

GIS REGISTRY
Cover Sheet

July, 2008
(RR 5367)

Source Property Information

BRRTS #:

ACTIVITY NAME:

PROPERTY ADDRESS:

MUNICIPALITY:

PARCEL ID #:

CLOSURE DATE:

FID #:

DATCP #:

COMM #:

***WTM COORDINATES:**

X: **Y:**

** Coordinates are in
WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

- Approximate Center Of Contaminant Source
- Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

Contaminated Media:

Groundwater Contamination > ES (236)

Contamination in ROW

Off-Source Contamination

*(note: for list of off-source properties
see "Impacted Off-Source Property")*

Soil Contamination > *RCL or **SSRCL (232)

Contamination in ROW

Off-Source Contamination

*(note: for list of off-source properties
see "Impacted Off-Source Property")*

Land Use Controls:

Soil: maintain industrial zoning (220)

*(note: soil contamination concentrations
between residential and industrial levels)*

Structural Impediment (224)

Site Specific Condition (228)

Cover or Barrier (222)

*(note: maintenance plan for
groundwater or direct contact)*

Vapor Mitigation (226)

Maintain Liability Exemption (230)

*(note: local government or economic
development corporation)*

Monitoring wells properly abandoned? (234)

- Yes No N/A

** Residual Contaminant Level*

***Site Specific Residual Contaminant Level*

This Adobe Fillable form is intended to provide a list of information that is required for evaluation for case closure. It is to be used in conjunction with Form 4400-202, Case Closure Request. The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department.

NOTICE: Completion of this form is mandatory for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing closure requests and determining the need for additional response action. The Department may provide this information to requesters as required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS #: PARCEL ID #:

ACTIVITY NAME: WTM COORDINATES: X: Y:

CLOSURE DOCUMENTS (the Department adds these items to the final GIS packet for posting on the Registry)

- Closure Letter**
- Maintenance Plan** (if activity is closed with a land use limitation or condition (land use control) under s. 292.12, Wis. Stats.)
- Conditional Closure Letter**
- Certificate of Completion (COC)** for VPLE sites

SOURCE LEGAL DOCUMENTS

- Deed:** The most recent deed as well as legal descriptions, for the **Source Property** (where the contamination originated). Deeds for other, off-source (off-site) properties are located in the **Notification** section.
Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.
- Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. (lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).
Figure #: 6 **Title: Plat Maps**
- Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description accurately describes the correct contaminated property.

MAPS (meeting the visual aid requirements of s. NR 716.15(2)(h))

Maps must be no larger than 8.5 x 14 inches unless the map is submitted electronically.

- Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all parcels. If groundwater standards are exceeded, include the location of all potable wells within 1200 feet of the site.
Note: Due to security reasons municipal wells are not identified on GIS Packet maps. However, the locations of these municipal wells must be identified on Case Closure Request maps.
Figure #: 1 **Title: Site Location Map**
- Detailed Site Map:** A map that shows all relevant features (buildings, roads, individual property boundaries, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Levels (SSRCL) as determined under s. NR 720.09, 720.11 and 720.19.
Figure #: C3 **Title: Spill Prevention, Control & Countermeasure Plan**
- Soil Contamination Contour Map:** For sites closing with residual soil contamination, this map is to show the location of all contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL) as determined under s. NR 720.09, 720.11 and 720.19.
Figure #: 3 **Title: Horizontal Extent of Residual Soil Contamination**

BRRTS #: 02-16-550859

ACTIVITY NAME: MURPHY OIL - S OF GREEN GRASS UNIT

MAPS (continued)

Geologic Cross-Section Map: A map showing the source location and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL). If groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES) when closure is requested, show the source location and vertical extent, water table and piezometric elevations, and locations and elevations of geologic units, bedrock and confining units, if any.

Figure #: 4 Title: Geologic Cross Section Map of Soil Contamination Exceeding Standards

Figure #: 5 Title: Geologic Cross Section Map of Soil Contamination Exceeding Standards

Groundwater Isoconcentration Map: For sites closing with residual groundwater contamination, this map shows the horizontal extent of all groundwater contamination exceeding a ch. NR140 Preventive Action Limit (PAL) and an Enforcement Standard (ES). Indicate the direction and date of groundwater flow, based on the most recent sampling data.

NA

Note: This is intended to show the total area of contaminated groundwater.

Figure #: Title: Not Applicable

Groundwater Flow Direction Map: A map that represents groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit 2 groundwater flow maps showing the maximum variation in flow direction.

NA

Figure #: Title: Not Applicable

Figure #: Title:

TABLES (meeting the requirements of s. NR 716.15(2)(h)(3))

Tables must be no larger than 8.5 x 14 inches unless the table is submitted electronically. Tables must not contain shading and/or cross-hatching. The use of **BOLD** or *ITALICS* is acceptable.

Soil Analytical Table: A table showing remaining soil contamination with analytical results and collection dates. **Note:** This is one table of results for the contaminants of concern. Contaminants of concern are those that were found during the site investigation, that remain after remediation. It may be necessary to create a new table to meet this requirement.

Table #: 1 Title: Soil Sample Analysis Results

Groundwater Analytical Table: Table(s) that show the most recent analytical results and collection dates, for all monitoring wells and any potable wells for which samples have been collected.

NA

Table #: Title: Not Applicable

Water Level Elevations: Table(s) that show the previous four (at minimum) water level elevation measurements/dates from all monitoring wells. If present, free product is to be noted on the table.

NA

Table #: Title: Not Applicable

IMPROPERLY ABANDONED MONITORING WELLS

For each monitoring well not properly abandoned according to requirements of s. NR 141.25 include the following documents.

Note: If the site is being listed on the GIS Registry for only an improperly abandoned monitoring well you will only need to submit the documents in this section for the GIS Registry Packet.

Not Applicable

Site Location Map: A map showing all surveyed monitoring wells with specific identification of the monitoring wells which have not been properly abandoned.

Note: If the applicable monitoring wells are distinctly identified on the Detailed Site Map this Site Location Map is not needed.

Figure #: Title:

Well Construction Report: Form 4440-113A for the applicable monitoring wells.

Deed: The most recent deed as well as legal descriptions for each property where a monitoring well was not properly abandoned.

Notification Letter: Copy of the notification letter to the affected property owner(s).

BRRTS #: 02-16-550859

ACTIVITY NAME: MURPHY OIL - S OF GREEN GRASS UNIT

NOTIFICATIONS

Source Property

- Letter To Current Source Property Owner:** If the source property is owned by someone other than the person who is applying for case closure, include a copy of the letter notifying the current owner of the source property that case closure has been requested.
- NA
- Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying current source property owner.

Off-Source Property

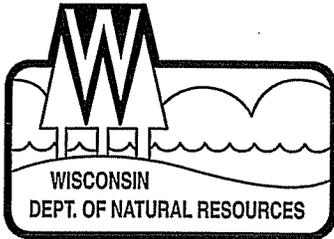
Group the following information per individual property and label each group according to alphabetic listing on the "Impacted Off-Source Property" attachment.

- Letter To "Off-Source" Property Owners:** Copies of all letters sent by the Responsible Party (RP) to owners of properties with groundwater exceeding an Enforcement Standard (ES), and to owners of properties that will be affected by a land use control under s. 292.12, Wis. Stats.
- NA **Note:** Letters sent to off-source properties regarding residual contamination must contain standard provisions in Appendix A of ch. NR 726.

Number of "Off-Source" Letters:

- Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying any off-source property owner.
- Deed of "Off-Source" Property:** The most recent deed(s) as well as legal descriptions, for all affected deeded **off-source property(ies)**. This does not apply to right-of-ways.
- Note:** If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.
- Letter To "Governmental Unit/Right-Of-Way" Owners:** Copies of all letters sent by the Responsible Party (RP) to a city, village, municipality, state agency or any other entity responsible for maintenance of a public street, highway, or railroad right-of-way, within or partially within the contaminated area, for contamination exceeding a groundwater Enforcement Standard (ES) and/or soil exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).
- NA

Number of "Governmental Unit/Right-Of-Way Owner" Letters:



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
John Gozdzialski, Regional Director

Northern Region Headquarters
107 Sutliff Ave.
Rhineland, Wisconsin 54501-3349
Telephone 715-365-8900
FAX 715-365-8932
TTY Access via relay - 711

January 11, 2010

Mr. Dave Beattie
Murphy Oil, Inc.
2407 Stinson Ave.
Superior, WI 54880

SUBJECT: Final Case Closure with Continuing Obligations
October 22, 2007 Murphy Oil Green Gas Unit Spill, Superior, WI
WDNR BRRTS Activity #: 04-16-550852 & 02-16-550859

Dear Mr. Beattie:

On December 3, 2009, the Wisconsin Department of Natural Resources Northern Region Closure Committee reviewed the above referenced case for closure. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases.

Based on the information and data provided, it appears that your case meets the closure requirements in ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time, however, you and future property owners must comply with certain continuing obligations as explained in this letter.

GIS Registry

This site will be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

- If a structural impediment that obstructed a complete site investigation or cleanup is removed or modified, additional environmental work must be completed

This letter and information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit the RR Sites Map page at <http://dnr.wi.gov/org/aw/rr/gis/index.htm>. If the property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line <http://dnr.wi.gov/org/water/dwg/3300254.pdf> or at the web address listed above for the GIS Registry.

Closure Conditions

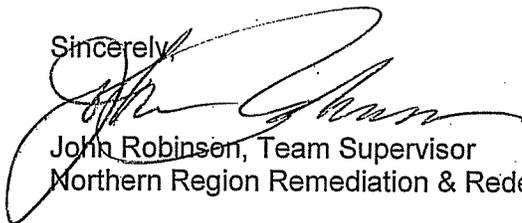
Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which you, the current property owner and any subsequent property owners must adhere. You must pass on the information about these continuing obligations to the next property owner or owners. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter are met.

Structural Impediments

Structural impediments existing at the time of cleanup as shown on the attached maps, the piping immediately south of the green gas unit, made complete investigation and remedial action of the soil contamination on this property impracticable. The location of the Green Gas Unit is delineated on the Site Location Map and on Figure C3 Drainage Map: Main Refinery Area. The location of the structural impediment is identified on Figure 3 Horizontal Extent of Residual Soil Contamination. Pursuant to s. 292.12(2)(b), Wis. Stats., if the structural impediments on this property that are described above are to be removed, the property owner shall notify the Department of Natural Resources before removal and conduct an investigation of the degree and extent of petroleum contamination. If contamination is found at that time, the contamination shall be properly remediated in accordance with applicable statutes and rules. If soil in the specific locations described above is excavated, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact John Sager at (715) 365-8959.

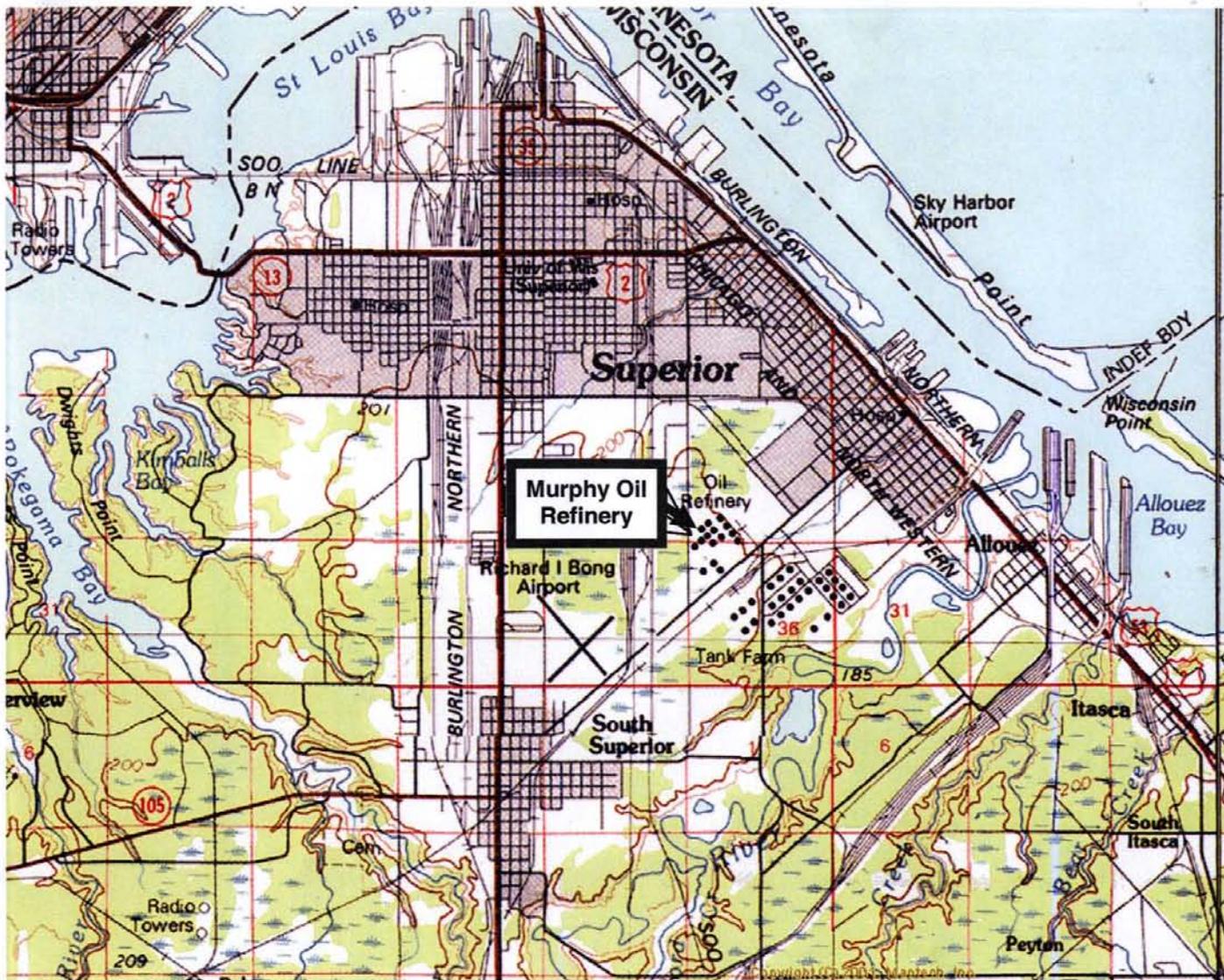
Sincerely,



John Robinson, Team Supervisor
Northern Region Remediation & Redevelopment Program

Attachments: Site Location Map
Figure C3 Drainage Map: Main Refinery Area
Figure 3 Horizontal Extent of Residual Soil Contamination.

cc: Mr. Klete Fallowfield, Twin Ports Testing, Inc.



Green Gas Unit



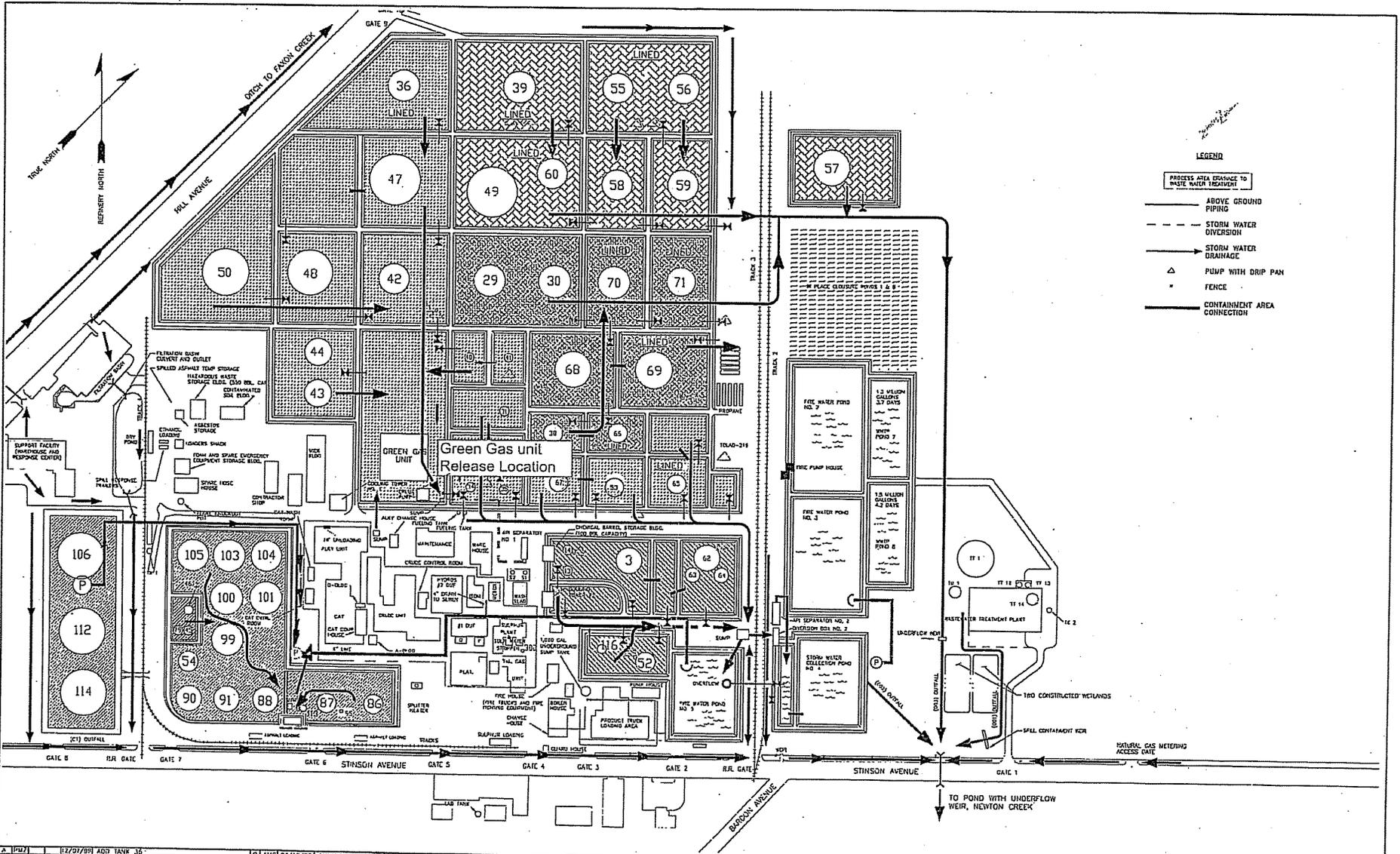
Murphy Oil Refinery

Image created using Maptech Terrain Navigator 2004 and Google Earth Pro

Site Location Map
 Murphy Oil Green Gas Unit
 Superior, WI

Twin Ports Testing

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	5/18/2009
TPT JOB #	07E2239
FIGURE	1



01/16/04 08:35:15:01 1:24:26:00 PLO 01 1 02/17/2008 18:35:01

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION
A	PMZ			12/27/03	ADD TANK 10
B	PMZ			11/27/04	REMOVE TANK F1
C	PMZ			12/23/03	GENERAL UPDATE
D	PMZ			12/23/03	NEW GATE SUPERHEAT SYSTEM
E	PMZ			11/15/03	ADD TANKS 60/114 TAN GAS UNIT
F	LSD			12/23/03	ANNUAL UPDATE

BARR CONSULTING ENGINEERS
 132 WEST SUPERIOR ST.
 SUITE 600
 OLAUATH, WI 53002
 Ph: 414-224-8800
 Fax: (414) 727-6400
 www.barr.com

Project Office:
 BARR ENGINEERING CO.
 132 WEST SUPERIOR ST.
 SUITE 600
 OLAUATH, WI 53002
 Ph: 414-224-8800
 Fax: (414) 727-6400
 www.barr.com

Scale: NTS
 Date: 11/25/04
 Drawn: JMW
 Checked:
 Design:
 Approved:

MURPHY OIL
 SUPERIOR, WISCONSIN

SPILL PREVENTION, CONTROL AND
 COUNTERMEASURE PLAN
 DRAINAGE MAP: MAIN REFINERY AREA
 SPCC FIGURE C.3

BARR PROJECT No.
49/16-065
 CLIENT PROJECT No.
 IREQ. No. 23559_1 REV. No. G

GGU Concrete Pad

gravel area



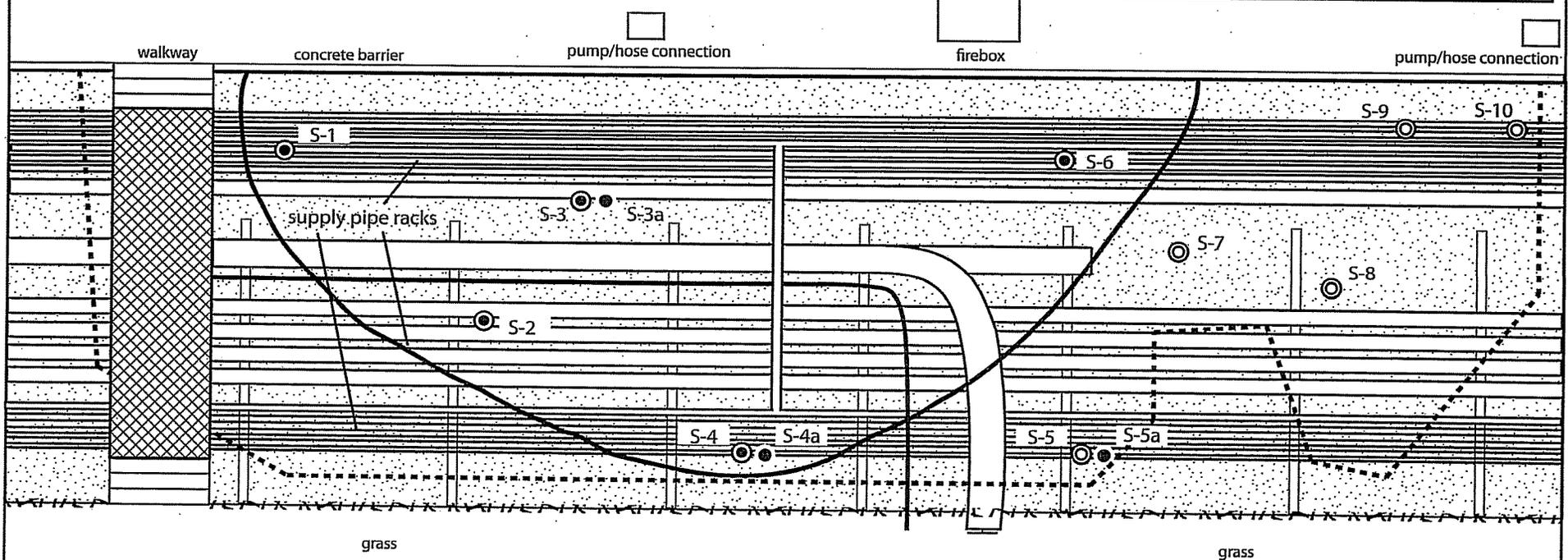
Refinery North



True North

- Soil sample location 04/09
- Soil sample location 11/07
- ⊙ Soil contamination exceeding standards
- Estimated extent of residual soil contamination exceeding standards
- ▨ Damp area
- Estimated Extent of Release

10' 20'



Twin Ports Testing

Horizontal Extent of Residual Soil Contamination
Murphy Green Gas Unit (GGU)
Superior, WI

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	4/9/2009
TPT JOB #	07E2239
FIGURE	3

DOCUMENT NO.

525677

VOL 347 PAGE 922

QUIT CLAIM DEED
By Corporation
STATE OF WISCONSIN - FORM 14

THIS SPACE RESERVED FOR RECORDING DATA

OFFICE OF REGISTER OF DEEDS
DOUGLAS COUNTY, WISCONSIN

Received for record this 9th
day of DEC 1975
at 12:55 o'clock P. M. and
recorded in Volume 347 of
Record 2 on page 922

Richard D. Roper
REGISTRAR

RETURN TO

R W 7 + W.

THIS INDENTURE, Made by Sioux Pipe Line Company,
a foreign Corporation duly organized
authorized to do business in
and existing under the laws of the State of Wisconsin, grantor,
of Douglas County, Wisconsin, hereby quit-claims to
Murphy Oil Corporation

grantee..... of Douglas County, Wisconsin, for the sum of

One Dollar and other valuable considerations Dollars

the following tract of land in Douglas County, State of Wisconsin:

See Exhibit "A" Attached Hereto.

TRANSFER
\$ 49.00
FEE

(IF NECESSARY, CONTINUE DESCRIPTION ON REVERSE SIDE)

In Witness Whereof, the said grantor, has caused these presents to be signed by R.L. Williams

its President, and countersigned by John Dee Roper

its Secretary, at Sedgwick County, Kansas, and its corporate seal to be hereunto

affixed this 1st day of April, A. D., 1975.

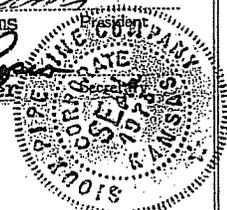
SIGNED AND SEALED IN PRESENCE OF

Gail G. Fletcher
Jenna M. Searl

KANSAS
State of Wisconsin,
SEDGWICK County. } SS.

SIoux PIPE LINE COMPANY, INC.
Corporate Name

COUNTERSIGNED: R.L. Williams
John Dee Roper



Personally came before me, this 1st day of April, A. D., 1975,

R.L. Williams President, and John Dee Roper 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 acknowledged
that they executed the foregoing instrument as such officers as the deed of said Corporation, by its authority.

THIS INSTRUMENT WAS DRAFTED BY
Paul L. Witkin
NOTARY PUBLIC
SEDGWICK COUNTY, KANSAS
My Comm. Expires Dec. 20, 1977

Notary Public, Sedgwick County, Kans
My commission (expires) 12-22-77

(Section 39.51 (1) of the Wisconsin Statutes provides that all instruments to be recorded shall have plainly printed or typewritten thereon the names of the grantors, grantees, witnesses and notary. Section 39.513 similarly requires that the name of the person who, or governmental agency which, drafted such instrument, shall be printed, typewritten, stamped or written thereon in a legible manner.)

EXHIBIT "A"

Block 32, West 21st Street.

Fractional Block 31, West 23rd Street.

Fractional Block 32, West 23rd Street.

Block 30, West 21st Street.

Block 29, West 23rd Street.

Block 28, West 21st Street.

Block 27, West 23rd Street.

Lots 386-416, inc., even numbers only, lots on West 21st Street,
Bay Front Division.

Lots 385-399 inc., odd numbers only, lots on West 22nd Street,
Bay Front Division.

Lots 405-415 inc., odd numbers only, lots on West 22nd Street,
Bay Front Division.

Lots 354-384 inc., even numbers only, lots on West 21st Street,
Bay Front Division.

Lots 353-383, inc., odd numbers only, lots on West 22nd Street,
Bay Front Division.

Lots 322-352 inc., even numbers only, lots on West 21st Street,
Bay Front Division.

Lots 321-351 inc., odd numbers only, lots on West 22nd Street,
Bay Front Division.

Lots 290-320 inc., even numbers only, lots on West 21st Street,
Bay Front Division.

Lots 289-303 inc., odd numbers only, on West 22nd Street, Noble's
Subdivision of Block 20 on West 21st Street.

Lots 305-319 inc., odd numbers only, lots on West 22nd Street,
Bay Front Division.

Block 18, West 21st Street.

Lot 344, on West 22nd Street, Bay Front Division.

Reserving to the grantor herein, its successors or assigns, a perpetual
easement for ingress and egress over the West 100 feet of Block 32, West
21st Street, and Block 31, West 23rd Street.

All of the above property being subject to any and all easements of
record and any and all zoning ordinances.

Subject to the taxes for 1975.

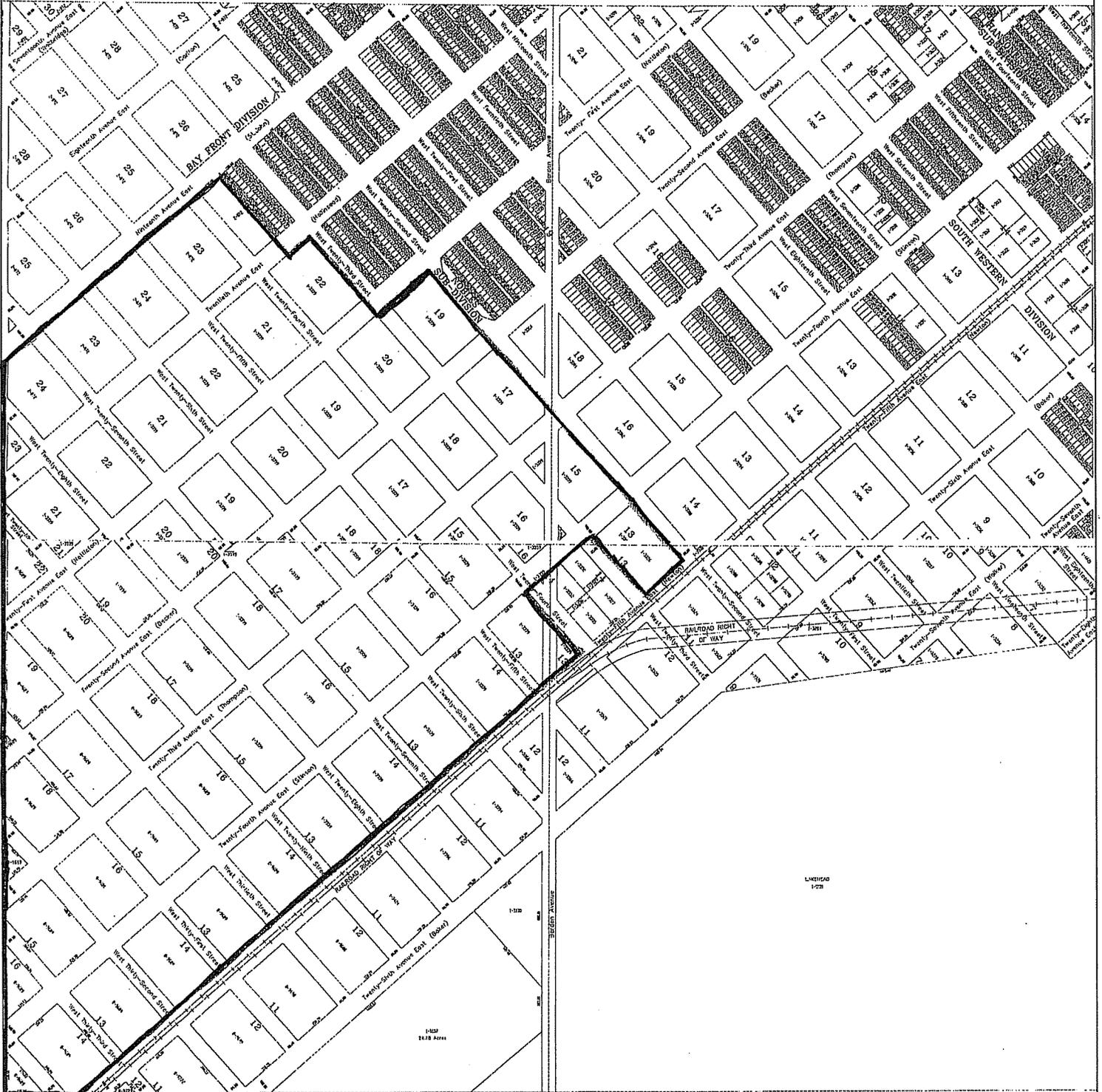
SOUTH 1/2 SEC. 25-49-14

SCALE, IN FEET
0 50 100 150 200

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



48



Twin Ports Testing

Plat Maps
Murphy Oil, Superior, WI

FIGURE 6

GIS Registry Packet

Site information:

Murphy Oil Green Gas Unit
2407 Stinton Avenue
Superior, WI 54880

SPILLS BRRTS #: 04-16-550852
ENVIRONMENTAL REPAIR PROGRAM BRRTS #: 02-16-550859
FACILITY ID #: 816009590

Parcel identification number: 01-801-03339-00

Geographic position: (meters/ WTM91) E 361554, N 692860

Signed statement by the responsible party:

I, David Beattie, believe that the legal description attached to this document is complete and accurate.

 On Behalf of
Murphy Oil (signature)

Environmental Engineer (title)

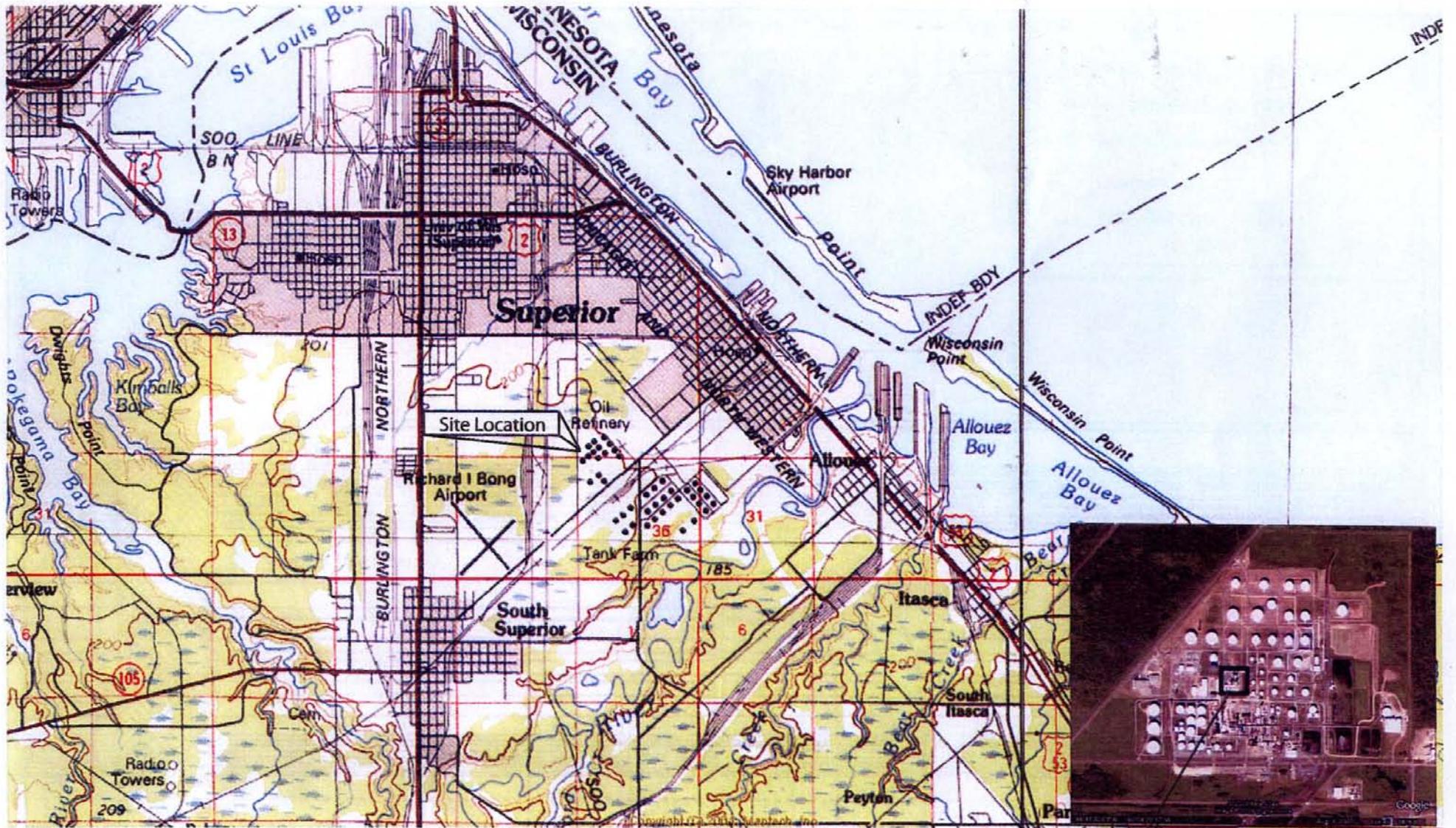


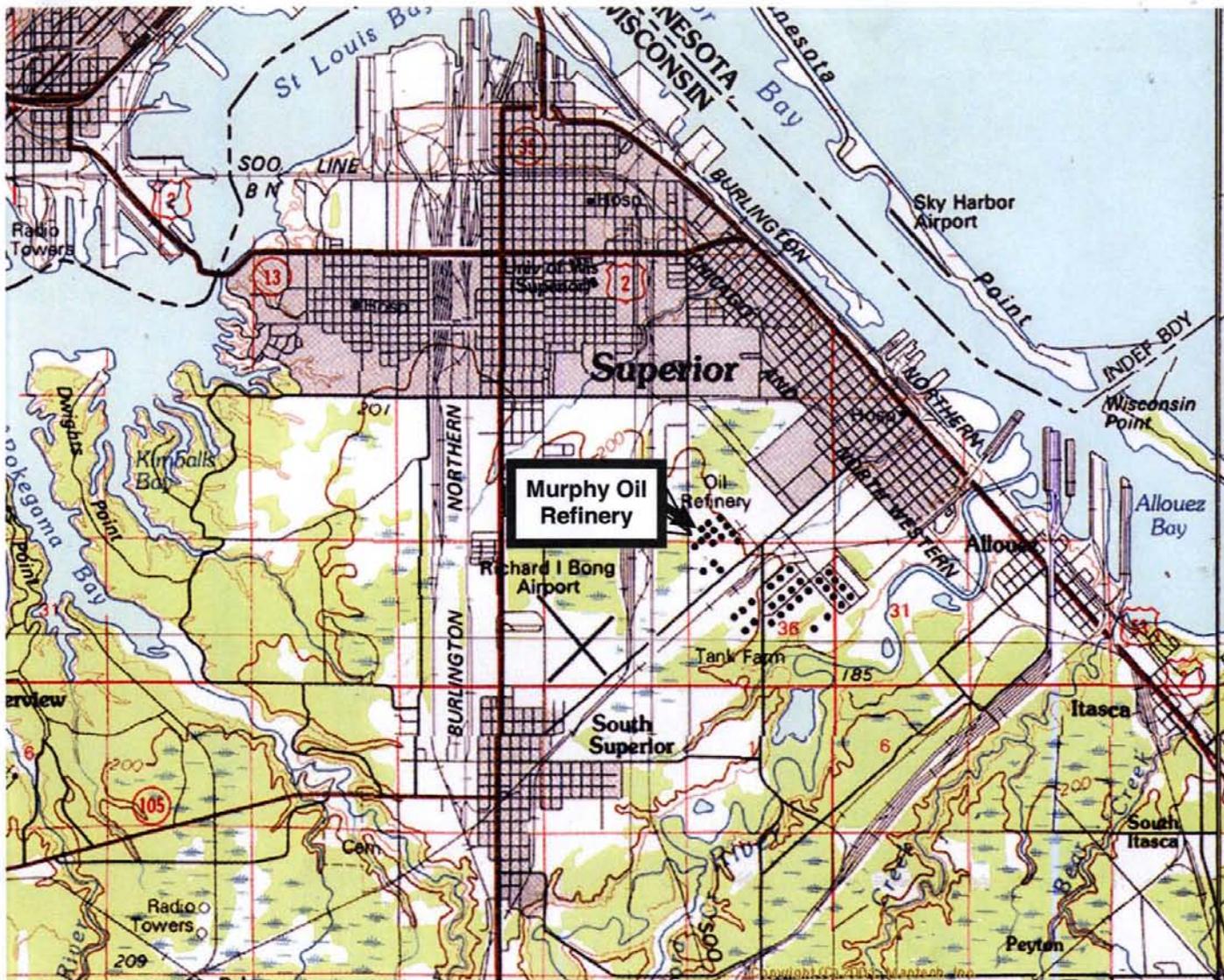
Image created using Maptech Terrain Navigator 2004 and Google Earth Pro

Green Gas Unit
(location of release)

Twin Ports Testing

Site Location Map
Murphy Oil Green Gas Unit
Superior, WI

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	5/18/2009
TPT JOB #	07E2239
FIGURE	1



Green Gas Unit



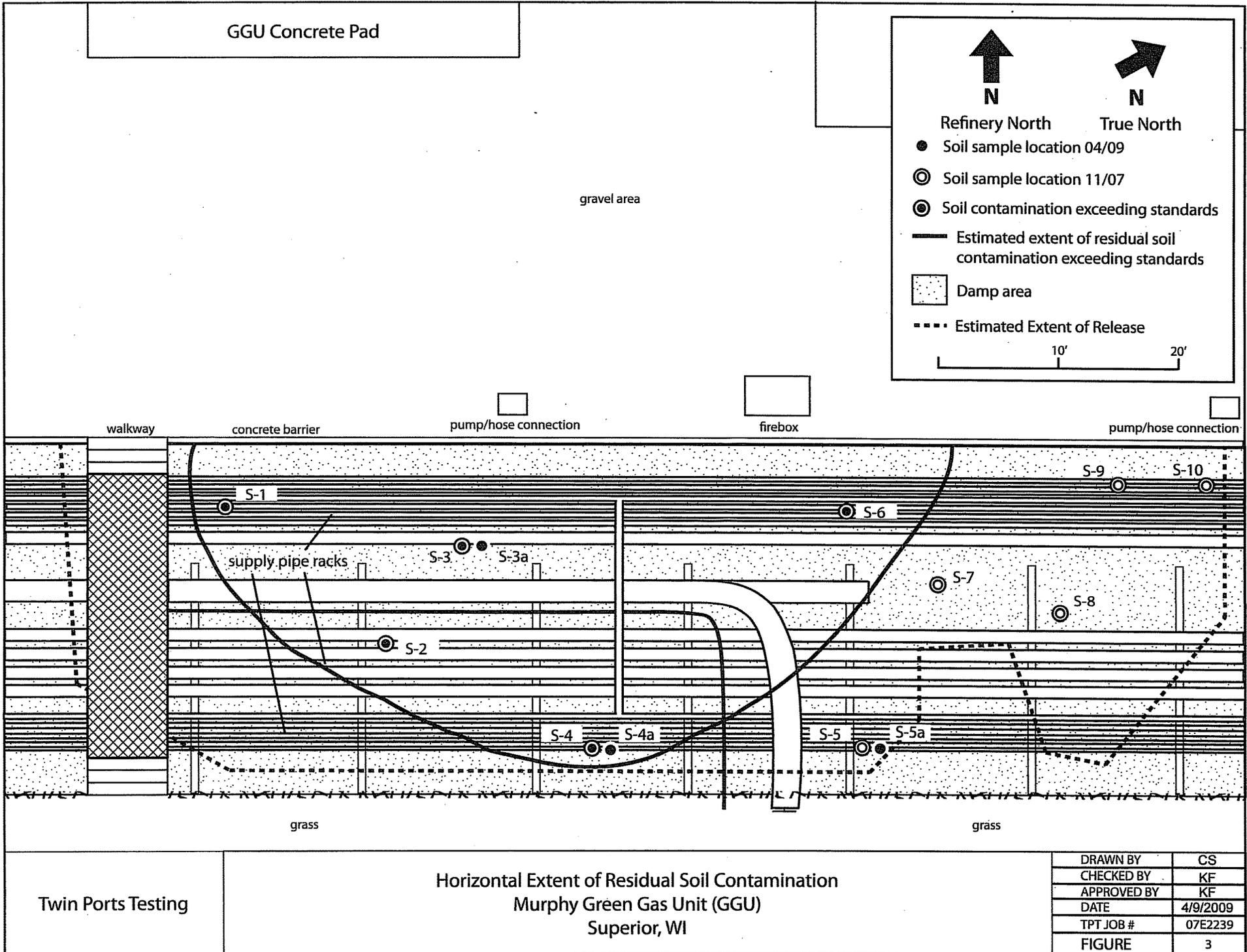
Murphy Oil Refinery

Image created using Maptech Terrain Navigator 2004 and Google Earth Pro

Site Location Map
 Murphy Oil Green Gas Unit
 Superior, WI

Twin Ports Testing

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	5/18/2009
TPT JOB #	07E2239
FIGURE	1



Twin Ports Testing

Horizontal Extent of Residual Soil Contamination
Murphy Green Gas Unit (GGU)
Superior, WI

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	4/9/2009
TPT JOB #	07E2239
FIGURE	3

GGU Concrete Pad

gravel area



Refinery North



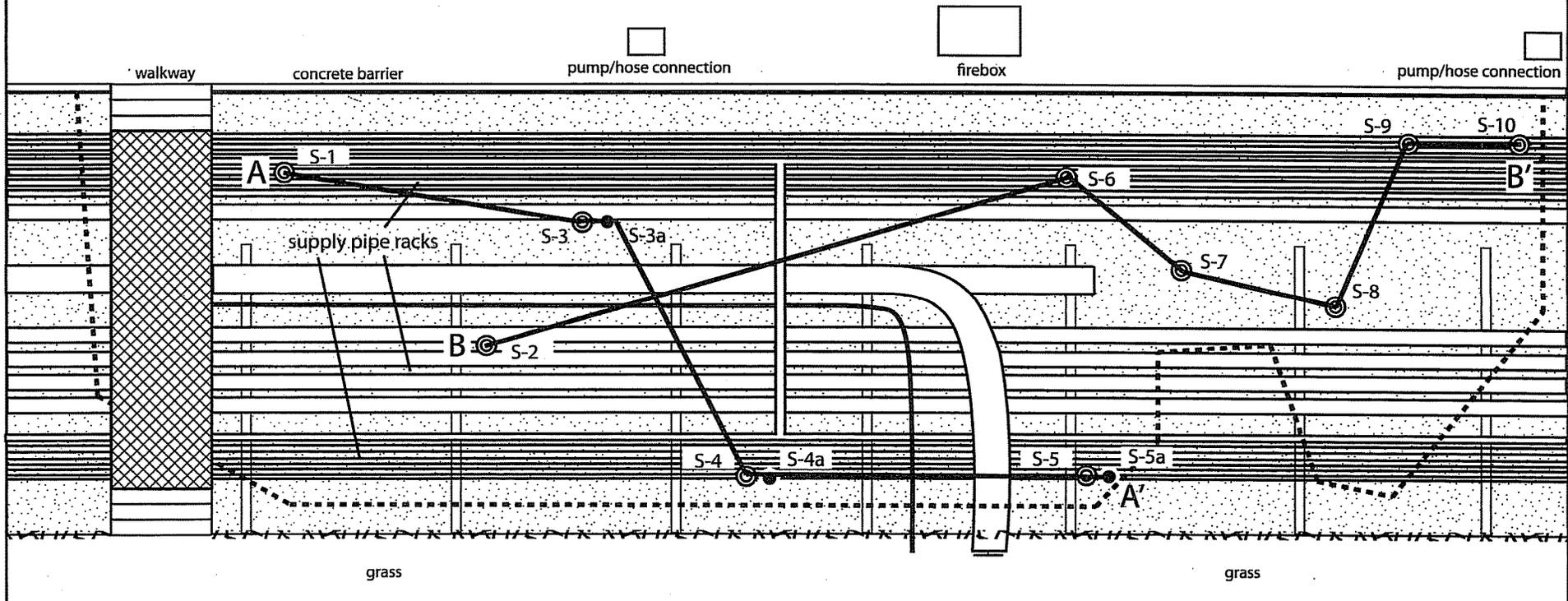
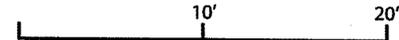
True North

● Soil sample location 04/09

⊙ Soil sample location 11/07

▨ Damp area

--- Estimated Extent of Release

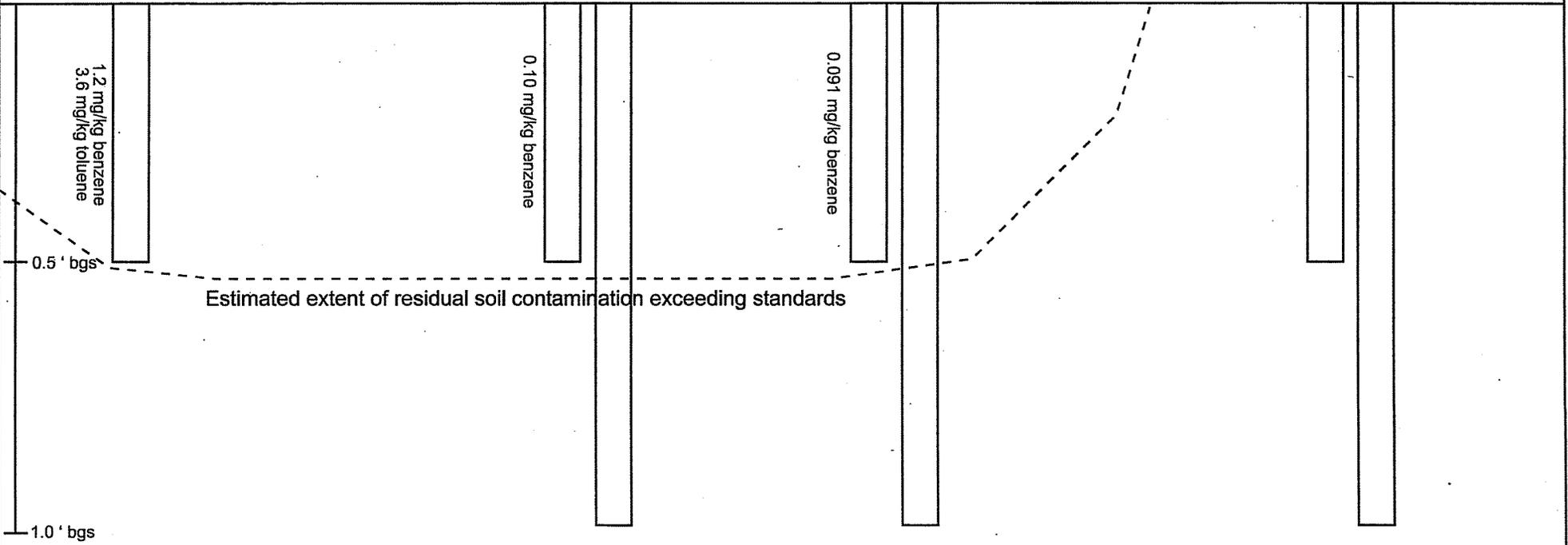


Twin Ports Testing

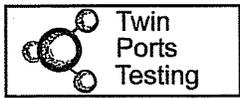
Soil Sampling Location Map
Murphy Green Gas Unit (GGU)
Superior, WI

DRAWN BY	CS
CHECKED BY	KF
APPROVED BY	KF
DATE	4/9/2009
TPT JOB #	07E2239
FIGURE	2

A S-1 S-3 S-3a S-4 S-4a S-5 S-5a A'

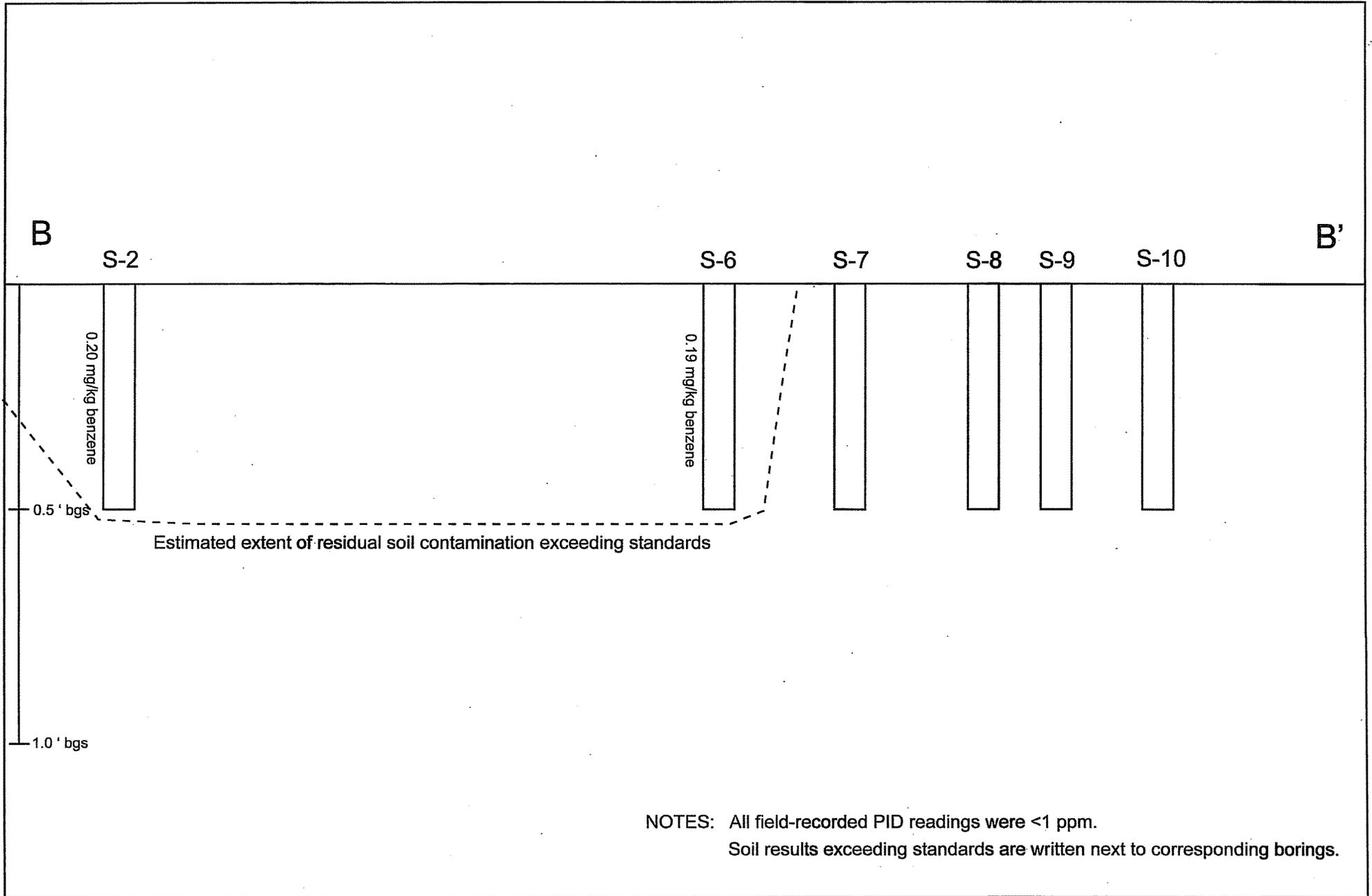


NOTES: All field-recorded PID readings were <1 ppm.
Soil results exceeding standards are written next to corresponding borings.



Geologic Cross Section Map of Soil Contamination Exceeding Standards
Murphy Oil, Superior, WI

FIGURE 4



Geologic Cross Section Map of Soil Contamination Exceeding Standards
Murphy Oil, Superior, WI

FIGURE 5

Soil Sample Analyses Results Murphy Green Gas Unit

11/07 - 4/09
Superior, Wisconsin
TPT# 07e-2239

Parameter	Soil Sample Analysis Results													NR 720 Soil Cleanup Guidelines	
	depths in feet														
	S-1	S-2	S-3		S-4		S-5		S-6	S-7	S-8	S-9	S-10		
	11/07 0.5'	11/07 0.5'	11/07 0.5'	04/09 1'	11/07 0.5'	04/09 1'	11/07 0.5'	04/09 1'	11/07 0.5'	11/07 0.5'	11/07 0.5'	11/07 0.5'	11/07 0.5'		
field screening reading (ppm)	<1	<1	<1	0.0	<1	0.0	<1	0.0	<1	<1	<1	<1	<1	--	
Gasoline Range Organics (ppm)	13	<6.5	<5.7	<0.61	<8.5	<0.68	<7.7	<0.91	<6.3	<4.9	<5.3	<5.5	<1.5	--	
Diesel Range Organics (ppm)	<10.0	230	11	1.3	230	2.8	1400	13	18	32	20	5.2	<5.3	0.0055	
Petroleum Volatile Organic Compounds (ppm)	Benzene	1.2	0.20	0.10	< 0.0030	0.091	< 0.0034	<0.038	< 0.0045	0.19	<0.025	<0.026	<0.027	<0.0073	2.9
	Ethylbenzene	0.82	0.19	0.11	< 0.0030	0.095	<0.0034	0.053	<0.0045	0.35	0.060	0.029	<0.027	0.032	--
	Methyl tertiary butyl ether	0.22	<0.065	<0.057	< 0.0030	<0.085	<0.0034	<0.077	<0.0045	<0.063	<0.049	<0.053	<0.055	<0.015	1.5
	Toluene	3.6	0.67	0.35	< 0.030	<0.42	<0.034	<0.38	<0.045	0.52	<0.25	<0.26	<0.27	<0.073	--
	Naphthalene	<0.27	<0.33	<0.28	<0.030	<0.42	<0.034	<0.38	0.092	<0.32	<0.25	<0.26	<0.27	<0.015	--
	1,3,5-Trimethylbenzene	0.19	<0.065	<0.057	< 0.0061	<0.085	<0.0068	<0.077	<0.0091	0.13	<0.049	<0.053	<0.055	<0.015	--
	1,2,4-Trimethylbenzene	0.72	0.19	0.12	< 0.0061	0.093	<0.0068	<0.077	<0.0091	0.46	0.15	<0.053	<0.055	<0.015	--
	m&p-Xylene	2.4	0.54	0.30	<0.0061	0.24	<0.0068	0.098	<0.0091	1.1	0.13	0.065	<0.055	<0.015	4.1
o-Xylene	0.86	0.18	0.10	<0.0030	0.082	<0.0034	<0.038	<0.0045	0.38	0.048	<0.026	<0.027	<0.0073	4.1	

ppm = parts per million

Bold = Exceedence

-- = analysis not conducted/DNR guideline not yet established