GIS REGISTRY INFORMATION

SITE NAME: FORMER JACOBUS BULK FACILITY

BRRTS #: 02-68-185341 **FID # (if appropriate):** 268112570

COMMERCE # (if appropriate):

CLOSURE DATE: 9/20/2002

STREET ADDRESS: W232 N6675 Waukesha Avenue

CITY: Sussex

SOURCE PROPERTY GPS COORDINATES (meters in WTM91 projection): X= 664413 Y= 297853

CONTAMINATED MEDIA: Groundwater [✓] Soil [ ] Both [ ]

OFF-SOURCE GW CONTAMINATION >ES: [ ] Yes [✓] No

IF YES, STREET ADDRESS 1:

GPS COORDINATES (meters in WTM91 projection): X= Y=

OFF-SOURCE SOIL CONTAMINATION >Generic or Site-Specific RCL (SSRCL): [ ] Yes [✓] No

IF YES, STREET ADDRESS 1:

GPS COORDINATES (meters in WTM91 projection): X= Y=

CONTAMINATION IN RIGHT OF WAY: [ ] Yes [✓] No

DOCUMENTS NEEDED:

Closure Letter, and any conditional closure letter issued	✓
Copy of most recent deed, including legal description, for all affected properties	✓
Certified survey map or relevant portion of the recorded plat map (*if referenced in the legal description*) **for all affected properties**	✓
County Parcel ID number, *if used for county*, for all affected properties	
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.	✓
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.	✓
Tables of Latest Groundwater Analytical Results (no shading or cross-hatching)	✓
Tables of Latest Soil Analytical Results (no shading or cross-hatching)	
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.**	
GW: Table of water level elevations, with sampling dates, and free product noted if present	
GW: Latest groundwater flow direction/monitoring well location map (should be 2 maps if maximum variation in flow direction is greater than 20 degrees)	✓
SOIL: Latest horizontal extent of contamination exceeding generic or SSRCLs, with one contour	
Geologic cross-sections, *if required for SI.* (8.5x14' if paper copy)	
RP certified statement that legal descriptions are complete and accurate	✓
Copies of off-source notification letters (if applicable)	✓
Letter informing ROW owner of residual contamination (if applicable)(public, highway or railroad ROW)	
Copy of (soil or land use) deed restriction(s) or deed notice *if any required as a condition of closure*	

Checklist of Documents for GIS Registry Packet

WI DNR, Bureau for Remediation and Redevelopment, PUB-RR-688

(Include with closure request – please assemble in this order, *rather than that identified on the close out form.*)

☑ **One-time fee of $250.00** per site, for maintenance of the registry.

☑ **Copies of the most recent deed** *including legal descriptions, for all properties within or partially within the contaminated site boundaries.* (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 should 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.)

☑ **A copy of the certified surveyed 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. lot2 of xyz subdivision))

☑ **Parcel identification number for each property,** *if the county in which the property is located uses parcel identification numbers.* 236.994

NA ☐ **A location map** which outlines all properties within the contaminated site boundaries in sufficient detail to permit the easy location of all parcels. *(If only one parcel, combine with next item.)*

☑ **A map of all contaminated properties within site boundaries,** showing buildings, roads, property boundaries, contaminant sources, utility lines, monitoring wells and potable wells.

☑ **A table of the most recent analytical results** from all monitoring wells, and any potable wells for which samples have been collected, with sample collection dates. (without shading/crosshatching)

☐ **An isoconcentration map,** if available from the site investigation (SI), of the contaminated properties within the site boundaries. The map should include the areal extent of groundwater contamination exceeding PALs, groundwater flow directions based on the most recent data, and sample dates.

If an isoconcentration map is not available from the SI, substitute the following two maps from the SI, based on the most recent data.

☑ **A groundwater flow direction map,** based on the most recent data.

☑ **A map showing the horizontal extent of contamination,** based on most recent data.

☑ **A geologic cross section,** if available from the SI, showing vertical extent and location of soil and groundwater contamination, source extent and location; isoconcentrations for all groundwater contaminants that exceed PALs; water table and piezometric elevations, and the location and elevation of geologic units, bedrock, and confining units, if any.

☑ **A statement signed by the responsible party, which states that he or she believes that the legal descriptions attached to the statement are complete and accurate.** *(The point here is that the legal descriptions are describing the correct (i.e. contaminated) properties)*

NA ☐ **A copy of the letters sent by the RP to all owners of properties with groundwater exceeding ESs** (including the current source-property owner, if the RP is not the current source-property owner.) *(Off source properties are listed separately with a link to the source property.)*

NA ☐ **A copy of notification provided to City/village/municipality/state agency responsible for maintenance of a road right-of-way,** within or partially within the boundaries of the contaminated site.

☑ **Geographic position** of all properties within or partially within the contaminated site boundaries. *The coordinates need to be for a spot located at least 40 feet inside the property boundary. Refer to NR 716.15(2)(d)7, and (k). The coordinates must be in WTM91 projection (see the following WDNR website address for assistance:* www.dnr.state.wi.us/org/at/et/geo/gwur/index.htm *).*

Complete
MW 6/11/02

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutchen, Regional Director

Southeast Region Annex
4041 N. Richards Street, Box 12436
Milwaukee, Wisconsin 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

September 20, 2002

Mr. Mike Helgesen
Jacobus Energy, Inc.
11815 West Bradley Road
Milwaukee, WI 53224

SUBJECT: Case Closure, Jacobus Energy Former Fuel Bulk Facility, W232 N6675 Waukesha Avenue, Sussex, WI -- FID #268112570 BRRTS# 02-68-185341

Dear Mr. Helgesen:

In an April 29, 1998, letter the Department of Natural Resources notified you that the degree and extent of contamination at the above-named site needed to be investigated. We have since been informed that the required investigation has been accomplished to the extent practicable. A copy of this letter has been forwarded to your environmental consultant.

Based on the documentation provided to the Department from Sigma Environmental it appears that the contamination has been investigated in compliance with the requirements of ch. NR 700 Wis. Adm. Code. Due to the levels of contaminants detected in the groundwater, this site has been placed on the State GIS Registry for groundwater. Therefore the Department of Natural Resources considers the case "closed," having determined that no further action is necessary at the site at this time. However, the case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare or the environment.

The Department will track this case as closed on the state computer tracking system upon the abandonment of all monitoring wells on site and the receipt of the well abandonment forms. The Department appreciates the actions you have taken to restore the environment at this site. If you have any questions about this letter or the site in general, please contact me at the letterhead address or at (262) 574-2145.

Sincerely,

James C. Delwiche

James C. Delwiche, P.G.
Hydrogeologist
Remediation & Redevelopment Program

cc: SER Case File
Mr. David Bauer – Sigma Environmental

DOCUMENT NO. 866835

REEL 059 IMAGE 423

TRANSFER $ 20.00 FEE

WARRANTY DEED
STATE OF WISCONSIN—FORM 4

THIS SPACE RESERVED FOR RECORDING DATA

REGISTER'S OFFICE Waukesha Co. Wis. } No. 866835

RECEIVED FOR RECORD THE 1 DAY
[illegible] A. D., 1973 AT 10:10
O'CLOCK A M. & RECORDED IN REEL 59
RECORDS IMAGE 423

Michael J. Hasslinger
REGISTER

RETURN TO Peter Sommerhauser
780 N. Water
Milwaukee, Wisc

THIS INDENTURE, Made this 31st day of October, A. D., 1973, between Hilbert J. Manke and Kathleen M. Manke by Daniel A. Kraemer, her attorney-in-fact, ..., part ies of the first part, and THE JACOBUS COMPANY a Corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, located at Milwaukee Wisconsin, party of the second part.

Witnesseth, That the said part ies of the first part, for and in consideration of the sum of One Dollar and other good and valuable consideration to them in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, have given, granted, bargained, sold, remised, released, aliened, conveyed and confirmed, and by these presents do give, grant, bargain, sell, remise, release, alien, convey and confirm unto the said party of the second part, its successors and assigns forever, the following described real estate, situated in the County of Waukesha and State of Wisconsin, to-wit:

That part of the S. E. 1/4 of Section 23, T8N - R19E, Village of Sussex, Waukesha County, Wisconsin, bounded and described as follows:

Commencing at the S. E. corner, Sec. 23-8-19, thence West on the C/L of Main Street 1312.45 feet to the C/L of Waukesha Road, thence N. 01° 14' E. on C/L of Waukesha Road 1046.44 feet to point of beginning of this description. Thence N. 77° 34' W. - 218.30 feet, thence N. 03° 47' W. - 82.27 feet, thence N. 04° 38' E. 118.25 feet to Southerly ROW of C. & N. W. RR, thence S. 77° 34' E. on said ROW 218.30 feet to C/L of Waukesha Road, thence S. 01° 14'W. on C/L of Waukesha Road 200.00 feet to the point of beginning.

(IF NECESSARY, CONTINUE DESCRIPTION ON REVERSE SIDE)

Together with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining; and all the estate, right, title, interest, claim or demand whatsoever, of the said part ies of the first part, either in law or equity, either in possession or expectancy of, in and to the above bargained premises, and their hereditaments and appurtenances.

To Have and to Hold the said premises as above described with the hereditaments and appurtenances, unto the said party of the second part, and to its successors and assigns FOREVER.

And the said Hilbert J. Manke and Kathleen M. Manke by Daniel A. Kraemer, her attorney-in-fact, for themselves, their heirs, executors and administrators, do covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that at the time of the ensealing and delivery of these presents they are well seized of the premises above described, as of a good, sure, perfect, absolute and indefeasible estate of inheritance in the law, in fee simple, and that the same are free and clear from all incumbrances whatever excepting municipal and zoning ordinances and recorded easements; recorded building restrictions; taxes and assessments from and after January 1, 1973,

and that the above bargained premises in the quiet and peaceful possession of the said party of the second part, its successors and assigns, against all and every person or persons lawfully claiming the whole or any part thereof, they will forever WARRANT AND DEFEND.

In Witness Whereof, the said part ies of the first part have hereunto set their hands and seals this 31st day of October, A. D., 1973.

SIGNED AND SEALED IN PRESENCE OF

Hilbert J. Manke (SEAL)
Hilbert J. Manke

Kathleen M. Manke (SEAL)
Kathleen M. Manke

by: Daniel A. Kraemer (SEAL)
Daniel A. Kraemer, her Attorney-in-Fact (SEAL)

State of Wisconsin, } ss.
County of Waukesha

Personally came before me, this 31st day of October, A. D., 1973, the above named Hilbert J. Manke and Kathleen M. Manke by Daniel A. Kraemer, her Attorney-in-Fact, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Peter M. Sommerhauser
Notary Public, Milwaukee County, Wis.
My commission ~~(expires)~~ (is) permanent

THIS INSTRUMENT WAS DRAFTED BY
Attorney Daniel A. Kraemer NOTARY SEAL

(Section 59.51 (1) of the Wisconsin Statutes provides that all instruments to be recorded shall have plainly printed or typewritten thereon the name of the person who, or government [illegible] thereon in a legible manner.)

WARRANTY DEED — To Corporation

STATE OF WISCONSIN FORM No. 4

[illegible] Company Milwaukee, Wis. (Job 29597)

... ESTATE TRANSFER RETURN

Wisconsin Department of Revenue

Name of Grantor	Name and Full Address of Grantee
Hilbert J. Manke and Kathleen M. Manke	The Jacobus Company Milwaukee, Wisconsin
Is grantor related to grantee? (Blood or Marriage) ☐ Yes ☒ No	
Address to which tax bills should be sent	

PART I — PROPERTY TRANSFERRED

County of:	Check proper box and enter name of municipality	Street address of property transferred
Waukesha	☐ City ☒ Village ☐ Town OF: Sussex	

Legal Description (Fill in legal description in space below or attach 2 copies of full legal description from instrument of conveyance)

Lot No._____ Block No._____ Plat Name_____

or metes and bounds description:

(See description attached hereto)

(Tax Key No. 236.994)

PART II — PHYSICAL DESCRIPTION AND INTENDED USE

1. Kind of Property
   a. ☐ Land Only
      ☐ New Construction
      ☐ Building Previously Used
   b. Residential Units, if any
      ☐ One Family
      ☐ 2 thru 7 Units
      ☐ 8 or more Units
2. Principal Intended Use
   a. ☐ Residential
   b. ☐ Commercial
   c. ☐ Industrial
   d. ☐ Agricultural
   e. ☐ Recreational
   f. ☐ Other (Explain)_____
3. Land Area and Type
   a. Lot Size - Estimated ☒
      200 X 218
   b. 1 Total Acres - Estimated ☒
      1._____ Tillable Acres
      2._____ W.T.L. Acres
      3._____ F.C. Acres
   c._____ Feet of Water Frontage - Estimated ☐

PART III — TRANSFER

1. ☒ Sale 2. ☐ Gift 3. ☐ Exchange 4. ☐ Deed in satisfaction of L.C. dated_____ 5. ☐ Other Explain Here

PART IV — COMPUTATION OF FEE

1. Total value of real estate transferred (purchase price, etc.) . . . . . $ 30,000.00
2. Ownership interest transferred ☒ Full ☐ Other (Explain) _____
3. Fee . . . . . $ 30.00
4. In your opinion, was this sale or transfer made at fair market value? ☐ Yes ☐ No ☒ No Opinion (If no or no opinion, Explain Here)

I (We) declare under penalty of law, that this return (including any accompanying schedule) has been examined by me (us) and to the best of my (our) knowledge and belief it is true, correct and complete.

Sign Here ⟹ Signature of Grantee or Agent _____ Date Oct. 1, 1973

LEAVE THIS AREA BLANK

Document No.	Vol. (Reel)	Page (Image)	Date Recorded	Date and Kind of Conveyance

Parcel Number						19_____	19_____	County Code		District Code	
A	B	C	D	E	F	L I T	L I T	1 Office	2 Field	3 Use	4 Reject
								Ratio		Consideration	

PE-500 (R. 6-71)

PROPERTY OWNER COPY

OFFER TO PURCHASE

THIS OFFER TO PURCHASE, made this 31 day of October, 1973, by THE JACOBUS COMPANY, a Wisconsin corporation, hereinafter sometimes referred to as "Buyer".

W I T N E S S E T H:

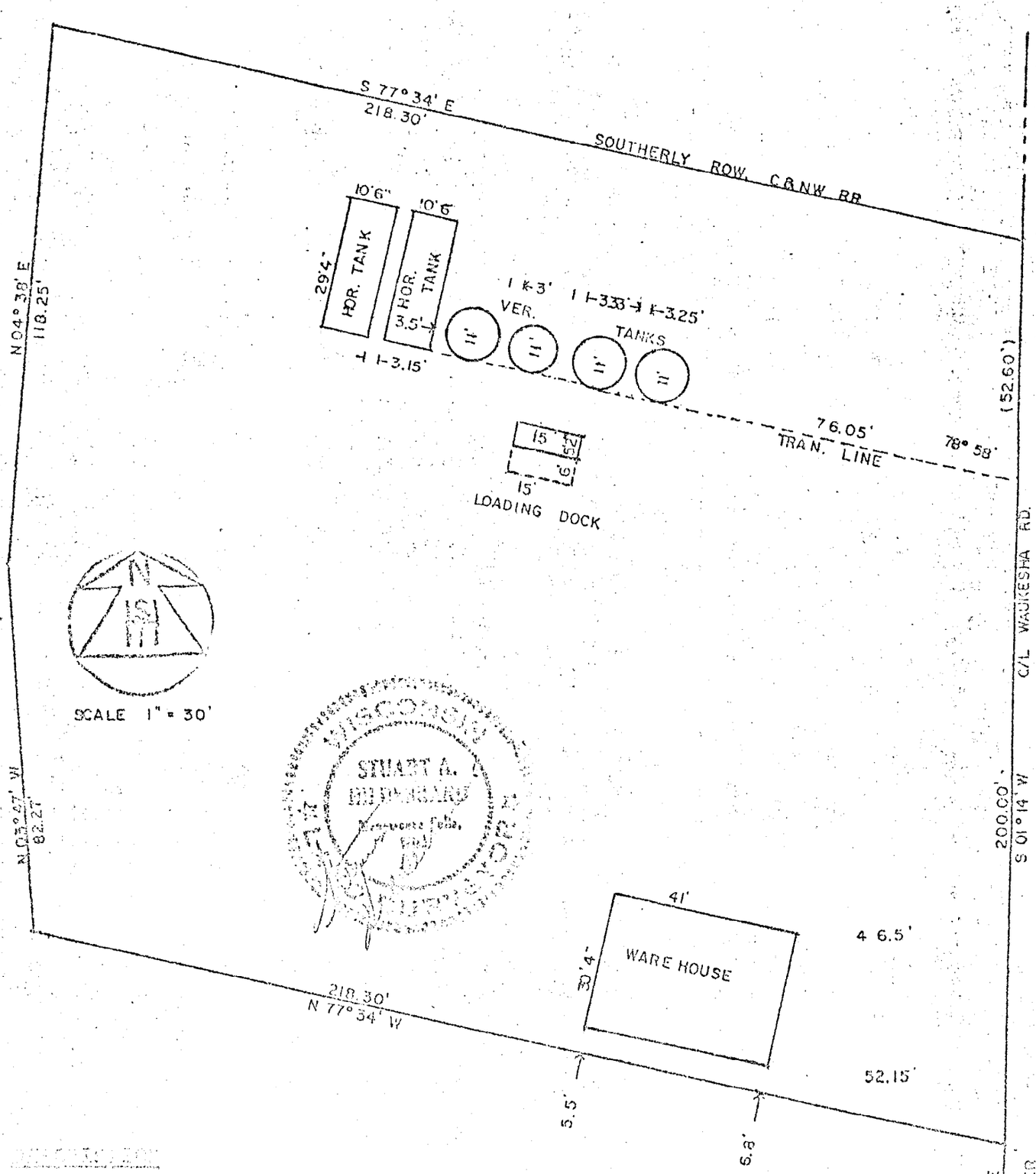
Buyer hereby offers to purchase, upon the terms and conditions and for the price stated herein, certain Real Estate located in the Village of Sussex, State of Wisconsin, more particularly described in Exhibit A attached hereto and made a part hereof and all equipment located thereon, a schedule of which is attached hereto as Exhibit B and made a part hereof.

1. Buyer agrees to pay to Seller the sum of Thirty Thousand Dollars ($30,000.00) as the purchase price for the Property described above, which purchase price Seller and Buyer agree shall be allocated as follows:

(a) Land - Three Thousand Dollars ($3,000.00); and

(b) Bulk Plant and all equipment employed in connection therewith - Twenty-Seven Thousand Dollars ($27,000.00).

PLAT OF SURVEY



WISCONSIN
STUART A. HILDEBRAND
Menomonee Falls, Wis.
LAND SURVEYOR

DESCRIPTION

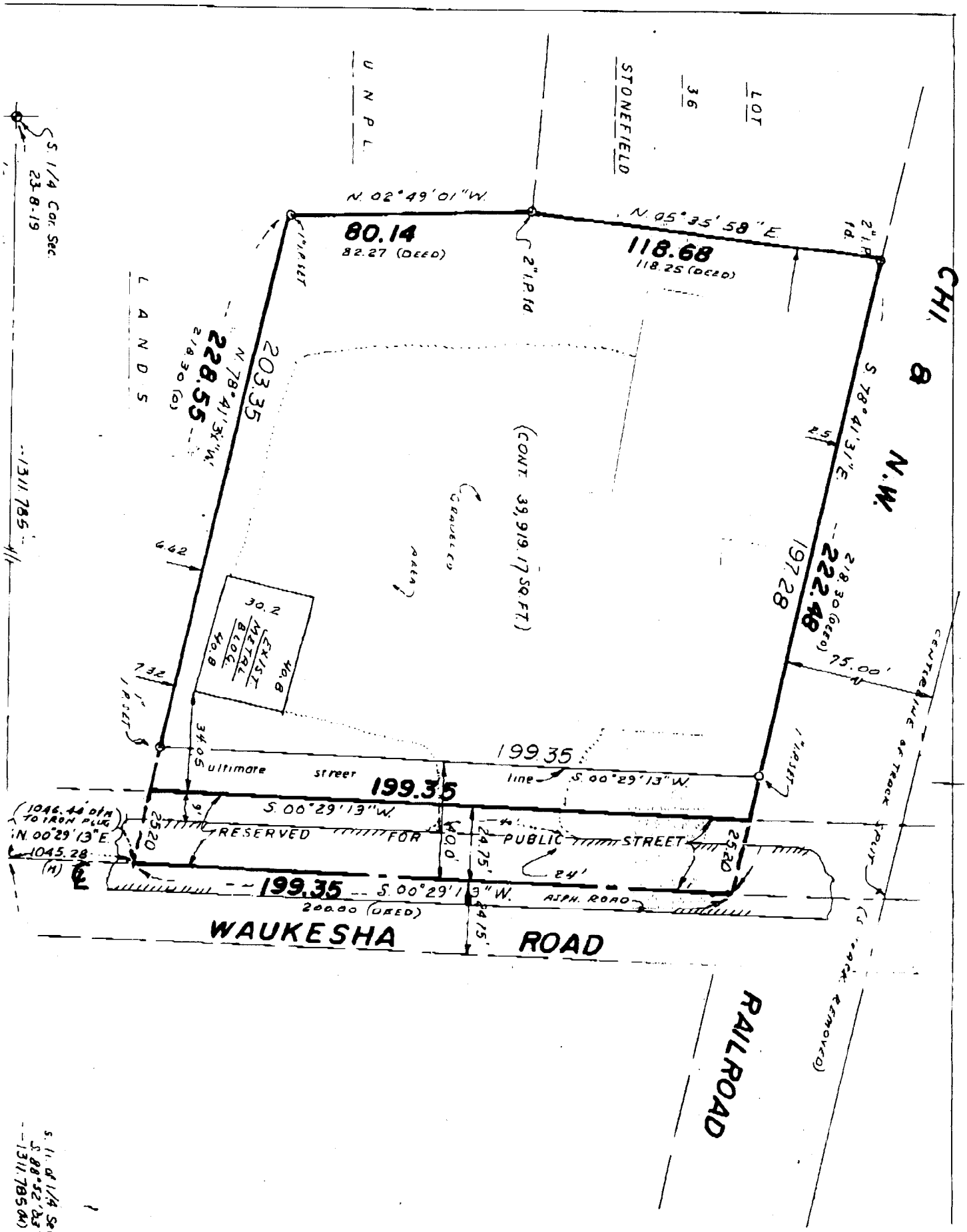
That part of the S. E. 1/4 of Section 23, T8N - R19E, Village of Sussex, Waukesha County, Wisconsin, bounded and described as follows:

Commencing at the S. E. Corner, Sec. 23-8-19, thence West on the C/L of Main Street 1312.45 feet to the C/L of Waukesha Road, thence N. 01° 14' E. on C/L of Waukesha Road 1046.44 feet to point of beginning of this description. Thence N. 77° 34' W. - 218.30 feet, thence N. 03° 47' W. - 82.27 feet, thence N. 04° 38' E. - 118.25 feet to Southerly ROW of C. & N. R. R., thence S. 77° 34' E. on said ROW 218.30 feet to C/L of Waukesha Road, thence S. 01° 14' W. on C/L of Waukesha Road 200.00 feet to the point of beginning.

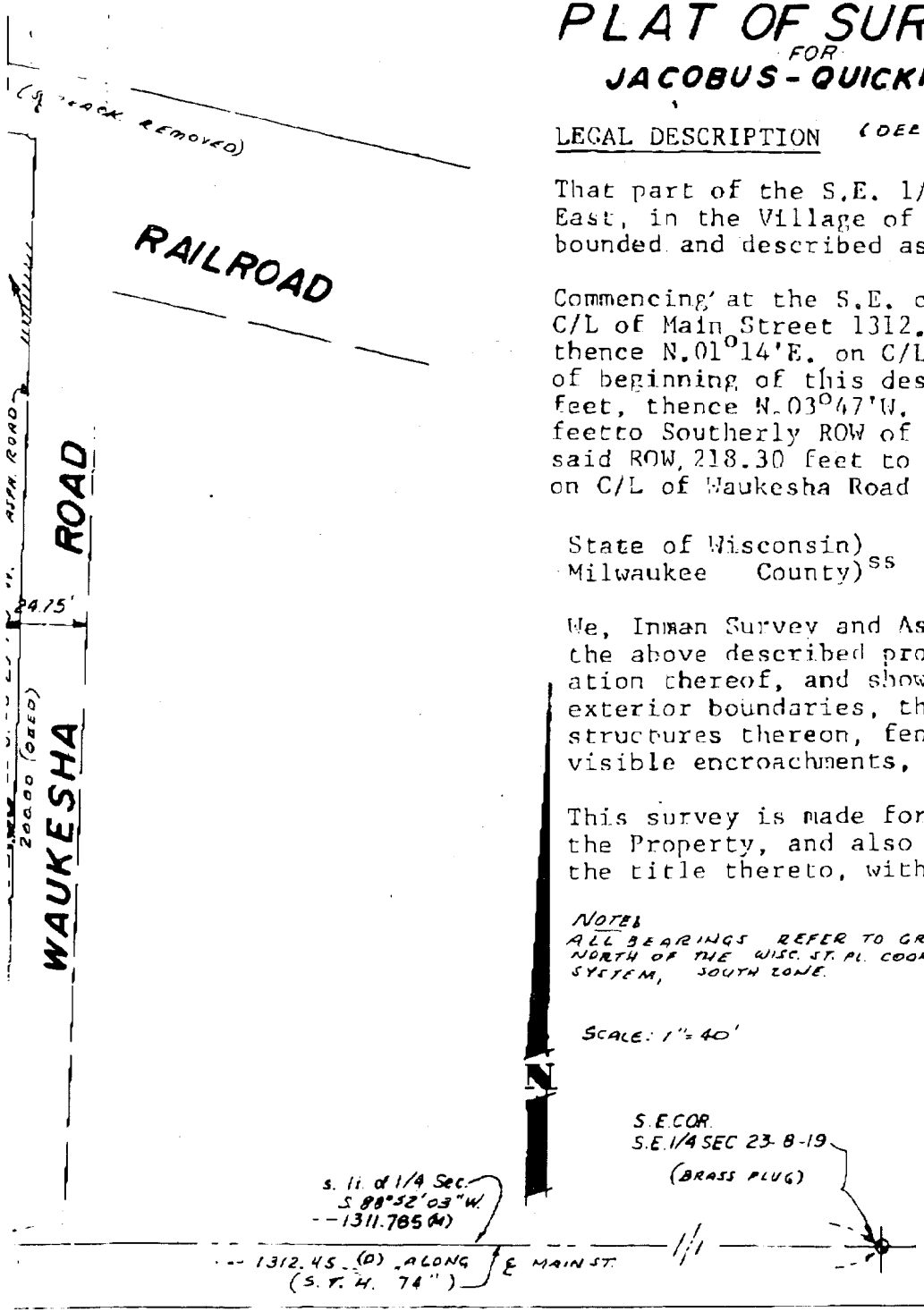
We certify that we have surveyed the above described property and that this plat is an accurate survey and a true representation thereof and correctly shows the exterior boundary lines and location of buildings on said property and the correct measurements thereof.

RAY HILDEBRAND SURVEYORS, INC.
W202 N10418 Appleton Avenue
Germantown, Wisconsin
Telephone 251-2507

SURVEY DATE: [illegible]


UNPL
STONEFIELD
LOT 36
N. 02°49'01"W.
80.14
82.27 (DEED)
N. 05°35'58"E.
118.68
118.25 (DEED)
2" I.P. fd.
CHI. & N.W.
LANDS
N. 78°41'31"W.
228.55
218.30 (O)
203.35
S. 78°41'31"E.
222.48
218.30 (DEED)
197.28
(CONT. 39,919.17 SQ.FT.)
GRAVELED AREA
30.2
EXIST. METAL BLDG.
40.8
40.8
6.62
7.32
34.05
ultimate street line
199.35
S. 00°29'13"W.
199.35
S. 00°29'13"W.
RESERVED FOR PUBLIC STREET
25.20
40.0
24.75
24'
25.20
(1046.44' DIM TO IRON PLUG)
N. 00°29'13"E.
1045.28 (M)
199.35
S. 00°29'13"W.
200.00 (DEED)
ASPH. ROAD
WAUKESHA ROAD
RAILROAD
75.00'
CENTERLINE OF TRACK SPLIT
(S. TRACK REMOVED)
S. 1/4 Cor. Sec. 23-8-19
1311.785
S. 11 of 1/4 Sec. S. 88°52'03" 1311.785 (M)

PLAT OF SURVEY
FOR
JACOBUS - QUICKFLASH CO.



LEGAL DESCRIPTION (DEED) (SEE SHEET 2 OF 2 FOR SUGGESTED LEGAL DESC.)

That part of the S.E. 1/4 of Section 23, Town 8 North, Range 19 East, in the Village of Sussex, Waukesha County, Wisconsin, bounded and described as follows:

Commencing at the S.E. corner, Sec.23-8-19, thence West on the C/L of Main Street 1312.45 feet to the C/L of Waukesha Road, thence N.01°14'E. on C/L of Waukesha Road 1046.44 feet to point of beginning of this description. Thence N.77°34'W. - 218.30 feet, thence N.03°47'W. 82.27 feet, thence N.04°38'E. 118.25 feetto Southerly ROW of C. & N. W. RR, thence S.77°34'E. on said ROW, 218.30 feet to C/L of Waukesha Road, thence S.01°14'W. on C/L of Waukesha Road 200.00 feet to the point of beginning.

State of Wisconsin)
Milwaukee County) ss

SURVEY CERTIFICATE

We, Inman Survey and Associate, Inc., certify that we have surveyed the above described property and the above map is a true representation thereof, and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, fences, apparent easements and roadways and visible encroachments, if any.

This survey is made for the exclusive use of the present owners of the Property, and also those who purchase, mortgage, or guarantee the title thereto, within one (1) year from date hereof.

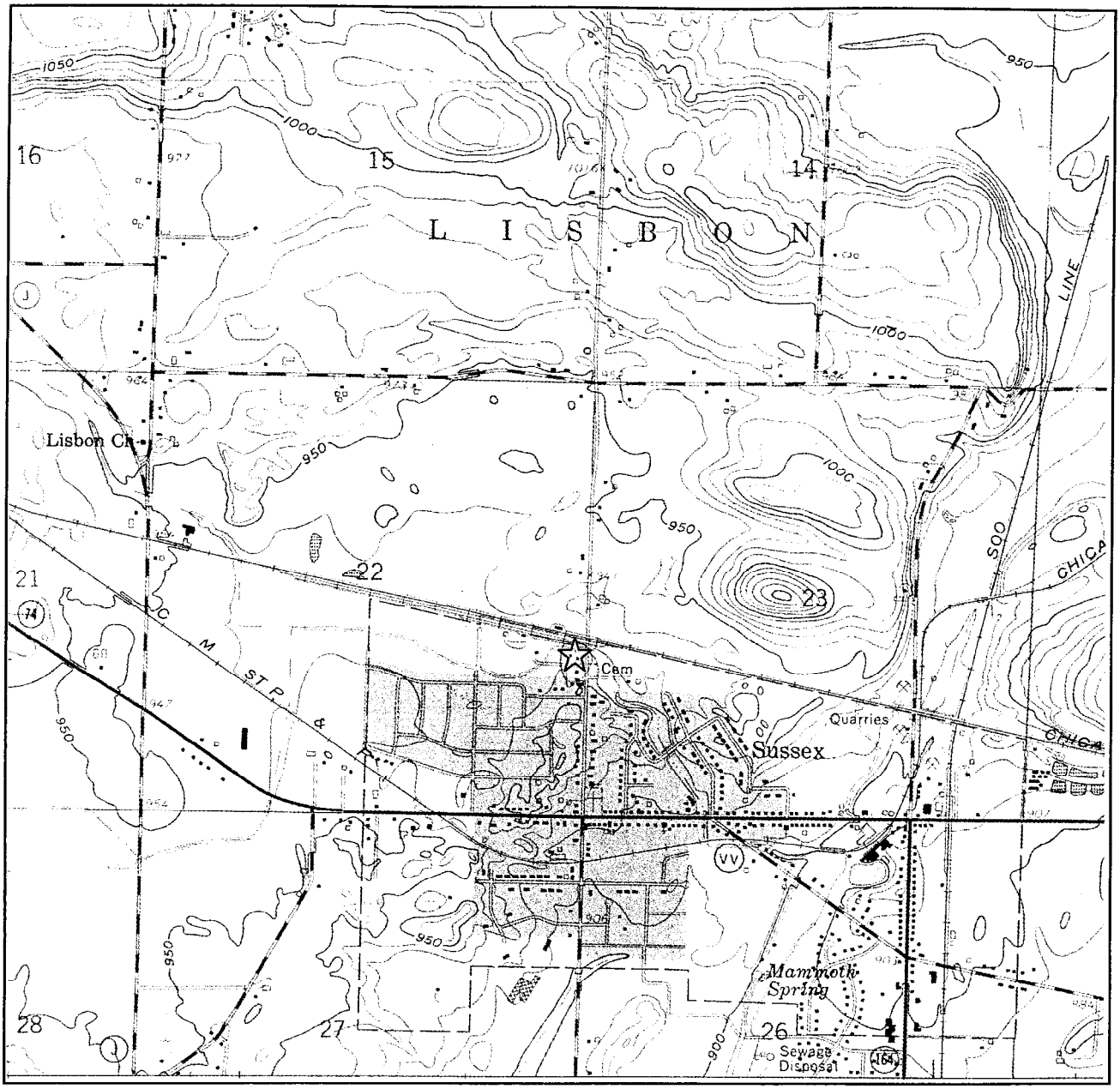
NOTE:
ALL BEARINGS REFER TO GRID NORTH OF THE WISC. ST. PL. COORD'TE. SYSTEM, SOUTH ZONE.

SCALE: 1" = 40'

Randolph
Rafelski

3-7-88

JOB NO. 15149
DATED 2-29-88
SHEET 1 OF 2



SE ¼ of the NW ¼ of Sec. 23, T8N, R19E Adapted from U.S.G.S. 7.5 minute series, Sussex, Wisconsin, quadrangle dated 1959 (photorevised 1971, photoinspected 1976).

SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

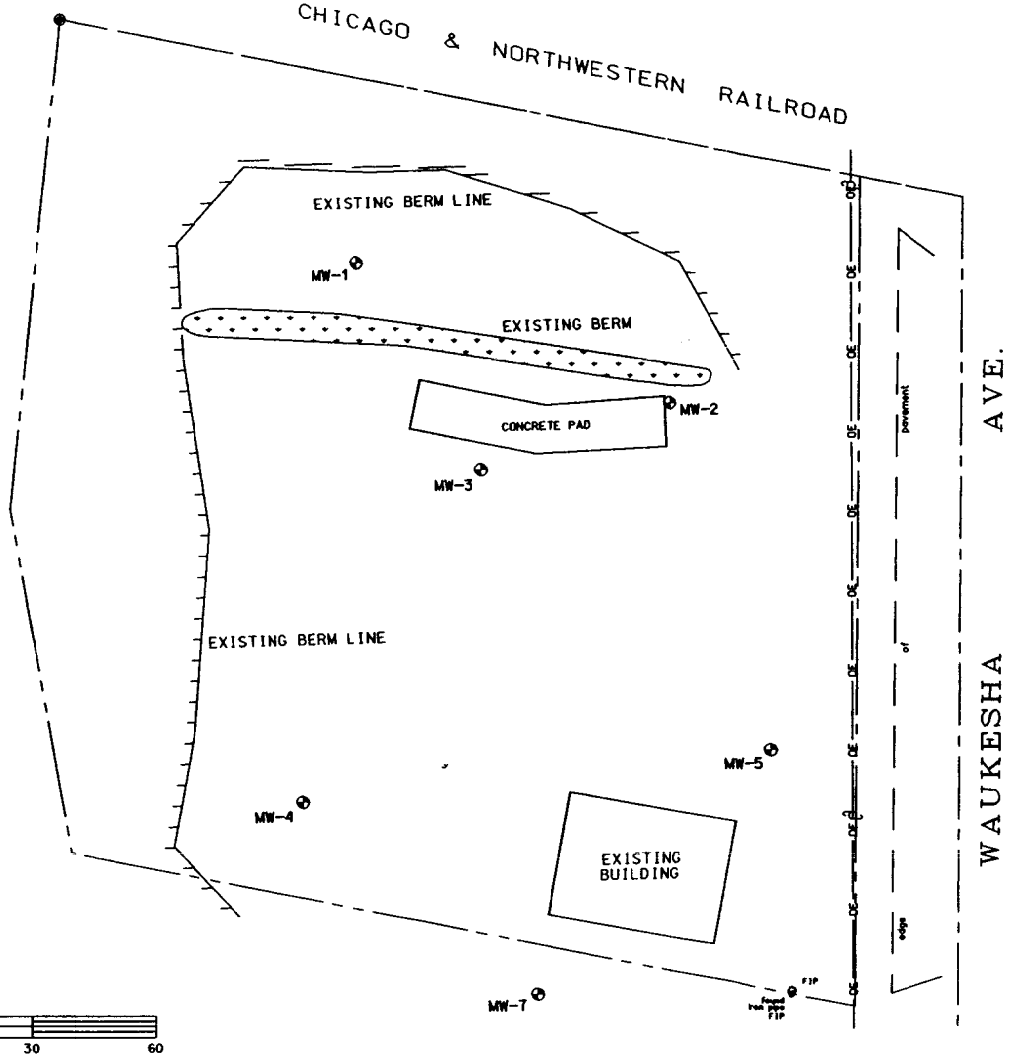
CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

N

Figure 1. Site Location Map
Jacobus Energy, Inc.
W262 N6675 Waukesha Road, Sussex, Wisconsin

SIGMA ENVIRONMENTAL SERVICES INC.

4591fig1.ppt



NOTE:
MAP BASED ON A SURVEY PERFORMED BY SURVEYING ASSOCIATES, INC. ON 11-12-99

LEGEND

- ⊕ = MONITORING WELL LOCATION
- = UTILITY POLE LOCATION
- —OE— = OVERHEAD ELECTRIC LINE

JACOBUS ENERGY, INC. W232 N6675 WAUKESHA AVENUE, SUSSEX, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 6-2-00	DR. BY: TMM	DR.# 4591-003	SCALE: 1" = 30'
SITE PLAN MAP			FIGURE 2

Table 3
Groundwater Quality Results- BTEX and Detects Only
Former Jacobus Bulk Terminal
Sussex, Wisconsin

ANALYTE	Date	MW-1								MW-2								Chapter NR 140	
		10/18/1999	11/29/1999	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	10/18/1999	11/29/1999	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	ES	PAL
	DTW	15.41	16.75	13.65	11.73	13.28	11.31	0.00	13.31	4.05	4.71	1.68	1.82	3.21	1.64	1.90	1.38		
Soluble Lead	µg/l	<1.0	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	15	1.5
VOCs																			
Benzene	µg/l	<0.15	<0.13	**2**	**1.3**	**1.8**	<0.13	<0.13	<0.21	**46.5**	**3.5**	**26**	**36**	**27**	**1.8**	**1**	**0.79**	5	0.5
Toluene	µg/l	<0.4	<0.20	0.16	<0.20	<0.20	<0.20	<0.20	<0.41	<4.0	0.36	0.94	0.98	<1.0	0.43	2.4	<0.41	1,000	200
Ethylbenzene	µg/l	<0.5	<0.22	1.2	<0.22	<0.22	<0.22	<0.22	<0.22	38.9	2.9	11	22	12	2.8	3.1	0.93	700	140
m- & p- Xylenes	µg/l	<0.4	NA	NA	NA	NA	NA	NA	NA	<4.0	NA	NA	NA	NA	NA	NA	NA	NS	NS
o- Xylene & Styrene	µg/l	<0.15	NA	NA	NA	NA	NA	NA	NA	2.17	NA	NA	NA	NA	NA	NA	NA	NS	NS
Total Xylenes	µg/l	NA	<0.23	1.6	<0.23	<0.23	<0.23	<0.23	<0.69	NA	<0.25	3.3	1.7	1.3	200	50	3.3	10,000	1000
1,2,4-Trimethylbenzene	µg/l	<0.4	<0.22	2.3	<0.22	<0.22	<0.22	<0.22	<0.26	58.3	1.7	14	23	12	41	20	6	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.15	<0.29	0.17	<0.29	<0.29	<0.29	<0.29	<0.34	2.38	0.11	0.61	1.8	1.9	33	9.2	2.1	NS	NS
Total Trimethylbenzene	µg/l	<0.55	<0.51	2.47	<0.51	<0.51	<0.51	<0.51	<0.60	60.68	1.81	14.61	24.8	13.9	74	29.2	8.1	480	96
Methyl Tert Butyl Ether	µg/l	1.39	1.5	1.1	0.8	0.9	0.67	<0.16	0.68	**53.7**	**14**	9.5	**14**	**12**	1.7	1.7	<0.46	60	12
Isopropylbenzene	µg/l	<0.15	NA	NA	NA	NA	NA	NA	NA	4.48	0.39	NA	NA	NA	NA	NA	NA	NS	NS
n-Propylbenzene	µg/l	<0.15	NA	NA	NA	NA	NA	NA	NA	9.68	0.27	NA	NA	NA	NA	NA	NA	NS	NS
Tetrachloroethene	µg/l	<0.15	NA	NA	NA	NA	NA	NA	NA	**1.59**	<0.25	NA	NA	NA	NA	NA	NA	5	0.5
n-Butylbenzene	µg/l	<0.15	NA	NA	NA	NA	NA	NA	NA	10	<0.25	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/l	<0.2	NA	NA	NA	NA	NA	NA	NA	2.3	<0.25	NA	NA	NA	NA	NA	NA	NS	NS
PAHs																			
Acenaphthene	µg/l	<0.33	<0.23	NA	NA	NA	NA	NA	NA	1.36	0.66	NA	NA	NA	NA	NA	NA	NS	NS
Acenaphthylene	µg/l	<0.33	<0.57	NA	NA	NA	NA	NA	NA	<0.1	<0.57	NA	NA	NA	NA	NA	NA	NS	NS
Anthracene	µg/l	<0.33	<0.019	NA	NA	NA	NA	NA	NA	<0.09	0.11	NA	NA	NA	NA	NA	NA	3000	600
Benzo(a)anthracene	µg/l	<0.17	<0.018	NA	NA	NA	NA	NA	NA	<0.05	<0.018	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(a)pyrene	µg/l	<0.13	<0.044	NA	NA	NA	NA	NA	NA	<0.04	<0.045	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(b)fluoranthene	µg/l	<0.13	<0.030	NA	NA	NA	NA	NA	NA	<0.04	<0.030	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(k)fluoranthene	µg/l	<0.2	<0.028	NA	NA	NA	NA	NA	NA	<0.06	<0.028	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(ghi)perylene	µg/l	<0.2	<0.10	NA	NA	NA	NA	NA	NA	<0.06	<0.10	NA	NA	NA	NA	NA	NA	NS	NS
Chrysene	µg/l	<0.17	<0.013	NA	NA	NA	NA	NA	NA	<0.05	<0.014	NA	NA	NA	NA	NA	NA	0.2	0.02
Dibenzo(a,h)anthracene	µg/l	<0.33	<0.16	NA	NA	NA	NA	NA	NA	<0.1	<0.17	NA	NA	NA	NA	NA	NA	NS	NS
Fluoranthene	µg/l	<0.2	<0.10	NA	NA	NA	NA	NA	NA	<0.06	0.7	NA	NA	NA	NA	NA	NA	400	80
Fluorene	µg/l	<0.23	<0.030	NA	NA	NA	NA	NA	NA	7.82	1.1	NA	NA	NA	NA	NA	NA	400	80
Indeno(1,2,3-cc)pyrene	µg/l	<0.23	<0.085	NA	NA	NA	NA	NA	NA	<0.07	<0.086	NA	NA	NA	NA	NA	NA	NS	NS
1-Methylnaphthalene	µg/l	<0.3	<0.41	NA	NA	NA	NA	NA	NA	26.6	1.8	NA	NA	NA	NA	NA	NA	NS	NS
2-Methylnaphthalene	µg/l	<0.27	<0.62	NA	NA	NA	NA	NA	NA	3.21	<0.62	NA	NA	NA	NA	NA	NA	NS	NS
Naphthalene	µg/l	<0.27	<0.23	NA	NA	NA	NA	NA	NA	0.652	<0.23	NA	NA	NA	NA	NA	NA	40	8
Phenanthrene	µg/l	<0.27	<0.014	NA	NA	NA	NA	NA	NA	6.82	0.034	NA	NA	NA	NA	NA	NA	NS	NS
Pyrene	µg/l	<0.37	<0.048	NA	NA	NA	NA	NA	NA	<0.11	0.81	NA	NA	NA	NA	NA	NA	250	50
Nutrient Panel																			
Nitrate	mg/L	NA	<0.055	<0.20	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.055	<0.20	<0.50	<0.50	<0.50	<0.50	NA	NS	NS
Soluble Manganese	mg/L	NA	53	0.088	0.088	0.15	0.11	0.029	NA	NA	34	0.31	0.24	0.25	0.62	0.58	NA	NS	NS
Sulfate	mg/L	NA	0.022	37	37	41	33	16	NA	NA	0.14	20	17	31	17	9.9	NA	NS	NS
In Situ Field Measurements																			
Dissolved Oxygen	mg/L	6.8	3.95	0.34	1.59	0.78	0.62	0.44	0.66	0.7	0.19	0.24	1.33	0.33	0.19	0.4	0.35	NS	NS
Redox	mV	416.6	189.3	79.3	174.2	110.1	138.5	158.6	134.4	320.5	69.2	-15.1	-11.7	-5.9	-191.7	47.6	-125.8	NS	NS
pH	none	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	NS	NS
Ferrous Iron	mg/L	0	0	1.2	0	0.4	0.8	0	0	3.2	2.1	2.6	1.2	3	4	3.8	1.2	NS	NS
Temperature	C	12.3	12	8	13.9	10.2	6.6	16.2	13.7	15.1	11.8	7.9	19.2	10.4	5.5	12.7	16.8	NS	NS

Key:

ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
* = Standard is for Total Xylenes
bold = Exceeds Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
bold = Exceeds Wisconsin Administrative Code Chapter NR 140 Enforcement Standard
Toluene and Xylenes were detected in the equipment blank at concentrations of 0.28 ug/l and 0.25 ug/l, respectively.
Benzene and Xylenes were detected in the trip blank at concentrations of 0.18 ug/l and 0.27 ug/l, respectively, in the 3/21/01 sampling event.

Table 3
Groundwater Quality Results - BTEX and Detects Only
Former Jacobus Bulk Terminal
Sussex, Wisconsin

ANALYTE	Date	MW-3								MW-4								Chapter NR 140	
		10/18/1999	11/29/1999	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	10/18/1999	11/29/1999	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	ES	PAL
	DTW	3.22	3.86	0.60	1.39	1.98	0.48	0.80	0.59	5.86	6.90	1.05	2.61	3.54	1.13	1.40	2.77		
Soluble Lead	µg/l	<1.0	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	15	1.5
VOCs																			
Benzene	µg/l	**66.2**	**28**	**14**	**20**	**20**	**37**	**19**	**28**	**0.59**	<0.13	<0.10	<0.13	<0.13	<0.13	<0.13	<0.21	5	0.5
Toluene	µg/l	<8.0	10	2.3	2.6	4.5	7	1.6	4.3	<0.4	<0.20	<0.10	<0.20	<0.20	<0.20	<0.20	<0.41	1,000	200
Ethylbenzene	µg/l	72	36	43	39	47	**160**	40	47	<0.5	<0.22	<0.25	<0.22	<0.22	<0.22	<0.22	<0.22	700	140
m- & p- Xylenes	µg/l	11.7	NA	NA	NA	NA	NA	NA	NA	<0.4	NA	NA	NA	NA	NA	NA	NA	NS	NS
o- Xylene & Styrene	µg/l	9.14	NA	NA	NA	NA	NA	NA	NA	<0.15	NA	NA	NA	NA	NA	NA	NA	NS	NS
Total Xylenes	µg/l	NA	16	59	13	14	98	17	6.4	NA	<0.23	<0.25	<0.23	<0.23	<0.23	<0.23	<0.69	10,000	1000
1,2,4-Trimethylbenzene	µg/l	211	69	140	39	16	480	38	10	<0.4	<0.22	<0.10	<0.22	<0.22	<0.22	<0.22	<0.26	NS	NS
1,3,5-Trimethylbenzene	µg/l	4	<12	9.1	1.1	<2.9	98	4.2	1.7	<0.15	<0.29	<0.10	<0.29	<0.29	<0.29	<0.29	<0.34	NS	NS
Total Trimethylbenzene	µg/l	**215**	69	**149.1**	40.1	16	**578**	42.2	11.7	<0.55	<0.51	<0.20	<0.51	<0.51	<0.51	<0.51	<0.60	480	96
Methyl Tert Butyl Ether	µg/l	**49.5**	<8.0	1.6	<1.3	10	<1.9	<1.5	<0.46	1.73	2	<0.25	0.64	1.3	0.5	<0.16	0.68	60	12
Isopropylbenzene	µg/l	9.54	NA	NA	NA	NA	NA	NA	NA	<0.15	NA	NA	NA	NA	NA	NA	NA	NS	NS
n-Propylbenzene	µg/l	29.3	NA	NA	NA	NA	NA	NA	NA	<0.15	NA	NA	NA	NA	NA	NA	NA	NS	NS
Tetrachloroethene	µg/l	<3.0	NA	NA	NA	NA	NA	NA	NA	<0.15	NA	NA	NA	NA	NA	NA	NA	5	0.5
n-Butylbenzene	µg/l	24.2	NA	NA	NA	NA	NA	NA	NA	0.15	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/l	<4.0	NA	NA	NA	NA	NA	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NS	NS
PAHs																			
Acenaphthene	µg/l	4.51	1.5	NA	NA	NA	NA	NA	NA	<0.1	<0.22	NA	NA	NA	NA	NA	NA	NS	NS
Acenaphthylene	µg/l	<0.1	<0.57	NA	NA	NA	NA	NA	NA	<0.1	<0.56	NA	NA	NA	NA	NA	NA	NS	NS
Anthracene	µg/l	<0.09	0.44	NA	NA	NA	NA	NA	NA	<0.09	<0.018	NA	NA	NA	NA	NA	NA	3000	600
Benzo(a)anthracene	µg/l	<0.05	<0.018	NA	NA	NA	NA	NA	NA	<0.05	<0.017	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(a)pyrene	µg/l	<0.04	<0.045	NA	NA	NA	NA	NA	NA	<0.04	<0.043	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(b)fluoranthene	µg/l	<0.04	<0.030	NA	NA	NA	NA	NA	NA	<0.04	<0.029	NA	NA	NA	NA	NA	NA	0.2	0.02
Benzo(k)fluoranthene	µg/l	<0.06	<0.028	NA	NA	NA	NA	NA	NA	<0.06	<0.027	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(ghi)perylene	µg/l	<0.06	<0.10	NA	NA	NA	NA	NA	NA	<0.06	<0.10	NA	NA	NA	NA	NA	NA	NS	NS
Chrysene	µg/l	<0.05	<0.014	NA	NA	NA	NA	NA	NA	<0.05	<0.013	NA	NA	NA	NA	NA	NA	0.2	0.02
Dibenzo(a,h)anthracene	µg/l	<0.1	<0.17	NA	NA	NA	NA	NA	NA	<0.1	<0.16	NA	NA	NA	NA	NA	NA	NS	NS
Fluoranthene	µg/l	<0.06	2.1	NA	NA	NA	NA	NA	NA	<0.06	<0.10	NA	NA	NA	NA	NA	NA	400	80
Fluorene	µg/l	9.03	3.6	NA	NA	NA	NA	NA	NA	<0.07	<0.029	NA	NA	NA	NA	NA	NA	400	80
Indeno(1,2,3-cd)pyrene	µg/l	<0.07	<0.086	NA	NA	NA	NA	NA	NA	<0.07	<0.084	NA	NA	NA	NA	NA	NA	NS	NS
1-Methylnaphthalene	µg/l	44	21	NA	NA	NA	NA	NA	NA	<0.09	<0.40	NA	NA	NA	NA	NA	NA	NS	NS
2-Methylnaphthalene	µg/l	<0.08	<0.62	NA	NA	NA	NA	NA	NA	<0.08	<0.61	NA	NA	NA	NA	NA	NA	NS	NS
Naphthalene	µg/l	4.74	2.2	NA	NA	NA	NA	NA	NA	<0.08	<0.22	NA	NA	NA	NA	NA	NA	40	8
Phenanthrene	µg/l	6.41	1.7	NA	NA	NA	NA	NA	NA	<0.08	<0.014	NA	NA	NA	NA	NA	NA	NS	NS
Pyrene	µg/l	<0.11	3.9	NA	NA	NA	NA	NA	NA	<0.11	<0.047	NA	NA	NA	NA	NA	NA	250	50
Nutrient Panel																			
Nitrate	mg/L	NA	<0.055	<0.20	<0.50	<0.50	<0.50	<0.50	0.029	NA	2	1.6	1.6	1.2	0.68	<0.50	NA	NS	NS
Soluble Manganese	mg/L	NA	5.9	0.065	0.084	0.081	0.11	0.075	0.1	NA	50	30	0.014	<0.0086	<0.0018	<0.0018	NA	NS	NS
Sulfate	mg/L	NA	0.14	21	10	18	14	19	8.5	NA	0.021	<0.0086	32	46	42	22	NA	NS	NS
In Situ Field Measurements																			
Dissolved Oxygen	mg/L	1.75	0.21	0.27	0.85	0.21	0.23	0.37	0.26	2	2.73	3.19	2.52	1.11	0.74	1.53	0.71	NS	NS
Redox	mV	401	119	-59.9	-161.8	-78.7	-171.1	-124.1	-168.1	364.9	222.5	132.2	185.4	129.3	62.4	152.8	143.5	NS	NS
pH	none	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	NS	NS
Ferrous Iron	mg/L	1.2	1.4	2	2.2	2.6	3.4	2	2.2	0	0	0	0	0	0	0	0	NS	NS
Temperature	C	15	11.5	7.6	19	10	3.9	12	16.4	14	11.6	7.3	18.3	9.5	4.7	11.8	15.1	NS	NS

Key:

ES

PAL

-

bold

bold

Toluene and Xylenes were detected in the equipment blank at concentrations of 0.28 ug/l and 0.25 ug/l, respectively.

Benzene and Xylenes were detected in the trip blank at concentrations of 0.18 ug/l and 0.27 ug/l, respectively, in the 3/21/01 sampling event.

Table 3
Groundwater Quality Results - BTEX and Detects Only
Former Jacobus Bulk Terminal
Sussex, Wisconsin

ANALYTE	Date	MW-5								MW-6						MW-7						Chapter NR 140	
		10/18/1999	11/29/1999	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	04/26/2000	08/07/2000	11/21/2000	03/21/2001	06/20/2001	09/10/2001	ES	PAL
	DTW	2.70	3.52	0.85	1.11	1.90	0.91	1.04	1.01	3.74	3.19	4.87	3.46	3.43	3.43	2.73	3.08	4.61	2.50	2.71	4.91		
Soluble Lead	µg/l	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	1.5
VOCs																							
Benzene	µg/l	**57.8**	**65**	**120**	**68**	**44**	**90**	**76**	**37**	<0.10	<0.13	<0.13	<0.13	<0.13	<0.21	<0.10	<0.13	<0.13	<0.13	<0.13	<0.21	5	0.5
Toluene	µg/l	<20	9.9	4.2	2.8	1.7	3.2	2.8	37	13	<0.20	<0.20	<0.20	<0.20	<0.41	<0.10	<0.20	<0.20	<0.20	<0.20	<0.41	1,000	200
Ethylbenzene	µg/l	**146**	120	**220**	**170**	110	130	**150**	130	<0.25	<0.22	<0.22	<0.22	<0.22	<0.22	<0.25	<0.22	<0.22	<0.22	<0.22	<0.22	700	140
m- & p- Xylenes	µg/l	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
o- Xylene & Styrene	µg/l	<7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Total Xylenes	µg/l	NA	12	19	10	5.9	5.6	7.1	<35	<0.25	<0.23	<0.23	<0.23	<0.23	<0.69	<0.25	<0.23	<0.23	<0.23	<0.23	<0.69	10,000	1000
1,2,4-Trimethylbenzene	µg/l	57.5	60	180	130	93	80	110	240	<0.10	<0.22	<0.22	<0.22	<0.22	<0.26	<0.10	<0.22	<0.22	<0.22	<0.22	<0.26	NS	NS
1,3,5-Trimethylbenzene	µg/l	<7.5	<12	8	4.9	5.6	3.8	7.9	<17	<0.10	<0.29	<0.29	<0.29	<0.29	<0.34	<0.10	<0.29	<0.29	<0.29	<0.29	<0.34	NS	NS
Total Trimethylbenzene	µg/l	57.5	60	**188**	**134.9**	**98.6**	83.8	**117.9**	**240**	<0.20	<0.51	<0.51	<0.51	<0.51	<0.60	<0.20	<0.51	<0.51	<0.51	<0.51	<0.60	480	96
Methyl Tert Butyl Ether	µg/l	**24.5**	**45**	**36**	**27**	**19**	**32**	<2.2	<23	**13**	9.9	8.4	3.2	3.4	2.2	1.3	0.34	3.2	0.57	<0.16	1.1	60	12
Isopropylbenzene	µg/l	11.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
n-Propylbenzene	µg/l	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
Tetrachloroethene	µg/l	<7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5
n-Butylbenzene	µg/l	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/l	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
PAHs																							
Acenaphthene	µg/l	14.6	5	NA	NA	NA	NA	NA	NA	NA	NA	<0.23	<0.40	<0.41	<0.17	NA	NA	<0.23	<0.41	<0.40	<0.17	NS	NS
Acenaphthylene	µg/l	<0.1	<0.57	NA	NA	NA	NA	NA	NA	NA	NA	<0.57	<0.64	<0.66	<1.0	NA	NA	<0.57	<0.65	<0.65	<1.0	NS	NS
Anthracene	µg/l	<0.09	0.41	NA	NA	NA	NA	NA	NA	NA	NA	<0.019	0.03	<0.031	0.02	NA	NA	0.048	0.041	<0.03	0.024	3000	600
Benzo(a)anthracene	µg/l	<0.05	<0.018	NA	NA	NA	NA	NA	NA	NA	NA	0.055	0.11	<0.034	<0.074	NA	NA	0.33	0.25	<0.033	0.09	NS	NS
Benzo(a)pyrene	µg/l	<0.04	<0.028	NA	NA	NA	NA	NA	NA	NA	NA	**0.064**	**0.21**	<0.024	<0.1	NA	NA	**0.39**	**0.44**	<0.023	0.16	0.2	0.02
Benzo(b)fluoranthene	µg/l	<0.04	<0.044	NA	NA	NA	NA	NA	NA	NA	NA	<0.045	**0.15**	<0.058	<0.065	NA	NA	**0.26**	**0.23**	<0.057	0.17	0.2	0.02
Benzo(k)fluoranthene	µg/l	<0.06	<0.030	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	0.15	<0.052	<0.01	NA	NA	0.22	0.17	<0.05	0.073	NS	NS
Benzo(ghi)perylene	µg/l	<0.06	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	0.21	<0.11	<0.52	NA	NA	0.57	0.23	<0.57	<0.52	NS	NS
Chrysene	µg/l	<0.05	<0.013	NA	NA	NA	NA	NA	NA	NA	NA	**0.037**	**0.15**	<0.03	<0.7	NA	NA	**0.26**	**0.27**	<0.11	<0.7	0.2	0.02
Dibenzo(a,h)anthracene	µg/l	<0.1	<0.16	NA	NA	NA	NA	NA	NA	NA	NA	<0.17	<0.05	<0.052	<0.42	NA	NA	<0.17	0.073	<0.05	<0.42	NS	NS
Fluoranthene	µg/l	<0.06	2.4	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	0.24	<0.079	<0.36	NA	NA	0.48	0.43	<0.078	<0.36	400	80
Fluorene	µg/l	9.11	7.7	NA	NA	NA	NA	NA	NA	NA	NA	<0.030	<0.078	<0.08	<0.33	NA	NA	<0.030	<0.08	<0.079	<0.33	400	80
Indeno(1,2,3-cd)pyrene	µg/l	<0.07	<0.085	NA	NA	NA	NA	NA	NA	NA	NA	<0.086	0.15	<0.04	<0.59	NA	NA	0.29	0.36	<0.039	<0.59	NS	NS
1-Methylnaphthalene	µg/l	50	91	NA	NA	NA	NA	NA	NA	NA	NA	<0.42	<0.51	<0.53	<0.21	NA	NA	<0.42	<0.52	<0.52	<0.21	NS	NS
2-Methylnaphthalene	µg/l	<0.08	<0.62	NA	NA	NA	NA	NA	NA	NA	NA	<0.62	<0.96	<0.99	<0.2	NA	NA	<0.62	<0.98	<0.97	<0.2	NS	NS
Naphthalene	µg/l	<0.08	7.9	NA	NA	NA	NA	NA	NA	NA	NA	<0.23	<0.38	<0.39	<0.22	NA	NA	<0.23	<0.39	<0.38	<0.22	40	8
Phenanthrene	µg/l	4.83	4.6	NA	NA	NA	NA	NA	NA	NA	NA	0.068	<0.078	<0.08	0.12	NA	NA	0.17	0.17	<0.079	0.13	NS	NS
Pyrene	µg/l	<0.11	3.1	NA	NA	NA	NA	NA	NA	NA	NA	<0.049	0.26	<0.063	0.066	NA	NA	0.38	0.45	<0.062	0.22	250	50
Nutrient Panel																							
Nitrate	mg/L	NA	<0.055	<0.20	<0.50	<0.50	<0.50	<0.50	0.11	<1.0	<0.50	<0.50	<2.5	<0.50	0.11	<0.20	0.57	<0.50	<0.50	<0.50	NA	NS	NS
Soluble Manganese	mg/L	NA	0.35	0.24	0.25	1.8	0.17	0.21	0.21	0.87	0.75	0.74	0.87	0.65	0.67	0.11	0.17	0.33	0.39	0.27	NA	NS	NS
Sulfate	mg/L	NA	23	5.9	8.8	18	<10	10	13	25	17	18	20	11	25	30	28	62	15	28	NA	NS	NS
In Situ Field Measurements																							
Dissolved Oxygen	mg/L	1.8	0.19	0.28	0.66	0.46	0.29	0.53	0.32	0.52	1.72	0.92	0.78	0.77	0.43	0.41	2.57	1.08	0.81	0.59	0.56	NS	NS
Redox	mV	375	85.2	-47.9	-147	30.5	-119	-65.5	-164.7	45.3	-56.6	43.1	37.7	13.7	-8.8	78	44.6	99.1	51.6	45.1	106.4	NS	NS
pH	none	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	NS	NS
Ferrous Iron	mg/L	2.6	1.4	2.6	2.8	2.6	4.2	3	1.8	3.4	2	2.4	1.6	2.8	1.8	0	0	1.4	0.8	1.8	0	NS	NS
Temperature	C	14.1	11.6	7	19	9.9	4.8	11.5	16.5	8.7	17	12.2	5.5	11.4	17.4	7.4	16.9	10.1	4.6	10.6	15.3	NS	NS

Key:

ES

PAL

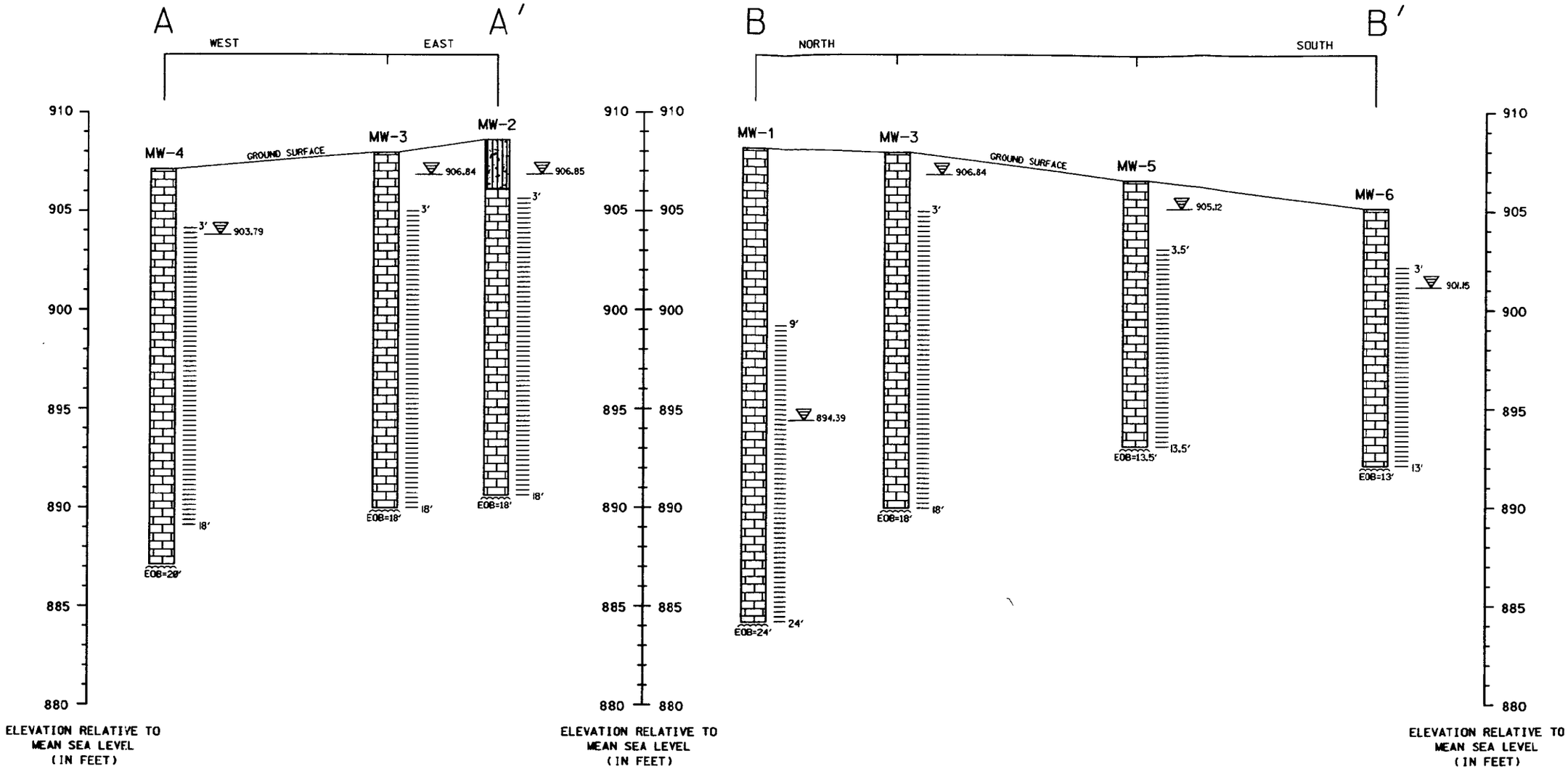
*

bold

bold

Toluene and Xylenes were detected in the equipment blank at concentrations of 0.28 ug/l and 0.25 ug/l, respectively.

Benzene and Xylenes were detected in the trip blank at concentrations of 0.18 ug/l and 0.27 ug/l, respectively, in the 3/21/01 sampling event.



NOTES:
HORIZONTAL SCALE 1" = 40'
VERTICAL SCALE 1" = 5'

USCS SYMBOLS

SM - SILTY - SANDS, SAND - SILT MIXTURES.

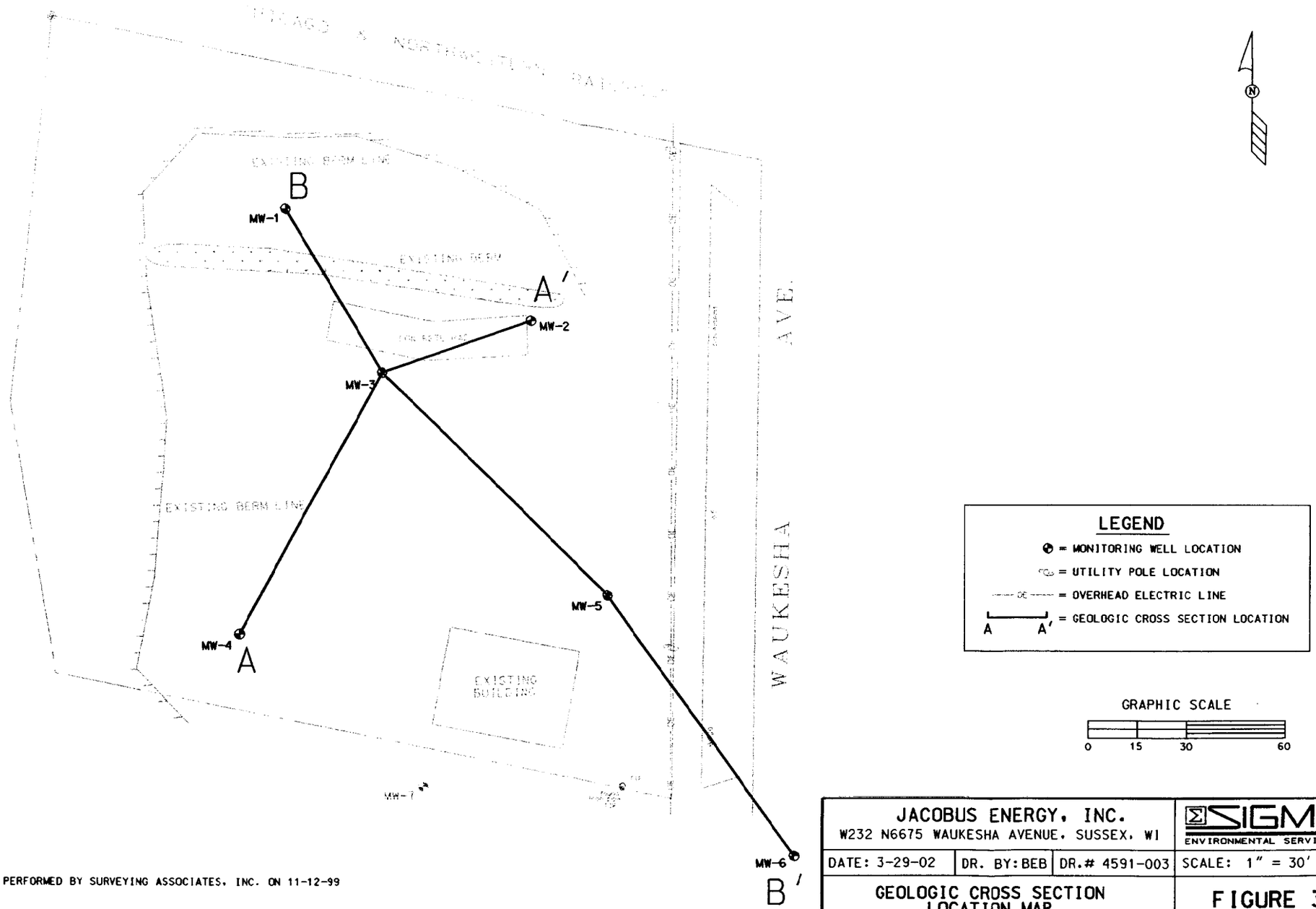
DOLOMITE BEDROCK

LEGEND

= WELL SCREEN INTERVAL

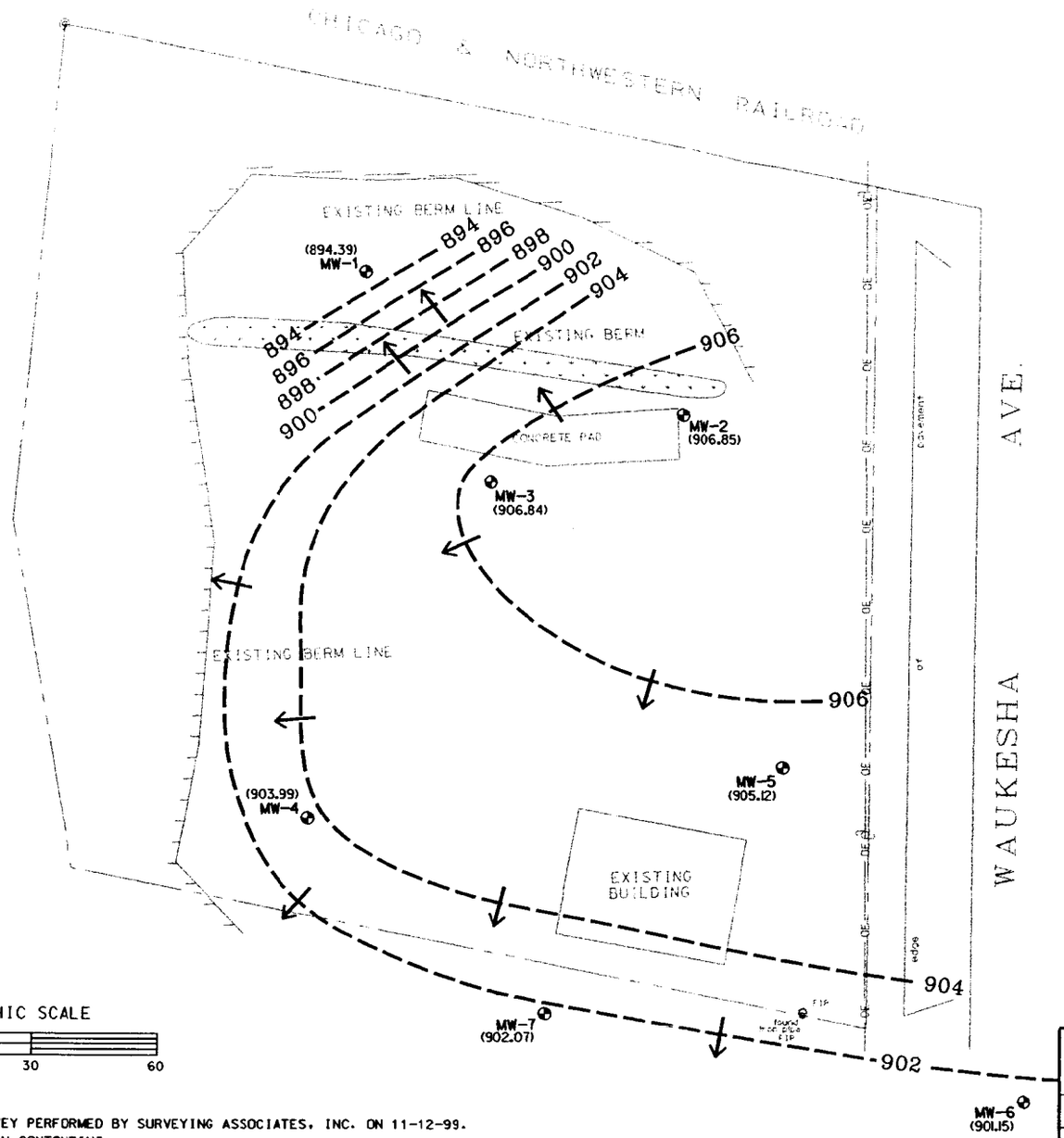
000.00 = STATIC WATER LEVEL (MEASURED 9-10-01)

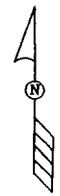
JACOBUS ENERGY, INC. W232 N6675 WAUKESHA AVENUE SUSSEX, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-29-02	DR. BY: BEB	DR.# 4591-012	SCALE: SEE NOTES
GEOLOGIC CROSS SECTIONS A - A' AND B - B'			FIGURE 4



NOTE:
MAP BASED ON A SURVEY PERFORMED BY SURVEYING ASSOCIATES, INC. ON 11-12-99

JACOBUS ENERGY, INC. W232 N6675 WAUKESHA AVENUE, SUSSEX, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-29-02	DR. BY: BEB	DR.# 4591-003	SCALE: 1" = 30'
GEOLOGIC CROSS SECTION LOCATION MAP			FIGURE 3



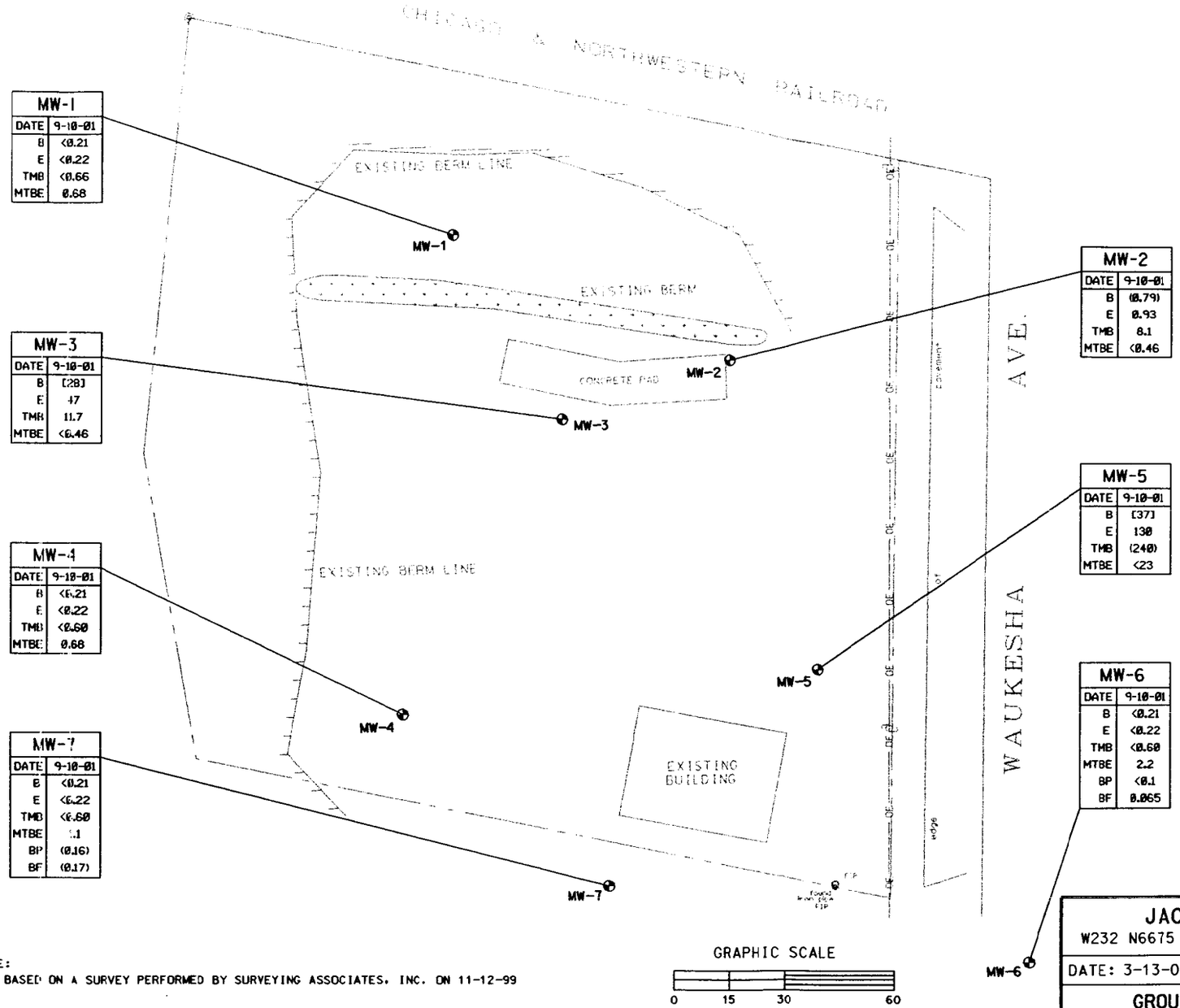


LEGEND

- ⊕ = MONITORING WELL LOCATION
- = UTILITY POLE LOCATION
- —— OE —— = OVERHEAD ELECTRIC LINE
- — — — = GROUNDWATER CONTOUR LINE. CONTOUR INTERVAL = 2.0'
- ( ) = STATIC GROUNDWATER LEVEL (9-10-01)
- ⟶ = GROUNDWATER FLOW DIRECTION

NOTES:
1. MAP BASED ON A SURVEY PERFORMED BY SURVEYING ASSOCIATES, INC. ON 11-12-99.
2. MW-1 NOT INCLUDED IN CONTOURING.

JACOBUS ENERGY, INC. W232 N6675 WAUKESHA AVENUE, SUSSEX, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 3-13-02	DR. BY: BEB	DR.# 4591-009	SCALE: 1" = 30'
GROUNDWATER CONTOUR MAP (9-10-01)			FIGURE 5



MW-1	
DATE	9-10-01
B	<0.21
E	<0.22
TMB	<0.66
MTBE	0.68

MW-2	
DATE	9-10-01
B	(0.79)
E	0.93
TMB	8.1
MTBE	<0.46

MW-3	
DATE	9-10-01
B	[28]
E	47
TMB	11.7
MTBE	<0.46

MW-4	
DATE	9-10-01
B	<0.21
E	<0.22
TMB	<0.60
MTBE	0.68

MW-5	
DATE	9-10-01
B	[37]
E	130
TMB	(240)
MTBE	<23

MW-6	
DATE	9-10-01
B	<0.21
E	<0.22
TMB	<0.60
MTBE	2.2
BP	<0.1
BF	0.065

MW-7	
DATE	9-10-01
B	<0.21
E	<0.22
TMB	<0.60
MTBE	1.1
BP	(0.16)
BF	(0.17)

ANALYTICAL KEY

B = BENZENE
E = ETHYLBENZENE
BP = BENZO (a) PYRENE
BF = BENZO (b) FLUORANTHENE
TMB = TOTAL TRIMETHYLBENZENE
MTBE = METHYL-TERT-BUTYL ETHER
[ ] = EXCEEDS NR 140 ES
( ) = EXCEEDS NR 140 PAL
ALL CONCENTRATIONS EXPRESSED IN MICROGRAMS PER LITER (ug/l)

LEGEND

⊕ = MONITORING WELL LOCATION
= UTILITY POLE LOCATION
OE = OVERHEAD ELECTRIC LINE

NOTE:
MAP BASED ON A SURVEY PERFORMED BY SURVEYING ASSOCIATES, INC. ON 11-12-99

JACOBUS ENERGY, INC.
W232 N6675 WAUKESHA AVENUE, SUSSEX, WI

SIGMA ENVIRONMENTAL SERVICES INC.

DATE: 3-13-02	DR. BY: BEB	DR.# 4591-010	SCALE: 1" = 30'

GROUNDWATER QUALITY MAP (9-10-01)

FIGURE 6

Jacobus Energy, Inc., the responsible party for the property located at W232 N6675 Waukesha Avenue, Sussex, Wisconsin, states that the legal description provided to the Wisconsin Department of Natural Resources (and attached to this statement) for case file reference 02-68-185341 is complete and accurate to the best of our knowledge.

Signature of Representative for Responsible Party: Date:

3-25-02

I:\Jacobus\4591\Legal.wpd