained in the above described area in

compliance with the "Maintenance Plan for Surface Cap" dated May 2004 that was submitted to the Wisconsin Department of Natural Resources on May 6, 2004, by Gannett Fleming, Inc. on behalf of Murphy Oil USA, Inc. as required by Section NR 724.13(2), Wis. Adm. Code (1997).

### Tanks 65/66 Basin

That the location of the Tanks 65/66 Basin (WDNR #02-16-222617) has been surveyed and identified as follows:

All those parts of Block 17, 18, 19 & 20, West 25<sup>th</sup> Street, together with those parts of vacated Becker Avenue and 25<sup>th</sup> Street, all in the Townsite of Superior, Douglas County, Wisconsin, described as follows:

Commencing at the most westerly Corner of Block 17, West 25<sup>th</sup> Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the northwesterly line of said Block 17, a distance of 73.65 feet to the Point of Beginning; thence South 37 degrees 38 minutes 12 seconds East, a distance of 134.76 feet; thence South 52 degrees 21 minutes 48 seconds West, a distance of 155.00 feet; thence North 37 degrees 38 minutes 12 seconds West, a distance of 270.00 feet; thence North 52 degrees 21 minutes 48 seconds East, a distance of 155.00 feet; thence South 37 degrees 38 minutes 12 seconds East, a distance of 135.24 feet to the Point of Beginning.

Exhibit 12, which is attached hereto and incorporated herein by reference, and labeled "Sheet 7 of 15," is a survey drawing showing the Tanks 65/66 Basin with its legal description.

Residual petroleum-contaminated soils have been identified within the Tanks 65/66 Basin at concentrations that exceed the NR 746.06 direct-contact standards. The residual contaminated soils are believed to be present throughout the tank basin. Commerce has agreed that enforcement of the "**limited access**" requirements included in this restriction will be protective of human health. If contaminated soil is removed, it shall be handled in accordance with all applicable laws and regulations (File references: Commerce #54880-0456-07 and WDNR BRRTS #02-16-222617).

This restriction requires "**limited access**" to the site, which includes (at a minimum) the area outlined with a thicker black line, as the "*Approximate Extent of Soil Exceeding NR 720 And/Or NR 746 Standards*" on attached Exhibit 13 (labeled "Figure 9"). To comply with the requirement of "**limited access**," gated fencing of an appropriate height that encompasses the refinery site and that restricts access to the Tanks 65/66 Basin shall remain in place until it is determined that the risk to human health from direct contact has been remediated. Any person entering the Tanks 65/66 Basin must be knowledgeable of the soil contamination that is present and take appropriate measures to protect themselves from the identified direct-contact risk. Exhibit 14 (labeled "Figure 10") shows the post-excavation soil sample locations collected from the Tank 65 basin. Exhibit 15, which is attached hereto and incorporated herein by reference, and labeled "Tables 1 through 5," present the results for the soil samples collected during this Tanks 65/66 Basin investigation. Exhibits 13 and 14 (labeled "Figures 9 and 10") show the sample locations.

### Propane/Butane Loading Area

That the location of the Propane/Butane Loading Area (WDNR #02-16-222628) has been surveyed and identified as follows:

All that part of Block 19, West 25<sup>th</sup> Street, Townsite of Superior, Douglas County, Wisconsin, described as follows:

Commencing at the most northerly Corner of Block 19, West 25<sup>th</sup> Street, Townsite of Superior; thence South 41 degrees 10 minutes 13 seconds East, along the northeasterly line of said Block 19, a distance of 143.20 feet; thence South 48 degrees 49 minutes 47 seconds West, a distance of 29.73 feet to the Point of Beginning; thence South 40 degrees 55 minutes 55 seconds East, a distance of 58.00 feet; thence South 49 degrees 04 minutes 05 seconds West, a distance of 39.00 feet; thence North 40 degrees 55 minutes 55 seconds West, a distance of 58.00 feet; thence North 49 degrees 04 minutes 05 seconds East, a distance of 39.00 feet to the Point of Beginning.

Exhibit 16, which is attached hereto and incorporated herein by reference, and labeled "Sheet 8 of 15," is a survey drawing of the Propane/Butane Loading Area with its legal description.

Residual petroleum-contaminated soils have been identified within the Propane/Butane Loading Area at concentrations that exceed the NR 746.06 direct-contact standards. Residual contaminated soil was identified in soil boring GP-25. Commerce has agreed that enforcement of the "**limited access**" requirements included in this restriction will be protective of human health. If contaminated soil is removed, it shall be handled in accordance with all applicable laws and regulations (File references: Commerce #54880-0456-07-L and WDNR BRRTS #02-16-222628).

This restriction requires "**limited access**" to the site. To comply with the requirement of "**limited access**," gated fencing of an appropriate height that encompasses the refinery site and that restricts access to the Propane/Butane Loading Area shall remain in place until it is determined that the risk to human health from direct contact has been remediated. Any person entering the Propane/Butane Loading Area must be knowledgeable of the soil contamination that is present and take appropriate measures to protect themselves from the identified direct-contact risk. Exhibit 17, which is attached hereto and incorporated herein by reference, and labeled "Figure 11," shows the locations of all soil samples collected during the investigation of the Propane/Butane Loading Area and the approximate extent of soil exceeding NR 720.09 and/or NR 746 standards. Exhibit 18 (labeled Table 6) presents the results for the soil samples collected during this investigation.

### Tanks 32/33 Basin

That the location of the Tanks 32/33 Basin (WDNR #02-16-222721) has been surveyed and identified as follows:

Those parts of Blocks 17 and 19, West 27<sup>th</sup> Street together with those parts of vacated Becker Avenue and West 27<sup>th</sup> Street, Townsite of Superior, Douglas County, Wisconsin, described as follows:

Commencing at the most northerly Corner of Block 17, West 27<sup>th</sup> Street, Townsite of Superior; thence South 48 degrees 50 minutes 03 seconds West along the northwesterly line of said Block 17, a distance of 71.10 feet to the Point of Beginning; thence South 41 degrees 10 minutes 13 seconds East, a distance of 25.00 feet; thence South 48 degrees 50 minutes 03 seconds West along a line 25.00 feet distant, measured at right angles to and parallel with the northwesterly line of said Block 17, a distance of 217.00 feet, thence North 41 degrees 10 minutes 13 seconds West along a line 8.00 feet distant, measured at right angles to and parallel with the centerline of vacated West 27<sup>th</sup> Street, a distance of 117.00 feet; thence North 48 degrees 50 minute 03 seconds East, a distance of 217.00 feet; thence South 41 degrees 10 minutes 13 seconds East, a distance of 92.00 feet to the Point of Beginning.

Exhibit 19, which is attached hereto and incorporated herein by reference, and labeled "Sheet 13 of 15," is a survey drawing showing the Tanks 32/33 Basin with its legal description.

Residual petroleum-contaminated soils have been identified within the Tanks 32/33 Basin at concentrations that exceed the NR 746.06 direct-contact standards. Residual contaminated soil was identified in soil borings B32-1 through B32-4, B33-1, and B33-3. Commerce has agreed that enforcement of the "**limited access**" requirements included in this restriction will be protective of human health. If contaminated soil is removed, it shall be dealt with in accordance with all applicable laws and regulations (File references: Commerce #54880-0456-07-S and WDNR BRRTS #02-16-222721).

This restriction requires "**limited access**" to the site. To comply with the requirement of "**limited access**," gated fencing of an appropriate height that encompasses the refinery site that restricts access to the Tanks 32/33 Basin shall remain in place until it is determined that the risk to human health from direct contact has been remediated. Any person entering the site must be knowledgeable of the contamination that is present and take appropriate measures to protect themselves from the identified direct-contact risk. Exhibit 7, which is attached hereto and incorporated herein by reference, and labeled "Figure 7," shows the locations of all soil samples collected during the investigation of the Tanks 32/33 Basin and the approximate extent of soil exceeding NR 720.09 and/or NR 746.06 standards. Exhibit 20, which is attached hereto and incorporated herein by reference, and labeled "Table 7," presents the results for the soil samples collected during this investigation.

### **Vapor Recovery Unit**

That the location of the Vapor Recovery Unit (COMM #54880-0456-07-Q and WDNR #02-16-242301) has been surveyed and identified as follows:

All that part of Block 16, West 25<sup>th</sup> Street, Townsite of Superior, Douglas County, Wisconsin, described as follows:

Commencing at the most easterly corner of Block 16, West 25<sup>th</sup> Street, Townsite of Superior; thence North 41 degrees 10 minutes 13 seconds West, along the northeasterly line of said Block 16, a distance of 152.22 feet; thence South 48 degrees 49 minutes 47 seconds West, a distance of 134.72 feet to the Point of Beginning; thence South 47 degrees 54 minutes 34 seconds West, a distance of 12.50 feet; thence North 41 degrees 27 minutes 49 seconds West, a distance of 26.50 feet; thence North 48 degrees 32 minutes 11 seconds East, a distance of 12.50 feet; thence South 41 degrees 27 minutes 49 seconds East, a distance of 26.37 feet to the Point of Beginning.

Exhibit 21, which is attached hereto and incorporated herein by reference, and labeled "Sheet 5 of 15," is a survey drawing showing the Vapor Recovery unit with its legal description.

Soil containing concentrations of petroleum compounds above the applicable NR 720.09 RCLs that were in effect on the signature date of his document remains at this location to a depth of at least 2 feet bgs. The compounds that remain with concentrations above their applicable RCLs include gasoline range organics, with concentrations as high as 2,700 mg/kg; benzene, with concentrations as high as 4.0 mg/kg; ethylbenzene, with concentrations as high as 3.8 mg/kg; toluene, with concentrations as high as 4.4 mg/kg; and total xylenes, with concentrations as high as 131 mg/kg. In addition, soil containing concentrations of petroleum compounds that exceed the NR 746.06 direct-contact concentrations for benzene and total xylenes also remain within 4 feet of the ground surface.

It has been shown that these residual contaminant levels are protective of human health and the environment with the installation and maintenance of a barrier cap. In the event that petroleum-impacted soil is excavated from this area in the future, it will have to be managed in accordance with all applicable regulations and standards in effect at that time and may be considered a solid waste.

A surface barrier cap, currently consisting of concrete, shall be maintained over the area of petroleum-contaminated soil for the protection of groundwater and for the protection of human health from direct contact until such time that 1) the soil is actively remediated or removed or 2) sampling shows contamination has degraded to concentrations protective of the environment and human health.

The concrete surface barrier cap shall be maintained in the Vapor Recovery Unit shown on Exhibit 21 (Sheet 5 of 15), unless another barrier with an infiltration rate of  $10^{-7}$  cm/sec or less is installed and maintained in its place. The existing concrete cap and any replacement barrier with an infiltration rate of  $10^{-7}$  cm/sec or less shall be maintained in the above described area in compliance with the "Maintenance Plan for Surface Cap" dated June 2004 that was submitted to the Wisconsin Department of Natural Resources on June 15, 2004, by Gannett Fleming, Inc. on behalf of Murphy Oil USA, Inc. as required by Section NR 724.13(2), Wis. Adm. Code (1997).

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or Wisconsin Department of Commerce (as applicable), or its successor, issue a determination that the restrictions set forth in the covenant are no longer required. That property owner shall provide any and all necessary information to the applicable Department in order for the applicable Department to be able to make a



determination. Upon receipt of such a request, the applicable Department shall determine whether or not the restrictions contained herein can be extinguished. Conditions under which a restriction may be extinguished will be determined in accordance with the standards, rules, and laws in effect at the time of such request. If the applicable Department determines that the restrictions can be extinguished, an affidavit, with a copy of the applicable Department's written determination, may be recorded to give notice that this restriction or portions of this restriction are no longer binding. Any restriction placed upon this property shall not be extinguished without the applicable Department's written determination.

IN WITNESS WHEREOF, the owner of the property has executed this document, this  
14<sup>th</sup> day of Sept. 2004.

By signing this document, [he/she] acknowledges that [he/she] is duly authorized to sign this document on behalf of Murphy Oil USA, Inc.

Signature: David J. Podratz

Printed Name: David J. Podratz

Title: Refinery Manager

Subscribed and sworn to before me this 14 day of Sept 2004.

Signature: William Wicklund

Notary Public, State of Wisconsin

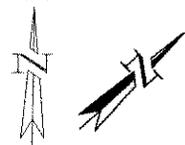
My commission expires on 9/07/08

This document was drafted by:

Atty Richard J. Lewandowski  
DeWitt Ross & Stevens, S.C.  
2 E. Mifflin St., Suite 600  
Madison, WI 53703

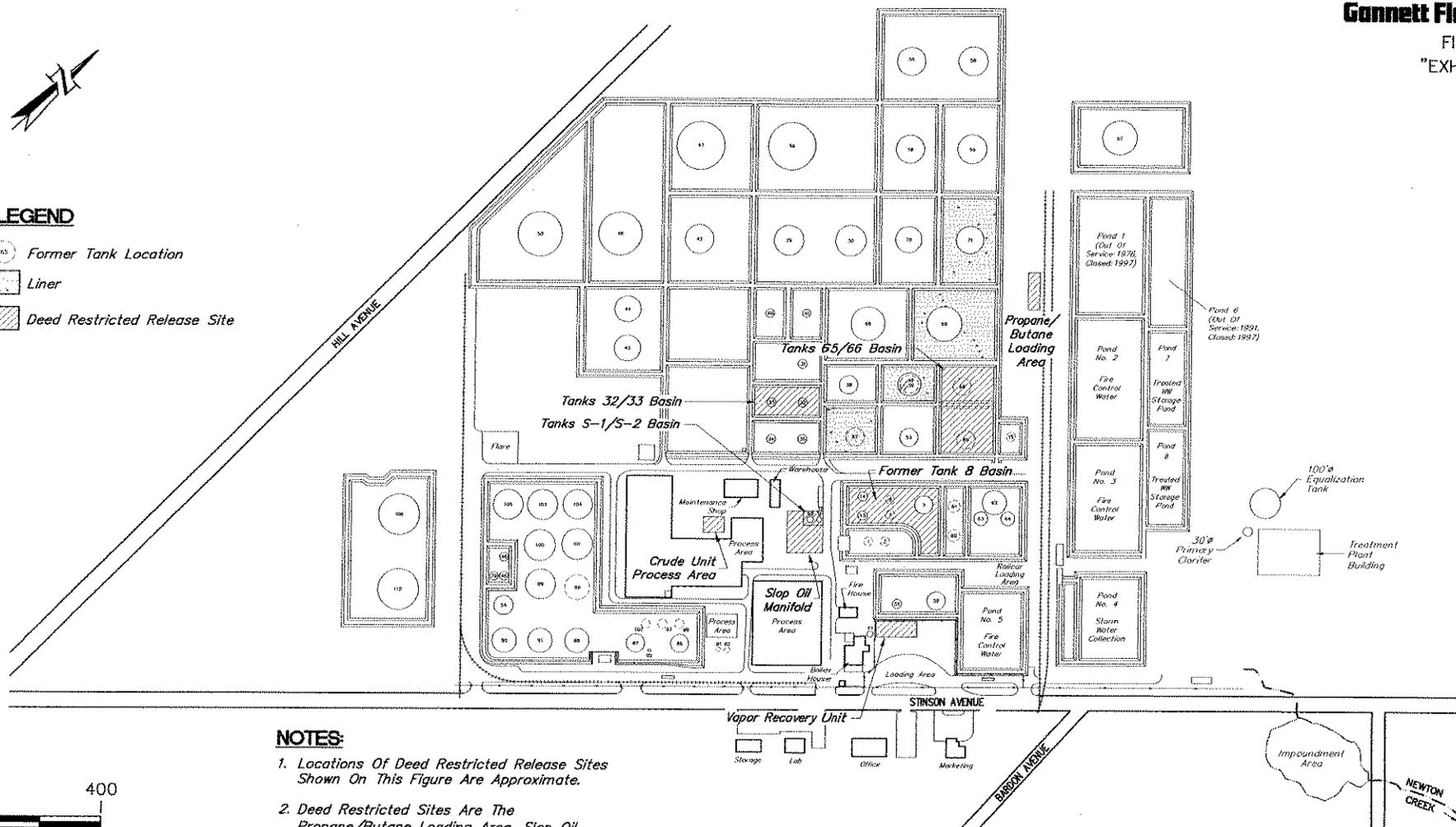
Tel: 608-255-8891

REFINERY NORTH



**LEGEND**

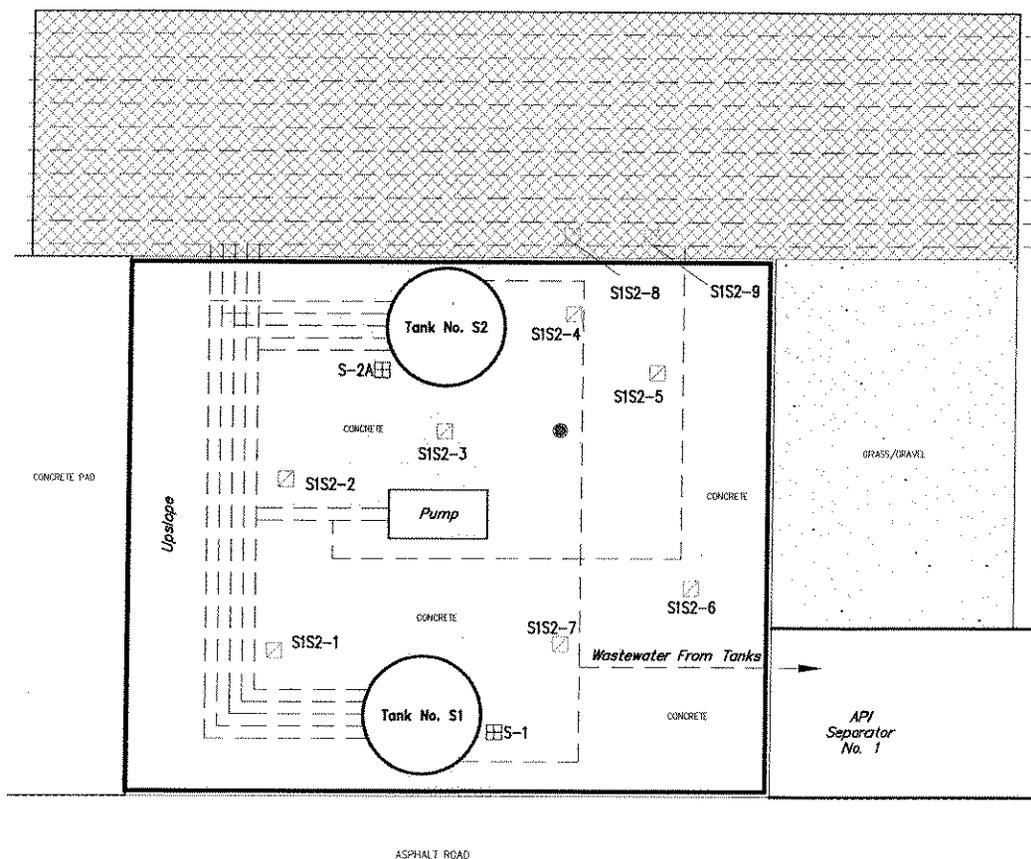
-  Former Tank Location
-  Liner
-  Deed Restricted Release Site



**NOTES:**

1. Locations Of Deed Restricted Release Sites Shown On This Figure Are Approximate.
2. Deed Restricted Sites Are The Propane/Butane Loading Area, Slop Oil Manifold, Crude Oil Process Area, Tanks S-1/S-2 Basin, Tanks 32/33 Basin, Tanks 65/66 Basin, And Former Tank 8 Basin.

**SITE PLAN**  
MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN



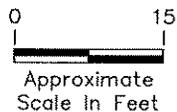
**LEGEND**

-  Area Covered With Pea Gravel Over 60 MIL HDPE Liner
-  Area Covered With Concrete Slab With 6" High Curb
-  S-2A Twin Ports Testing Post-Excavation Soil Sample Location (September/October 1997)
-  SIS2-1 Gannett Fleming Soil Sample Location @ 0.5' Depth (June 1999)
-  Aboveground Piping
-  Concrete Sump

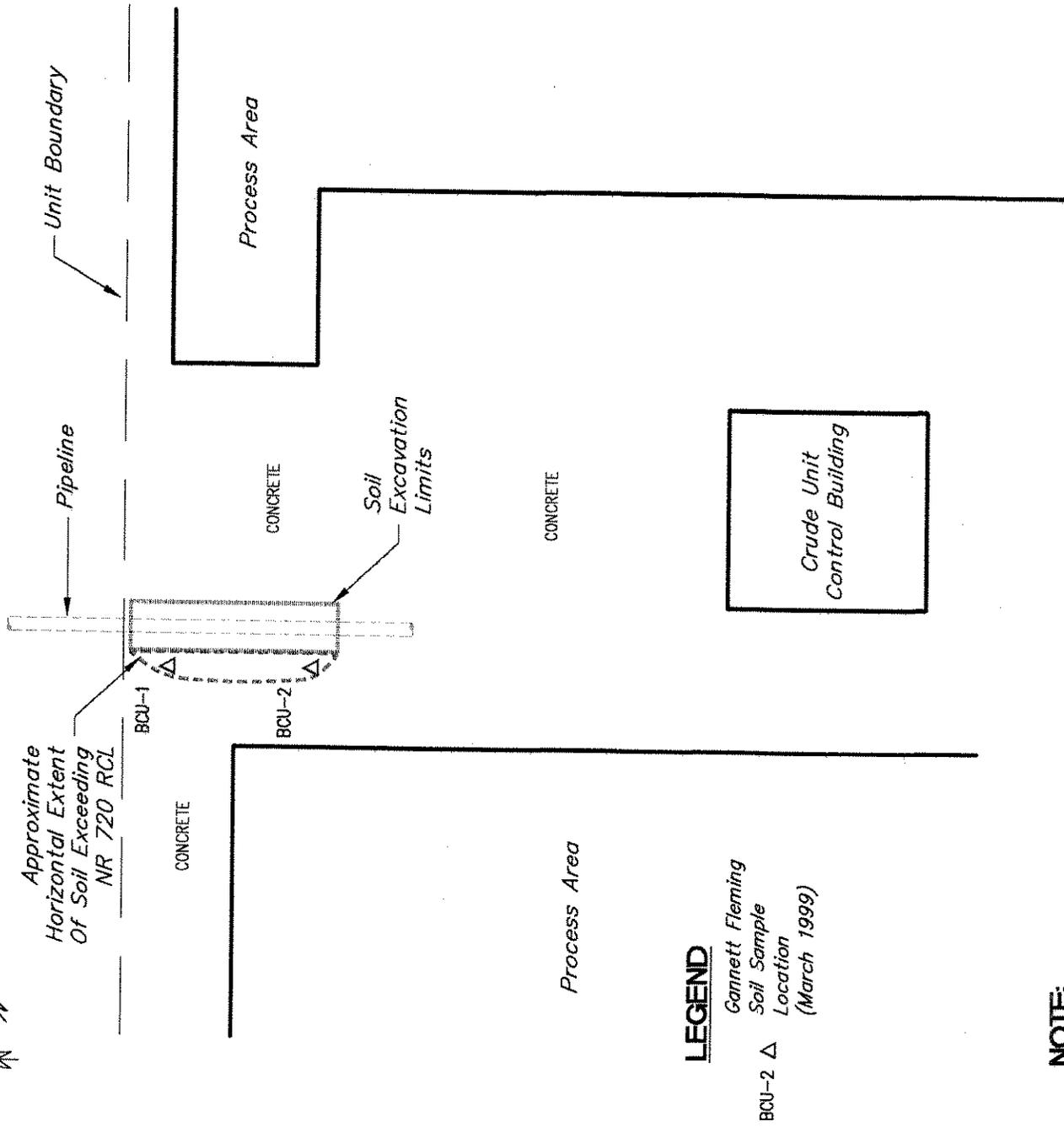
**NOTE:**

The Location Of Tanks, Piping, And Soil Samples Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.

**SOIL SAMPLE  
LOCATIONS AT  
SLOP OIL TANKS  
S1 AND S2  
MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN**



ASPHALT

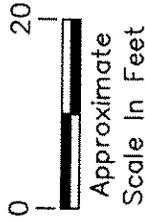


**LEGEND**

- Gannett Fleming  
Soil Sample  
Location  
(March 1999)
- BCU-2 Δ

**NOTE:**

*Site Layout And Sample Locations  
Shown On This Figure Are Based  
On Field Measurements And Are  
Considered To Be Approximate.*

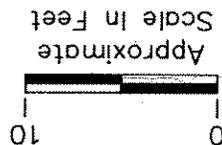


**SOIL SAMPLE  
LOCATIONS AT CRUDE  
UNIT PROCESS AREA**

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

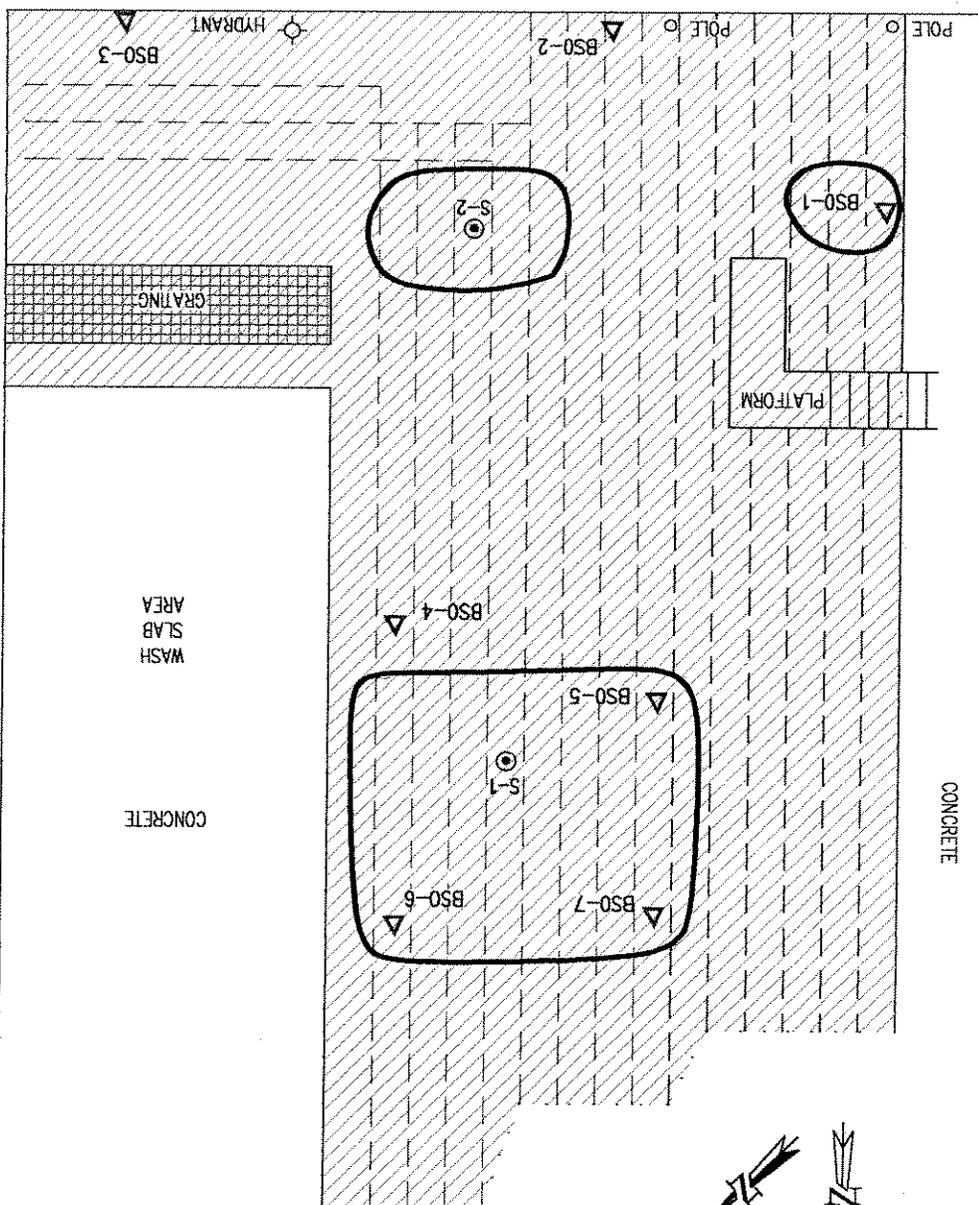
**SITE PLAN: STOP OIL**



1. Site Layout And Sample Locations Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.
2. This Figure Is Based On A Twin Ports Testing Site Plan Of The Stop Oil Area Showing The Extent Of The 12/99 Excavation.
3. Piping Shown On Figure Is Approximately 3 Feet Above Grade.
4. Not Shown On Figure Is An Upper Piping Manifold Approximately 20 Feet Above Grade In The Eastern And Southeastern Areas Of Site.

ASPHALT ROAD

ASPHALT ROAD



**NOTES:**

- Approximate Extent Of Soils Exceeding NR 720/746 Standards
- Aboveground Piping
- Sample Location (August 1999) BSO-5 Gannett Fleming Soil
- Sample Location (December 1999) S-1 Twin Ports Soil
- Excavation Of Soil Samples And Collection Of Soil Following The 60 MIL HDPE Liner Area Covered With

**LEGEND**

**Gannett Fleming**  
FIGURE 4  
"EXHIBIT 4"

ASPHALT ROAD



CONCRETE

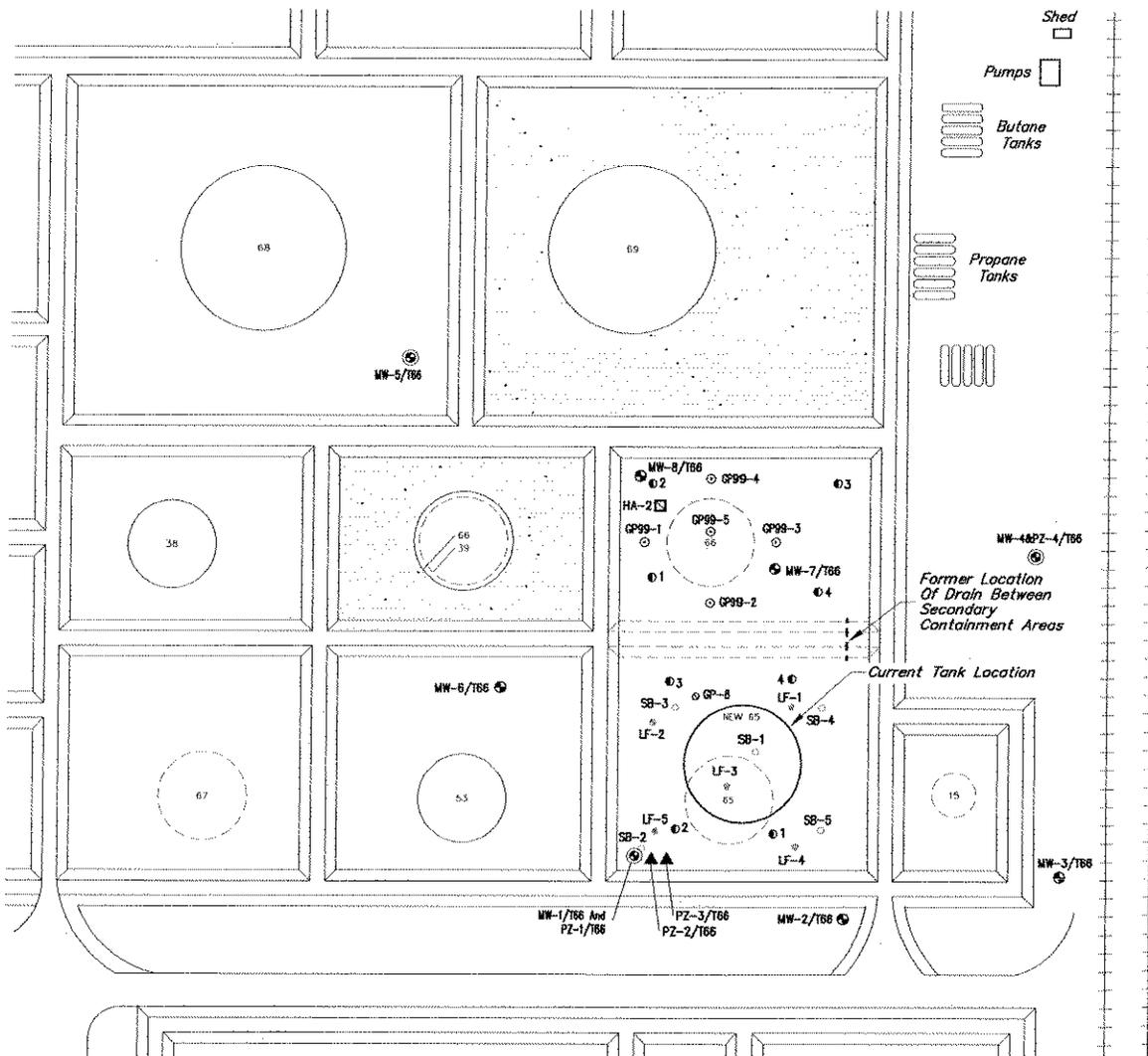


**LEGEND**

- LF-1 ○ Twin Ports Testing Near Surface (1.5 Feet Below Grade) Soil Sample Location (June 15, 1998)
- 3 ● Gannett Fleming Hand-Auger Field Screening Soil Sample Location (July 8-10, 1998)
- HA-2 □ Gannett Fleming Soil Sample Locations (July 21 & 22, 1998)  
GP-8 ○ (HA=Hand-Auger / GP=Geoprobe)
- SB-2 ○ Twin Ports Testing Geoprobe Soil Sample Location (September 18, 1998)
- PZ-3/T66 ▲ 1" Piezometer Location (July And October 1998)
- GP99-4 ○ Twin Ports Geoprobe Soil Sample Location (May 1999)
- MW-3/T66 ● Monitoring Well Location
- MW-4&PZ-4/T66 ● Monitoring Well Nest Location
- Former Tank Location
- Liner

**NOTES:**

1. LF-1 Through LF-5 And SB-1 Through SB-5 Soil Samples From Tank 65 Basin Were Collected Before Soil Was Excavated.
2. Site Layout And Sample Locations Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.



**Gannett Fleming**

FIGURE 5  
"EXHIBIT 5"

Pond 1  
(Closed)

Fire Water Pond No. 2

0 100

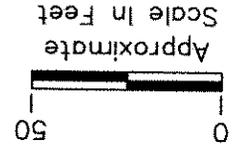
Approximate Scale In Feet

**SITE PLAN:**

**TANKS 65/66**

MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN

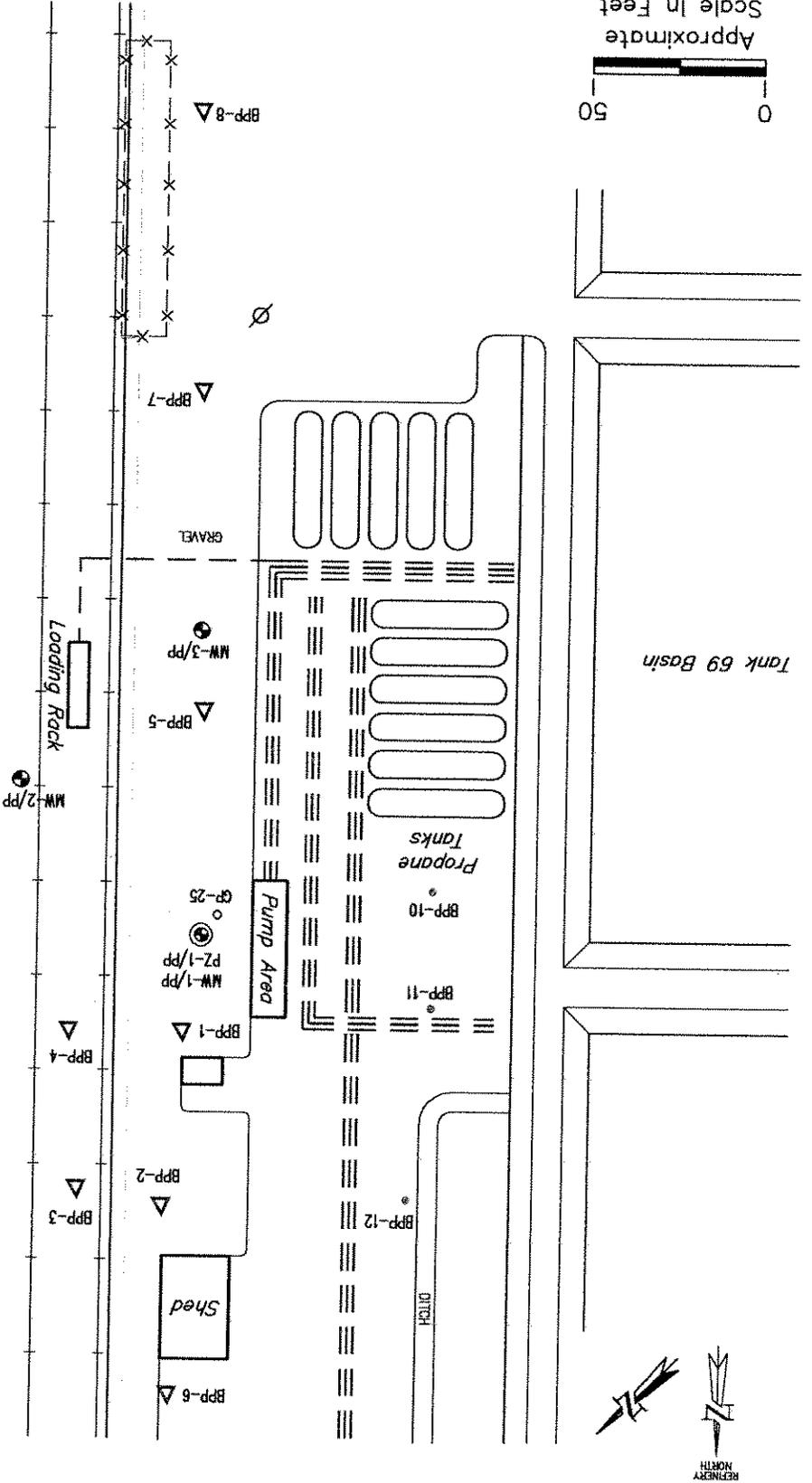
# SAMPLE LOCATIONS AT PROpane/BUTANE LOADING AREA MURPHY OIL USA, INC SUPERIOR, WISCONSIN



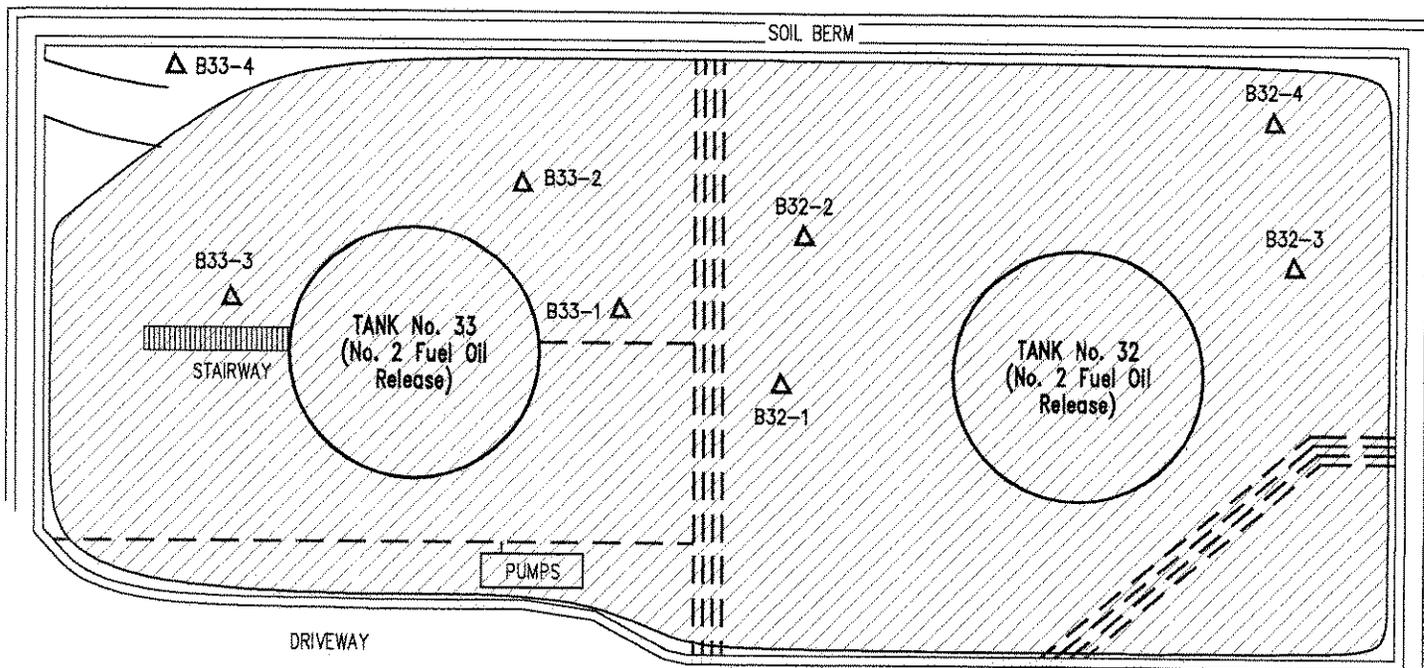
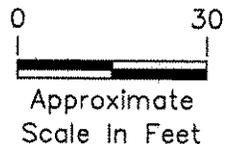
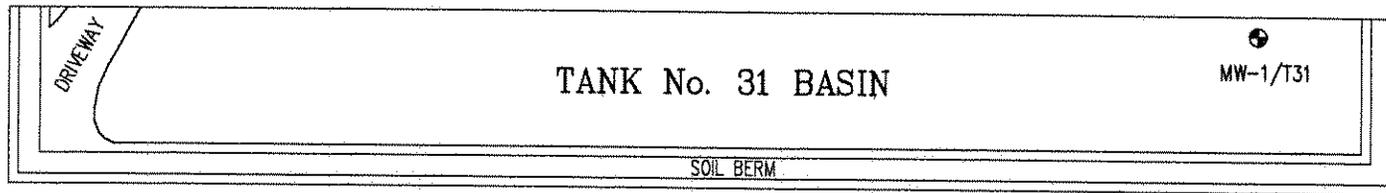
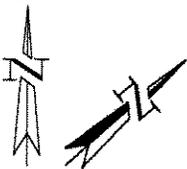
**NOTE:**  
Site Layout And Sample Locations  
Shown On This Figure Are Based  
On Field Measurements And Are  
Considered To Be Approximate.

- LEGEND**
- Monitoring Well Location
  - ⊕ Nested Monitoring Well Location
  - Twin Ports Testing Soil Sample Location (June 1999)
  - △ Gannett Fleming Soil Sample Location (June 1999)
  - Gannett Fleming Geoprobe Soil Sample Location (July 1998)
  - - - Aboveground Pipeline
  - - - Underground Pipeline
  - + + + Railroad Tracks
  - ∅ Utility Pole

**Gannett Fleming**  
FIGURE 6  
"EXHIBIT 6"



REFINERY  
NORTH



**LEGEND**

⊕ Monitoring Well Location  
(June 1999)

B32-4 Gannett Fleming  
△ Geoprobe Soil Sample  
Location (December 1998)

--- Aboveground Piping  
- - - Underground Piping

▨ Approximate Horizontal Extent  
Of Soil Exceeding NR 720  
And/Or NR 746 Standards

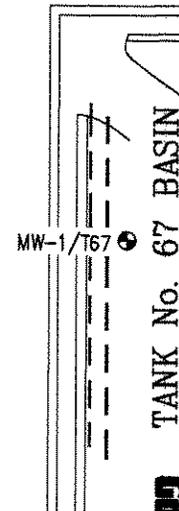
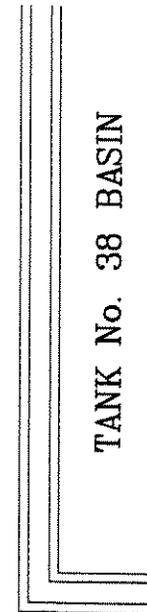
**NOTES:**

1. Not All Site Structures Shown On Figure.
2. Site Layout And Sample Locations Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.

TANK Nos. 34/35 BASIN

**SITE PLAN:  
TANK NOS. 32 AND 33**

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN



TANK No. 38 BASIN

TANK No. 67 BASIN

**Gannett Fleming**

FIGURE 7  
"EXHIBIT 7"



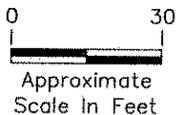
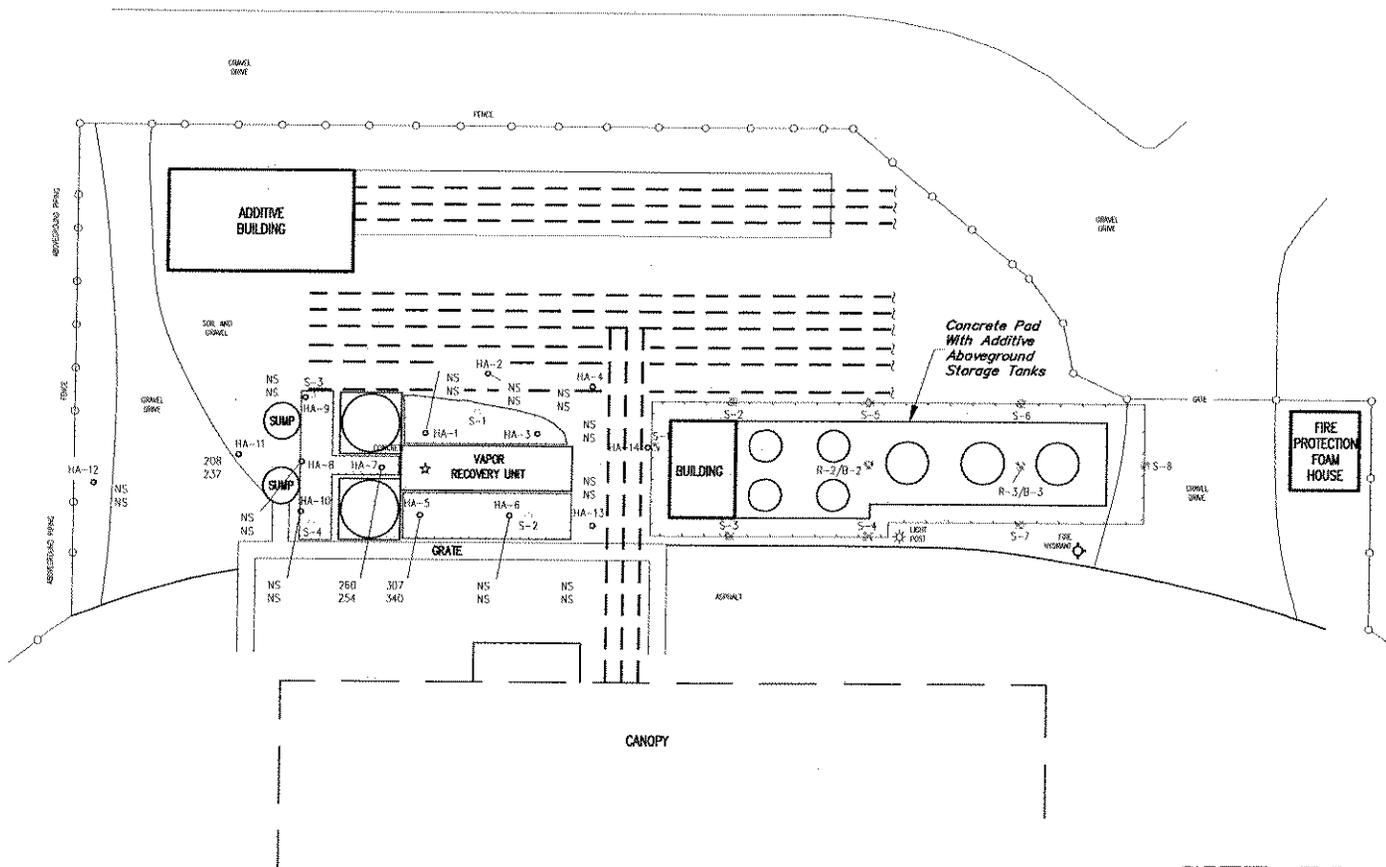
**LEGEND**

- Extent Of Soil Excavation (July 2000)
- S-2  $\circ$  Twin Parts Soil Sample Location (July 2000)
- Extent Of Soil Excavation (December 1999)
- S-2  $\circ$  Twin Parts Soil Sample Location (December 1999)
- HA-7  $\circ$  Twin Parts Field Screening Soil Sample Location (October 1999)
- ★ Source Of October 1999 Release (200-Gallons Of Gasoline)
- Aboveground Piping

307 = PID Reading At 1 Foot Depth  
 340 = PID Reading At 2 Foot Depth  
 NS = Not Sampled

**NOTES**

1. Site Layout And Sample Locations Shown On This Figure Are Based On Field Measurements And Are To Be Considered Approximate.
2. It Should Be Noted That Due To The Presence Of A Significant Amount Of Aboveground And Underground Utilities, As Well As Other Structures In This Area, There Is Extremely Limited Access.
3. Sample Locations Based On Site Plan Prepared By Twin Parts Testing.
4. Concrete Pad With Additive Aboveground Storage Tanks Installed In September 2000.



**SITE PLAN:**  
**VAPOR RECOVERY UNIT**  
 MURPHY OIL USA, INC.  
 SUPERIOR, WISCONSIN



BLOCK 18

BLOCK 17

WEST TWENTY-SEVENTH STREET (VACATED)

40.00'

80.00'

PROCESS AREA

PROCESS AREA

CONCRETE SURFACE

CRUDE UNIT CONTROL BUILDING

THOMPSON AVENUE (23RD AVENUE EAST) (VACATED)



100.00'

BLOCK 16

BLOCK 15

DESCRIPTION:

All that part of Block 18, West 27th Street, Townsite of Superior, Douglas County, Wisconsin described as follows:

Commencing at the most easterly Corner of Block 18, West 27th Street, Townsite of Superior; thence South 48 degrees 50 minutes 03 seconds West, along the southeasterly line of said Block 18, a distance of 56.46 feet; thence North 41 degrees 09 minutes 57 seconds West, a distance of 6.35 feet to the Point of Beginning; thence South 46 degrees 05 minutes 39 seconds West, a distance of 23.58 feet; thence North 42 degrees 02 minutes 43 seconds West, 35.27 feet; thence North 49 degrees 34 minutes 13 seconds East, a distance of 24.60 feet; thence South 40 degrees 19 minutes 17 seconds East, a distance of 33.82 feet to the Point of Beginning.

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**ENGINEERS • SURVEYORS • PLANNERS**  
**SALO ENGINEERING, INC.**  
 15 East First Street • Duluth, Minnesota 55802 • 218/727-8796

I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH CHAPTER AE-7 AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

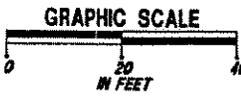
DATE  
 WI. LIC. NO. 2633

1			
2			
3			
NO	DATE	REVISION	BY

RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A.  
 CRUDE UNIT PROCESS AREA  
 SHEET 3 OF 15

JOB NO. E-1478R

DATE 2/18/04



BLOCK 17

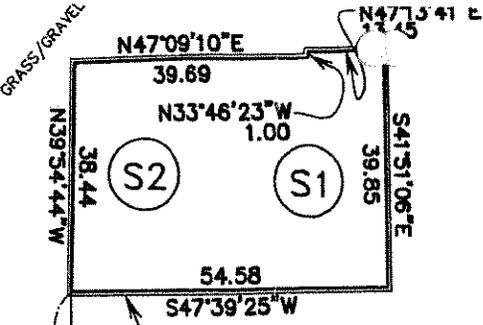
WEST TWENTY-SEVENTH STREET (VACATED)

40.0'

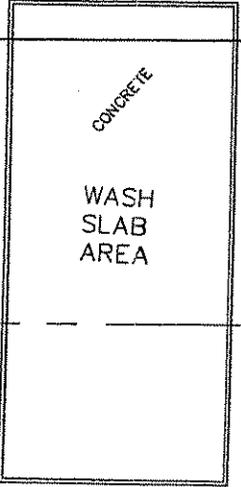
N48°50'03"E 141.61

MOST SOUTHERLY CORNER  
BLOCK 17, WEST 27TH STREET

Point of Beginning



GRASS/GRAVEL



THOMPSON AVENUE (23RD AVENUE EAST) (VACATED)

100.0'

CONCRETE EDGE

50.0'

**DESCRIPTION**  
All that part of Block 17, West 27th Street, Townsite of Superior, Douglas County, Wisconsin described as follows:  
Commencing at the most southerly corner of Block 17, West 27th Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the southeasterly line of said Block 17, a distance of 141.61 feet; thence North 41 degrees 09 minutes 57 seconds West, a distance of 37.37 feet to the Point of Beginning; thence North 39 degrees 54 minutes 44 seconds West, a distance of 38.44 feet; thence North 47 degrees 09 minutes 10 seconds East, a distance of 39.69 feet; thence North 33 degrees 46 minutes 23 seconds West, a distance of 1.00 feet; thence North 47 degrees 13 minutes 41 seconds East, a distance of 13.45 feet; thence South 41 degrees 51 minutes 06 seconds East, a distance of 39.85 feet; thence South 47 degrees 39 minutes 25 seconds West, a distance of 54.58 feet to the Point of Beginning.

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**SALO ENGINEERING, INC.**  
15 East First Street • Duluth, Minnesota 55802 • 218/727-8798

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DATE  
WI. LIC. NO. 2533

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NO.	DATE	REVISION	BY	

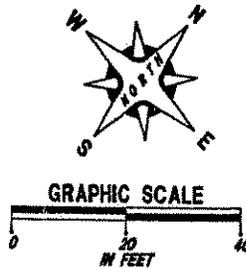
RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A.  
TANKS S1 AND S2 AREA  
SHEET 6 OF 15

JOB NO. E-1478R DATE 2/18/04

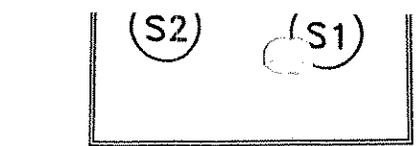
"EXHIBIT 10"

WEST TWENTY-SEVENTH STREET (VACATED)

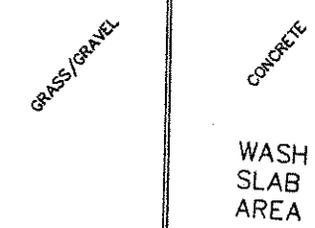
BLOCK 17



THOMPSON AVENUE (23RD AVENUE EAST) (VACATED)



BLOCK RETAINING WALL  
CONCRETE CURB



WASH SLAB AREA

**DESCRIPTION:**  
That part of Block 15, West 27th Street and that part of vacated Thompson Avenue (23rd Avenue East), Townsite of Superior, Douglas County, Wisconsin described as follows:

Commencing at the most westerly Corner of Block 15, West 27th Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the northwesterly line of said Block 15, a distance of 120.16 feet to the Point of Beginning; thence North 40 degrees 37 minutes 53 seconds West, a distance of 50.00 feet; thence North 48 degrees 50 minutes 03 seconds East, along the centerline of said vacated Thompson Avenue, a distance of 32.93 feet; thence South 40 degrees 26 minutes 04 seconds West, a distance of 39.48 feet; thence South 50 degrees 06 minutes 04 seconds West, a distance of 7.37 feet; thence South 40 degrees 33 minutes 29 seconds East, a distance of 5.33 feet; thence North 49 degrees 26 minutes 31 seconds East, a distance of 29.52 feet; thence South 40 degrees 37 minutes 53 seconds East, a distance of 22.11 feet; thence South 49 degrees 22 minutes 07 seconds West, a distance of 54.94 feet; thence North 40 degrees 37 minutes 53 seconds West, a distance of 16.56 feet to the Point of Beginning.

BLOCK 15

MOST WESTERLY CORNER  
BLOCK 15 WEST 27TH STREET

CONCRETE EDGE  
50.01  
CONCRETE

CONCRETE  
100.01  
PLATFORM  
Point of Beginning

N40°37'53"W 50.00  
N48°50'03"E 32.93  
S50°06'04"W 7.37  
S40°33'29"E 5.33  
S40°26'04"E 39.48  
N49°26'31"E 29.52  
S40°37'53"E 22.11  
S49°22'07"W 54.94  
N40°37'53"W 16.56

ROAD

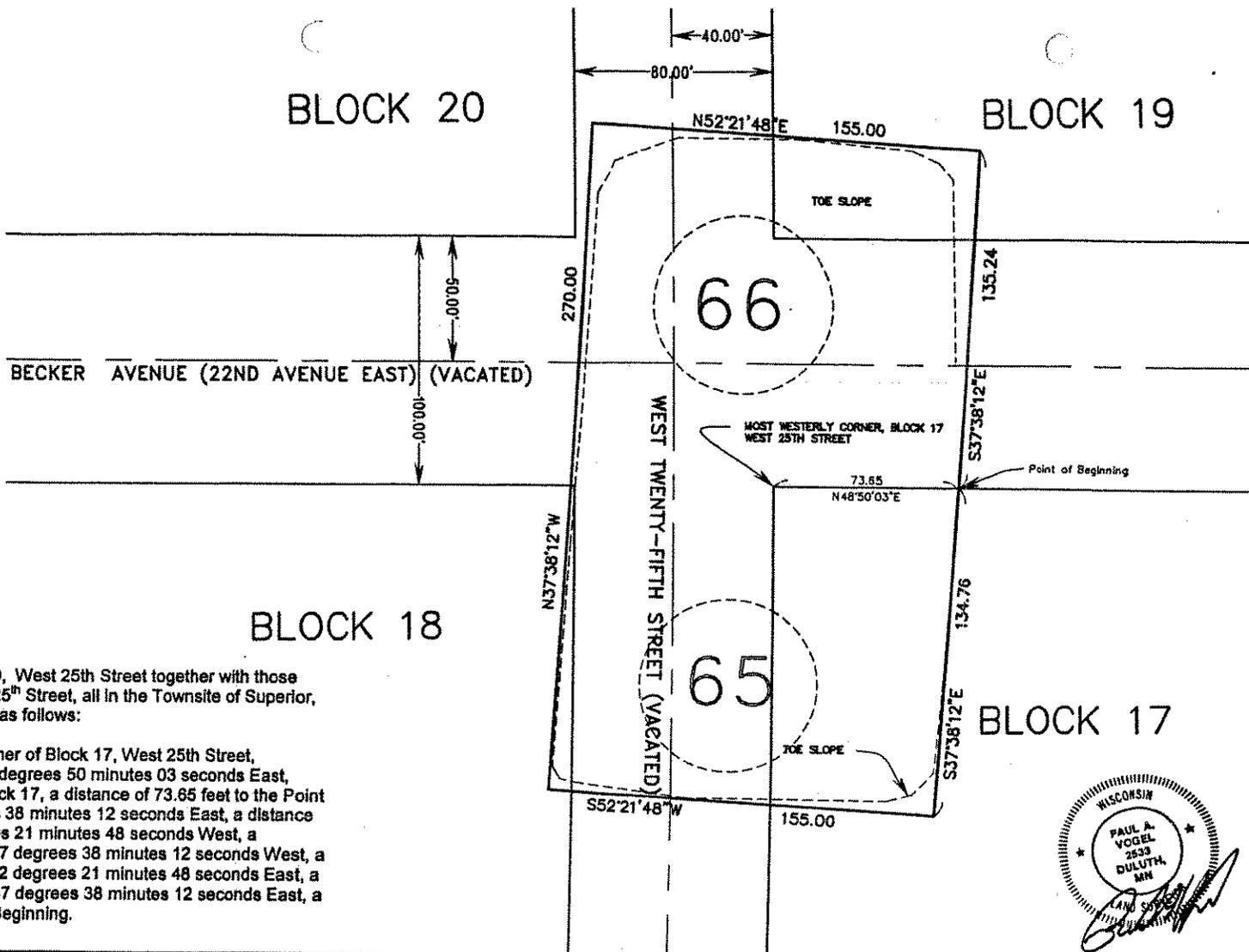
DATE PLOTTED: 2/18/04 11:30 AM PLOTTER: PLT PLOTTED BY: PAV

**ENGINEERS - SURVEYORS - PLANNERS**  
**SALO ENGINEERING, INC.**  
15 East First Street - Duluth, Minnesota 55802 - 218/727-8798

I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH CHAPTER AE-7 AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.  
DATE  
WL LC. NO. 2533

1			
2			
3			
NO	DATE	REVISION	BY

RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A.  
SLOP OIL MANIFOLD AREA  
SHEET 4 OF 15  
JOB NO. E-1478R  
DATE 2/18/04



**DESCRIPTION:**

All those parts of Block 17, 18, 19 & 20, West 25th Street together with those parts of vacated Becker Avenue and 25<sup>th</sup> Street, all in the Townsite of Superior, Douglas County, Wisconsin described as follows:

Commencing at the most westerly Corner of Block 17, West 25th Street, Townsite of Superior; thence North 48 degrees 50 minutes 03 seconds East, along the northwesterly line of said Block 17, a distance of 73.65 feet to the Point of Beginning; thence South 37 degrees 38 minutes 12 seconds East, a distance of 134.76 feet; thence South 52 degrees 21 minutes 48 seconds West, a distance of 155.00 feet; thence North 37 degrees 38 minutes 12 seconds West, a distance of 270.00 feet; thence North 52 degrees 21 minutes 48 seconds East, a distance of 155.00 feet; thence South 37 degrees 38 minutes 12 seconds East, a distance of 135.24 feet to the Point of Beginning.



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**ENGINEERS - SURVEYORS - PLANNERS**  
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DATE \_\_\_\_\_  
 WL LIC. NO. 2533

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NO	DATE	REVISION	BY

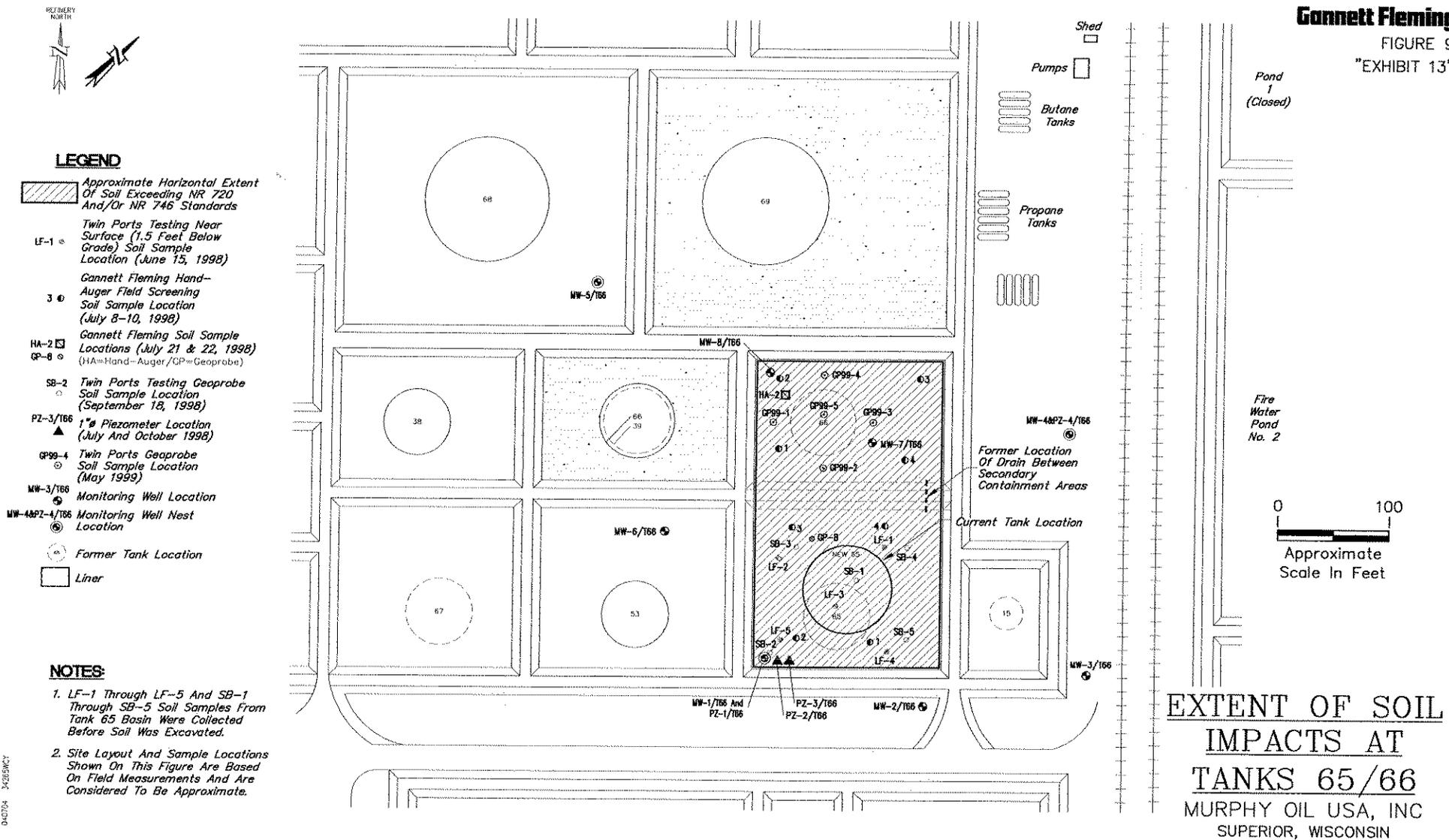
RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A.  
 TANKS 65 & 66  
 SHEET 7 OF 15

JOB NO. E-1478R      DATE 2/18/04

"CYLINDER 10"

# Gannett Fleming

FIGURE 9  
"EXHIBIT 13"



**EXTENT OF SOIL  
IMPACTS AT  
TANKS 65/66**  
MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN

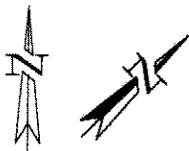
### LEGEND

-  Approximate Horizontal Extent Of Soil Exceeding NR 720 And/Or NR 746 Standards
- LF-1  Twin Ports Testing Near Surface (1.5 Feet Below Grade) Soil Sample Location (June 13, 1998)
- 3  Gannett Fleming Hand-Auger Field Screening Soil Sample Location (July 8-10, 1998)
- HA-2  Gannett Fleming Soil Sample Locations (July 21 & 22, 1998)  
(HA=Hand-Auger/GP=Geoprobe)
- GP-8 
- SB-2  Twin Ports Testing Geoprobe Soil Sample Location (September 18, 1998)
- PZ-3/166  Piezometer Location (July And October 1998)
- GP99-4  Twin Ports Geoprobe Soil Sample Location (May 1999)
- MW-3/166  Monitoring Well Location
- MW-4/166  Monitoring Well Nest Location
-  Former Tank Location
-  Liner

### NOTES:

1. LF-1 Through LF-5 And SB-1 Through SB-5 Soil Samples From Tank 65 Basin Were Collected Before Soil Was Excavated.
2. Site Layout And Sample Locations Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.

REFINERY  
NORTH



### LEGEND

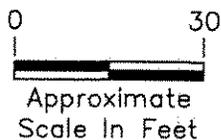
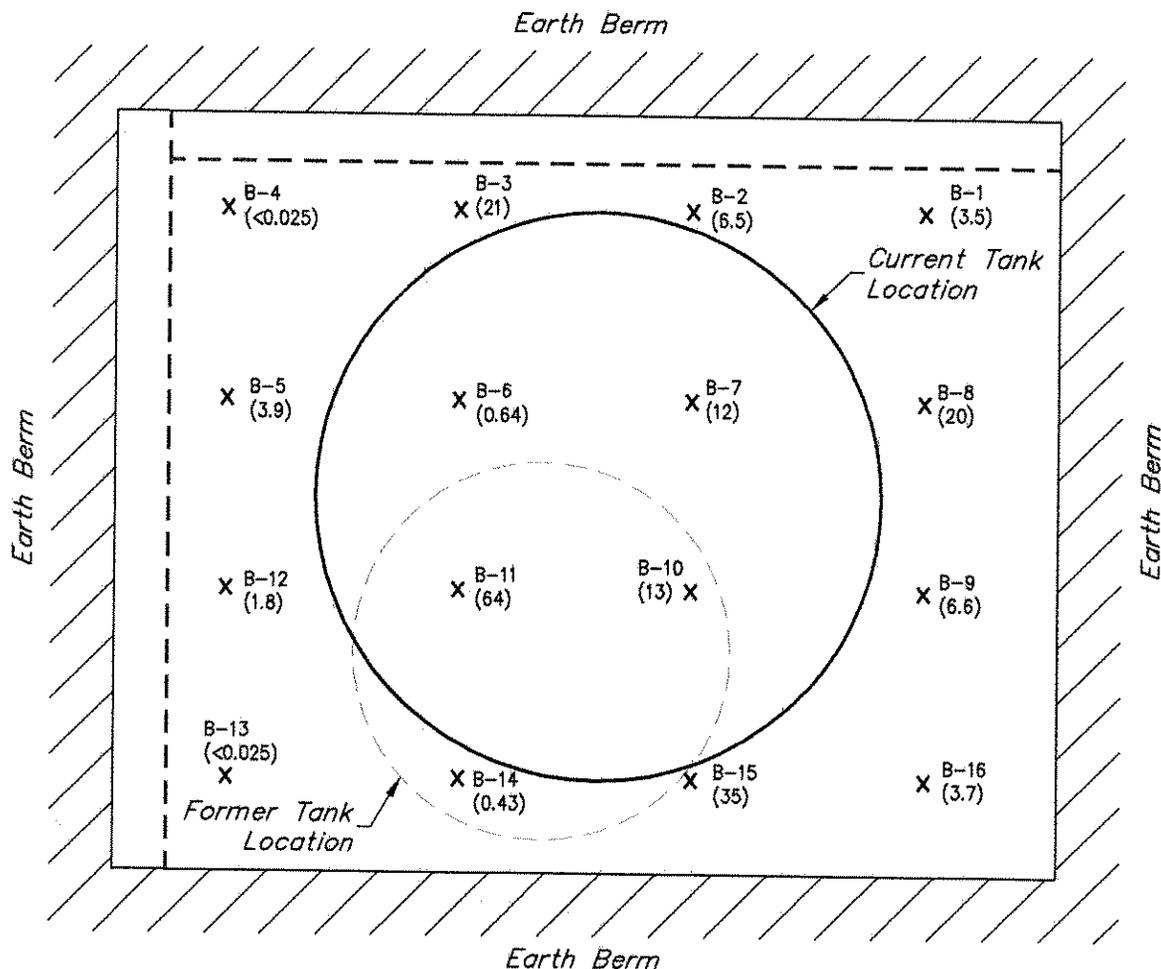
B-5 X (3.9) Gannett Fleming Soil Sample Location With Benzene Concentration (mg/kg)

— — Aboveground Piping

### NOTES

1. Soil Samples Were Collected On 10/20/98 At Approximately 0.5 Feet Below Grade Following The Removal Of Approximately 2 Feet Of Soil From The Base Of The Basin.

2. Soil Sample And Piping Locations And Basin Dimensions Shown On This Figure Are Based On Field Measurements And Are Considered To Be Approximate.



## POST-EXCAVATION SOIL SAMPLE LOCATIONS FROM BASE OF TANK 65 BASIN

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

040704; FIG# REV.  
031704  
34265WAA

Gannett Fleming  
FIGURE 10  
"EXHIBIT 14"

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 1

PRE-EXCAVATION SOIL SAMPLING RESULTS (mg/kg)  
FORMER TANK 65 BASIN  
JUNE 19, 1998

Sample ID & Sample Depth (ft)	GRO	Benzene	Ethylbenzene	MTBE	Toluene	1,3,5-TMB	1,2,4-TMB	Total Xylenes
LF-1 (1.5')	<b>5,900</b>	<b>150</b>	<b>43</b>	<b>56</b>	<b>68</b>	<b>100</b>	<b>240</b>	<b>430</b>
LF-2 (1.5')	<b>3,000</b>	<b>1.7</b>	<b>10</b>	<b>&lt;1.0</b>	<b>5.6</b>	<b>82</b>	<b>180</b>	<b>171</b>
LF-3 (1.5')	<b>4,200</b>	<b>55</b>	<b>42</b>	<b>26</b>	<b>180</b>	<b>48</b>	<b>150</b>	<b>390</b>
LF-4 (1.5')	<b>14</b>	<b>0.27</b>	<b>0.042</b>	<b>&lt;0.025</b>	<b>0.037</b>	<b>0.037</b>	<b>&lt;0.25</b>	<b>0.091</b>
LF-5 (1.5')	<b>10,000</b>	<b>120</b>	<b>220</b>	<b>20</b>	<b>700</b>	<b>150</b>	<b>450</b>	<b>1,140</b>
NR 720 RCL	<b>250</b>	<b>0.0055</b>	<b>2.9</b>	<b>NS</b>	<b>1.5</b>	<b>NS</b>	<b>NS</b>	<b>4.1</b>

NOTES:

Samples collected by Twin Ports Testing, Inc. and analyzed by EnChem Inc.  
Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.  
Results in bold exceed applicable generic NR 720 RCLs.  
NR 720 RCL = Wisconsin Administrative Code NR 720 residual contaminant level.  
NS = No standard.

TABLE 2

SOIL SAMPLING RESULTS (mg/kg)  
TANKS 65 AND 66 BASINS - JULY 21 AND 22, 1998

Parameter	Sample ID and Sample Depth (feet)	
	GP-8	
	1-1.5	4.5-5
DRO	110	130
GRO	1,000	740
Benzene	13	19
Ethylbenzene	20	15
Toluene	42	67
Xylenes	156	110
MTBE	<0.45	<0.45
1,2,4-TMB	66	48
1,3,5-TMB	27	20
Ethylene dibromide (EDB)	<0.35	<0.35
Lead	11.6	NA
<b>Detected Polycyclic Aromatic Hydrocarbons</b>		
Acenaphthene	<0.048	<0.048
Acenaphthylene	<0.051	0.34
Anthracene	<0.023	<0.023
Benzo(a)anthracene	<0.0020	<0.0020
Benzo(a)pyrene	<0.0015	<0.0015
Benzo(b)fluoranthene	<0.0015	<0.0015
Benzo(k)fluoranthene	<0.0015	<0.0015
Fluoranthene	<0.0049	0.032
Fluorene	<0.0086	<0.0086
Indeno(1,2,3-cd)pyrene	<0.0094	<0.0094
Naphthalene	1.6	0.93
1-Methyl Naphthalene	1.0	0.47
2-Methyl Naphthalene	2.3	1.1
Phenanthrene	0.045	<0.0035
Pyrene	0.20	0.052

Parameter	Sample ID and Sample Depth (feet)	
	HA-2	
	1-1.5	4.5-5
DRO	<b>350</b>	<b>990</b>
GRO	<b>1,700</b>	<b>850</b>
Benzene	<b>1.3</b>	<0.38
Ethylbenzene	<0.11	<0.22
Toluene	<b>1.8</b>	<0.22
Xylenes	<b>6.3</b>	<0.68
MTBE	<0.090	<0.18
1,2,4-TMB	22	20
1,3,5-TMB	5.7	7.9
Ethylene dibromide (EDB)	<0.28	<0.14
Lead	11.4	NA
<b>Detected Polycyclic Aromatic Hydrocarbons</b>		
Acenaphthene	<0.048	<0.048
Acenaphthylene	<0.051	<0.051
Anthracene	<0.023	<0.023
Benzo(a)anthracene	<0.0020	<0.0020
Benzo(a)pyrene	<0.0015	<0.0015
Benzo(b)fluoranthene	<0.0015	<0.0015
Benzo(k)fluoranthene	<0.0015	<0.0015
Fluoranthene	<0.0049	<0.0049
Fluorene	<0.0086	0.76
Indeno(1,2,3-cd)pyrene	<0.0094	<0.0094
Naphthalene	<0.031	3.2
1-Methyl Naphthalene	<0.047	6.9
2-Methyl Naphthalene	0.076	11
Phenanthrene	<0.0035	0.72
Pyrene	0.018	<0.0062

**NOTES:**

Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.

Results in bold exceed applicable NR 720 RCL.

Only detected polycyclic aromatic hydrocarbons (PAHs) included in table.

NA = Not analyzed.

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 3

PRE-EXCAVATION GEOPROBE SOIL SAMPLING RESULTS (mg/kg)  
FORMER TANK 65 BASIN  
SEPTEMBER 18, 1998

Boring No. & Sample Depth (ft)	Benzene	Ethylbenzene	MTBE	Toluene	1,3,5-TMB	1,2,4-TMB	Total Xylenes
SB-1 (0-2')	24	17	5	46	11	35	77
SB-1 (2-4')	28	24	2.1	83	16	48	114
SB-1 (4-6')	9	3.5	0.27	15	2	6.4	16.9
SB-1 (6-8')	9.7	8.1	0.66	27	4.9	15	38
SB-1 (20-22')	0.49	0.75	<0.025	2.7	0.06	.2	2.82
SB-2 (0-2')	23	21	1.7	69	14	44	102
SB-2 (2-4')	12	4.7	.15	24	2.7	8.7	23.8
SB-2 (4-6')	13	2.8	<0.05	20	1.3	4.2	14.3
SB-2 (6-8')	8.9	2.4	<0.05	16	1	3.5	11.9
SB-2 (8-10')	8.4	3.2	0.083	17	1.4	4.7	15.5
SB-3 (0-2')	25	19	1.9	69	13	39	95
SB-3 (2-4')	21	19	1.2	68	13	41	94
SB-3 (4-6')	15	4.7	0.18	27	2.4	7.5	22.8
SB-3 (6-8')	11	4	0.19	23	2	6.4	19.8
SB-3 (8-10')	8.6	3.7	0.17	21	1.7	5.5	18.3
NR 720 RCL	0.0055	2.9	NS	1.5	NS	NS	4.1

Table 3 Continued . . .

Boring No. & Sample Depth (ft)	Benzene	Ethylbenzene	MTBE	Toluene	1,3,5-TMB	1,2,4-TMB	Total Xylenes
SB-4 (0-2')	22	31	2.2	94	23	68	154
SB-4 (2-4')	10	8.2	0.71	29	5.6	17	42
SB-4 (4-6')	14	22	1.9	61	17	52	114
SB-4 (6-8')	7.9	7.1	0.33	26	5	15	36
SB-4 (8-10')	6.1	2	0.087	12	.97	3.2	10.5
SB-5 (0-2')	21	33	2.1	60	28	92	178
SB-5 (2-4')	6.1	4	1.2	12	2.9	9.3	20.7
SB-5 (4-6')	6.3	1.8	0.43	9	1.1	3.8	10.4
SB-5 (6-8')	3.4	1.3	0.28	6.3	0.88	3	7.8
SB-5 (8-10')	2.5	1.2	0.21	5.7	0.75	2.6	7.1
Field Blank	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Method Blank	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
<b>NR 720 RCL</b>	<b>0.0055</b>	<b>2.9</b>	<b>NS</b>	<b>1.5</b>	<b>NS</b>	<b>NS</b>	<b>4.1</b>

NOTES:

Samples collected by Twin Ports Testing, Inc. and analyzed by EnChem Inc.  
 Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.  
 Results in bold exceed applicable generic NR 720 RCLs.  
 NR 720 RCL = Wisconsin Administrative Code NR 720 residual contaminant level.  
 NS = No standard.

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 4

POST-EXCAVATION SOIL SAMPLING RESULTS  
FORMER TANK 65 BASIN (mg/kg)  
OCTOBER 20, 1998

Parameter	Sample I.D.								NR 720 RCL	NR 746 Residual Petroleum Product in Soil Screening Levels	NR 746 Direct Contact Standards in Upper 4 Feet of Soil
	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8			
Lead	11.4	13.1	13.7	11.9	10.5	13.6	11.4	9.94	500	NS	NS
GRO	<b>490</b>	<b>980</b>	<b>1,600</b>	3.8	<b>490</b>	210	<b>1,300</b>	<b>1,800</b>	250	NS	NS
Benzene	<b>3.5</b>	<b>6.5</b>	<b>21</b>	<0.025	<b>3.9</b>	<b>0.64</b>	<b>12</b>	<b>20</b>	0.0055	8.5	1.10
Ethylbenzene	<b>7.1</b>	<b>22</b>	<b>48</b>	<0.025	2.4	2.3	<b>27</b>	<b>30</b>	2.9	4.6	4.6
Toluene	<b>8.3</b>	<b>56</b>	<b>140</b>	0.064	0.6	<b>3.4</b>	<b>63</b>	<b>59</b>	1.5	38	38
Total Xylenes	<b>39</b>	<b>143</b>	<b>253</b>	0.1	<b>13.3</b>	<b>11.4</b>	<b>126</b>	<b>178</b>	4.1	42	42
Trimethylbenzenes	<b>34.8</b>	<b>94</b>	<b>156</b>	0.196	<b>25.9</b>	<b>16.7</b>	<b>90</b>	<b>138</b>	NS	94	94
MTBE	<1.2	<1.2	<2.5	<0.025	<0.25	<0.25	7.1	7.2	NS	NS	NS

Parameter	Sample I.D.								NR 720 RCL	NR 746 Residual Petroleum Product in Soil Screening Levels	NR 746 Direct Contact Standards in Upper 4 Feet of Soil
	B-9	B-10	B-11	B-12	B-13	B-14	B-15	B-16			
Lead	8.18	13.6	15.3	81	9.81	11.4	12.6	9.45	500	NS	NS
GRO	<b>960</b>	<b>1,500</b>	<b>3,700</b>	350	6.7	77	<b>2,700</b>	190	250	NS	NS
Benzene	<b>6.6</b>	<b>13</b>	<b>64</b>	1.8	<0.025	<b>0.43</b>	<b>35</b>	<b>3.7</b>	0.0055	8.5	1.10
Ethylbenzene	<b>16</b>	<b>29</b>	<b>85</b>	8.7	<0.025	0.99	<b>68</b>	1.7	2.9	4.6	4.6
Toluene	<b>9.9</b>	<b>62</b>	<b>260</b>	18	<0.025	1.1	<b>160</b>	0.46	1.5	38	38
Total Xylenes	<b>77</b>	<b>123</b>	<b>400</b>	47	0.081	3.3	<b>293</b>	4.1	4.1	42	42
Trimethylbenzenes	<b>67</b>	<b>86</b>	<b>250</b>	31.2	0.34	5.6	<b>181</b>	<b>13.2</b>	NS	94	94
MTBE	4.9	<2.5	11	<0.25	<0.025	<0.25	7.6	0.77	NS	NS	NS

NOTES:

All samples collected at a depth of 0.5 feet below grade.

Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.

Results in bold exceed applicable generic NR 720 RCLs.

NR 720 RCL = Wisconsin Administrative Code NR 720 residual contaminant level.

NS = No standard.

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

Gannett Fleming

TABLE 5  
FORMER TANK 66 BASIN SOIL SAMPLING RESULTS (mg/kg)  
MAY 1999

Parameter	Sample I.D. and Depth						NR 720 RCL	NR 746 Residual Petroleum Product in Soil Screening Levels	NR 746 Direct Contact Standards in Upper 4 Feet of Soil
	GP99-1		GP99-2		GP99-3				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
Lead	1.4	6.77	1.14	9.95	49.3	12.9	500	NS	NS
GRO	<b>954</b>	<b>752</b>	51.3	<b>698</b>	<b>5,100</b>	<b>3,280</b>	250	NS	NS
Benzene	<b>22.8</b>	<b>2.6</b>	<0.030	<b>3.71</b>	<13.3	<b>5.94</b>	0.0055	8.5	1.10
Ethylbenzene	<b>113</b>	2.76	0.041	<b>14.2</b>	<26.6	<b>80.7</b>	2.9	4.6	4.6
Toluene	<b>73.4</b>	<0.53	0.057	<b>35.2</b>	<26.6	<b>67</b>	1.5	38	38
Total Xylenes	<b>757</b>	<b>5.49</b>	0.239	<b>92.3</b>	<b>53.4</b>	<b>572</b>	4.1	42	42
Trimethylbenzenes	746	23.2	1.097	87.9	455	375	NS	94	94
MTBE	<1.14	<0.53	<0.030	<0.534	<26.6	<3.03	NS	NS	NS

Parameter	Sample I.D. and Depth				NR 720 RCL	NR 746 Residual Petroleum Product in Soil Screening Levels	NR 746 Direct Contact Standards in Upper 4 Feet of Soil
	GP99-4		GP99-5				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
Lead	5.98	4.95	2.23	22.3	500	NS	NS
GRO	223	<b>258</b>	<b>2,230</b>	19.4	250	NS	NS
Benzene	<b>0.298</b>	<b>0.177</b>	<0.218	<b>2.84</b>	0.0055	8.5	1.10
Ethylbenzene	<b>2.98</b>	2.28	<0.435	0.944	2.9	4.6	4.6
Toluene	0.617	0.532	<0.435	<b>1.95</b>	1.5	38	38
Total Xylenes	<b>6.426</b>	2.59	0.789	<b>5.35</b>	4.1	42	42
Trimethylbenzenes	7.79	5.44	57.3	1.63	NS	94	94
MTBE	<0.033	<0.031	<0.435	<0.033	NS	NS	NS

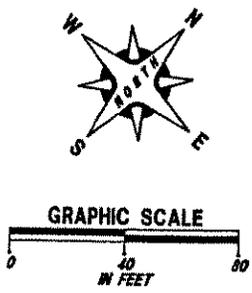
NOTES:

Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.

Soil samples collected by Twin Ports Testing using a Geoprobe.

Concentrations in bold exceed applicable NR 720 RCLs.

NS = No standard.



NETTLETON AVENUE (21ST AVENUE EAST) (VACATED)

WEST TWENTY-FIFTH STREET (VACATED)

MOST NORTHERLY CORNER BLOCK 19, WEST 25TH STREET

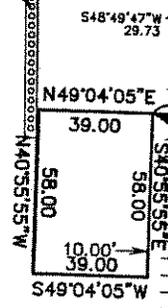
WESTERLY CENTERLINE TRACK

PIPE RACK

BLOCK 19

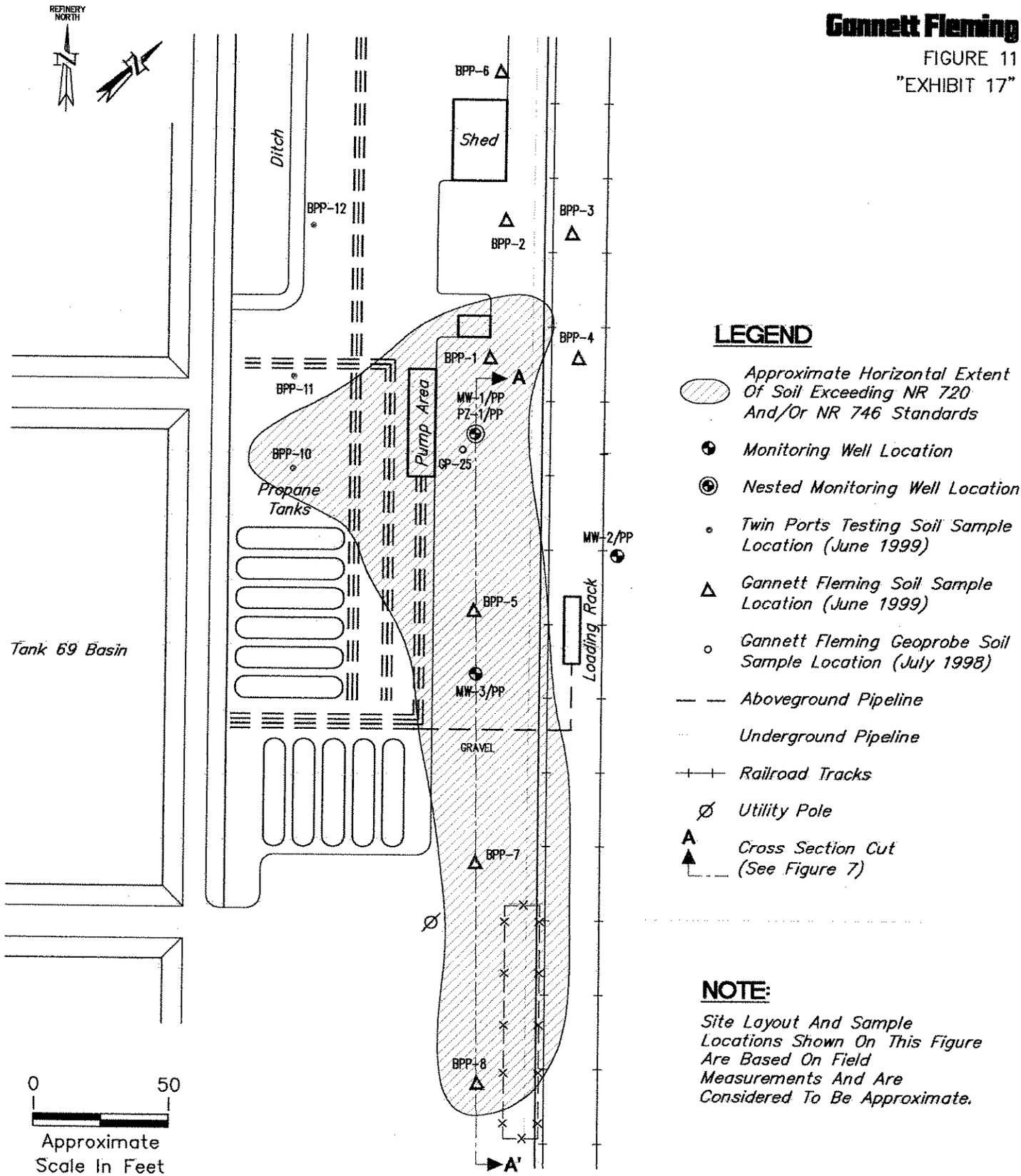
WEST TWENTY-FOURTH STREET (VACATED)

**DESCRIPTION:**  
 All that part of Block 19, West 25th Street, Townsite of Superior, Douglas County, Wisconsin described as follows:  
 Commencing at the most northerly Corner of Block 19, West 25th Street, Townsite of Superior; thence South 41 degrees 10 minutes 13 seconds East, along the northeasterly line of said Block 19, a distance of 143.20 feet; thence South 48 degrees 49 minutes 47 seconds West, a distance of 29.73 feet to the Point of Beginning; thence South 40 degrees 55 minutes 55 seconds East, a distance of 58.00 feet; thence South 49 degrees 04 minutes 05 seconds West, a distance of 39.00 feet; thence North 40 degrees 55 minutes 55 seconds East, a distance of 58.00 feet; thence North 49 degrees 04 minutes 05 seconds West, a distance of 39.00 feet to the Point of Beginning.



COPY FOR FILE IN RECORDS DEPARTMENT, PROPRANE, 272/2084, 4:12 PM, PLOTTED BY PAV

<p><b>ENGINEERS • SURVEYORS • PLANNERS</b>  <b>SALO ENGINEERING, INC.</b>          15 East First Street • Duluth, Minnesota 55802 • 218/727-8798</p>	I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH CHAPTER AE-1 AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.		DATE _____ WI. LIC. NO. 2533		RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A. PROPANE LOADING AREA SHEET 8 OF 15												
	<table border="1"> <tr><td>1</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td></tr> </table>	1				2				3				NO. DATE _____	REVISION _____	BY _____	JOB NO. E-1478R
1																	
2																	
3																	



**EXTENT OF SOIL IMPACTS AT  
PROPANE/BUTANE LOADING AREA**

MURPHY OIL USA, INC  
SUPERIOR, WISCONSIN

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 6

ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

Gannett Fleming

Parameter	Sample I.D. and Depth						NR 720 RCL	NR 746 Direct-Contact Standard in Upper 4 Feet of Soil	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	GP-25		BPP-1		BPP-2				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
FID (ppm)	NM	NM	1	>1000	0.8	>1000	NS		
Lead	15.4	NA	9.74	4.08	<0.56	5.58	500	NS	NS
DRO	1,100	120	NA	NA	NA	NA	250	NS	NS
GRO	540	880	<5.2	280	<5.3	79	250	NS	NS
Benzene	5.7	13	<0.026	4.816	<0.026	<0.033	0.0055	NS	NS
Ethylbenzene	<0.55	19	0.036	5.479	<0.026	0.075	2.9	1.1	8.5
Toluene	<0.55	66	0.051	16.099	<0.026	<0.033	4.1	4.6	4.6
Total Xylenes	21	145	0.187	35.723	<0.052	0.14	1.5	38	38
Trimethylbenzenes	49	98	0.073	22.149	<0.052	2.496	NS	42	42
MTBE	<0.45	<0.45	<0.026	<0.536	<0.026	<0.033	NS	94	94
Ethylene Dibromide	<0.35	<0.35	NA	NA	NA	NA	NS	NS	NS
Fluoranthene	3.9	0.068	NA	NA	NA	NA	NS	NS	NS
Indeno(1,2,3-cd)pyrene	0.17	<0.0094	NA	NA	NA	NA	NS	NS	NS
Naphthalene	19	1.8	NA	NA	NA	NA	NS	NS	NS
1-Methyl Naphthalene	13	1	NA	NA	NA	NA	NS	2.7	2.7
2-Methyl Naphthalene	27	2.4	NA	NA	NA	NA	NS	NS	NS
Phenanthrene	0.77	0.054	NA	NA	NA	NA	NS	NS	NS
Pyrene	5.1	0.094	NA	NA	NA	NA	NS	NS	NS

TABLE 6

## ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

Parameter	Sample I.D. and Depth						NR 720 RCL	NR 746 Direct-Contact Standard in Upper 4 Feet of Soil	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	BPP-3		BPP-4		BPP-5				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
FID (ppm)	0.4	NM	1.4	>1000	6.4	>1000	NS		
Lead	9.57	4.8	5.5	5.85	39.9	3.78	500	NS	NS
DRO	NA	NA	NA	NA	NA	NA	250	NS	NS
GRO	<5.4	845	<5.5	14.1	12.9	743	250	NS	NS
Benzene	<0.027	<0.270	<0.027	<0.031	<0.028	0.855	0.0055	NS	NS
Ethylbenzene	<0.027	0.888	<0.027	0.327	<0.028	5.533	2.9	1.1	8.5
Toluene	<0.027	<0.540	<0.027	0.033	<0.028	12.732	1.5	4.6	4.6
Total Xylenes	<0.054	0.861	<0.054	0.147	<0.056	24.176	4.1	38	38
Trimethylbenzenes	<0.054	34.397	<0.054	0.207	<0.056	32.385	NS	42	42
MTBE	<0.027	<0.540	<0.027	<0.031	<0.028	<0.269	NS	94	94
Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NS	NS	NS
Fluoranthene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
1-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	2.7	2.7
2-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Phenanthrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS

TABLE 6

## ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

Parameter	Sample I.D. and Depth						NR 720 RCL	NR 746 Direct-Contact Standard in Upper 4 Feet of Soil	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	BPP-6		BPP-7		BPP-8				
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
FID (ppm)	0.4	1.2	400	>1000	600	4	NS	NS	NS
Lead	13.6	4.77	20.5	5.91	8.63	5.18	500	NS	NS
DRO	NA	NA	NA	NA	NA	NA	250	NS	NS
GRO	<7.4	<6.8	25.6	668	216	<6.3	250	NS	NS
Benzene	<0.037	<0.034	0.076	2.048	0.954	<0.032	0.0055	1.1	8.5
Ethylbenzene	<0.037	<0.034	0.133	4.871	1.477	<0.032	2.9	4.6	4.6
Toluene	<0.037	<0.034	<0.028	14.578	0.589	<0.032	1.5	38	38
Total Xylenes	<0.074	<0.068	0.345	22.58	18.118	<0.064	4.1	42	42
Trimethylbenzenes	<0.074	<0.068	0.564	23.642	24.355	<0.064	NS	94	94
MTBE	<0.037	<0.034	<0.028	<0.545	<0.570	<0.032	NS	NS	NS
Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NS	NS	NS
Fluoranthene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Naphthalene	NA	NA	NA	NA	NA	NA	NS	2.7	2.7
1-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
2-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Phenanthrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS

TABLE 6

## ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

Parameter	BPP-10		BPP-11		BPP-12		NR 720 RCL	NR 746 Direct-Contact Standard in Upper 4 Feet of Soil	NR 746 Indicators of Residual Petroleum Product in Soil Pores
	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.	1-1.5 ft.	4.5-5 ft.			
	FID (ppm)	264	4,500	62	3,400	105			
Lead	695	5.46	319	4.71	5.59	21.9	500	NS	NS
DRO	NA	NA	NA	NA	NA	NA	250	NS	NS
GRO	417	702	22.7	45.4	35.9	266	250	NS	NS
Benzene	<0.140	0.824	<0.035	<0.272	<0.131	<0.138	0.0055	1.1	8.5
Ethylbenzene	<0.280	4.85	<0.035	0.867	<0.261	0.627	2.9	4.6	4.6
Toluene	0.303	2.12	<0.035	<0.544	<0.261	<0.277	1.5	38	38
Total Xylenes	0.884	22.8	0.064	1.15	<0.522	0.859	4.1	42	42
Trimethylbenzenes	<0.560	47.2	<0.070	<0.070	<0.522	13.6	NS	94	94
MTBE	<0.280	<1.37	0.04*	<0.544	<0.261	<0.277	NS	NS	NS
Ethylene Dibromide	NA	NA	NA	NA	NA	NA	NS	NS	NS
Fluoranthene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Naphthalene	NA	NA	NA	NA	NA	NA	NS	2.7	2.7
1-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
2-Methyl Naphthalene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Phenanthrene	NA	NA	NA	NA	NA	NA	NS	NS	NS
Pyrene	NA	NA	NA	NA	NA	NA	NS	NS	NS

TABLE 6

ANALYTICAL RESULTS FOR SOIL SAMPLES FROM PROPANE LOADING AREA (mg/kg)

NOTES:

Sample GP-25 collected by Gannett Fleming on July 22, 1998.

Samples BPP-1 through BPP-8 collected by Gannett Fleming on June 2 and 3, 1999.

Samples BPP-10 through BPP-12 collected by Twin Ports Testing on June 14, 1999.

Results reported in units of milligrams per kilogram (mg/kg) on a dry-weight basis.

Results in bold exceed applicable NR 720 RCL.

Result shaded exceed applicable NR 746 direct contact standard.

FID = Flame ionization detector.

ppm = Parts per million.

NA = Not analyzed.

NS = No standard.

\* = Questionable result due to possible manufacturer derived contaminant in methanol.

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Gannett Fleming

MURPHY OIL USA, INC.  
SUPERIOR, WISCONSIN

TABLE 7

## ANALYTICAL RESULTS FOR SOIL SAMPLES FROM TANKS 32/33 BASIN (mg/kg)

Parameter	Sample I.D. and Depth																NR 720 RCL	Direct Contact Standard (upper 4 ft)	NR 746 Free Product Indicator Concentration
	B32-1		B32-2		B32-3		B32-4		B33-1		B33-2		B33-3		B33-4				
	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.	1-2 ft.	4-5 ft.			
DRO	45,000	400	390	35	1,200	880	380	550	1,800	630	160	900	640	360	<1.4	74	250		NS
Benzene	13	1.1	0.91*	1.2	3.4	9.7	6.6	NA	<0.50	<0.50	<0.50	<0.50	<1.2	<2.5	<0.025	0.71*	0.0055	1.1	8.5
Ethylbenzene	46	2.8	7.4	3.4	6	30	31	NA	6.4	1.6	<0.50	6.6	6.6	6.2	<0.025	1.6	2.9	4.6	4.6
Toluene	6.8	0.95	1.3	0.52	0.94	<1.2	3.2*	NA	<0.50	<0.50	<0.50	1.9	<1.2	<2.5	<0.025	<0.50	1.5	38	38
Total Xylenes	121	6.1	15.7	7.9	7.8	47	45	NA	7.7	<1.0	<1.0	<1.0	11.1	14.5	<0.050	4.9	4.1	42	42
Trimethylbenzenes	146	3.1	11.1	8.2	21	46	45	NA	7.1	3.9	2.3	8.9	16.7	20.5	<0.050	3.4	NS	83	83
MTBE	<2.5	<0.62	<0.62	0.46*	0.69	2.4	<2.5	NA	<0.50	<0.50	<0.50	<0.50	<1.2	<2.5	<0.025	<0.50	NS	NS	NS
<b>Detected Polycyclic Aromatic Hydrocarbons</b>																			
Fluoranthene	<0.61	<0.0049	0.32	<0.0049	5.4	3.3	4	1.5	3.9	0.75	0.23	<0.025	4	0.42	<0.0049	<0.0049	NS	NS	NS
Naphthalene	<3.9	0.066*	<0.062	<0.031	<1.2	0.81	<0.31	<0.16	4.1	<0.16	<0.031	<0.16	8.5	0.59	<0.031	<0.031	NS	2.7	2.7
Phenanthrene	7.9	0.32	0.15	<0.0035	<0.14	<0.018	<0.035	<0.018	1.6	0.11	0.012	0.07	2.1	0.21	<0.0035	<0.0035	NS	NS	NS
Pyrene	20	1.1	0.64	0.014*	11	<0.031	<0.062	<0.031	5.9	1.1	0.5	1.4	3.3	0.35	<0.0062	0.013*	NS	NS	NS
1-Methyl naphthalene	42	0.91	1.1	<0.047	<1.9	8.8	2.2	1.8	17	1.7	<0.047	2	22	2.5	<0.047	<0.047	NS	NS	NS
2-Methyl naphthalene	78	1.6	1.2	<0.031	<1.2	15	5.5	4.1	19	2.4	<0.031	3	33	3.3	<0.031	<0.031	NS	NS	NS

## NOTES:

Samples collected on December 16 and 17, 1998.

Results reported in units of milligrams per kilogram (mg/kg) on a dry weight basis.

Results in bold exceed applicable NR 720 RCLs.

NR 720 RCL = Wisconsin Administrative Code NR 720 residual contaminant level.

NS = No standard

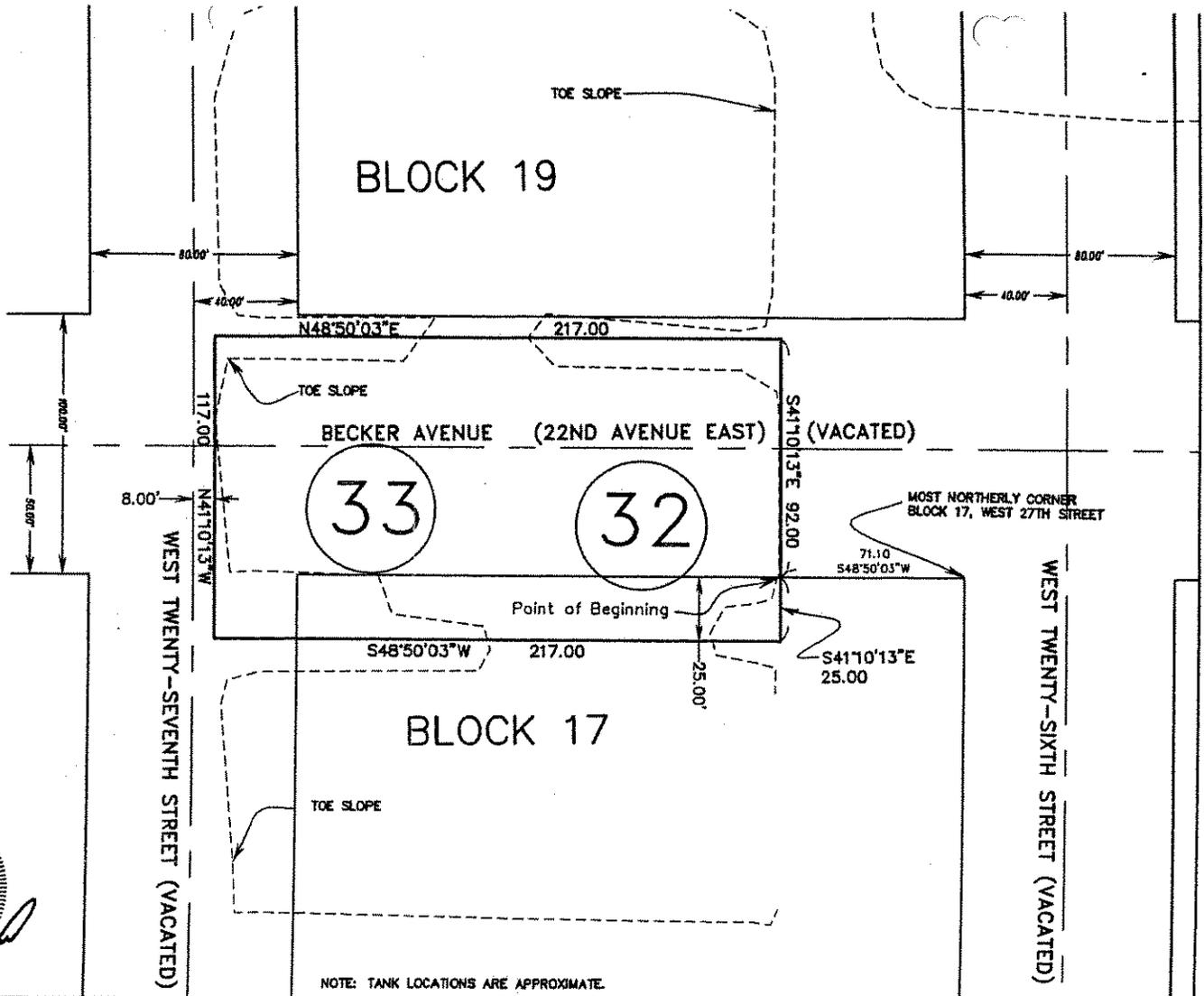
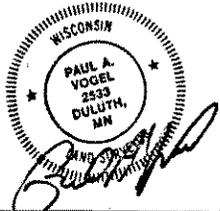
\* = Reported concentration below the quantitation limit.



**DESCRIPTION:**

Those parts of Blocks 17 and 19, West 27th Street together with those parts of vacated Becker Avenue and West 27th Street, Townsite of Superior, Douglas County, Wisconsin described as follows:

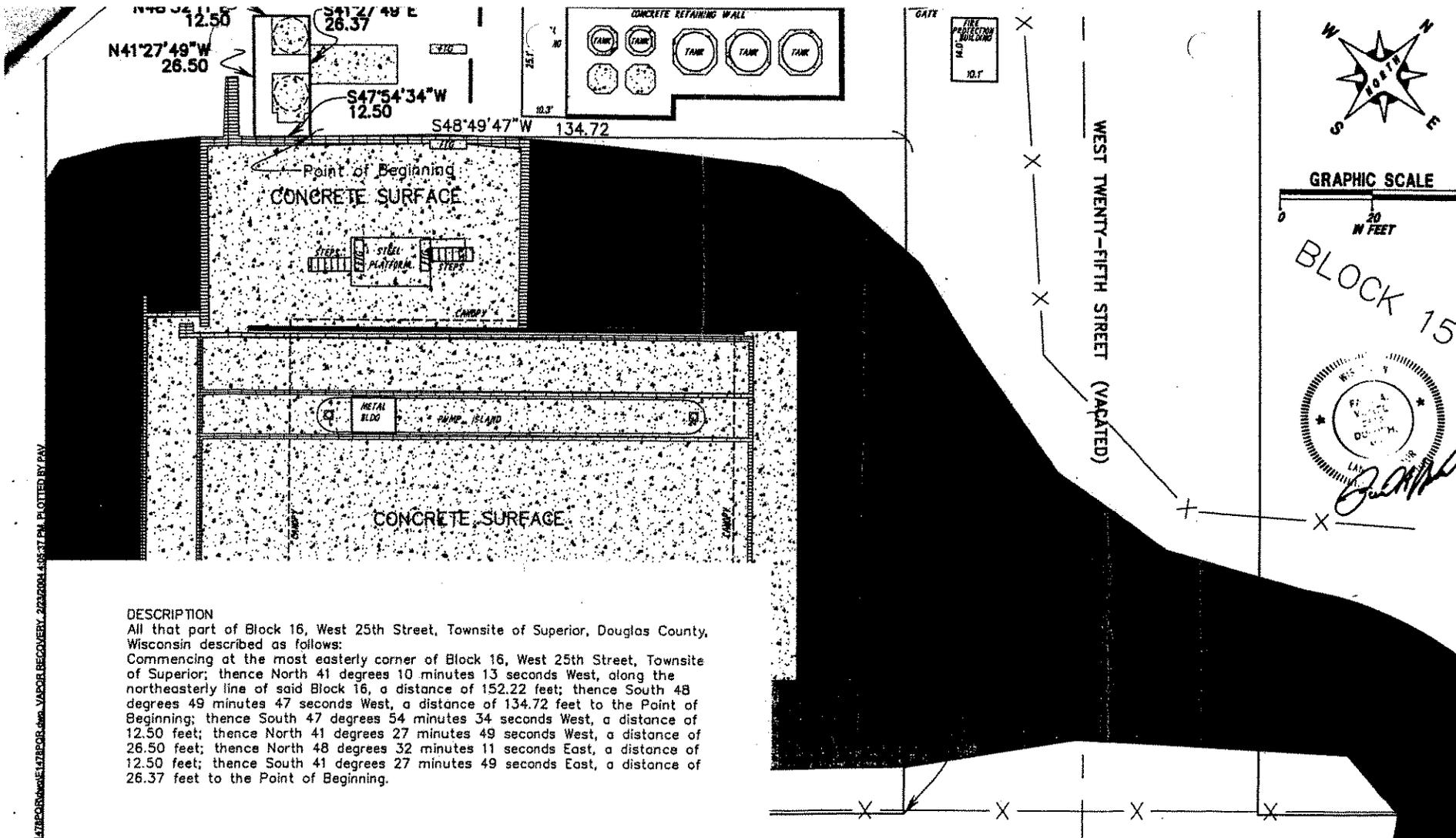
Commencing at the most northerly Corner of Block 17, West 27th Street, Townsite of Superior; thence South 48 degrees 50 minutes 03 seconds West along the northwesterly line of said Block 17, a distance of 71.10 feet to the Point of Beginning; thence South 41 degrees 10 minutes 13 seconds East, a distance of 25.00 feet; thence South 48 degrees 50 minutes 03 seconds West along a line 25.00 feet distant, measured at right angles to and parallel with the northwesterly line of said Block 17, a distance of 217.00 feet, thence North 41 degrees 10 minutes 13 seconds West along a line 8.00 feet distant, measured at right angles to and parallel with the centerline of vacated West 27th Street, a distance of 117.00 feet; thence North 48 degrees 50 minutes 03 seconds East, a distance of 217.00 feet; thence South 41 degrees 10 minutes 13 seconds East, a distance of 92.00 feet to the Point of Beginning.



NOTE: TANK LOCATIONS ARE APPROXIMATE.

DATE PLOTTED: 12/20/2004 10:50:00 PM. PLOTTED BY: PAV

	<b>ENGINEERS • SURVEYORS • PLANNERS</b>	I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH CHAPTER AE-7 AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	1 2 3			RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A. TANKS 32 & 33 AREA SHEET 13 OF 15
	<b>SALO ENGINEERING, INC.</b>	DATE WI. LIC. NO. 2533	NO	DATE	REVISION	
15 East First Street - Duluth, Minnesota 55802 • 218/727-8796						JOB NO. E-1478Q      DATE 2/18/04



**DESCRIPTION**  
 All that part of Block 16, West 25th Street, Townsite of Superior, Douglas County, Wisconsin described as follows:  
 Commencing at the most easterly corner of Block 16, West 25th Street, Townsite of Superior; thence North 41 degrees 10 minutes 13 seconds West, along the northeasterly line of said Block 16, a distance of 152.22 feet; thence South 48 degrees 49 minutes 47 seconds West, a distance of 134.72 feet to the Point of Beginning; thence South 47 degrees 54 minutes 34 seconds West, a distance of 12.50 feet; thence North 41 degrees 27 minutes 49 seconds West, a distance of 26.50 feet; thence North 48 degrees 32 minutes 11 seconds East, a distance of 12.50 feet; thence South 41 degrees 27 minutes 49 seconds East, a distance of 26.37 feet to the Point of Beginning.

C:\saloe\1478R\1478R.dwg, VAPOR RECOVERY, 2/23/2004 4:55:31 PM, PLOTTED BY PAV

<b>ENGINEERS • SURVEYORS • PLANNERS</b> <b>SALO ENGINEERING, INC.</b> 15 East First Street • Duluth, Minnesota 55802 • 218/727-8796	I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH CHAPTER AE-7 AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.		1			<b>RELIEF SITE DRAWING - MURPHY OIL, INC. U.S.A.</b> <b>VAPOR RECOVERY</b> <b>SHEET 5 OF 15</b> JOB NO. E-1478R      DATE 2/18/04
	DATE		2			
	WL LIC. NO.	2533	3			
			NO	DATE	REVISION	