GIS Registry Disclaimer

This case was closed by the DNR prior to August 1, 2002, when DNR began adding approved cleanups with residual soil contamination into the GIS Registry. Certain documents that are currently required by ch. NR 726, Wis. Adm. Code may therefore not be included in this packet as they were unavailable at the time the original case was closed.

The information contained in this document was assembled by DNR from a previously closed case file, and added to the GIS Registry to provide the public with information on closed sites with residual soil and/or groundwater contamination remaining above applicable state standards.

GIS REGISTRY
Cover Sheet

May, 2009
(RR 5367)

Source Property Information

CLOSURE DATE: Aug 1, 2001

BRRTS #: **03-13-001393**

FID #: 113082200

ACTIVITY NAME: MOORES GLENWAY TOWING

DATCP #:

PROPERTY ADDRESS: 3802 MINERAL POINT RD

COMM #: 53705512202

MUNICIPALITY: Madison

PARCEL ID #: 60-0709-213-1815-5

***WTM COORDINATES:**

X: **565682** Y: **287740**

** 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")*

- [x] 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:

- [ ] N/A (*Not Applicable*)
- [ ] Soil: maintain industrial zoning *(220)*

  *(**note:** soil contamination concentrations between non-industrial and industrial levels)*
- [ ] Structural Impediment *(224)*
- [ ] Site Specific Condition *(228)*
- [x] 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:

Are all monitoring wells properly abandoned per NR 141? *(234)*

(●) Yes ( ) No ( ) N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

GIS Registry Checklist

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 #: 03-13-001393 PARCEL ID #: 60-0709-213-1815-5

ACTIVITY NAME: MOORES GLENWAY TOWING WTM COORDINATES: X: 565682 Y: 287740

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

- [x] **Closure Letter**
- [x] **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

- [x] **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 #: **Title:**
- [ ] **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.

- [x] **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 #: 2 **Title: Site Location Map**
- [x] **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 #: **Title:**
- [x] **Soil Contamination Contour Map:** For sites closing with residual soil contamination, <u>this map is to show the location of all contaminated soil and a single contour</u> 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 #: 20 **Title: Soil Boring Maps**

BRRTS #: 03-13-001393 ACTIVITY NAME: MOORES GLENWAY TOWING

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 #: 200.042-1 Title: Structural Cross Section

Figure #: 200.042-3 Title: Structural Cross Section

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

Figure #: Title:

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

Figure #: Title:

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 mg/kg - Waste oil and fuel oil tanks

☒ **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.

Table #: A-2 Title: Summary of the Chemical Analyses results of groundwater samples

☐ **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.

Table #: Title:

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 #: 03-13-001393 ACTIVITY NAME: MOORES GLENWAY TOWING

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.

☐ **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.
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).

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

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TTY 608-275-3231

August 1, 2001

File Ref: 03-13-001393

Mr. Roger Boettcher
Moore Estate
17 Applegate Court
Madison, WI 53713

SUBJECT: Final Closure for Moore's Glenway Towing, 3802 Mineral Point Road, Madison

Dear Mr. Boettcher:

On July 9, 2001 the above-named site was reviewed by the South Central Region's Closure Committee. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in closure of these cases. Based on the correspondence provided, it appears that this site has been remediated to acceptable Department standards.

All conditions for closure have been met. On April 5, 2001, the Department received documentation that you have sealed the existing pavement above the former location of petroleum underground storage tanks in front of the building and installed new pavement above the former location of waste oil and fuel oil underground storage tanks behind the building. This meets the requirement that an impermeable barrier be used as a "performance standard" for contaminated soils at the site. On the same date, documentation was received that you had published a "public notice of remedial action" in the Wisconsin State Journal on November 22, 2000, fulfilling the requirement of ch. NR 714.07 (5) Wis. Adm. Code. The Department also received notification that the monitoring well and the vapor wells at the site had been properly abandoned.

Documents received on June 26, 2001 indicate that a Deed Restriction for contaminated soil at the site has been properly signed and recorded at the Dane County Register of Deeds. On July 31, 2001, the Department received a signed copy of a long-term maintenance plan for the impermeable barrier, fulfilling the final condition for site closure.

Recent groundwater monitoring data at this site indicates exceedances of the NR 140 preventive action limit (PAL) for chloroform at MW-1, but compliance with the NR 140 enforcement standard. The Department may grant an exemption to a PAL for a substance of public health concern, pursuant to s. NR 140.28(2)(b), Wis. Adm. Code, if all of the following criteria are met:

1. The measured or anticipated increase in the concentration of the substance will be minimized to the extent technically and economically feasible.

2. Compliance with the PAL is either not technically or economically feasible.

3. The enforcement standard for the substance will not be attained or exceeded at the point of standards application.

4. Any existing or projected increase in the concentration of the substance above the background concentration does not present a threat to public health or welfare.

Based on the information you have provided, the Department believes that the above criteria have been or will be met because of the presence of the impermeable barrier, which will reduce or prevent the infiltration of water through the remaining contaminated soils. Therefore, pursuant to s. NR 140.28(2)(b), Wis. Adm. Code, an exemption to the PAL is granted for chloroform at former MW-1. This letter serves as your exemption.

Please be aware that this case may be reopened pursuant to s. NR726.09, Wis. Adm. Code, if additional information regarding site conditions indicate that contamination on or from the site poses a threat to public health, safety or welfare of the environment.

The Department appreciates your efforts to protect and restore the environment at this site. If you have any questions regarding this determination, please contact me at the phone number listed below.

Sincerely,

Randy Maass

Randy Maass
Hydrogeologist
Remediation and Redevelopment
(608) 275-3224

cc: Craig Bower, Soils and Engineering Services, 1102 Stewart Street, Madison, WI 53713-4648
Wendy Weihemuller, DNR
Steve Karklins, DNR, DG/2

REMEDIAL ACTION PLAN
MOORE'S GLENWAY TOWING
3802 MINERAL POINT ROAD
MADISON, WI 53705

WDNR FILE REF # 03-13-001393

SUMMARY OF PLAN

A pavement barrier exists on the above site in accordance with Wisconsin Department of Natural Resources (WDNR) requirements. In order to assure the integrity of the barrier in the future, the undersigned owner shall conduct a regular (at least annual) inspection and maintenance program of the property in accordance with the following guidelines:

1. The owner or her designated agent shall conduct an inspection of the pavement barrier between April 1 and May 1 of each year commencing in 2002. A written report of the condition (hereinafter "Condition Report") shall be made describing;

   (a) The date and time of the inspection.

   (b) The condition of the pavement at the time of the inspection and recommendation for any remedial action required, i.e. in the event there exist pavement cracks in excess of 1/8" such cracks shall be sealed.

2. In the event remedial action is required the Condition Report shall include a record of all maintenance performed or upgrade actions taken shall be documented in writing.

3. The Condition Report shall be kept on-site and shall be available for review by WDNR.

4. The Condition Report and any related documentation shall be transferred to any subsequent purchaser of the Property from this Owner.

Dated this ____ day of July, 2001.

_____
Shirley Moore, Owner

THIS REPORT MUST BE KEPT ON SITE AND AVAILABLE FOR REVIEW BY INTERESTED PARTIES

RECORD OF INSPECTION
REMEDIAL ACTION PLAN – 3802 MINERAL POINT RD., MADISON, WI

DATE & TIME OF ANNUAL INSPECTION (Must be between 4/1/ and 5/1 of each year)	NAME OF INSPECTOR	REPORT OF CONDITION AND RECOMMENDATION	CORRECTIVE ACTION TAKEN
(Date)_____, 2002 Time:_____A.M./P.M.			
_____, 2003 Time:_____A.M./P.M.			
_____, 2004 Time:_____A.M./P.M.			
_____, 2005 Time:_____A.M./P.M.			
_____, 2006 Time:_____A.M./P.M.			

Document Number | DEED RESTRICTION

DANE COUNTY
REGISTER OF DEEDS

3337468

06-21-2001 4:24 PM

Trans. Fee

Rec. Fee 18.00
Pages 5

002566

Recording Area

Name and Return Address

Attorney Roger W. Boettcher
17 Applegate Court, Suite 11
Madison, WI 53713

60-0709-213-1815-5

Parcel Identification Number (PIN)

Declaration of Restrictions

In Re: The property described as "Parcel A" in Exhibit A which is attached and made a part of this restriction.

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

WHEREAS, Shirley N. Moore is the owner of the above described property.

WHEREAS, one or more petroleum discharges have occurred on this property. Petroleum-contaminated soil above chapter NR 720 or NR 746 generic residual contaminant levels existed on this property at the following location(s) on the following date(s): Benzene at a concentration of 2.0 milligrams per kilogram (mg/kg) collected from soil boring B-4 at a depth of 2 feet on April 29, 1992. Benzene at a concentration of 1.5 mg/kg collected from soil boring B-6 at a depth of 4.5 feet on April 30, 1992. DRO at a concentration of 140 mg/kg and PCB-1254 at a concentration of 100 micrograms per kilogram collected at a depth of 7 feet 3 inches beneath the waste oil tank on November 27, 1996. DRO at a concentration of 19,000 mg/kg and naphthalene at a concentration of 26 mg/kg collected at a depth of 8 feet beneath the fuel oil tank on November 27, 1996. The locations of the soil borings, waste oil tank and fuel oil tank are provided on Exhibit B, which is attached and made a part of this restriction.

WHEREAS, it is the desire and intention of the property owner to impose on the property restrictions which will make it unnecessary to conduct further soil remediation activities on the property at the present time.

NOW THEREFORE, the owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitation and restrictions:

The following activities are prohibited on that portion of the property described above where a cap or cover has been placed as shown on Exhibit C, which is attached and made a part herein, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources or its successor or assign: (1) Excavating or grading of the land surface; (2) Filling on the capped area; (3) Plowing for agricultural cultivation; and (4) Construction or installation of a building or other structure with a foundation that would sit on or be placed within the cap or cover. In addition, the cap or cover shall be

5/18

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maintained in compliance with a plan prepared and submitted to the Wisconsin Department of Natural Resources by a responsible party, as required by section NR 724.13(2), Wis. Adm. Code (1997).

This restriction is hereby declared to be a covenant running with the land and shall be fully binding upon all persons acquiring the above-described property whether by descent, devise, purchase or otherwise. This restriction inures to the benefit of and is enforceable by the Wisconsin Department of Natural Resources, its successors or assigns. The Department, its successors or assigns, may initiate proceedings at law or in equity against any person or persons who violate or are proposing to violate this covenant, to prevent the proposed violation or to recover damages for such violation.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or its successor issue a determination that one or more of the restrictions set forth in this covenant is no longer required. Upon the receipt of such a request, the Wisconsin Department of Natural Resources shall determine whether or not the restrictions contained herein can be extinguished. If the Department determines that the restrictions can be extinguished, an affidavit, attached to a copy of the Department's written determination, may be recorded by the property owner or other interested party to give notice that this deed restriction, or portions of this deed restriction, are no longer binding.

IN WITNESS WHEREOF, the owner of the property has executed this Declaration of Restrictions, this 18th day of June, 2001.

Signature: Shirley Moore
Printed Name: Shirley Moore

Subscribed and sworn to before me
this 18th day of June, 2001. * SIGNATURE AUTHENTICATED

Notary Public, State of Wis
My commission is perm.

This document was drafted by the Wisconsin Department of Natural Resources based on information provided by Soils and Engineering Services, Madison.

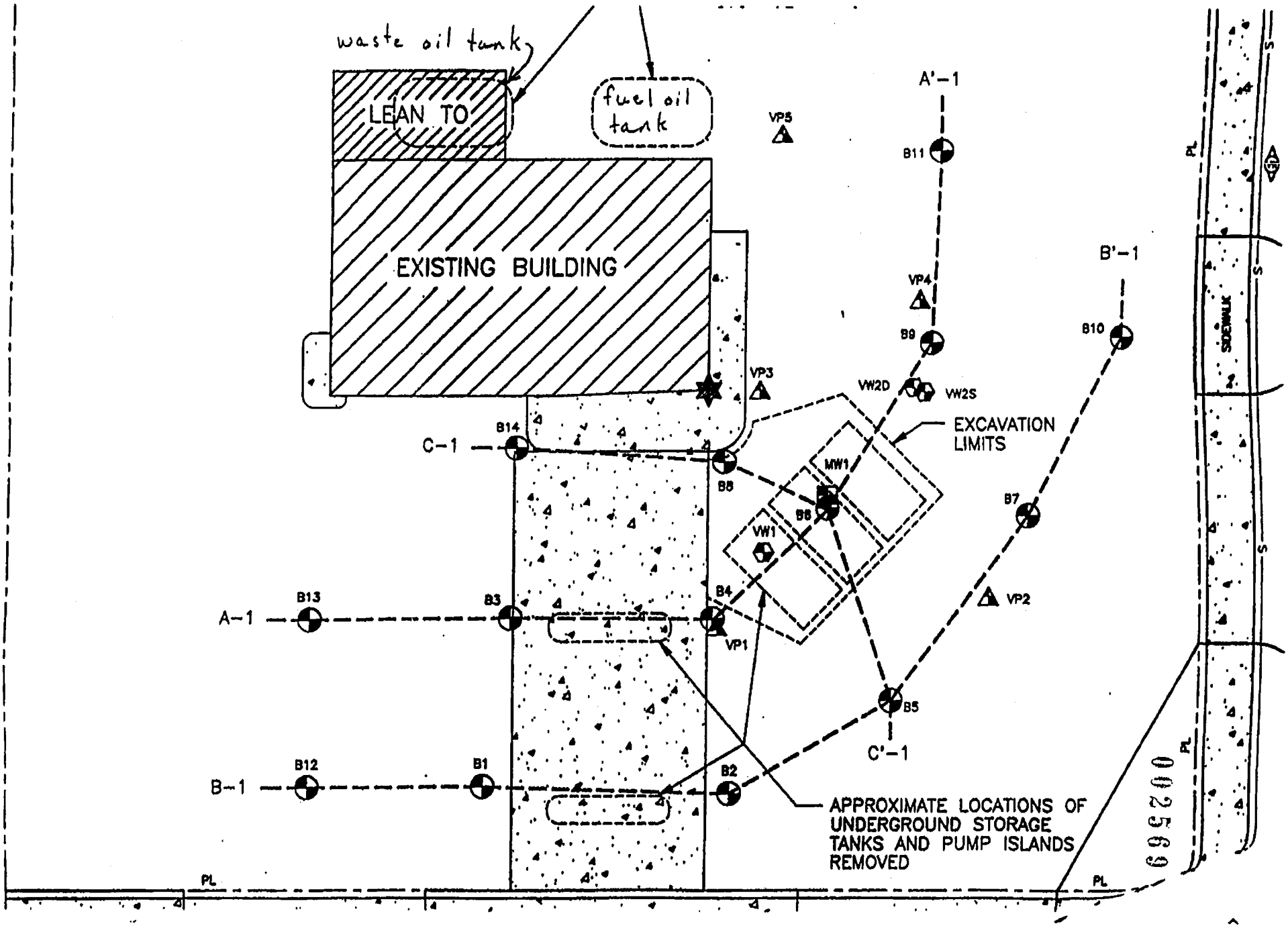
002568

EXHIBIT "A"

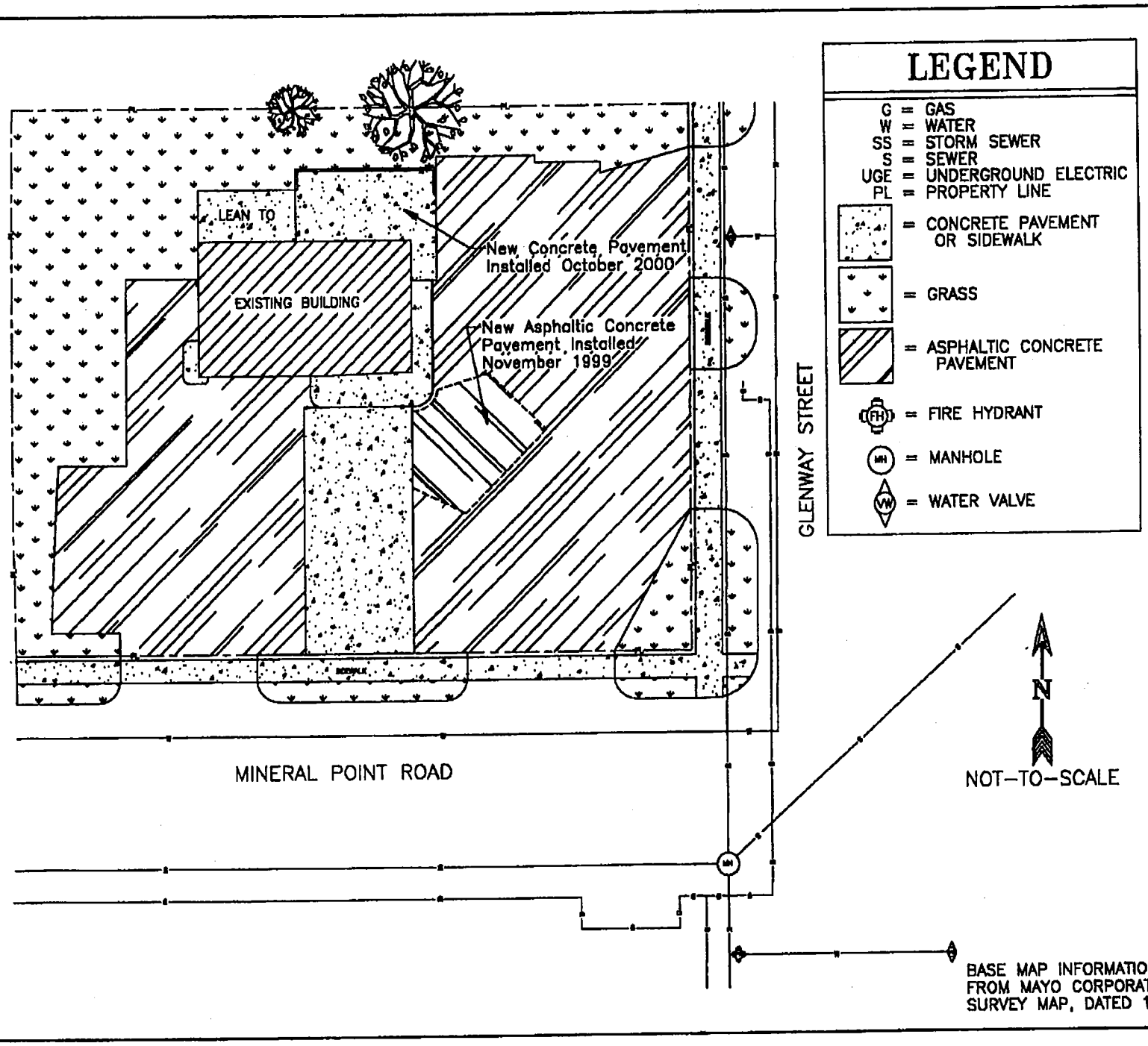
PARCEL A Parcel No. 60-0709-213-1815-5

Lots Four (4) and Five (5), Morland Terrace in the City of Madison, Dane County, Wisconsin, according to the recorded plat thereof. EXCEPT that portion conveyed to the City of Madison by deed dated the 6th day of September 1968, more particularly described as follows: Beginning at the Southeast corner of Lot Five (5), Morland Terrace; thence South 89° 50′ West, 110.0 feet along the South line of said Lots Four (4) and Five (5) to a point of curve; thence Northeasterly on a curve to the left, convex to the Southeast having a radius of 299.12 feet and a long chord that bears North 80° 04′ East, 101.49 feet to a point of compound curve; thence on a curve to the left convex to the Southeast having a radius of 15.0 feet and a long chord that bears North 35° 04′ East, 17.31 feet to a point on the West line of Glenway Street (formerly Parker Drive); thence South 0° 10′ East, 32.35 feet along the last mentioned West line to the point of beginning.

Exhibit B



0025369



DRAWING DESCRIPTION: CLOSURE SITE PLAN

PROJECT NAME: MOORE'S UNION "76" STATION
3802 MINERAL POINT ROAD
MADISON, WISCONSIN

DRAWING NUMBER: SITE-2

PROJECT NUMBER: 200.042

DRAWN BY/DATE: CMB 04/11/2001

CHECKED BY/DATE: OTG 04/11/2001

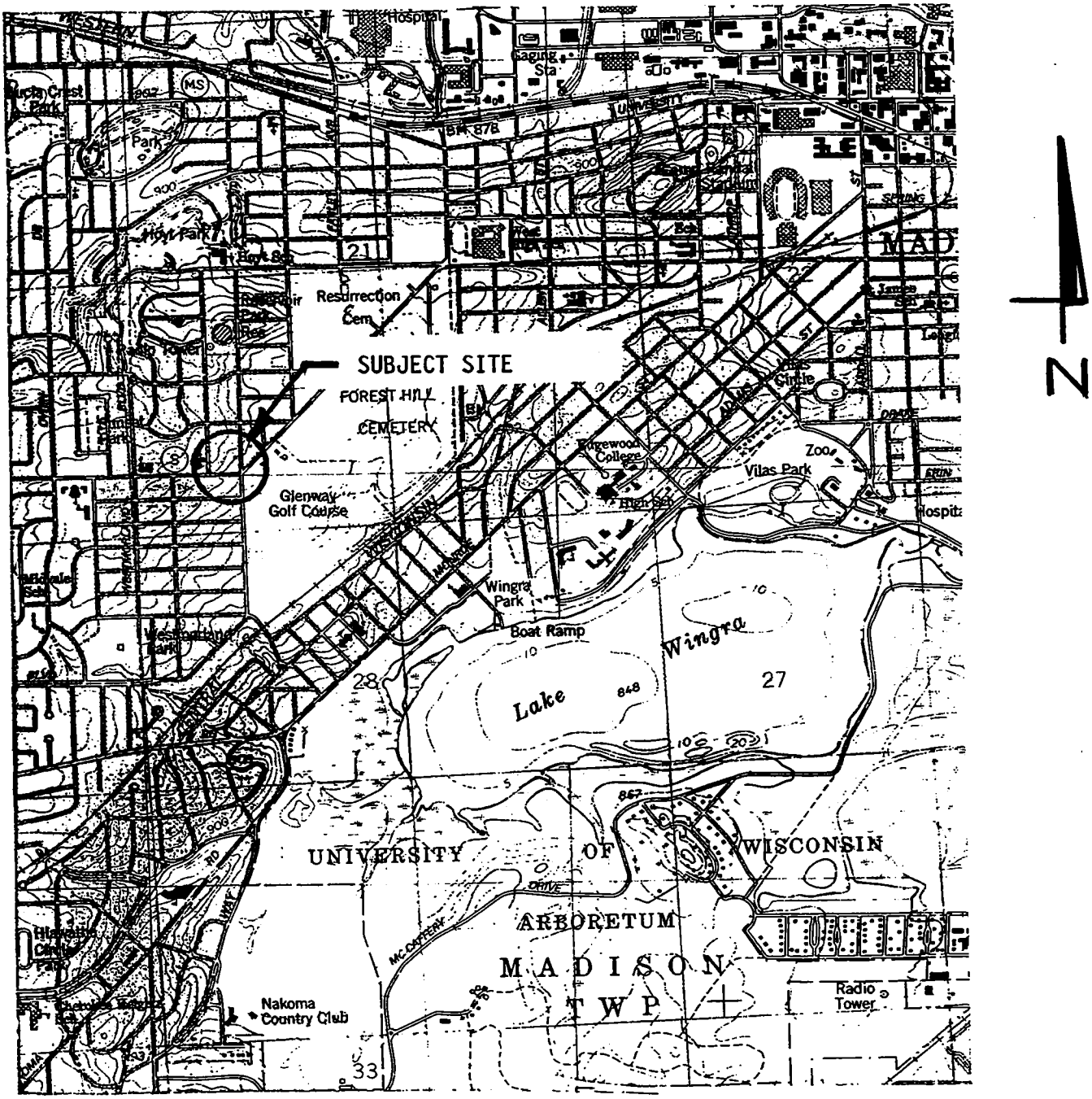
EXHIBIT C

C:\CAD\MOORES\CLOSURE.DWG

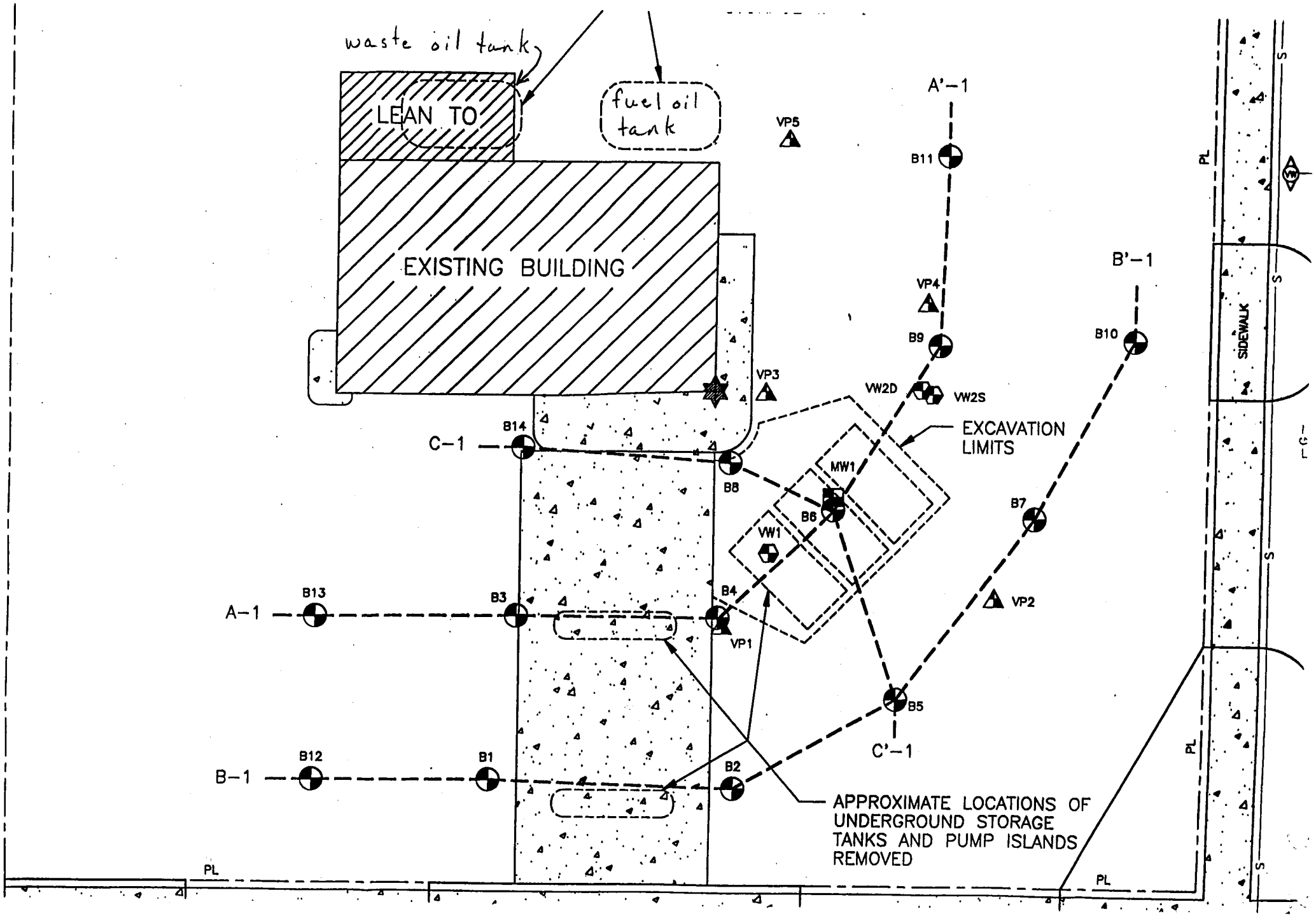
FIGURE 2

SITE LOCATION MAP

Photocopy of a Portion of a 1983 Madison East 7.5 Minute Topographic Quadrangle Map



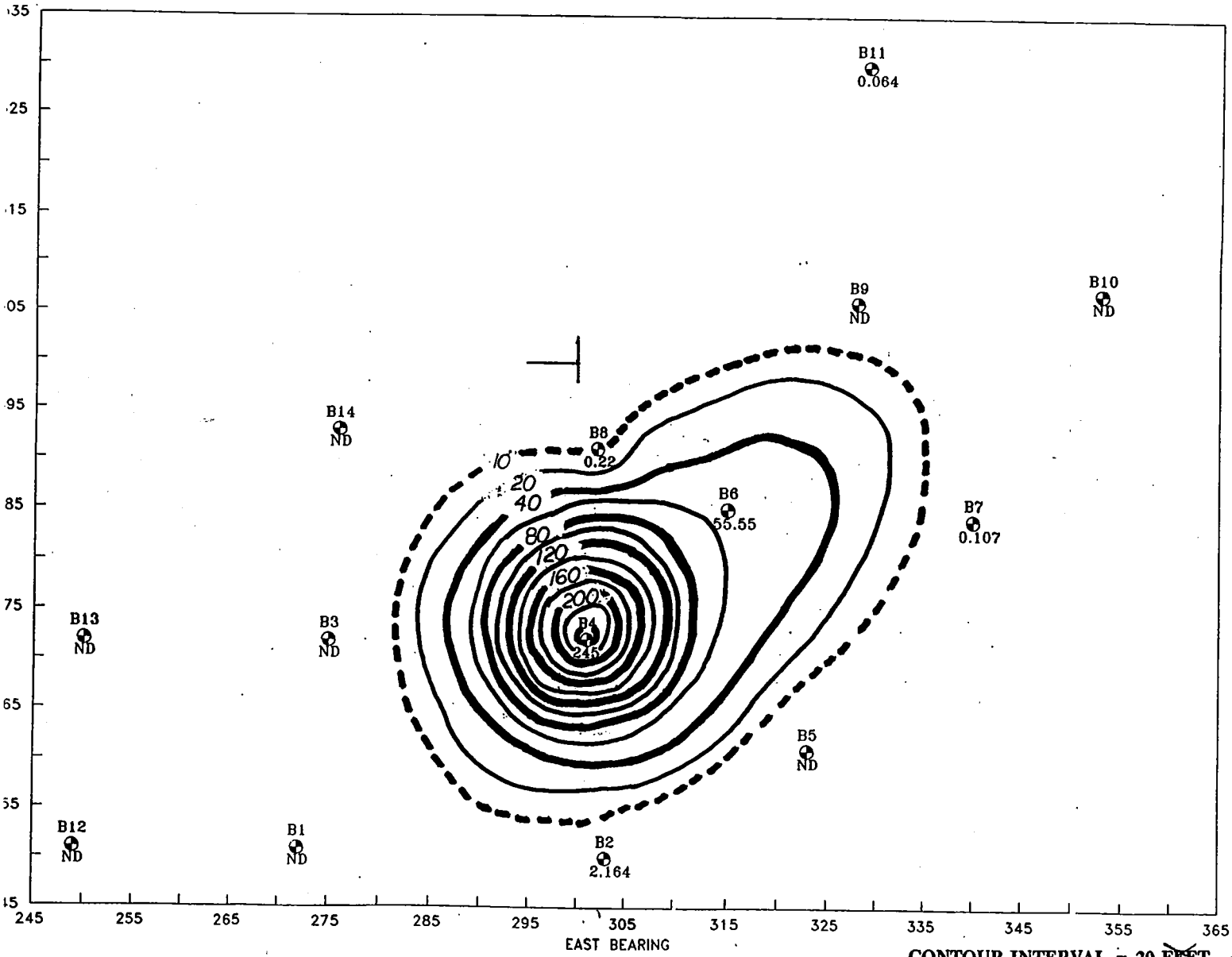
SCALE: 1" = 2000'


waste oil tank
fuel oil tank
LEAN TO
EXISTING BUILDING
VP5
A'-1
B11
VP4
B9
VW2D
VW2S
VP3
B'-1
B10
SIDEWALK
EXCAVATION LIMITS
C-1
B14
B8
MW1
B6
VW1
B7
VP2
A-1
B13
B3
B4
VP1
B5
C'-1
B-1
B12
B1
B2
APPROXIMATE LOCATIONS OF UNDERGROUND STORAGE TANKS AND PUMP ISLANDS REMOVED
PL
S

Soil

CONCENTRATION MAPS
EN ELEVATIONS 989.5 AND 990.9

Petroleum Volatile Organic Compounds (PVOC)



CONTOUR INTERVAL = 20 ~~FEET~~ ppb

SCAL

ND = Compound

NT = No sample

B9 = Boring 9

This concentration map is an ir
results from the soil samples ob
concentrations may change if n
and extent of the concentration
reevaluation of our interpretati

MOORE'S UN
3802 MINER
MADISON, W

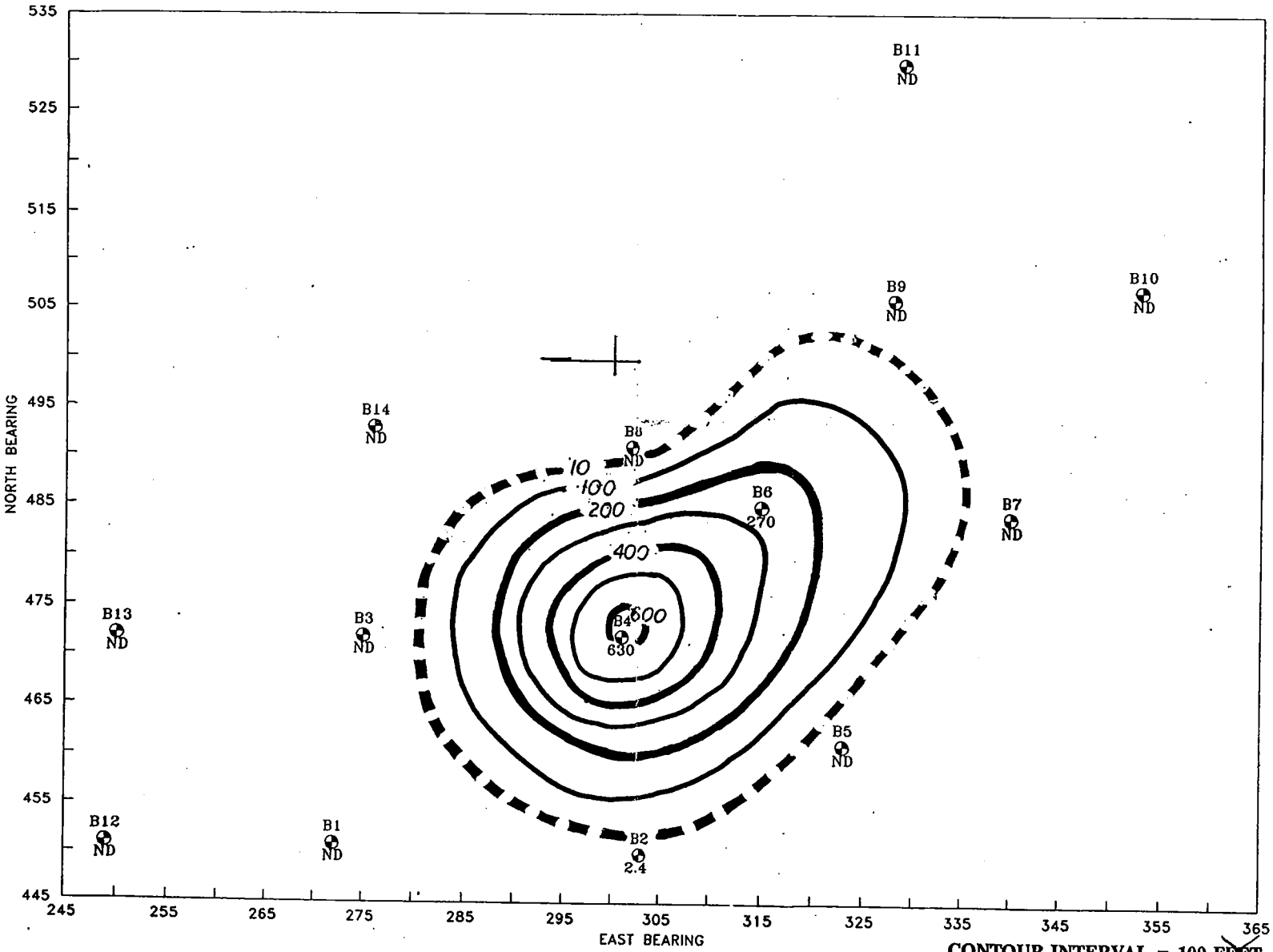
DRAWING 20

Interpretation by:	CN
Check by:	

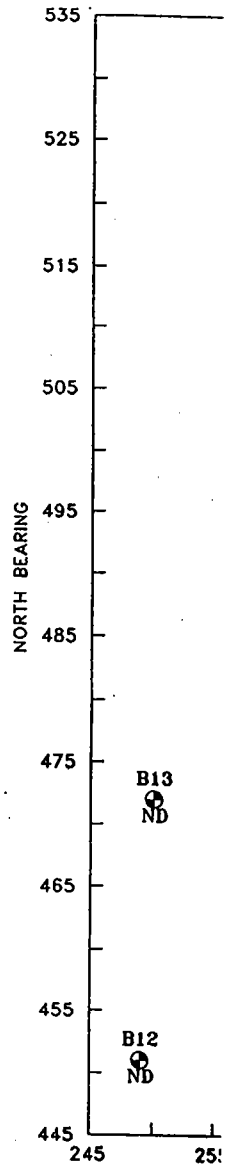
Soil

PVOC AND GRO PSO
FOR SAMPLES BETWEEN E

Gasoline Range Organics (GRO)



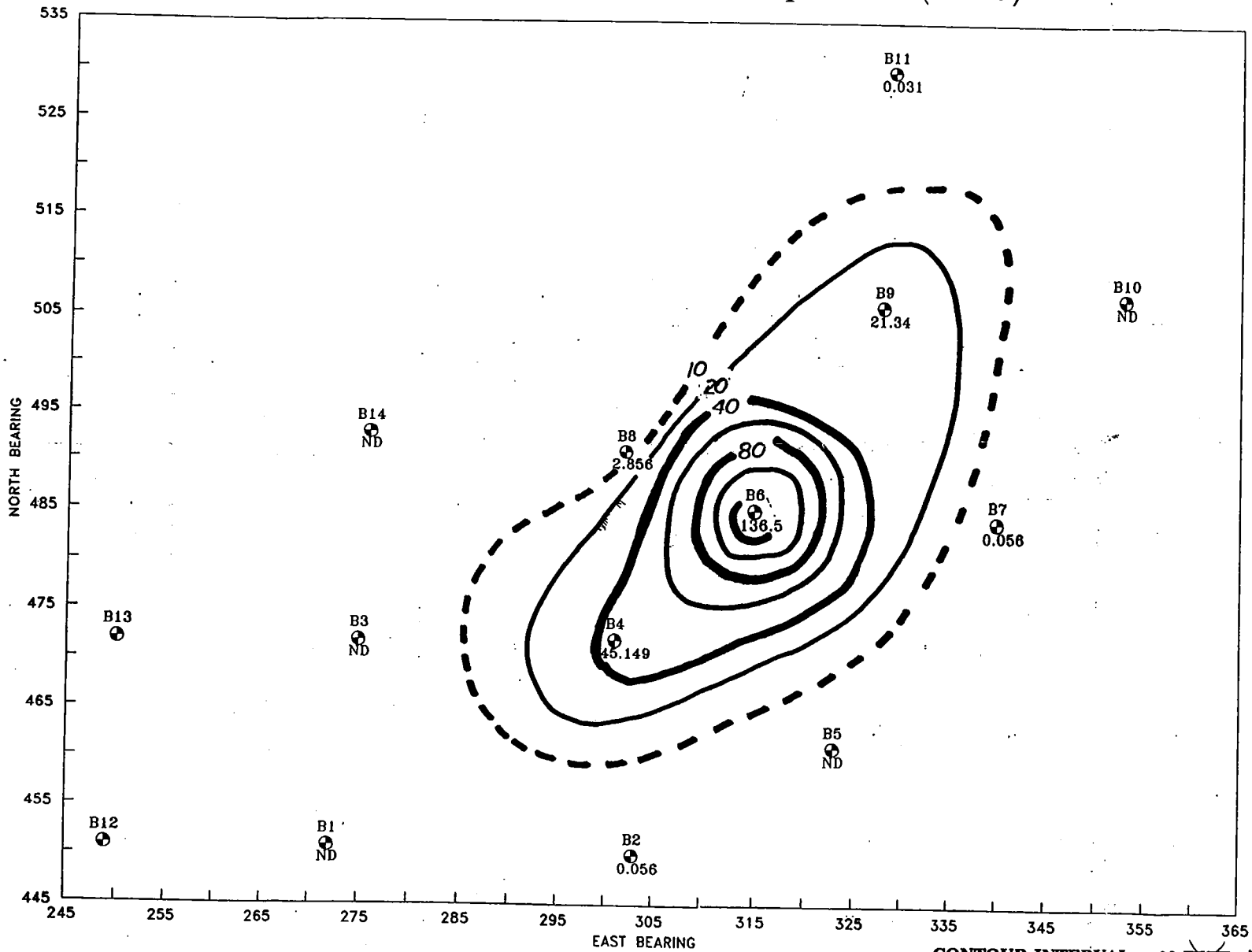
CONTOUR INTERVAL = 100 ~~FEET~~ ppb



Soil

'WEEN ELEVATIONS 978.5 AND 986.7

Petroleum Volatile Organic Compounds (PVOC)



CONTOUR INTERVAL = 20 ~~FEET~~ ppb

ND = C

NT = N

B9 = B

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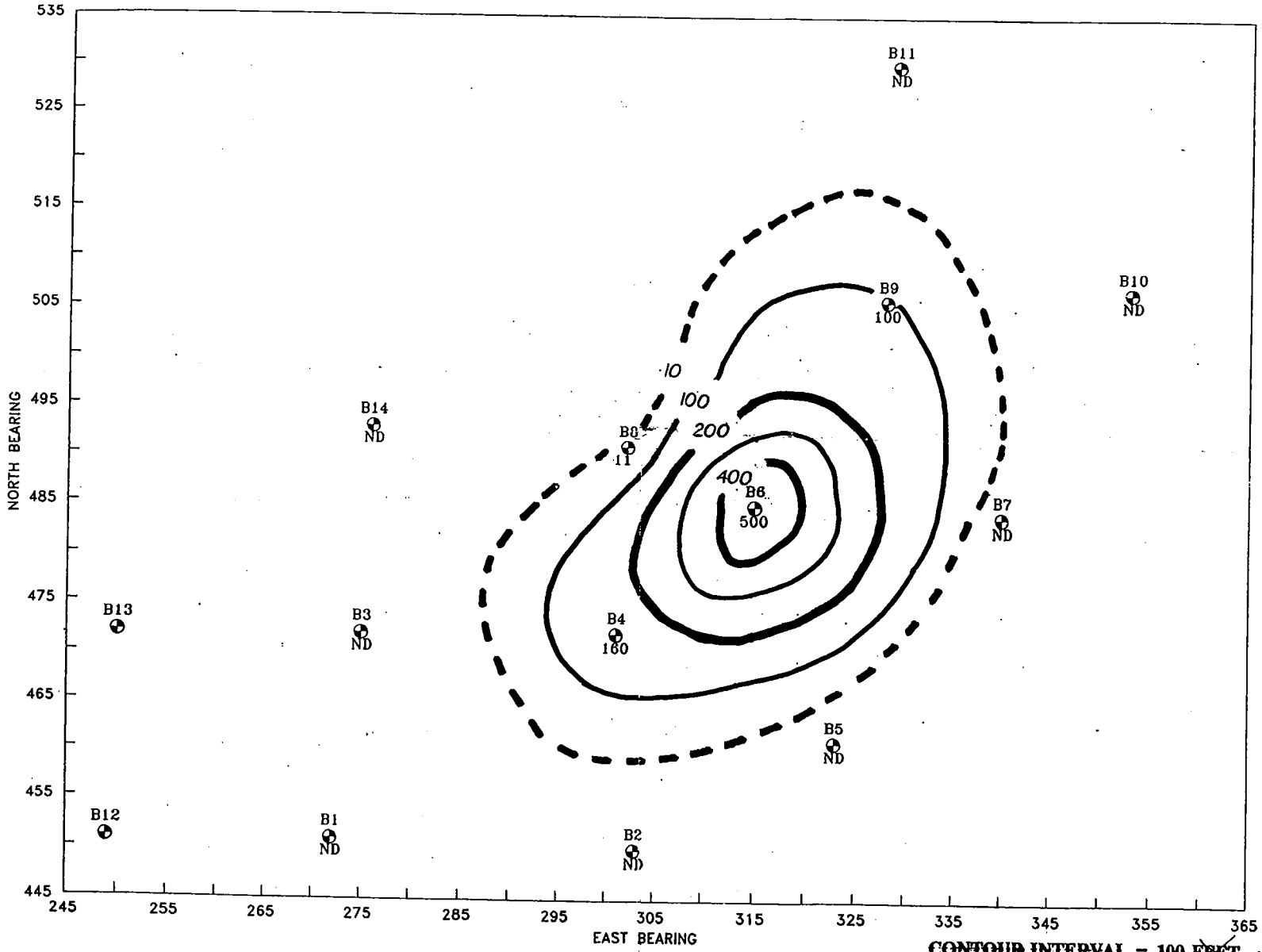
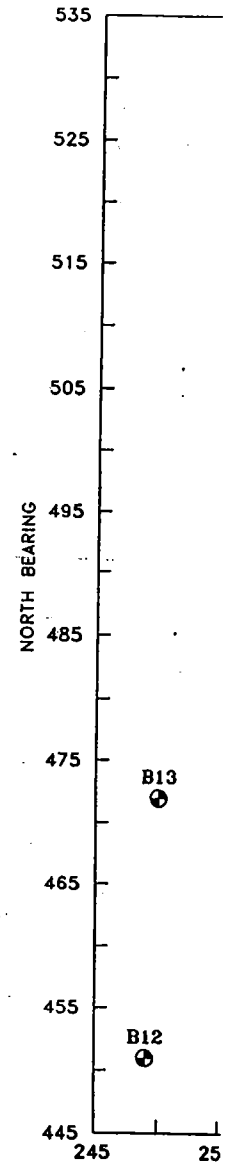
Soil

FOR SAMPLES BETWEEN E

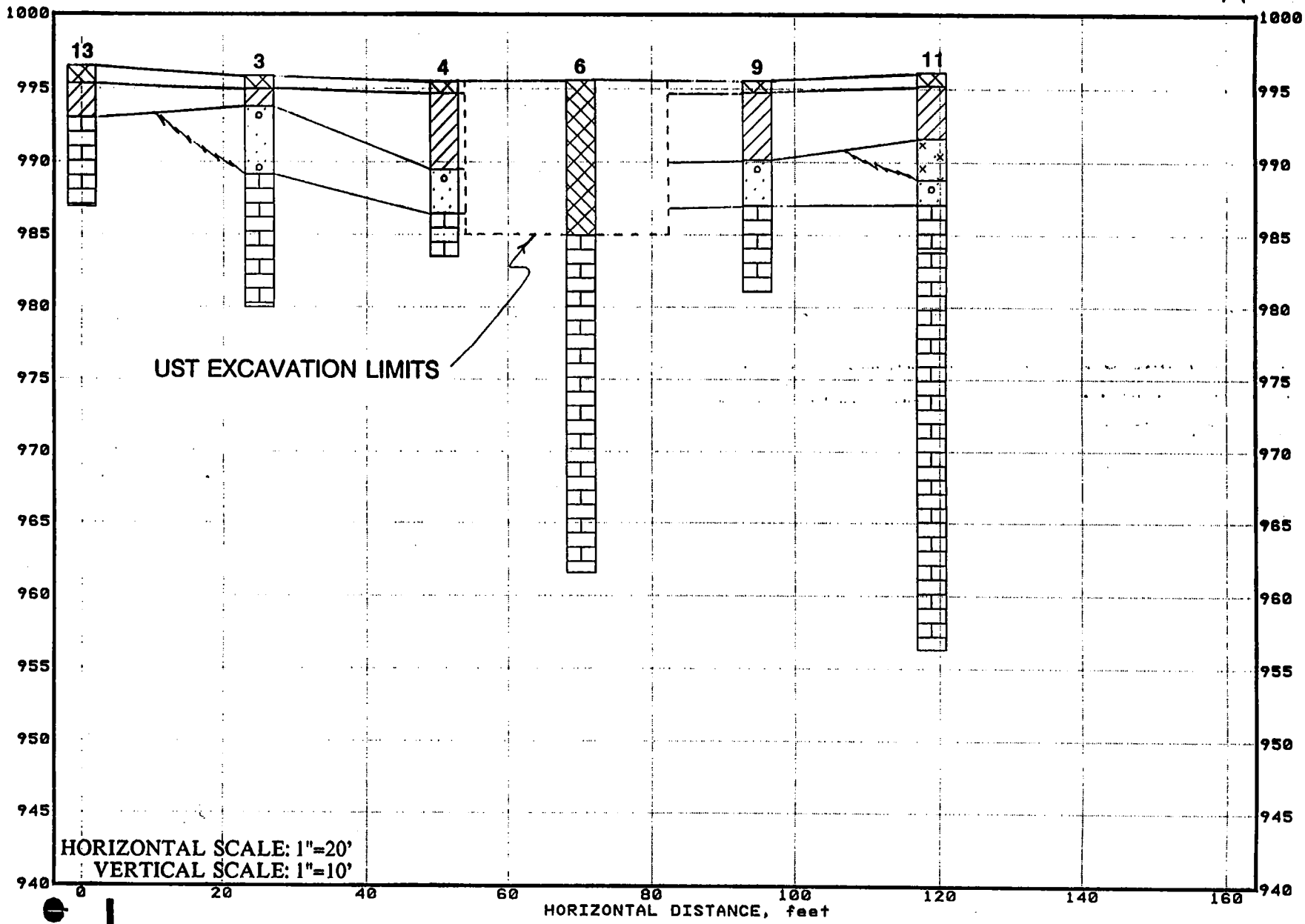
Gasoline Range Organics (GRO)



CONTOUR INTERVAL = 100 FEET ppb



STRUCTURAL CROSS SECTION



This structural cross section is a geologic interpretation of the subsurface stratification using interpolated data obtained from the borings. Extrapolation of soil conditions may change if new data reveals variations in the nature and extent of the geologic units. Such changes may necessitate reevaluation of our interpretation.

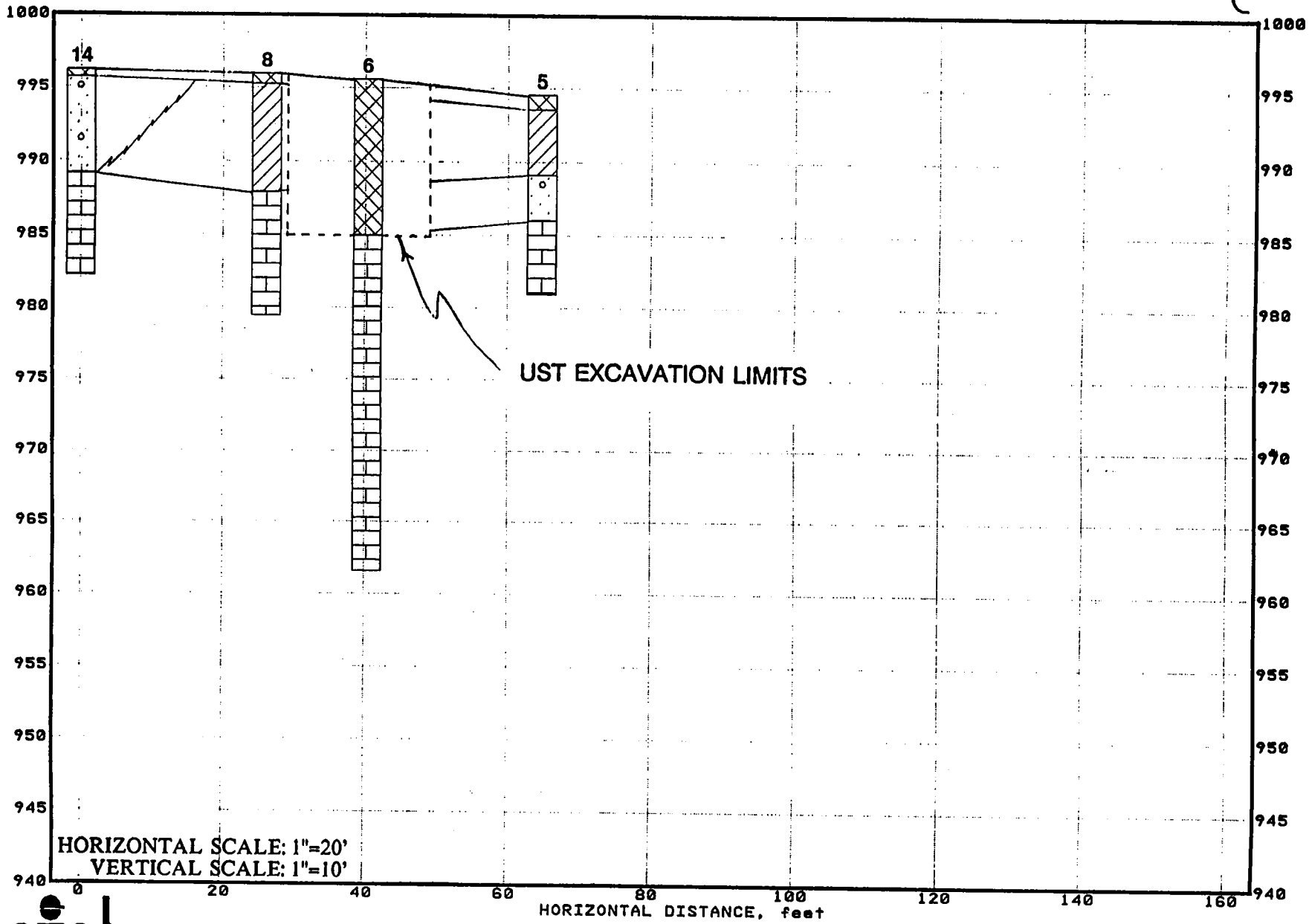
Interpretation by	DAK 3-11-93
Checked by	CWB 3-15-93

SOILS & ENGINEERING SERVICES, INC.
CONSULTING CIVIL ENGINEERS SINCE 1966

Moore's Union "76" Station
3802 Mineral Point Road
Madison, Wisconsin

Drawing 200.042-1

STRUCTURAL CROSS SECTION



This structural cross section is a geologic interpretation of the subsurface stratification using interpolated data obtained from the borings. Extrapolation of soil conditions may change if new data reveals variations in the nature and extent of the geologic units. Such changes may necessitate reevaluation of our interpretation.

Interpretation by	DAK 3-11-93
Checked by	CMB 3-15-93

SOILS & ENGINEERING SERVICES, INC.
CONSULTING CIVIL ENGINEERS SINCE 1966

Moore's Union "76" Station
3802 Mineral Point Road
Madison, Wisconsin

Drawing 200.042-3

Soil µg/kg - Waste oil and fuel oil tanks

TABLE 1

CHEMICAL COMPOUND	SES SAMPLE IDENTIFICATION AND DEPTH	
	Waste oil tank/7'-3" deep	Fuel oil tank/8'-0" deep
Sample Acquisition Date	11/27/96	11/27/96
Laboratory Received Date	11/27/96	11/27/96
Diesel Range Organics (DRO) Analyses. Results in milligrams per kilogram (mg/kg).		
Analysis Date	12/12/96	12/12/96
DRO	140	19,000
Volatile Organic Compounds (VOC) or Petroleum Volatile Organic Compounds (PVOC)Analyses. Results in micrograms per kilogram (µg/kg).		
Analysis Date	12/11/96	12/18/96
1,2-Dichlorobenzene	77	NI
1,4-Dichlorobenzene	56	NI
Ethylbenzene	nd	82
Toluene	nd	180
1,2,4-Trimethylbenzene	120	4,600
1,3,5-Trimethylbenzene	nd	8,200
Xylenes (total)	120	6,300
Polychlorinated Biphenyls (PCB) Analyses. Results in µg/kg.		
Analysis Date	12/12/96	
PCB-1254	100	NT
Total Cadmium (Cd) Analysis. Results in mg/kg.		
Analysis Date	12/10/96	
Total Cd	0.584	NT
Total Lead (Pb) Analysis. Results in mg/kg.		
Analysis Date	12/10/96	
Total Pb	71	NT

NI = Compound not included in PVOC analysis.
NT = Sample not tested for this compound.
nd = Analyzed for but not detected above the analysis detection limit. Refer to the Analytical Reports for the detection limits.

TABLE 1 (cont.)

CHEMICAL COMPOUND	SES SAMPLE IDENTIFICATION AND DEPTH	
	Waste oil tank/7'-3" deep	Fuel oil tank/8'-0" deep
Polynuclear Aromatic Hydrocarbons (PAH) Analyses. Results in $\mu g/kg$.		
Analysis Date	12/12/96	12/12/96
Anthracene	nd	940
Benzo (a) anthracene	nd	3,100
Benzo (a) pyrene	17	nd
Benzo (ghi) perylene	49	nd
Chrysene	9.7	3,400
Fluoranthene	28	13,000
Fluorene	nd	7,400
Indeno (1,2,3-cd) pyrene	26	nd
Naphthalene	nd	26,000
Phenanthrene	nd	20,000
Pyrene	19	9,800

NI = Compound not included in PVOC analysis.
NT = Sample not tested for this compound.
nd = Analyzed for but not detected above the analysis detection limit. Refer to the Analytical Reports for the detection limits.

Soil mg/kg

Table A1: Summary of the chemical analyses results of soil samples.

	Excavation Samples				Contaminated Soil Extent Samples									
Sample Identification Number	S-2.0-HP1-1	S-12.0-HP3-2	S-17.0-HP4-3	S-15.0-HP5-4	S-2.0-B4-5	S-9.5-B4-6	S-2.0-B3-7	S-9.5-B3-8	S-4.5-B1-9	S-12.0-B1-10	S-4.5-B2-12	S-14.5-B2-13		DCS
Sample Date	04/10/91	04/10/91	04/10/91	04/10/91	04/29/92	04/29/92	04/29/92	04/29/92	04/29/92	04/29/92	04/30/92	04/30/92		
Total Metals analysis. Results in mg/kg.														
Analysis Date					05/08/92	05/08/92	05/08/92	05/08/92	05/08/92	05/08/92	05/17/92	05/17/92		—
Pb	■	■	■	■	**12.3**	**0.849**	**10.6**	<0.506	**1.00**	**0.690**	**11.2**		**3.49**	—
PVOC analysis. Results in mg/kg.														
Analysis Date	NR	NR	NR	NR	05/09/92	05/09/92	05/09/92	05/09/92	05/09/92	05/09/92	05/09/92	05/09 & 10/92		—
1,2,4-TMB	▲	▲	▲	▲	**85**	**21**	<0.013	<0.011	<0.011	<0.011	**0.050**	<0.012	× **0.52**	—
1-2-DCA	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	× ▲	0.54
1,3,5-TMB	▲	▲	▲	▲	**25**	**6.0**	<0.013	<0.011	<0.011	<0.011	**0.20**	<0.012	× **0.17**	—
Benzene	<0.025	**0.545**	**1.02**	**0.15**	~~**2.0**~~	**0.049**	<0.013	<0.011	<0.011	<0.011	**0.054**	<0.012	× **0.035**	1.10
Ethylbenzene	**1.41**	**2.26**	**1.92**	**0.792**	**17**	**2.1**	<0.013	<0.011	<0.011	<0.011	**0.14**	<0.012	× **0.045**	400.
MTBE	<0.005	<0.001	<0.001	<0.001	<0.26	<0.012	<0.013	<0.011	<0.011	<0.011	<0.012	<0.012	× <0.012	—
m- & p-Xylene	**18.5**	**4.48**	**3.02**	**2.6**	**66**	**9.4**	<0.013	<0.011	<0.011	<0.011	**0.80**	**0.028**	× **0.066**	470.
o-Xylene	**25.7**	**3.65**	**3.21**	**2.35**	**33**	**6.1**	<0.013	<0.011	<0.011	<0.011	**0.28**	<0.012	× <0.012	
Toluene	**0.490**	**3.66**	**0.917**	**1.34**	**17**	**0.50**	<0.013	<0.011	<0.011	<0.011	**0.64**	**0.028**	× **0.029**	670.
TPH, DRO, and GRO analyses. Results in mg/kg.														
Analysis Date	NR	NR	NR	NR										—
TPH as diesel fuel	**3,460**	**665**	**3,370**	**352**	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
TPH as gasoline	**1,350**	**258**	**1,320**	**137**	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
DRO	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	—
GRO	◆	◆	◆	◆	**630**	**160**	<1.3	<1.1	<1.1	<1.1	**2.4**	<1.2	× **5.3**	—

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Soil mg/kg

Table A1: Summary of the chemical analyses results of soil samples.
(continued)

										Contaminated Soil Extent Samples				
Sample Identification Number	S-4.5-B5-14	S-9.5-B5-15	S-4.5-B7-16	S-12.0-B7-17	S-4.5-B6-18		S-14.5-B6-19	S-4.5-B8-20	S-14.5-B8-21	S-4.5-B9-22	S-14.5-B9-23	S-4.5-B10-24	S-12.0-B10-25	
Sample Date	04/30/92	04/30/92	04/30/92	04/30/92	04/30/92		04/30/92	04/30/92	04/30/92	05/01/92	05/01/92	05/01/92	05/01/92	DCS
Total Metals analysis. Results in mg/kg.														
Analysis Date	05/17/92	05/17/92	05/17/92	05/17/92	05/17/92		05/17/92	05/17/92	05/17/92	05/08/92	05/08/92	05/08/92	05/08/92	—
Pb	5.56	0.929	2.74	<0.483	13.6		1.61	6.86	1.05	4.17	3.32	1.46	<0.515	—
PVOC analysis. Results in mg/kg.														
Analysis Date	05/09/92	05/09/92	05/09/92	05/09/92	05/11/92		05/10/92	05/10/92	05/10/92	05/09/92	05/10/92	05/09/92	05/09/92	—
1,2,4-TMB	<0.012	<0.011	0.029	<0.011	31	×39	49	0.053	1.7	<0.012	9.410	<0.011	<0.011	—
1-2-DCA	▲	▲	▲	▲	▲	×▲	▲	▲	▲	▲	▲	▲	▲	0.54
1,3,5-TMB	<0.012	<0.011	<0.012	<0.011	10	×14	14	<0.013	0.47	<0.012	3.0	<0.011	<0.011	—
Benzene	<0.012	<0.011	<0.012	<0.011	<0.11	~~×1.5~~	<0.22	<0.013	<0.011	<0.012	<0.012	<0.011	<0.011	1.10
Ethylbenzene	<0.012	<0.011	<0.012	<0.011	1.2	×4.4	8.0	<0.013	0.10	<0.012	1.6	<0.011	<0.011	400.
MTBE	<0.012	<0.011	<0.012	<0.011	<0.11	×<0.11	<0.22	<0.013	<0.011	<0.012	<0.012	<0.011	<0.011	—
m- & p-Xylene	<0.012	<0.011	0.055	0.03	8.5	×29	39	0.094	0.23	<0.012	4.8	<0.011	<0.011	470.
o-Xylene	<0.012	<0.011	<0.012	<0.011	4.3	×11	19	0.038	0.19	<0.012	1.8	<0.011	<0.011	
Toluene	<0.012	<0.011	0.230	0.026	<0.55	×6.7	7.5	0.035	0.076	<0.012	0.74	<0.011	<0.011	670.
TPH, DRO, and GRO analyses. Results in mg/kg.														
Analysis Date	05/09/92	05/09/92	05/09/92	05/09/92	05/11/92		05/10/92	05/10/92	05/10/92	05/09/92	05/10/92	05/09/92	05/09/92	—
TPH as diesel fuel	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
TPH as gasoline	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	—
DRO	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	—
GRO	<1.2	<1.1	<1.2	<1.1	270	×385	500	<1.3	11	<1.2	100	<1.1	<1.1	—

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Soil mg/kg

Summary of the chemical analyses results of soil samples.

	Contaminated Soil Extent Samples													
Sample Identification Number	S-9.5-VP1-37	S-4.5-VP2-38	S-9.5-VP2-39	S-4.5-VP3-40	S-9.5-VP1-41	S-4.5-VP2-42	S-9.5-VP2-43	S-4.5-VP3-44	S-4.5-VP3-45	MB-46				DCS
Sample Date	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94	12/13/94				
Total Metals analysis. Results in mg/kg.														
Analysis Date														—
Pb	■	■	■	■	■	■	■	■	■	●				—
PVOC analysis. Results in mg/kg.														
Analysis Date														—
1,2,4-TMB	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				—
1-2-DCA	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				0.54
1,3,5-TMB	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				—
Benzene	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				1.10
Ethylbenzene	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				400.
MTBE	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				—
m- & p-Xylene	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				470.
o-Xylene	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				
Toluene	▲	▲	▲	▲	▲	▲	▲	▲	▲	●				670.
TPH, DRO, and GRO analyses. Results in mg/kg.														
Analysis Date	12/16 & 28/94	12/28/94	12/15 & 28/94	12/28/94	12/28/94	12/28/94	12/16 & 28/94	12/28/94	12/16 & 28/94	12/28/94				—
TPH as diesel fuel	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				—
TPH as gasoline	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				—
DRO	[S,%] 9.8	<4.7	[D] <4.2	[D] <4.4	<5.6	<4.3	[a,$] 160	<4.6	[D] <4.8	▲				—
GRO	7.6	▲	[D] <5.3	▲	▲	▲	[b] 2100	▲	[b,c] 170	[D] <5.0				—

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A2: Summary of the chemical analyses results of groundwater samples.

Sample Identification Number	W-1st-MW1-47	FD-1st-MW1-48	TB-1st-022095-49	W-2nd-MW1-50	FD-2nd-MW1-51	TB-2nd-111695-52	W-3rd-MW1-53	FD-3rd-MW1-54	TB-3rd-022296-55	DCS	ES	PAL
Sample Date	02/20/95	02/20/95	02/20/95	11/16/95	11/16/95	11/16/95	02/22/96	02/22/96	02/22/96			
VOC analyses. Results in µg/l.												
Analysis Date	02/28/95	02/28/95	02/27/95	11/19/95	11/19/95	11/19/95	02/26/96	02/26/96	02/26/96			
Acetone	▲	▲	▲	★	★	★	<5.0	<5.0	<5.0	—	1000	200
Acrylonitrile	▲	▲	▲	★	★	★	<5.0	<5.0	<5.0	—	—	—
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1500	5	0.5
Bromobenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Bromochloromethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Bromodichloromethane	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	0.6	0.06
Bromoform	<3.0	<3.0	<3.0	★	★	★	<1.0	<1.0	<1.0	—	4.4	0.44
Bromomethane	<5.0	<5.0	<5.0	★	★	★	<1.0	<1.0	<1.0	—	10	1
n-Butylbenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
sec-Butylbenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
tert-Butylbenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Carbon Tetrachloride	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
Chlorobenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Chloroethane	<5.0	<5.0	<5.0	★	★	★	<1.0	<1.0	<1.0	—	400	80
Chloroform	**2.6**	**1.6**	<1.0	**3.5**	**2.7**	<1.0	**4**	**4.2**	<1.0	—	6	0.6
Chloromethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	3	0.3
2-Chlorotoluene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
4-Chlorotoluene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
1,2-Dibromo-3-Chloropropane	<3.0	<3.0	<3.0	★	★	★	<1.0	<1.0	<1.0	—	0.2	0.02
Dibromochloromethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	60	6
1,2-Dibromoethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	0.05	0.005

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A3: Summary of the chemical analyses results of groundwater samples obtained by Soils & Engineering Services, Inc.
(continued)

Sample Identification Number	W-1st-MW1-47	FD-1st-MW1-48	TB-1st-022095-49	W-2nd-MW1-50	FD-2nd-MW1-51	TB-2nd-111695-52	W-3rd-MW1-53	FD-3rd-MW1-54	TB-3rd-022296-55	DCS	ES	PAL
Dibromomethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	600	60
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	1250	125
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	75	15
Dichlorodifluoromethane	<10.0	<10.0	<10.0	★	★	★	<1.0	<1.0	<1.0	—	1000	200
1,1-Dichloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	850	85
1,2-Dichloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
1,1-Dichloroethene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	7	0.7
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	70	7
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	100	20
1,2-Dichloropropane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
1,3-Dichloropropane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
2,2-Dichloropropane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
1,1-Dichloropropene	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	—	—
cis-1,3-Dichloropropene	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	0.2	0.02
trans-1,3-Dichloropropene	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—		
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7100	700	140
2-Hexanone	▲	▲	▲	★	★	★	<5.0	<5.0	<5.0	—	—	—
Hexachlorobutadiene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Iodomethane	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	—	—
di-Isopropyl ether	<1.0	<1.0	<1.0	★	★	★	▲	▲	▲	—	—	—
Isopropylbenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
p-Isopropyltoluene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Methyl ethyl ketone	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	460	90
Methyl isobutyl ketone	▲	▲	▲	★	★	★	<1.0	<1.0	<1.0	—	500	50

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A3: Summary of the chemical analyses results of groundwater samples obtained by Soils & Engineering Services, Inc.
(continued)

Sample Identification Number	W-1st-MW1-47	FD-1st-MW1-48	TB-1st-022095-49	W-2nd-MW1-50	FD-2nd-MW1-51	TB-2nd-111695-52	W-3rd-MW1-53	FD-3rd-MW1-54	TB-3rd-022296-55	DCS	ES	PAL
Methylene Chloride	<5.0	<5.0	<5.0	★	★	★	<10	<10	<10	—	5	0.5
MTBE	7.6	6.0	<1.0	8.7	6.6	<1.0	8.7	8.9	<1.0	—	60	12
Napthalene	<3.0	<3.0	<3.0	★	★	★	<1.0	<1.0	<1.0	—	40	8
n-Propylbenzene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	—	—
Styrene	<2.0	<2.0	<2.0	★	★	★	<1.0	<1.0	<1.0	—	100	10
1,1,1,2-Tetrachloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	70	7
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	0.2	0.02
Tetrachloroethene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2000	343	68.6
1,2,3-Trichlorobenzene	<2.0	<2.0	<2.0	★	★	★	<2.0	<2.0	<2.0	—	—	—
1,2,4-Trichlorobenzene	<2.0	<2.0	<2.0	★	★	★	<2.0	<2.0	<2.0	—	70	14
1,1,1-Trichloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	200	40
1,1,2-Trichloroethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
Trichloroethene	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	5	0.5
Trichlorofluoromethane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	3490	698
1,2,3-Trichloropropane	<1.0	<1.0	<1.0	★	★	★	<1.0	<1.0	<1.0	—	60	12
1,2,4-TMB	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	—	480	48
1,3,5-TMB	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	—		
Vinyl Chloride	<3.0	<3.0	<3.0	★	★	★	<1.0	<1.0	<1.0	—	0.2	0.02
o-Xylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7800	620	124
m- & p-Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0						

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A3: Summary of the chemical analyses results of groundwater samples obtained by Soils & Engineering Services, Inc.
(continued)

Sample Identification Number	W-4th-MW1-56	FD-4th-MW1-57	TB-4th-053196-58	W-5th-MW1-59	FD-5th-MW1-60	TB-5th-091996-61				DCS	ES	PAL
Sample Date	05/31/96	05/31/96	05/31/96	09/19/96	09/19/96	09/19/96						
VOC analyses. Results in µg/l.												
Analysis Date	06/05 & 10/96	06/05 & 10/96	06/07/96	09/25 & 26/96	06/07/96	06/07/96						
Acetone	★	★	★	★	★	★				—	1000	200
Acrylonitrile	★	★	★	★	★	★				—	—	—
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				1500	5	0.5
Bromobenzene	★	★	★	★	★	★				—	—	—
Bromochloromethane	★	★	★	★	★	★				—	—	—
Bromodichloromethane	★	★	★	★	★	★				—	0.6	0.06
Bromoform	★	★	★	★	★	★				—	4.4	0.44
Bromomethane	★	★	★	★	★	★				—	10	1
n-Butylbenzene	★	★	★	★	★	★				—	—	—
sec-Butylbenzene	★	★	★	★	★	★				—	—	—
tert-Butylbenzene	★	★	★	★	★	★				—	—	—
Carbon Tetrachloride	★	★	★	★	★	★				—	5	0.5
Chlorobenzene	★	★	★	★	★	★				—	—	—
Chloroethane	★	★	★	★	★	★				—	400	80
Chloroform	**2.2**	**1.1**	<1.0	**3.8**	**3.1**	<1.0				—	6	0.6
Chloromethane	★	★	★	★	★	★				—	3	0.3
2-Chlorotoluene	★	★	★	★	★	★				—	—	—
4-Chlorotoluene	★	★	★	★	★	★				—	—	—
1,2-Dibromo-3-Chloropropane	★	★	★	★	★	★				—	0.2	0.02
Dibromochloromethane	★	★	★	★	★	★				—	60	6
1,2-Dibromoethane	★	★	★	★	★	★				—	0.05	0.005
Dibromomethane	★	★	★	★	★	★				—	—	—

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A3: Summary of the chemical analyses results of groundwater samples obtained by Soils & Engineering Services, Inc.
(continued)

Sample Identification Number	W-4th-MW1-56	FD-4th-MW1-57	TB-4th-053196-58	W-5th-MW1-59	FD-5th-MW1-60	TB-5th-091996-61				DCS	ES	PAL
1,2-Dichlorobenzene	★	★	★	★	★	★				—	600	60
1,3-Dichlorobenzene	★	★	★	★	★	★				—	1250	125
1,4-Dichlorobenzene	★	★	★	★	★	★				—	75	15
Dichlorodifluoromethane	★	★	★	★	★	★				—	1000	200
1,1-Dichloroethane	★	★	★	★	★	★				—	850	85
1,2-Dichloroethane	★	★	★	★	★	★				—	5	0.5
1,1-Dichloroethene	★	★	★	★	★	★				—	7	0.7
cis-1,2-Dichloroethene	★	★	★	★	★	★				—	70	7
trans-1,2-Dichloroethene	★	★	★	★	★	★				—	100	20
1,2-Dichloropropane	★	★	★	★	★	★				—	5	0.5
1,3-Dichloropropane	★	★	★	★	★	★				—	—	—
2,2-Dichloropropane	★	★	★	★	★	★				—	—	—
1,1-Dichloropropene	★	★	★	★	★	★				—	—	—
cis-1,3-Dichloropropene	★	★	★	★	★	★				—	0.2	0.02
trans-1,3-Dichloropropene	★	★	★	★	★	★				—		
Ethylbenzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				7100	700	140
2-Hexanone	★	★	★	★	★	★				—	—	—
Hexachlorobutadiene	★	★	★	★	★	★				—	—	—
Iodomethane	★	★	★	★	★	★				—	—	—
di-Isopropyl ether	★	★	★	★	★	★				—	—	—
Isopropylbenzene	★	★	★	★	★	★				—	—	—
p-Isopropyltoluene	★	★	★	★	★	★				—	—	—
Methyl ethyl ketone	★	★	★	★	★	★				—	460	90
Methyl isobutyl ketone	★	★	★	★	★	★				—	500	50
Methylene Chloride	★	★	★	★	★	★				—	5	0.5

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Groundwater

Table A3: Summary of the chemical analyses results of groundwater samples obtained by Soils & Engineering Services, Inc.
(continued)

Sample Identification Number	W-4th-MW1-56	FD-4th-MW1-57	TB-4th-053196-58	W-5th-MW1-59	FD-5th-MW1-60	TB-5th-091996-61				DCS	ES	PAL
MTBE	8.70	9.00	<1.0	12	13	<1.0				—	60	12
Napthalene	★	★	★	★	★	★				—	40	8
n-Propylbenzene	★	★	★	★	★	★				—	—	—
Styrene	★	★	★	★	★	★				—	100	10
1,1,1,2-Tetrachloroethane	★	★	★	★	★	★				—	70	7
1,1,2,2-Tetrachloroethane	★	★	★	★	★	★				—	0.2	0.02
Tetrachloroethene	★	★	★	★	★	★				—	5	0.5
Toluene	3.90	<1.0	<1.0	<1.0	<1.0	<1.0				2000	343	68.6
1,2,3-Trichlorobenzene	★	★	★	★	★	★				—	—	—
1,2,4-Trichlorobenzene	★	★	★	★	★	★				—	70	14
1,1,1-Trichloroethane	★	★	★	★	★	★				—	200	40
1,1,2-Trichloroethane	★	★	★	★	★	★				—	5	0.5
Trichloroethene	★	★	★	★	★	★				—	5	0.5
Trichlorofluoromethane	★	★	★	★	★	★				—	3490	698
1,2,3-Trichloropropane	★	★	★	★	★	★				—	60	12
1,2,4-TMB	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				—	480	48
1,3,5-TMB	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				—		
Vinyl Chloride	★	★	★	★	★	★				—	0.2	0.02
o-Xylene m- & p-Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				7800	620	124

Please refer to Table A3 for symbols, abbreviations, print styles, and notes used in this table and Table A4 for sample identification number nomenclature definition.

Table A4: Sample identification number nomenclature and excavation sample locations.

WATER SAMPLES

```
W-1st-MW4-1
└─Consecutive Sample Number For Project
└─MW4 = Monitoring Well MW4
└─Consecutive Water Sampling Round
└─W = Water Sample, FD = Field Duplicate Water Sample
```

TRIP BLANKS

```
TB-1st-051393-12
└─Consecutive Sample Number For Project
└─Month/Day/Year of Sampling (May 13, 1993)
└─Consecutive Water Sampling Round
└─TB = Trip Blank
```

SOIL SAMPLES

```
S-12.0-B4-13
└─Consecutive Sample Number For Project
└─B4 = Boring 4, HP1 = HNU Sampling Point 1
└─Sample depth
└─S = Soil Sample
```

METHANOL BLANKS

```
MB-051393-12
└─Consecutive Sample Number For Project
└─Month/Day/Year of Sampling (May 13, 1993)
└─MB = Methanol Blank
```

SAMPLE IDENTIFICATION NUMBER	EXCAVATION SOIL SAMPLE LOCATIONS
S-2.0-HP1-1	Next to Tank B fill pipe
S-12.0-HP3-2	6' South & 16' East of Southeast Corner of existing building
S-17.O-HP4-3	14' South & 14' East of Southeast Corner of existing building
S-15.0-HP5-4	15' South & 5' East of Southeast Corner of existing building

Table A3: Description of print styles, symbols, abbreviations and notes used in ? and Table A1.

Symbols	
●	Methanol Blank samples only submitted for GRO analysis
★	Samples only submitted for PVOC analysis
■	No sample obtained for Pb analysis.
▲	This compound was not analyzed for at this time.
×	This sample was field preserved with methanol. All other samples were preserved at the laboratory. This was in compliance with a forthcoming change in WDNR guidelines regarding field preservation of samples.
◆	DRO/GRO analysis was not applicable at this time.
—	No WDNR ES or PAL groundwater or Comm 46 soil limits have been established.
↓	TPH analysis was not applicable at this time.
▼	Trip blank samples only submitted for VOC analysis

Notes	
a	Other lighter hydrocarbons present before the DRO window
b	Other heavier hydrocarbons present after the GRO window
c	Other lighter hydrocarbons present before the GRO window
D	Detected below the Quantitation Limit
$	The DRO chromatogram does not match the diesel standard pattern
%	Significant baseline rise in DRO sample chromatogram

Abbreviations	
mg/kg	milligrams per kilogram which is the equivalent of parts per million
DCA	Dichloroethane
DRO	Diesel range organics
DCS	Chapter Comm 46, Table 1, Wisconsin Administrative Code
ES	Chapter NR 140, Subchapter II, Table 1, Public Health Groundwater Standards, Enforcement Standard, Wisconsin Administrative Code.
FD	Field duplicate
GRO	Gasoline range organics
MTBE	Methyl-tert-butyl Ether
PAL	Chapter NR 140, Subchapter II, Table 1, Public Health Groundwater Standards, Preventive Action Limit, Wisconsin Administrative Code.
Pb	Lead
PVOC	Petroleum volatile organic compounds
TPH	Total petroleum hydrocarbons
TMB	Trimethylbenzene
VOC	Volatile organic compounds

Print Styles	
1,209	indicates concentration above detection limit.
1,209	indicates concentration above Comm 46 soil or groundwater limit.
203	indicates concentration is above WDNR PAL groundwater limit.
67	indicates concentration is above WDNR ES groundwater limit.