ENVIRO-RISK
CONSULTING GROUP, INC.

Enviro-Risk Consulting Group, Inc.
1176 Silverwood Bay
St. Paul, Minnesota 55125
Phone: 651.735.7001
Toll Free: 877.735.7001
Fax: 651.735.8003
www.enviro-risk.com

May 1, 2006

Ms. Amy Miller
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

Re: Annual Monitoring Report & CAD System Monitoring Worksheet
Jordan Texaco, 255 Triangle Lane, Jordan, MN
LEAK #11991

Dear Ms. Miller:

Enclosed is the Annual Monitoring Report and the Corrective Action Design System Monitoring Worksheet for the Jordan Texaco site in Jordan, MN (LEAK #11991). Enviro-Risk has recommended closure of this site.

If you have any questions, please contact me at 651-735-7001.

Sincerely,

Enviro-Risk Consulting Group, Inc.

Brad M. Burke, PE
Senior Consultant / Principal

c/enc: T. Yocum, Yocum Oil Company

ENVIRO-RISK
CONSULTING GROUP, INC.

ANNUAL MONITORING REPORT
&
CAD SYSTEM MONITORING WORKSHEET

(MPCA Guidance Docs #4-08 & #4-14)

JORDAN TEXACO
(YOCUM OIL COMPANY)
255 TRIANGLE LANE
JORDAN, MN

MPCA LEAK # 11991

Prepared for:

Yocum Oil Company
2719 Stillwater Road
St. Paul, MN 55119

Prepared by:

Enviro-Risk Consulting Group, Inc.
1176 Silverwood Bay
St. Paul, MN 55125
(651) 735-7001

April 2006

Petroleum Remediation Program
Minnesota Pollution Control Agency
http://www.pca.state.mn.us/programs/lust_p.html

Annual Monitoring Report

Guidance Document 4-08

After the Corrective Action Design (CAD) has been approved, update and submit this worksheet annually. If a remedial system has been installed, submit Guidance Document 4-14 *CAD System Monitoring Worksheet* along with this worksheet.

Under certain circumstances Minnesota Pollution Control Agency (MPCA) staff may request submittal of the monitoring information on a quarterly schedule. This should be conducted according to Guidance Document 4-07 *Quarterly Monitoring Report.*

MPCA Site ID: Leak000 ***11991*** Date: ***4/28/06***

Responsible Party: **Yocum Oil Company** R.P. phone #: ***651-739-9141***

R.P. Mailing Address: **2719 Stillwater Road**

City: **St. Paul** Zip Code: **55119**

Consultant: ***Enviro-Risk Consulting Group, Inc.*** Consultant phone #: ***651-735-7001***

Facility Name: ***Jordan Texaco***

Facility Address: ***255 Triangle Lane*** City: ***Jordan***

County: ***Scott*** Zip Code: ***55352***

Site Location Information: Complete Guidance Document 1-03a *Spatial Data Reporting Form* and include in Appendix E. If the form has already been submitted and no additional site features need to be reported, the form does not need to be re-submitted.

Section 1. GROUND WATER MONITORING

Discuss the groundwater monitoring results, including water level measurements and analytical results, performed since the Investigation Report or the last progress report submitted. Include all cumulative data in the tables. Indicate whether samples were purged or unpurged (see Guidance Document 4-05). If purged, indicate purging method.

Water Level Elevations

Recent water elevation data, summarized in Table 2, indicates that groundwater levels in the three monitoring wells vary 3 to 5 feet throughout the year. Cyclic highs water levels occur during the spring and summer months and cyclic lows occur during the fall and winter months. Water elevation data also indicate that for much of the year water levels are above the screened interval of the monitoring wells. This prevents free product from accumulating in the wells during cyclic high water levels periods. Over the past winter (2005-06), groundwater levels remained above the well screens in each of the monitoring wells.

Based on water elevation data, it appears the groundwater flow direction is to the south (Figures 3 through 6), which conflicts with the north-easterly flow observed previously. For wells exhibiting free product, potentiometric water elevations were estimated based on the groundwater-product interface elevation plus 85% of the free product thickness (product specific gravity ≈ 0.85).

A free product collection system at the site has been inoperable since Enviro-Risk began monitoring of the site in 2002. The system consists of two pneumatic submersible pumps installed in MW-2 and MW-3, which are designed to automatically remove free product from the wells and discharge into an aboveground storage tank located on site. The air compressor for the pneumatic pumps does not work, and one of the pumps appears to be damaged. Therefore manual free product recovery (hand bailing) is conducted on a periodic basis at the site.

Groundwater Analytical Data

Since the last Annual Report, Enviro-Risk collected groundwater samples from site wells MW-2 and MW-3 in June 2005 and February 2006. Samples were not collected from MW-1 due to the presence of free product in the monitoring well. Wells sampled were purged of at least 3 well volumes prior to collecting a groundwater sample. Based on groundwater analytical data, summarized in Table 3, dissolved-phase contaminant concentrations have been primarily stable or even decreasing slightly in MW-2 and MW-3. Contaminant levels in MW-2 and MW-3 remain above MN Dept. of Health HRLs for both sampling rounds. The thickness of free product in MW-1 is difficult to gauge as the water table is typically above the screened interval during site visits (Figures 7 through 9). Based on Minnesota River gauge readings near Jordan, MN (Figure 10) it would appear that river levels are higher than observed than in previous years, which would correlate to what we are observing in water levels in monitoring wells on-site.

Section 2. VAPOR IMPACT MONITORING

If vapor impacts were detected during previous assessments, discuss the results of follow-up vapor monitoring. Include in your discussion the sampling instrument and sampling method.

NO VAPOR MONITORING PERFORMED

NOTE: If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately. Then contact the Minnesota Duty Officer (24 hours) at 651/649-5451 (metro and outside Minnesota) or 1-800/422-0798 (Greater Minnesota). TTY users call 651/297-5353 (V/TTY) or 1-800/627-3529 (V/TTY). **Vapor mitigation is required.**

Section 3. RECOMMENDATIONS

Discuss your recommendations. Your recommendation should be based on Guidance Document 1-01 *Petroleum Remediation Program General Policy.*

If additional corrective action is recommended, please provide your justification.

If significant reduction of risk has been achieved at the site, recommendations and rationale for the reduction or termination of corrective actions may be presented.

If additional monitoring is recommended, indicate the proposed monitoring schedule and frequency.

If closure is recommended, summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.

The free product recovery system has removed more than 2,430 gallons of free product since the 1998 release (see attached CAD System Monitoring Worksheet). Because the total quantity released was believed to be in excess of 1,000 gallons, the majority of product associated with the 1998 release has been recovered and manual recovery of any residual free product from site wells is ineffective, as water levels are typically above the well screens. Furthermore, dissolved-phase contaminant concentrations in wells appear to have stabilized or decreased over time (Figures 11 & 12). Therefore, Enviro-Risk is requesting closure for this site.

Section 4: CONSULTANT (OR OTHER) INFORMATION

By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leaksite. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in reduction of reimbursement awards. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this leaksite that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 (1994) or Minn. Rules 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

MPCA staff are instructed to reject unsigned monitoring reports or if the report form has been altered.

Name and Title:	Signature:	Date signed:
Brad M. Burke, PE		***4/28/06***

Company and mailing address: ***Enviro-Risk Consulting Group, Inc.***
1176 Silverwood Bay
St. Paul, MN 55125

Phone: ***651-735-7001***
Fax: ***651-735-8003***

Attach Tables (NOTE: Tables must be complete and contain cumulative data collected to date):

- Table 1 - Monitoring Well Completion Information
- Table 2 - Summary of Water Levels Measurements
- Table 3 - Analytical Results of Water Samples
- Table 4 - Other Contaminants Detected in Water Samples (Petroleum or Non-petroleum Derived)
- Table 5 - Results of Natural Attenuation
- Table 6 - Results of Vapor Monitoring

Table 1
Monitoring Well Completion Information

Well Number	Unique Well Number	Date Installed	Surface Elevation	Top of Riser Elevation	Bottom of Well (Elevation)	Screen Interval (Elev. - Elev.)
MW-1	616538	11/2/98	753.54	752.83	733.0	733.0 – 743.0
MW-2	616539	11/2/98	752.71	751.95	734.7	734.7 – 744.7
MW-3	616540	11/2/98	753.12	752.49	735.1	735.1 – 745.1

Notes: 1) Above elevations expressed in feet above MSL based on an assumed elevation of 754 feet for the top nut of fire hydrant located on SE corner of property.

2) Construction details on wells MW-1 through MW-3 obtained through MDH Well and Boring Records; All wells are flush mounted construction.

3) Bottom of Well depths measured in the field (MW-1: 19.85 feet btoc; MW-2: 17.30 feet btoc; MW-3: 17.35 feet btoc).

Table 2
Water Level Measurements

Well Number	Date	Depth of Water from Top of Riser	Product Thickness	Depth of Water Below Grade	Relative Groundwater Elevation	Water Level Above Screen (Y/N)
MW-1	6/13/02	7.77	0.00	8.5	745.06	Y
	6/29/02	6.37	0.00	7.1	746.46	Y
	7/10/02	6.57	0.00	7.3	746.26	Y
	7/23/02	7.90	0.15	8.6	744.93	Y
	9/30/02	7.69	0.25	8.4	745.14	Y
	10/30/02	7.82	0.38	8.5	745.01	Y
	11/20/02	8.65	0.63	9.4	744.18	Y
	12/6/02	8.97	0.80	9.7	743.86	Y
	2/26/03	9.71	1.00	10.4	743.12	Y
	3/26/03	8.26	0.00	9.0	744.57	Y
	4/24/03	7.41	0.01	8.1	745.42	Y
	5/23/03	6.79	0.29	7.5	746.04	Y
	6/26/03	7.45	0.31	8.2	745.38	Y
	7/31/03	9.52	1.32	10.2	743.31	Y
	9/9/03	10.57	1.54	11.3	742.26	N
	9/30/03	9.80	0.65	10.5	743.03	N
	10/31/03	9.96	0.45	10.7	742.87	N
	11/25/03	9.72	0.18	10.4	743.11	Y
	12/18/03	9.78	0.16	10.5	743.05	Y
	2/27/04	8.57	0.02	9.3	744.26	Y
	3/31/04	7.37	0.05	8.1	745.46	Y
	5/27/04	6.43	0.12	7.1	746.40	Y
	6/22/04	7.88	0.03	8.6	744.95	Y
	6/29/05	7.14	0.15	7.9	745.69	Y
	7/27/05	8.40	0.29	9.1	744.43	Y
	9/9/05	7.56	0.11	8.3	745.27	Y
	10/10/05	6.39	0.07	7.1	746.44	Y
	11/30/05	7.80	0.11	8.5	745.03	Y
	2/1/06	7.77	0.12	8.5	745.06	Y
MW-2	6/13/02	6.86	0.00	7.6	745.09	Y
	6/29/02	5.47	0.00	6.2	746.48	Y
	7/10/02	5.83	0.00	6.6	746.12	Y
	7/23/02	6.95	0.00	7.7	745.00	Y
	9/30/02	6.62	0.00	7.4	745.33	Y
	10/30/02	6.67	0.00	7.4	745.28	Y
	11/20/02	7.30	0.00	8.1	744.65	N

	12/6/02	7.45	0.00	8.2	744.50	N
	2/26/03	8.06	0.00	8.8	743.89	N
	3/26/03	7.50	0.00	8.3	744.45	N
	4/24/03	6.55	0.00	7.3	745.40	Y
	5/23/03	5.67	0.00	6.4	746.28	Y
	6/26/03	6.31	0.00	7.1	745.64	Y
	7/31/03	7.62	0.00	8.4	744.33	N
	9/9/03	8.50	0.00	9.3	743.45	N
	9/30/03	8.41	0.00	9.2	743.54	N
	10/31/03	9.06	0.23	9.8	742.89	N
	11/25/03	8.99	0.39	9.8	742.96	N
	12/18/03	9.07	0.39	9.8	742.88	N
	2/27/04	7.69	0.00	8.5	744.26	N
	3/31/04	6.49	0.00	7.3	745.46	Y
	5/27/04	5.39	0.00	6.2	746.56	Y
	6/22/04	6.02	0.00	6.8	745.93	Y
	6/29/05	6.15	0.00	6.9	745.80	Y
	7/27/05	7.31	0.00	8.1	744.64	N
	9/9/05	6.59	0.00	7.4	745.36	Y
	10/10/05	5.47	0.00	6.2	746.48	Y
	11/30/05	6.82	0.00	7.6	745.13	Y
	2/1/06	6.82	0.00	7.6	745.13	Y
MW-3	6/13/02	7.48	0.11	8.1	745.01	N
	6/29/02	6.01	0.02	6.6	746.48	Y
	7/10/02	6.85	0.01	7.5	745.64	Y
	7/23/02	7.44	0.00	8.1	745.05	N
	9/30/02	7.13	0.00	7.8	745.36	Y
	10/30/02	7.15	0.00	7.8	745.34	Y
	11/20/02	7.82	0.00	8.5	744.67	N
	2/26/03	5.57	0.00	6.2	746.92	Y
	3/26/03	7.97	0.16	8.6	744.52	N
	4/24/03	7.10	0.04	7.7	745.39	Y
	5/23/03	6.23	0.00	6.9	746.26	Y
	6/26/03	6.84	0.00	7.5	745.65	Y
	7/31/03	8.13	0.00	8.8	744.36	N
	9/9/2003	9.05	0.03	9.7	743.44	N
	9/30/03	8.99	0.06	9.6	743.50	N
	10/31/03	8.51	0.31	9.1	743.98	N
	11/25/03	9.44	0.28	10.1	743.05	N
	12/18/03	9.52	0.30	10.2	742.97	N
	2/27/04	8.45	0.29	9.1	744.04	N

TOS 744.7

	3/31/04	7.04	0.02	7.7	745.45	Y
	5/27/04	6.00	0.00	6.6	746.49	Y
	6/22/04	6.55	0.00	7.2	745.94	Y
	6/29/05	6.72	0.00	7.4	745.77	Y
	7/27/05	7.86	0.00	8.5	744.63	N
	9/9/05	7.16	0.00	7.8	745.33	Y
	10/10/05	6.03	0.00	6.7	746.46	Y
	11/30/05	7.40	0.00	8.0	745.09	--
	2/1/06	7.40	0.00	8.0	745.09	--

TOS
745.10

Describe the methods and procedures used to measure water levels and product thickness.
Notes:

Table 3
Analytical Results of Water Samples

Well #	Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	GRO	DRO	Lab Type
MW-1	9/30/02		*Not Sampled due to Free Product*						
	12/6/02		*Not Sampled due to Free Product*						
	3/26/03	**19,000**	**49,000**	**6500**	**44,000**	**250**	**270,000**		Fixed
	6/26/03		*Not Sampled due to Free Product*						
	9/30/03		*Not Sampled due to Free Product*						
	6/22/04		*Not Sampled due to Free Product*						
	6/29/05		*Not Sampled due to Free Product*						
	2/1/06		*Not Sampled due to Free Product*						
MW-2	9/30/02	**28,000**	**27,000**	**1700**	**8900**	<40	**110,000**	NA	Fixed
	12/6/02	**23,000**	**19,000**	**1800**	**9700**	<400	**80,000**	NA	Fixed
	3/26/03	**17,000**	**31,000**	**2500**	**15,500**	<200	**120,000**	NA	Fixed
	6/26/03	**19,000**	**21,000**	**1500**	**11,400**	<100	**74,000**	NA	Fixed
	9/30/03	**17,000**	**13,000**	**1400**	**8200**	<120	**58,000**	NA	Fixed
	6/22/04	**25,000**	**31,000**	**2200**	**18,400**	<100	**120,000**	NA	Fixed
	6/29/05	**10,000**	**9700**	**1300**	**7600**	<100	**46,000**	NA	Fixed
	2/1/06	**9980**	**6770**	**1460**	**8080**	<400	**47,200**	NA	Fixed
MW-3	9/30/02	**9200**	**16,000**	**870**	**5100**	<40	**46,000**	NA	Fixed
	12/6/02	**9100**	**17,000**	**1200**	**7400**	<400	**51,000**	NA	Fixed
	3/26/03	**23,000**	**30,000**	**2800**	**17,400**	<200	**130,000**	NA	Fixed
	6/26/03	**6900**	**13,000**	**1000**	**6500**	<50	**42,000**	NA	Fixed
	9/30/03	**8800**	**14,000**	**1000**	**6300**	<120	**44,000**	NA	Fixed

	6/22/04	**18,000**	**32,000**	**2200**	**15,600**	<100	**100,000**	NA	Fixed
	6/29/05	**4700**	**8300**	**750**	**5300**	<50	**30,000**	NA	Fixed
	2/1/06	**4250**	**5660**	**332**	**4280**	<400	**26,300**	NA	Fixed
DUP-3	6/29/05	**5600**	**9900**	**890**	**6300**	<50	**37,000**	NA	Fixed
DUP-3	2/1/06	**4080**	**5590**	**232**	**4110**	<400	**23,400**	NA	Fixed
Trip Blk	12/6/02	<1.0	<1.0	<1.0	<3.0	<4.0	<100	NA	Fixed
	3/26/03	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
	6/26/03	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
	9/30/03	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
	6/22/04	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
	6/29/05	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
	2/1/06	<1.0	<1.0	<1.0	<3.0	<1.0	<50	NA	Fixed
Lab Blank									
HRL(ug/L)		10	1000	700	10000				

Notes: ***1)*** ***Pre-2002 data from previous reports submitted by others.***
2) ***All values expressed in micrograms per liter (ug/L).***
3) ***NA = Not Analyzed.***

Table 4
Other Contaminants Detected in Water Samples
(Petroleum or Non-petroleum Derived)

Well Number	Date Sampled	1,2 DCA	EDB				
MW-1							
MW-2							
MW-3		***NO OTHER CONTAMINANTS IDENTIFIED***					
Field Blank							
Trip Blank							
Lab Blank							
HRL (ug/L)		4	0.004				

Report results in ug/L. Indicate other contaminants (either petroleum or non-petroleum derived) detected in water samples collected from the borings, temporary wells or push probes.
Notes:

Table 5
Natural Attenuation Parameters

Monitoring Well	Sample Date	Temp. °C	PH	Dissolved Oxygen (mg/L)	Nitrate (mg/L)	(Fe II) (mg/L)	(H_2S, HS^-) (mg/L)
MW-1							
MW-2							
MW-3							
MW-4							

Describe the methods and procedures used.
Notes:

Table 6
Results of Vapor Monitoring

Location #	Date	PID reading (ppm)	Percent of the LEL

Notes:

Attach Figures:

Figures - (all maps are to include a north arrow, scale and legend) *Approximate scales are not acceptable.*

☒ Site location map. Adapt this map from a U.S. Geological Survey 7.5 minute quadrangle and identify the name of the 7.5 minute quadrangle.

☒ Site map showing the locations of all ground water and vapor monitoring points.

☒ Updated ground water contour maps, using water level elevations from all rounds of water level measurements since the last report. Show all wells at the site, and differentiate wells constructed in different aquifers. Label ground water contours and elevations at each data point used for contouring.

☒ Hydrograph for all monitoring and recovery wells.

☒ Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.

Attach Appendices:

The appendix section of the report contains sufficient information to document all activities completed since the last report. All reproduced data must be legible.

☒ *Appendix A* Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain of Custody and the MDH laboratory certification number.

☒ *Appendix B* Sample collection information, including procedure, equipment, and decontamination.

☒ *Appendix C* Field or sampling data sheets.

☒ *Appendix D* Results of the public water supply risk assessment (if not previously completed).

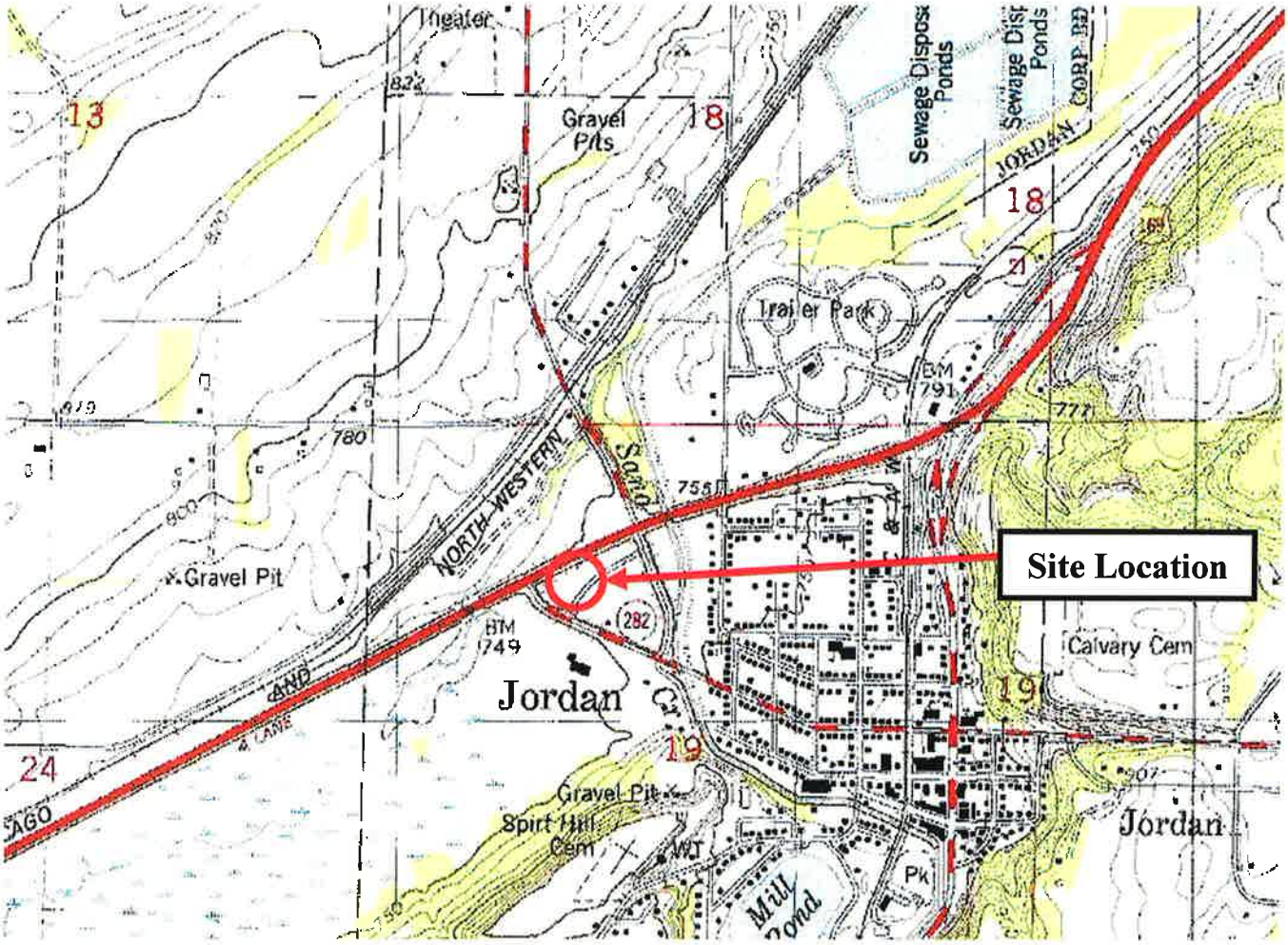
☒ *Appendix E* Guidance Document 1-03a *Spatial Data Reporting Form* (if not previously submitted or new site features need to be reported).

Web pages and phone numbers	
MPCA staff	http://www.pca.state.mn.us/pca/staff/index.cfm
MPCA toll free	**1-800-657-3864**
Petroleum Remediation Program web page	http://www.pca.state.mn.us/programs/lust_p.html
MPCA Infor. Request	http://www.pca.state.mn.us/about/inforequest.html
PetroFund Web Page	http://www.state.mn.us/cgi-bin/portal/mn/jsp/content.do?id=-536881377&agency=Commerce
PetroFund Phone	**651-297-1119, or 1-800-638-0418**
State Duty Officer	**651-649-5451 or 1-800-422-0798**

Drawing Number:

Checked By: Approved By:

Drawn By: KH



N

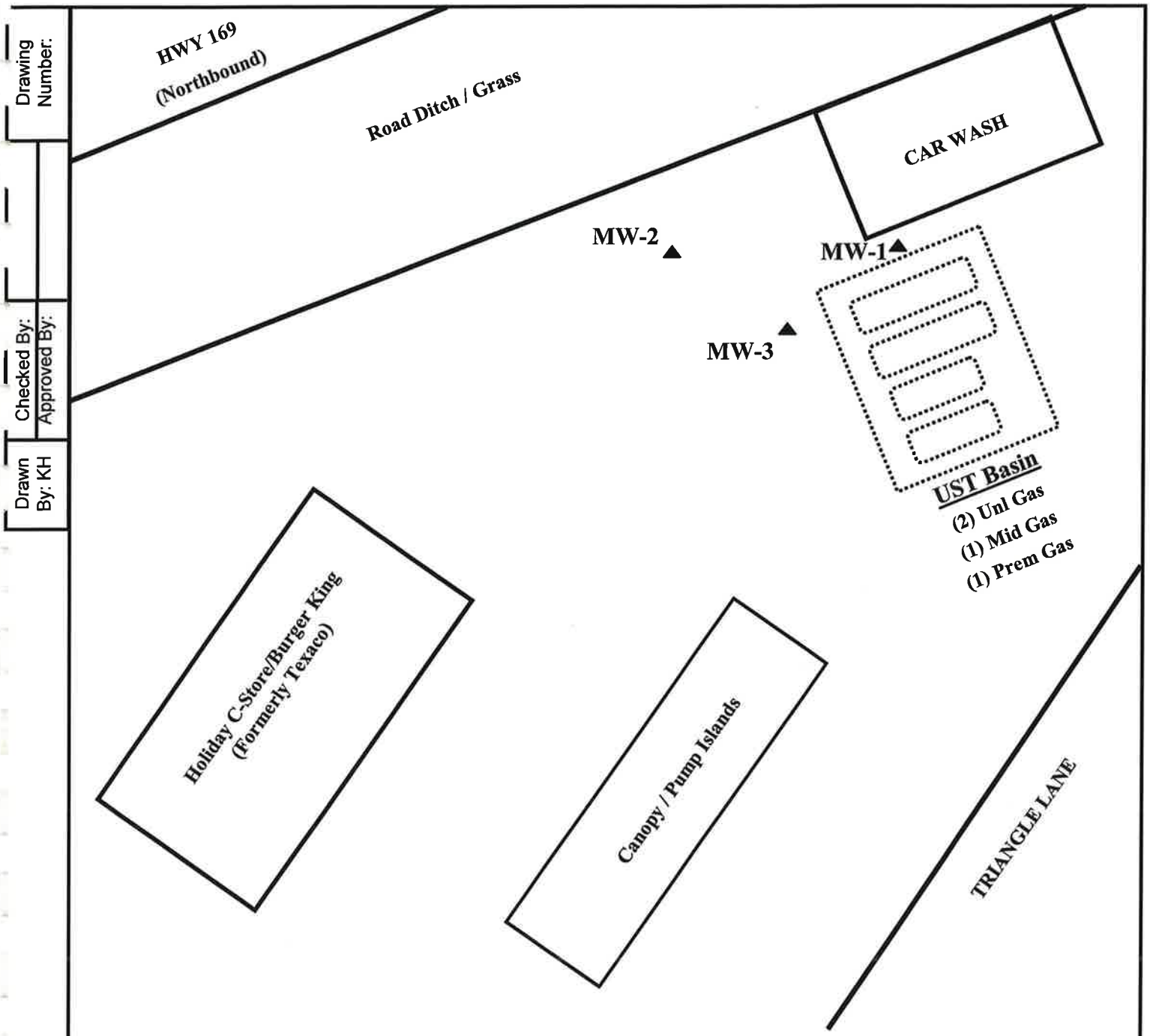
Approximate Scale:
1 inch = 1500 feet

Figure 1
Site Location Map

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"



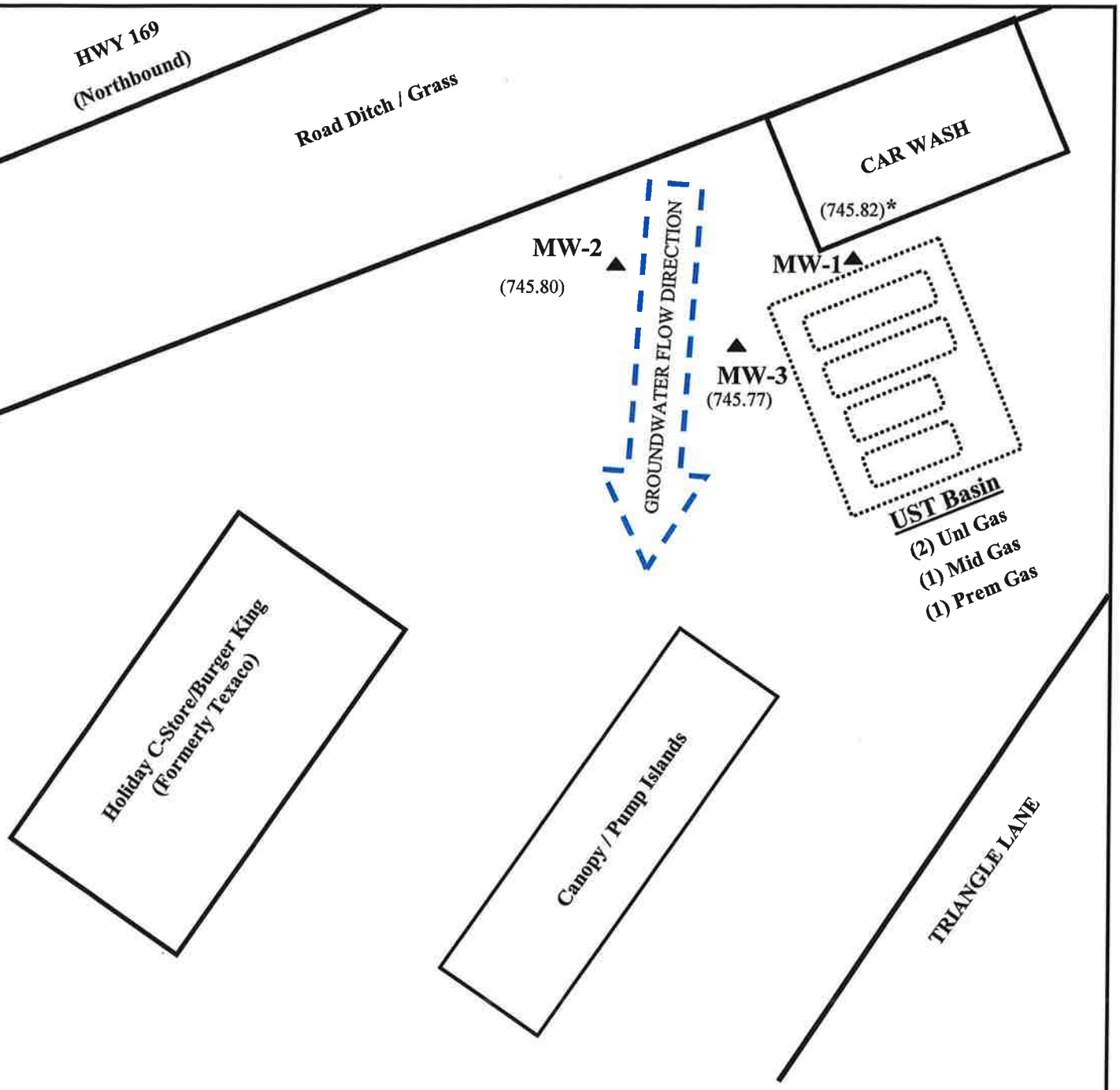
Approximate Scale:
1 inch = 30 feet

Figure 2
Site Map

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"



Drawing Number:

Checked By: Approved By:

Drawn By: KH

N

Approximate Scale:
1 inch = 30 feet

LEGEND:

(744.45) = Groundwater Elevation (feet above MSL

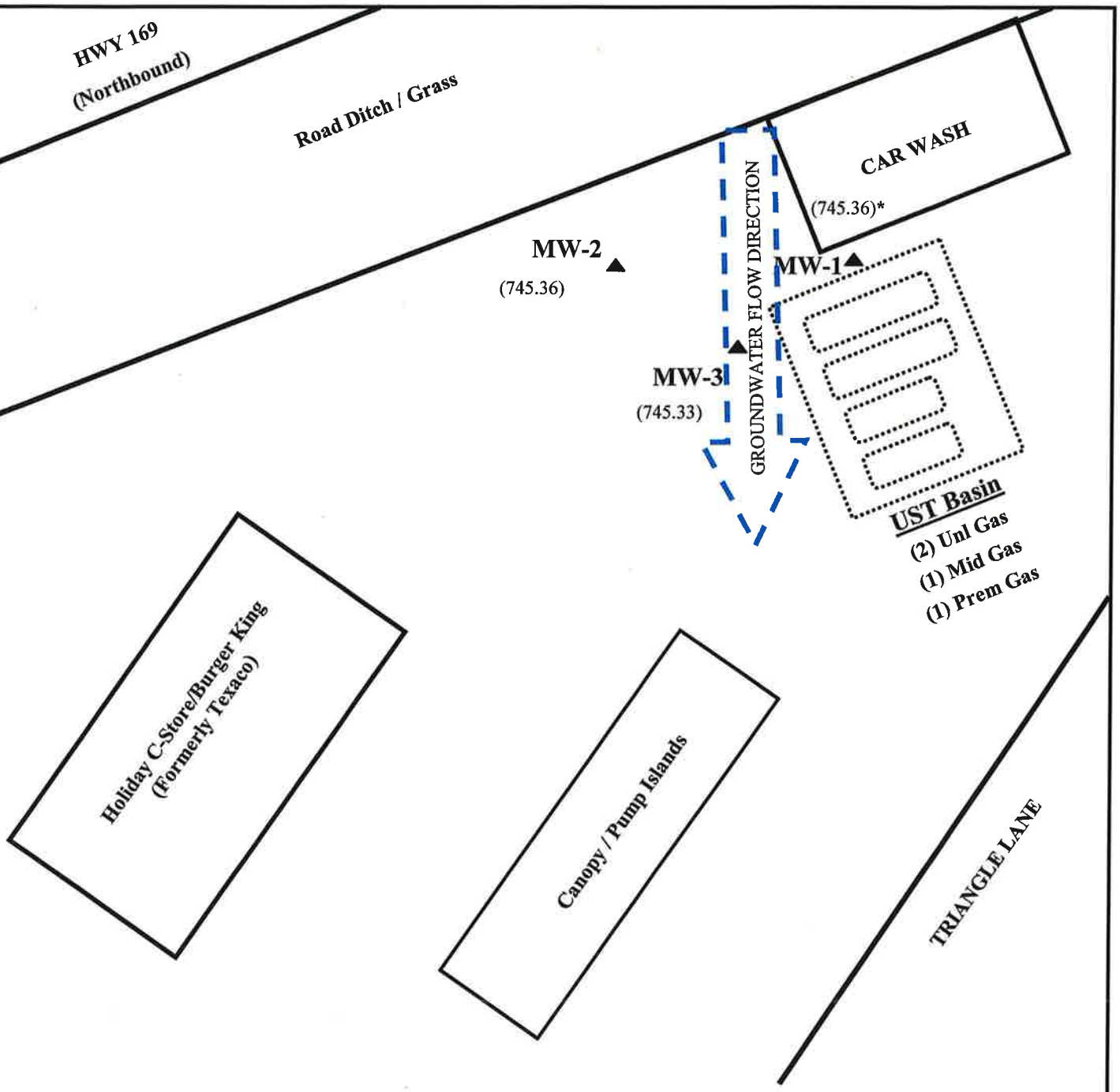
* = Free Product Present in Well ; Groundwater Elevation based on groundwater / product interface elevation plus (0.85 density of product * product thickness).

Figure 3
Groundwater Flow Direction
June 29, 2005

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"



Drawing Number:

Checked By: Approved By:

Drawn By: KH

N

Approximate Scale:
1 inch = 30 feet

LEGEND:

(744.45) = Groundwater Elevation (feet above MSL

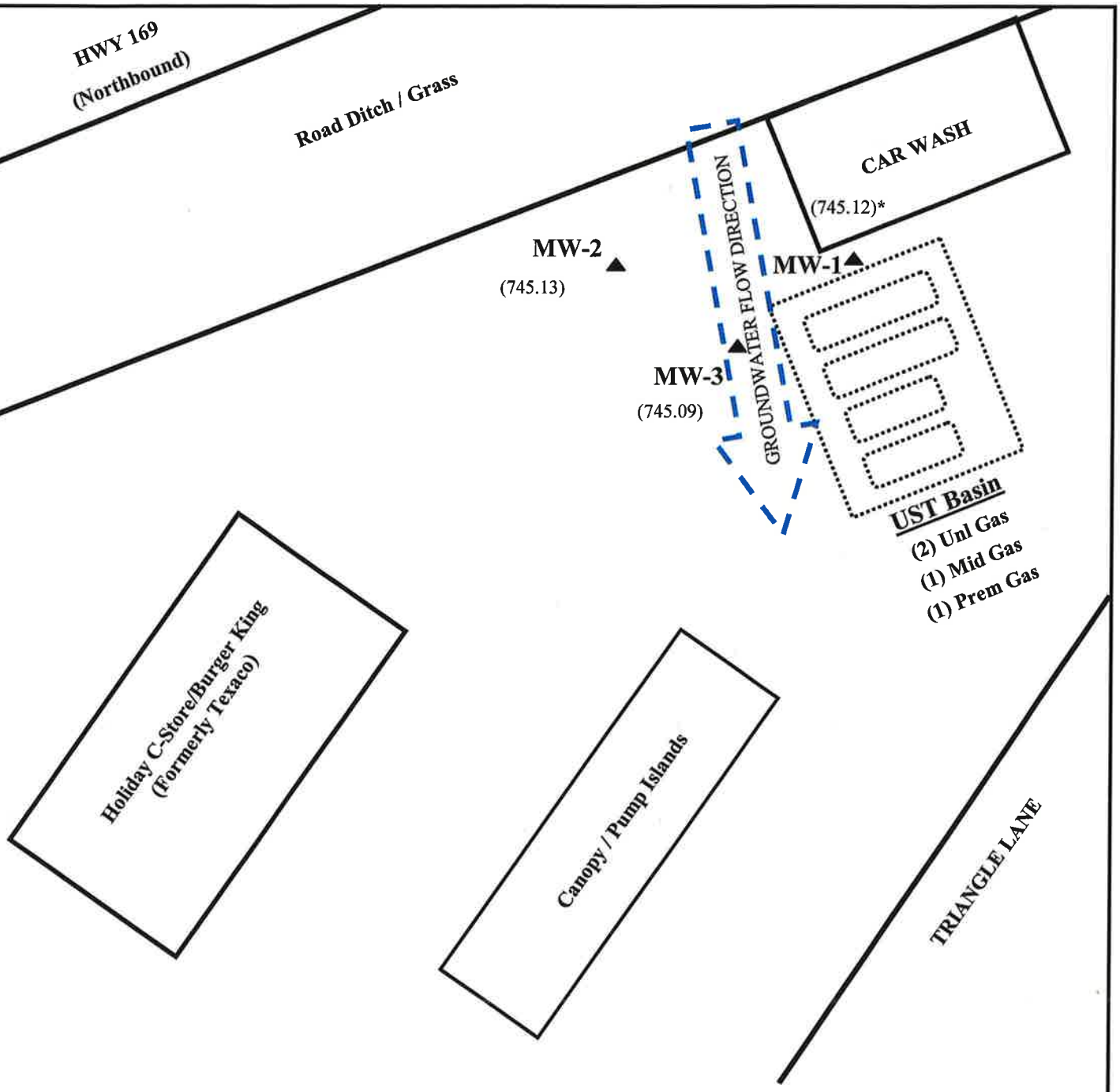
* = Free Product Present in Well ; Groundwater Elevation based on groundwater / product interface elevation plus (0.85 density of product * product thickness).

Figure 4
Groundwater Flow Direction
September 9, 2005

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"



Drawing Number:

Checked By: Approved By:

Drawn By: KH

N

Approximate Scale:
1 inch = 30 feet

LEGEND:

(744.45) = Groundwater Elevation (feet above MSL

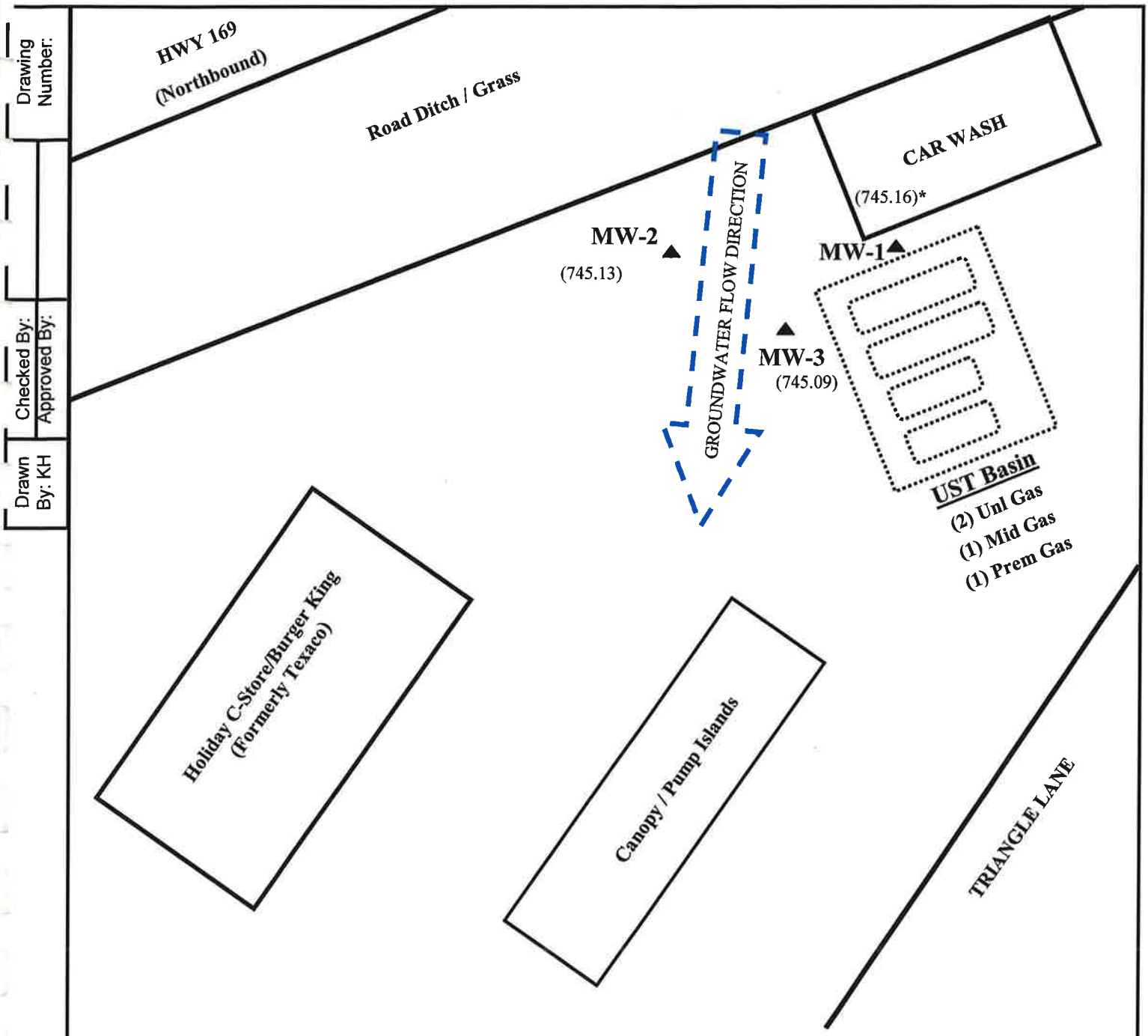
* = Free Product Present in Well ; Groundwater Elevation based on groundwater / product interface elevation plus (0.85 density of product * product thickness).

Figure 5
Groundwater Flow Direction
November 30, 2005

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"



N

Approximate Scale:
1 inch = 30 feet

LEGEND:

(744.45) = Groundwater Elevation (feet above MSL

* = Free Product Present in Well ; Groundwater Elevation based on groundwater / product interface elevation plus (0.85 density of product * product thickness).

Figure 6
Groundwater Flow Direction
February 1, 2006

Jordan Texaco
255 Triangle Lane
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

"Do Not Scale Up Drawing"

Figure 7: MW-1 Hydrograph
& Free Product Thickness Comparison

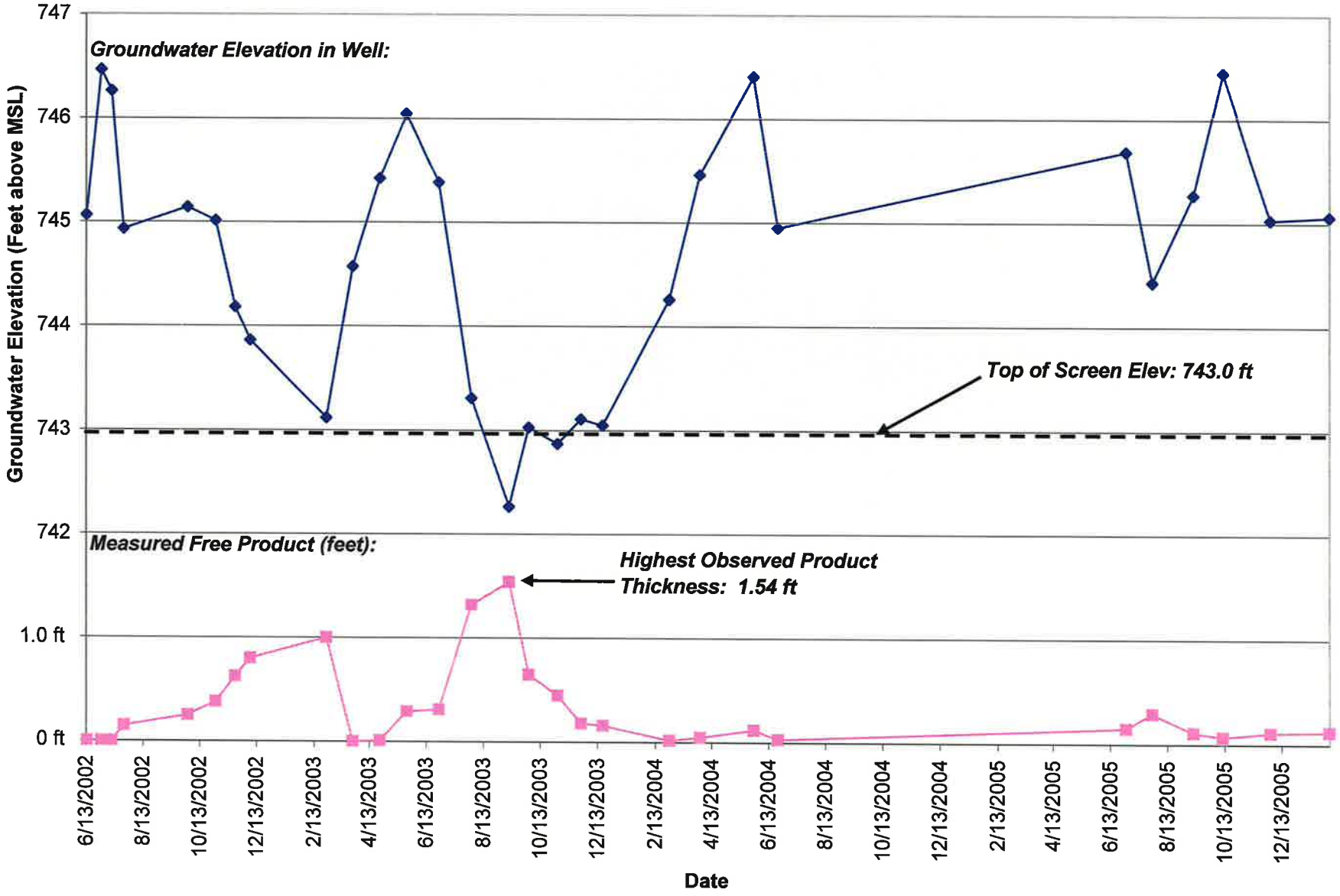


Figure 8: MW-2 Hydrograph
& Free Product Thickness Comparison

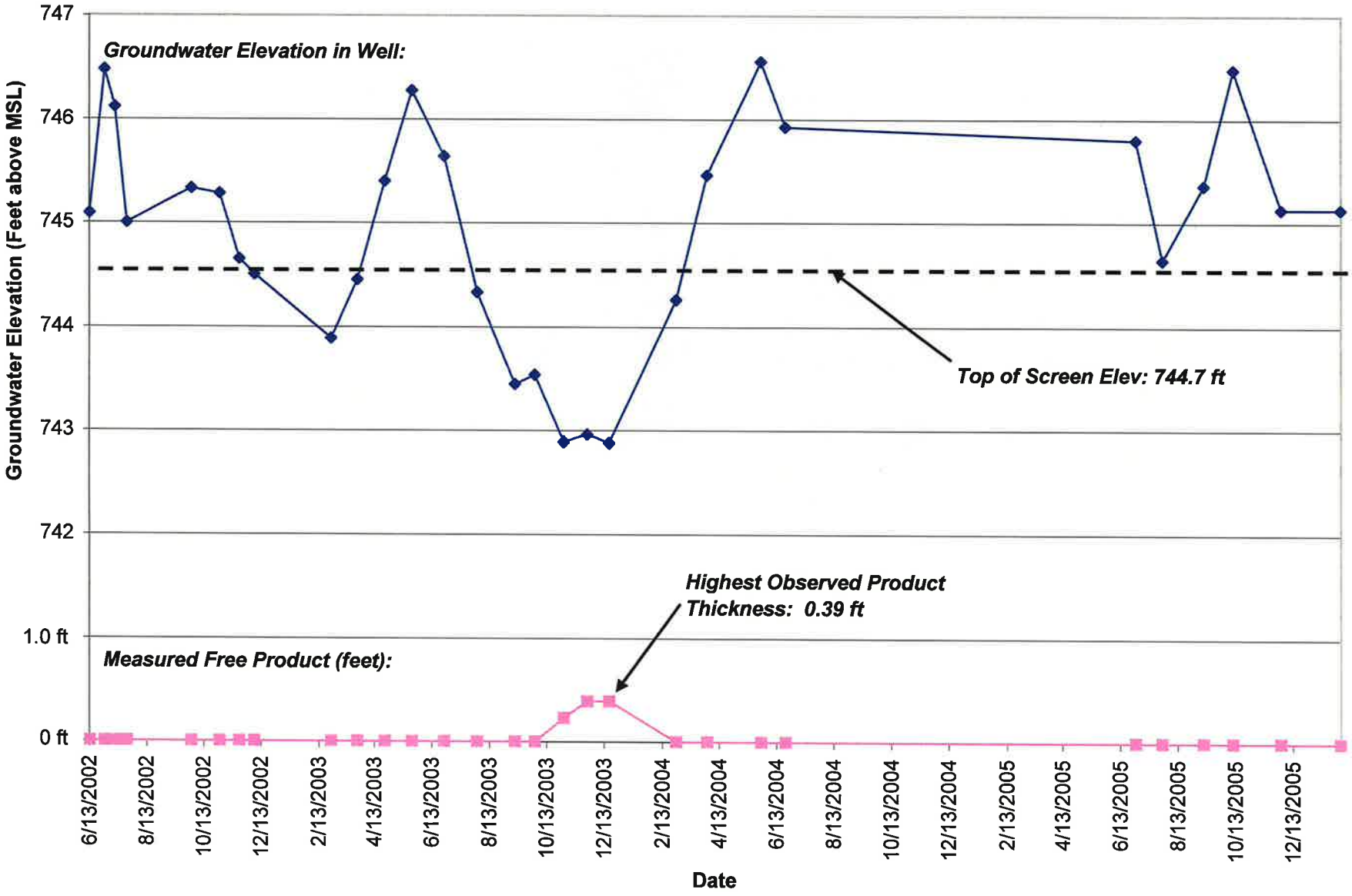
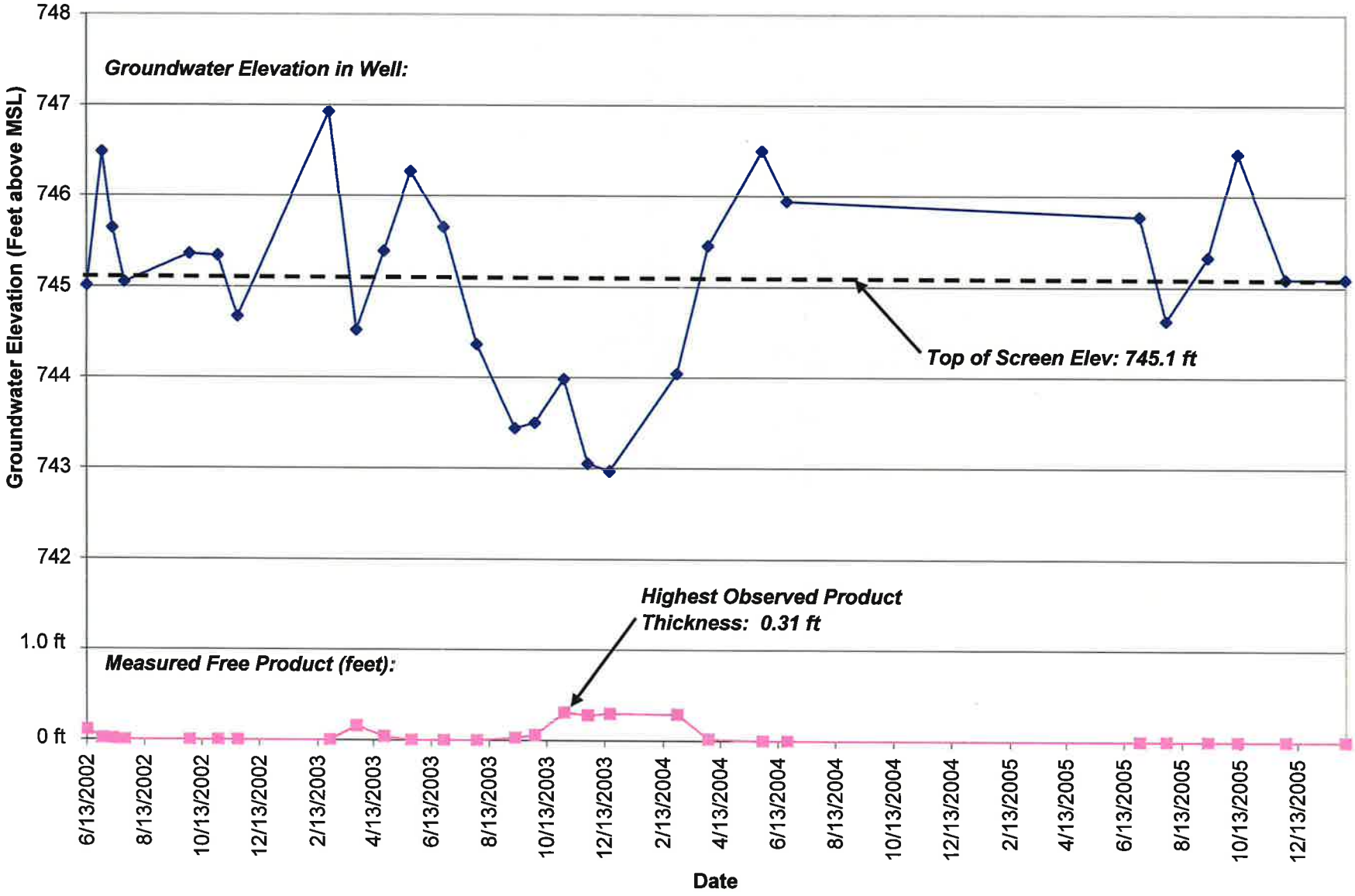


Figure 9: MW-3 Hydrograph
& Free Product Thickness Comparison



Drawing Number:

Checked By:

Approved By:

Drawn By: KH

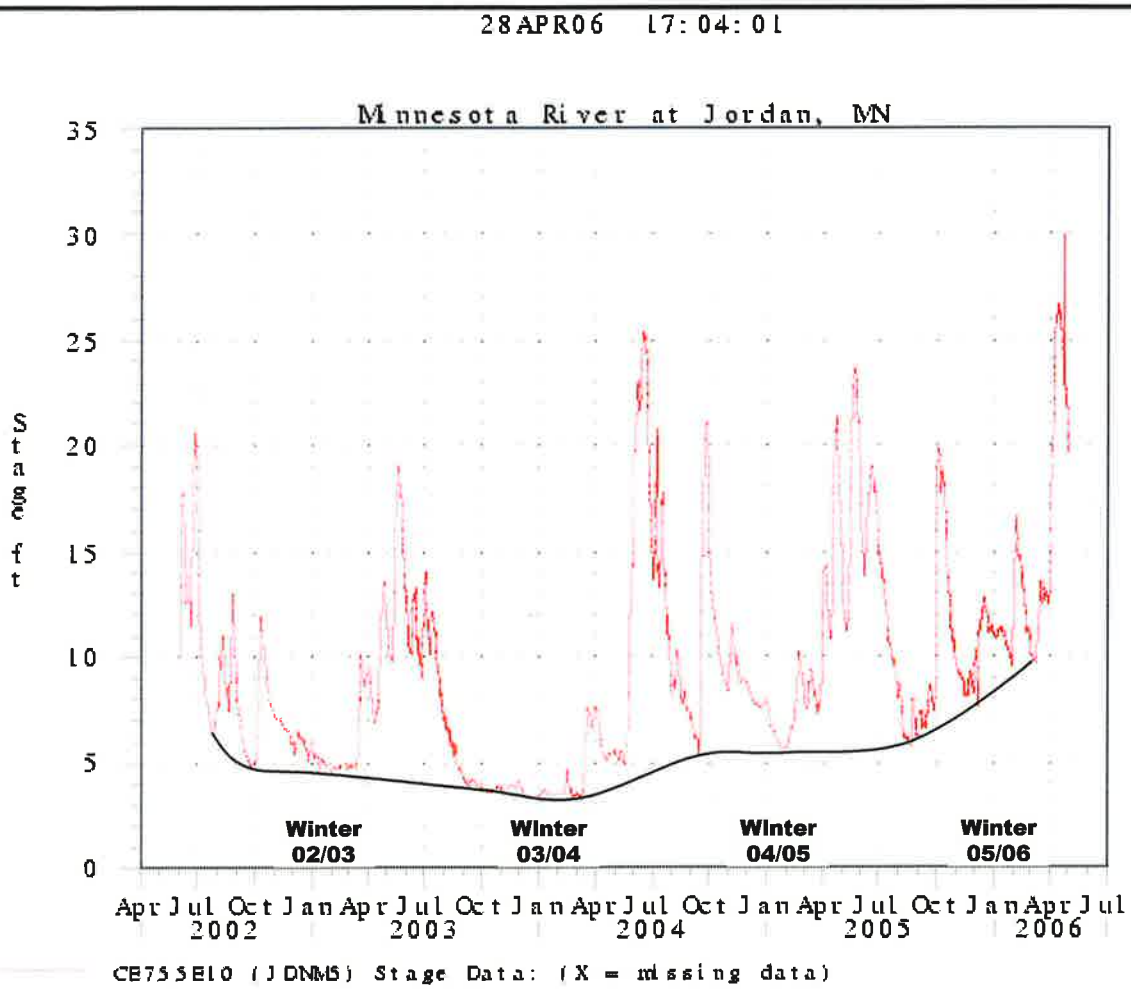


Figure 10
Minnesota River Levels

Gauge Readings near
Jordan, MN

ENVIRO-RISK
CONSULTING GROUP, INC.

Figure 11: Benzene Concentrations over Time for MW-2 & MW-3

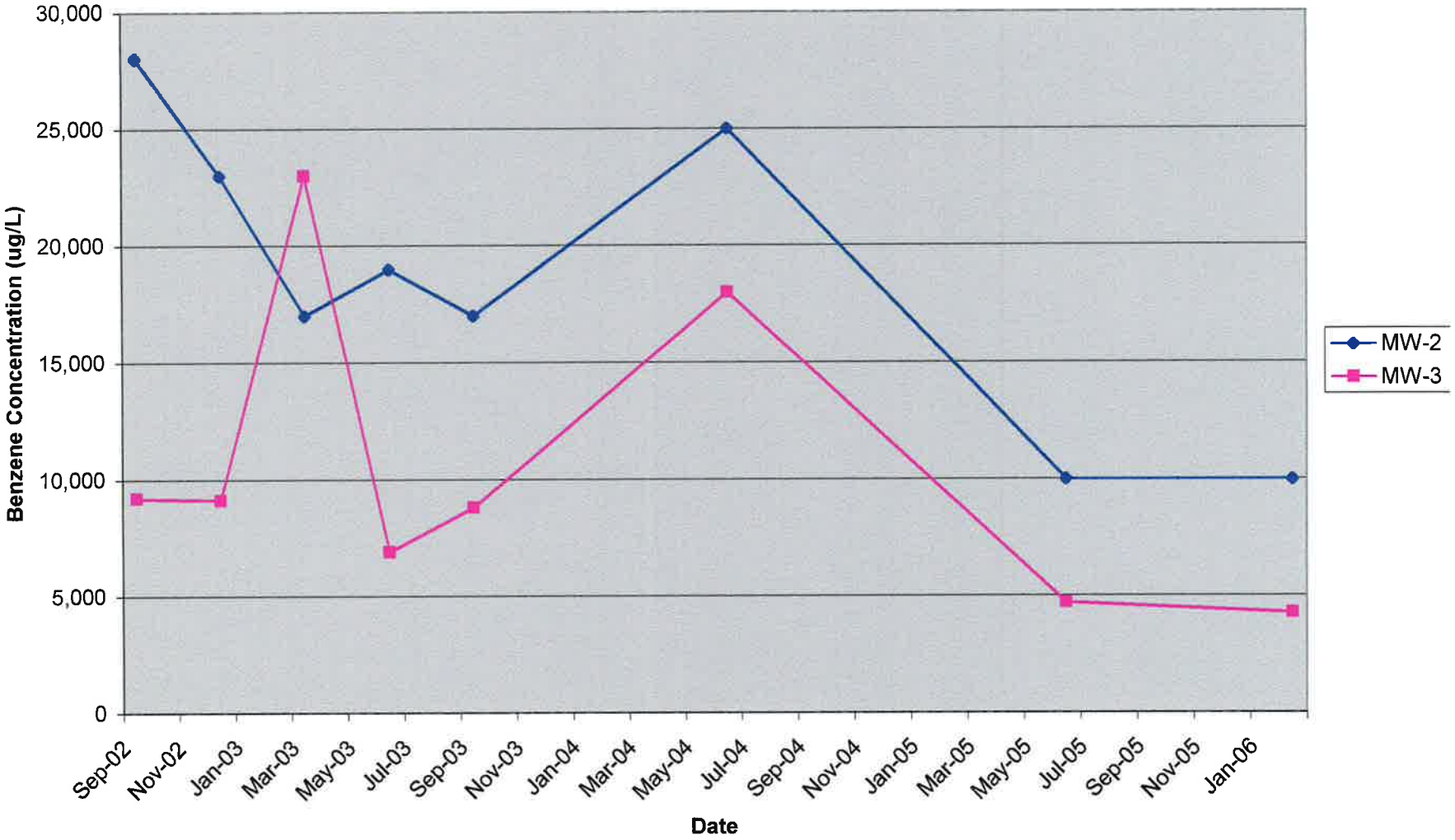
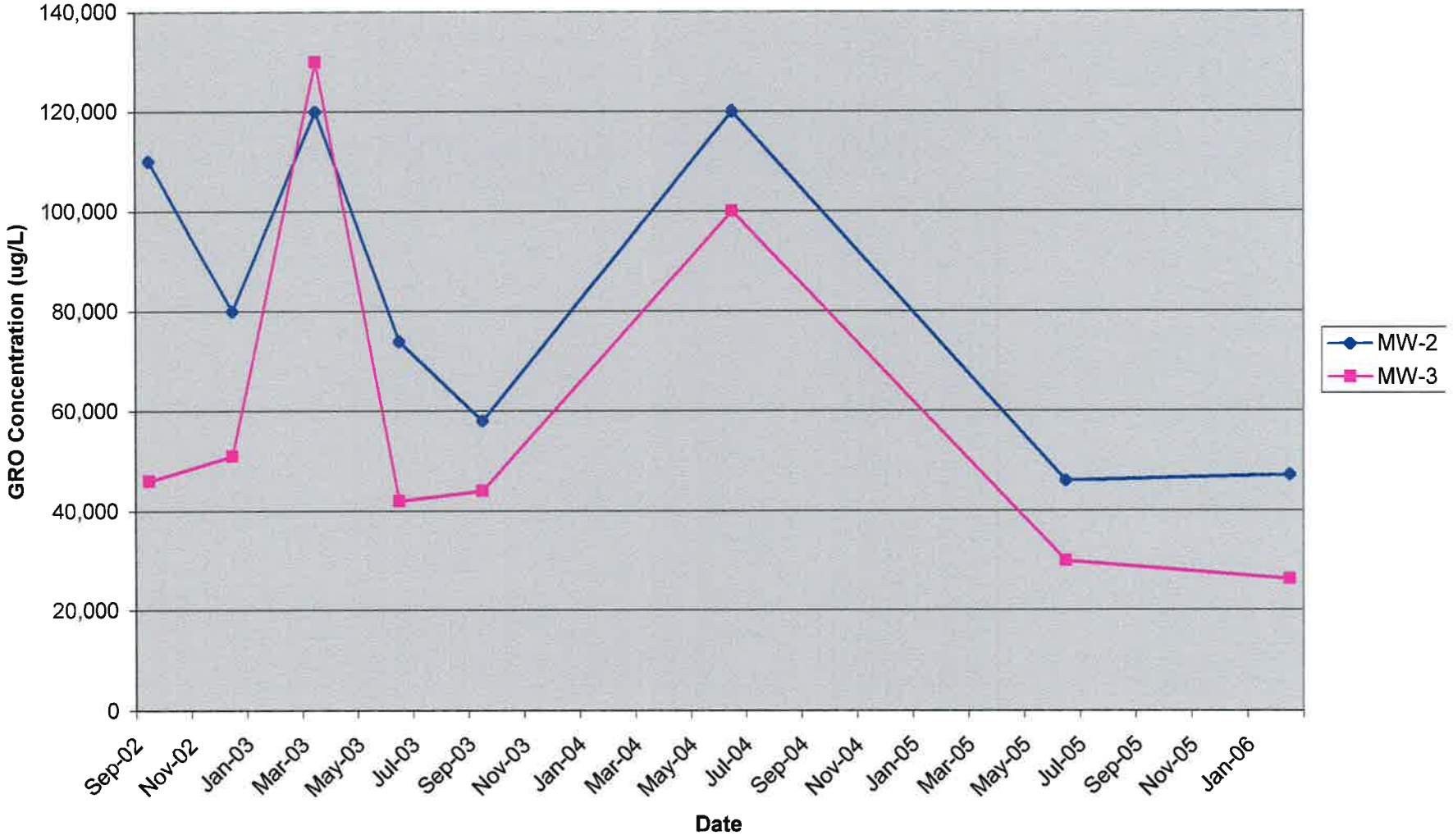


Figure 12: GRO Concentrations over Time in MW-2 & MW-3



APPENDIX A

LABORATORY ANALYTICAL REPORTS

Pace Analytical®

1241 Bellevue Street, Suite 9
Green Bay, WI 54302
920-469-2436, Fax: 920-469-8827

Analytical Report Number: 860991

Client: ENVIRO-RISK CONSULTING GROUP

Lab Contact: Eric Bullock

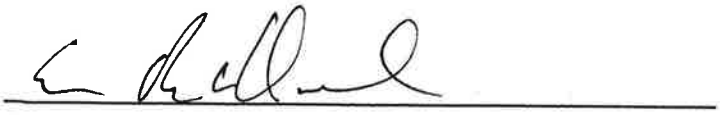
Project Name: YOCUM OIL

Project Number: 20-02014

Lab Sample Number	Field ID	Matrix	Collection Date
860991-001	MW-2	WATER	06/29/05
860991-002	MW-3	WATER	06/29/05
860991-003	DUP	WATER	06/29/05
860991-004	TRIP BLANK	WATER	06/29/05

MS/MSD: If the Form 3 header for the MS/MSD QC indicates that the MS/MSD was "Batch QC", then the MS/MSD results may not be directly applicable to your samples

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc. The sample results relate only to the analytes of interest tested.



Approval Signature

7/6/05

Date

Pace Analytical Services, Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Analytical Report Number: 860991

Client : ENVIRO-RISK CONSULTING GROUP
Project Name : YOCUM OIL
Project Number : 20-02014
Field ID : MW-2

Matrix Type : WATER
Collection Date : 06/29/05
Report Date : 07/06/05
Lab Sample Number : 860991-001

BTEX + MTBE

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Benzene		10000	100	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Ethylbenzene		1300	100	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Methyl-tert-butyl-ether	<	100	100	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Toluene		9700	100	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylene, o		2100	100	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylenes, m + p		5500	200	100	ug/L		07/01/05	SW846 5030B	WI MOD GRO
a,a,a-Trifluorotoluene		101	---	1	%Recov		07/01/05	SW846 5030B	WI MOD GRO

BTEX BLANK

Prep Date: 07/01/05

Analyte	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
BTEX Blank ID	1728-47		1					

GASOLINE RANGE ORGANICS

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Gasoline Range Organics		46000	5000	100	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank	<	50	50	1	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike		107	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike Duplicate		106	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO

Pace Analytical Services, Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Analytical Report Number: 860991

Client : ENVIRO-RISK CONSULTING GROUP
Project Name : YOCUM OIL
Project Number : 20-02014
Field ID : MW-3

Matrix Type : WATER
Collection Date : 06/29/05
Report Date : 07/06/05
Lab Sample Number : 860991-002

BTEX + MTBE

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Benzene		4700	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Ethylbenzene		750	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Methyl-tert-butyl-ether	<	50	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Toluene		8300	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylene, o		1500	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylenes, m + p		3800	100	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
a,a,a-Trifluorotoluene		103	---	1	%Recov		07/01/05	SW846 5030B	WI MOD GRO

BTEX BLANK

Prep Date: 07/01/05

Analyte	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
BTEX Blank ID	1728-47		1					

GASOLINE RANGE ORGANICS

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Gasoline Range Organics		30000	2500	50	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank	<	50	50	1	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike		107	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike Duplicate		106	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO

Pace Analytical Services, Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Analytical Report Number: 860991

Client : ENVIRO-RISK CONSULTING GROUP
Project Name : YOCUM OIL
Project Number : 20-02014
Field ID : DUP

Matrix Type : WATER
Collection Date : 06/29/05
Report Date : 07/06/05
Lab Sample Number : 860991-003

BTEX + MTBE

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Benzene		5600	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Ethylbenzene		890	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Methyl-tert-butyl-ether	<	50	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Toluene		9900	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylene, o		1800	50	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
Xylenes, m + p		4500	100	50	ug/L		07/01/05	SW846 5030B	WI MOD GRO
a,a,a-Trifluorotoluene		103	---	1	%Recov		07/01/05	SW846 5030B	WI MOD GRO

BTEX BLANK

Prep Date: 07/01/05

Analyte	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
BTEX Blank ID	1728-47		1					

GASOLINE RANGE ORGANICS

Prep Date: 07/01/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Gasoline Range Organics		37000	2500	50	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank	<	50	50	1	ug/L		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike		107	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike Duplicate		106	---	1	%Recov		07/01/05	WI MOD GRO	WI MOD GRO

Pace Analytical Services, Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Analytical Report Number: 860991

Client : ENVIRO-RISK CONSULTING GROUP
Project Name : YOCUM OIL
Project Number : 20-02014
Field ID : TRIP BLANK

Matrix Type : WATER
Collection Date : 06/29/05
Report Date : 07/06/05
Lab Sample Number : 860991-004

BTEX + MTBE

Prep Date: 07/05/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Benzene	<	1.0	1.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
Ethylbenzene	<	1.0	1.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
Methyl-tert-butyl-ether	<	1.0	1.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
Toluene	<	1.0	1.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
Xylene, o	<	1.0	1.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
Xylenes, m + p	<	2.0	2.0	1	ug/L		07/05/05	SW846 5030B	WI MOD GRO
a,a,a-Trifluorotoluene		100	---	1	%Recov		07/05/05	SW846 5030B	WI MOD GRO

BTEX BLANK

Prep Date: 07/01/05

Analyte	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
BTEX Blank ID	1728-47		1					

GASOLINE RANGE ORGANICS

Prep Date: 07/05/05

Analyte		Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Gasoline Range Organics	<	50	50	1	ug/L		07/05/05	WI MOD GRO	WI MOD GRO
GRO Blank	<	50	50	1	ug/L		07/05/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike		110	---	1	%Recov		07/05/05	WI MOD GRO	WI MOD GRO
GRO Blank Spike Duplicate		105	---	1	%Recov		07/05/05	WI MOD GRO	WI MOD GRO

Pace Analytical Services, Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436
Fax: 920-469-8827

Lab Number	TestGroupID	Field ID	Comment
860991-001	GRO-W	MW-2	Early and late eluting peaks were present outside the window of analysis.
860991-002	GRO-W	MW-3	Early and late eluting peaks were present outside the window of analysis.
860991-003	GRO-W	DUP	Early and late eluting peaks were present outside the window of analysis.

Pace Analytical Services, Inc.

Analysis Summary by Laboratory

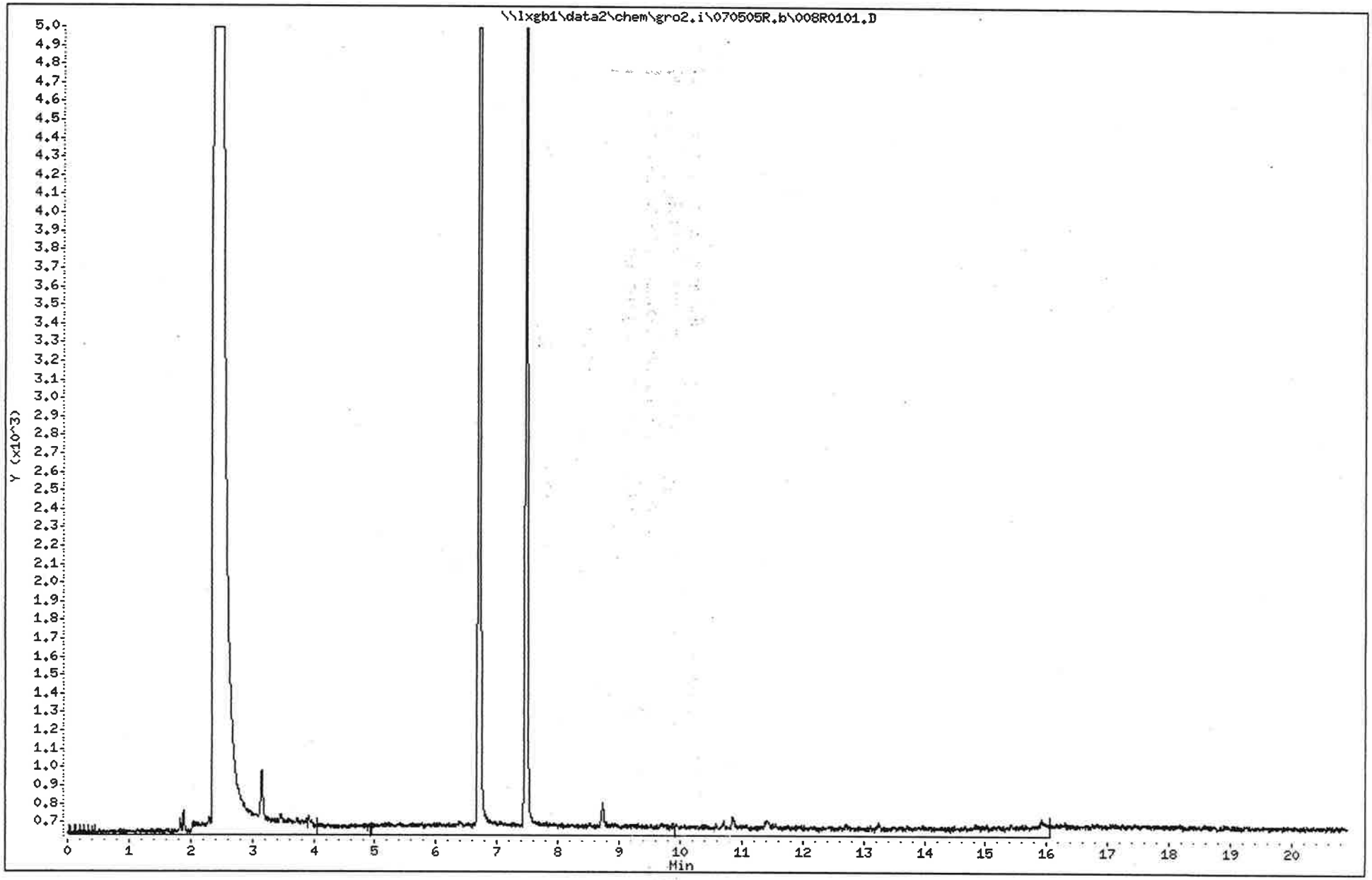
1241 Bellevue Street
Green Bay, WI 54302

Test Group Name	8609 91-001	8609 91-002	8609 91-003	8609 91-004
BTEX + MTBE	G	G	G	G
BTEX BLANK	G	G	G	G
GASOLINE RANGE ORGANICS	G	G	G	G

Code	Facility	Address	MN Certification
G	Green Bay Lab (Industrial Dr)	1795 Industrial Drive Green Bay, WI 54302	055-999-334

Data File: \\lxgb1\data2\chem\gro2.i\070505R.b\008R0101.D
Date : 05-JUL-2005 13:43
Client ID: 860991-004
Sample Info: 60991B004WCC1
Purge Volume: 5.0
Column phase: DB-624

Instrument: gro2.i
Operator: ASM
Column diameter: 0.32



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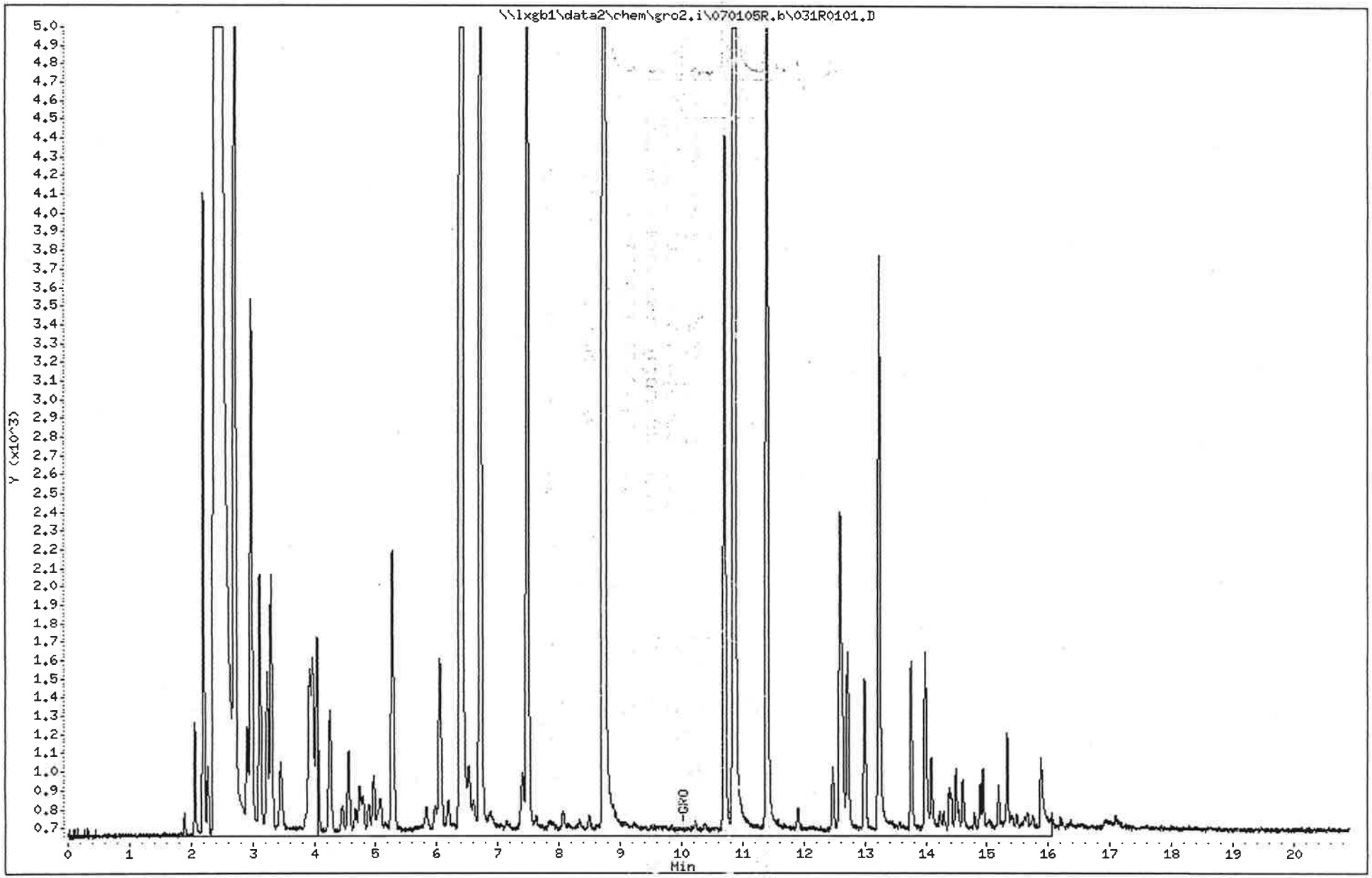
Date : 01-JUL-2005 21:51
Client ID: 860991-001
Sample Info: 60991B001WCC100
Purge Volume: 5.0
Column phase: DB-624

Instrument: gro2.i
Operator: PMS
Column diameter: 0.32



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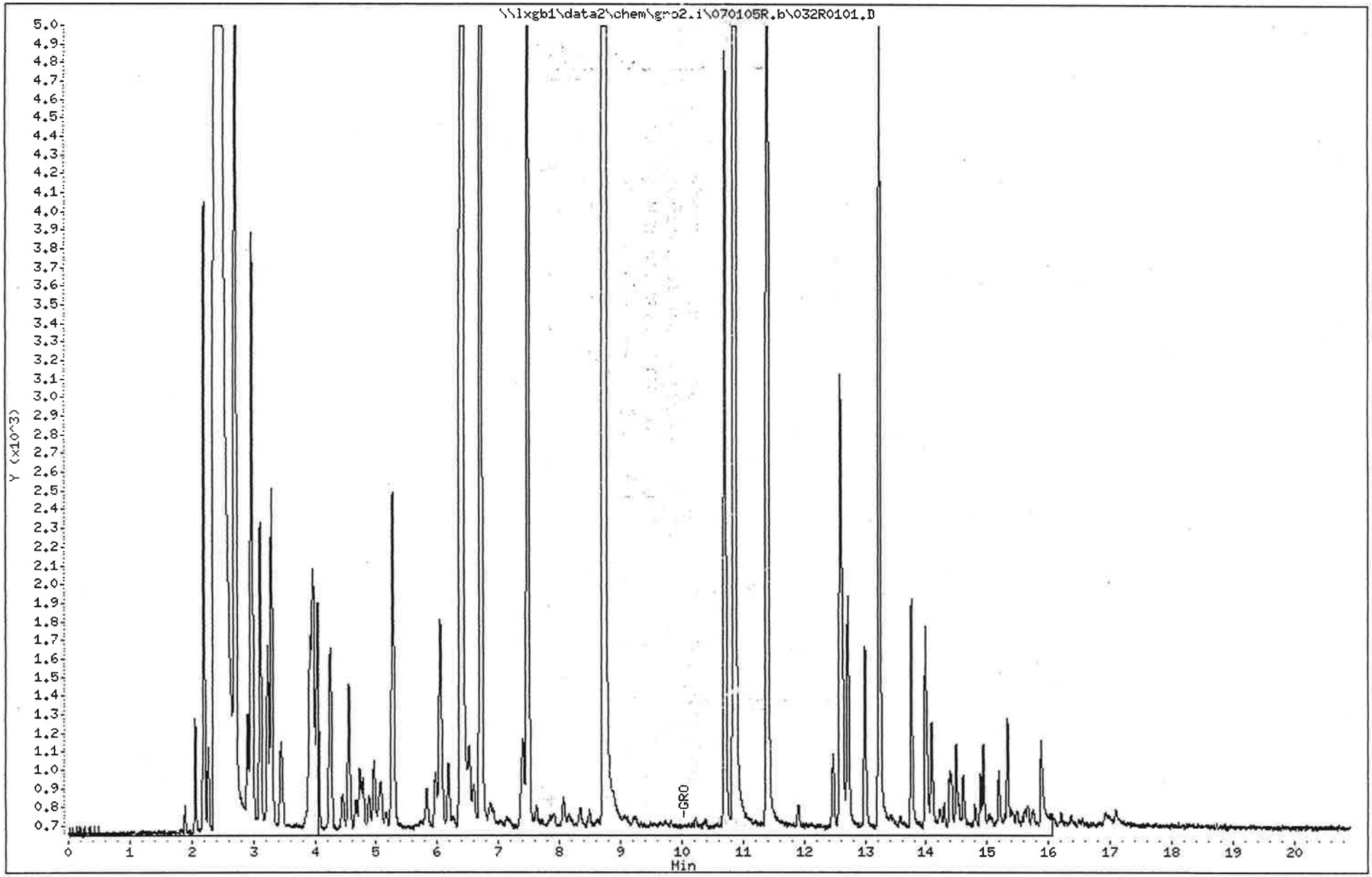
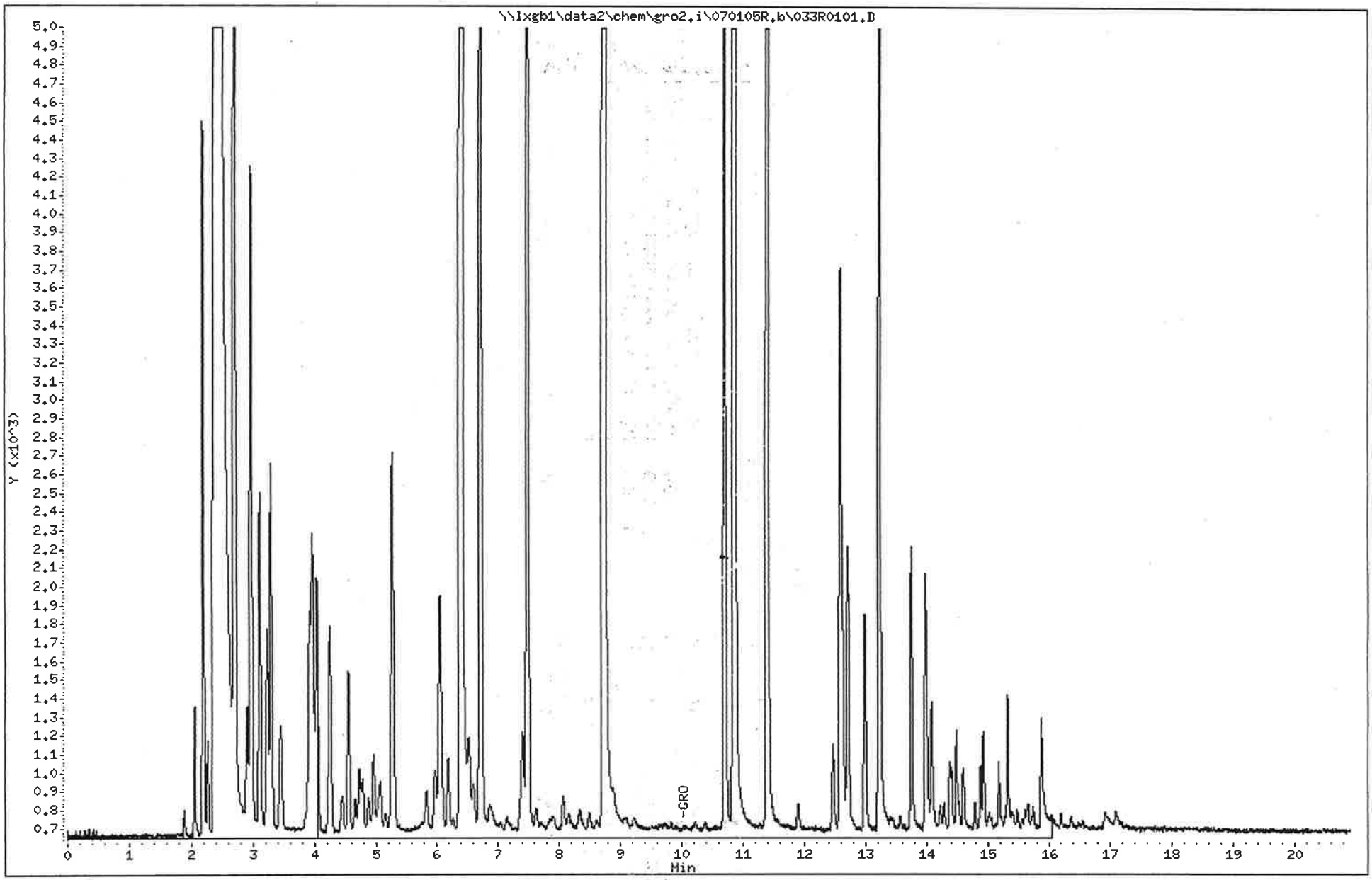
Date : 01-JUL-2005 22:17
Client ID: 860991-002
Sample Info: 60991B002WCC50
Purge Volume: 5.0
Column phase: DB-624

Instrument: gro2.i
Operator: PMS
Column diameter: 0.32



Data File: \\lxgb1\data2\chem\gro2.i\070105R.b\033R0101.D
Date : 01-JUL-2005 22:42
Client ID: 860991-003
Sample Info: 60991B003WCC50
Purge Volume: 5.0
Column phase: DB-624

Instrument: gro2.i
Operator: PMS
Column diameter: 0.32



FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BLKC 1728-47A

Lab Name: PASI-GB Contract:

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: GRO2-070505

Matrix: (soil/water) WATER Lab Sample ID: BLKC 1728-47A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 002F0101

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/05/05

GC Column: DB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1634-04-4	Methyl tert-butyl ether	1.000	U
71-43-2	Benzene	1.000	U
108-88-3	Toluene	1.000	U
100-41-4	Ethylbenzene	1.000	U
108-38-3	m/p-Xylene	2.000	U
95-47-6	o-Xylene	1.000	U
108-67-8	1,3,5-Trimethylbenzene	1.000	U
95-63-6	1,2,4-Trimethylbenzene	1.000	U
91-20-3	Naphthalene	1.000	U
----------	Total Xylenes	3.000	U

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: PASI-GB Contract:

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: GRO2-070505

Matrix Spike - Sample No.: BLKC 1728-47A

COMPOUND	SPIKE ADDED (ug/L)	BLANK CONCENTRATION (ug/L)	BS CONCENTRATION (ug/L)	BS % REC #	QC. LIMITS REC.
Methyl tert-butyl ether	20.00	0.0000	20.42	102	82-116
Benzene	20.00	0.0000	19.94	100	85-115
Toluene	20.00	0.0000	19.88	99	85-115
Ethylbenzene	20.00	0.0000	20.19	101	85-115
m/p-Xylene	40.00	0.0000	39.59	99	85-115
o-Xylene	20.00	0.0000	19.46	97	85-115
1,3,5-Trimethylbenzene	20.00	0.0000	19.34	97	83-115
1,2,4-Trimethylbenzene	20.00	0.0000	19.73	99	82-115
Naphthalene	20.00	0.0000	19.19	96	80-120
Total Xylenes	60.00	0.0000	59.05	98	85-115

COMPOUND	SPIKE ADDED (ug/L)	BSD CONCENTRATION (ug/L)	BSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methyl tert-butyl ether	20.00	20.26	101	1	20	82-116
Benzene	20.00	19.73	99	1	20	85-115
Toluene	20.00	19.73	99	1	20	85-115
Ethylbenzene	20.00	20.10	100	0	20	85-115
m/p-Xylene	40.00	39.47	99	0	20	85-115
o-Xylene	20.00	19.33	97	1	20	85-115
1,3,5-Trimethylbenzene	20.00	19.41	97	0	20	83-115
1,2,4-Trimethylbenzene	20.00	19.90	100	1	20	82-115
Naphthalene	20.00	19.79	99	3	20	80-120
Total Xylenes	60.00	58.80	98	0	20	85-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 10 outside limits
Spike Recovery: 0 out of 20 outside limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PASI-GB Contract:

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: GRO2-070505

Matrix Spike - Sample No.: 859680-086

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Methyl tert-butyl ether	20.00	0.0000	20.51	102	79-120
Benzene	20.00	0.0000	20.80	104	80-120
Toluene	20.00	0.0000	20.94	105	80-120
Ethylbenzene	20.00	0.4824	21.71	106	80-120
m/p-Xylene	40.00	1.543	43.20	104	78-124
o-Xylene	20.00	0.4496	20.66	101	80-120
1,3,5-Trimethylbenzene	20.00	0.0000	19.92	100	71-124
1,2,4-Trimethylbenzene	20.00	1.147	21.87	104	72-123
Naphthalene	20.00	0.0000	21.02	105	72-123
Total Xylenes	60.00	1.993	63.86	103	78-124

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methyl tert-butyl ether	20.00	20.90	104	2	20	79-120
Benzene	20.00	21.19	106	2	20	80-120
Toluene	20.00	21.45	107	2	20	80-120
Ethylbenzene	20.00	22.23	109	2	20	80-120
m/p-Xylene	40.00	44.23	107	2	20	78-124
o-Xylene	20.00	21.16	104	2	20	80-120
1,3,5-Trimethylbenzene	20.00	20.51	102	3	20	71-124
1,2,4-Trimethylbenzene	20.00	22.57	107	3	20	72-123
Naphthalene	20.00	21.36	107	2	20	72-123
Total Xylenes	60.00	65.39	106	2	20	78-124

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 10 outside limits
Spike Recovery: 0 out of 20 outside limits

COMMENTS: _____

_____

Effective Date: July 14,2002 Surrogates

En Chem - Green Bay

Revised: 5/03/2005

	Aqueous		Low Level Solids		Methanol Solids	
GC VOA	LCL	UCL	LCL	UCL	LCL	UCL
α,α,α–Trifluorotoluene	80	124	65	139	80	119

	Aqueous		Low Level Solids		Methanol Solids	
GCMS VOA	LCL	UCL	LCL	UCL	LCL	UCL
Dibromofluoromethane	69	140	59	125	62	123
Toluene-d_8	72	137	63	125	73	123
4-Bromoflurobenzene	65	133	44	125	66	119

	Aqueous		Solids	
GCMS PAH	LCL	UCL	LCL	UCL
Nitrobenzene-$_{d5}$	10	136	20	119
2-Fluorobiphenyl	14	111	30	97
Terphenyl-d_{14}	46	137	41	119

	Aqueous		Solids	
GCMS BNA	LCL	UCL	LCL	UCL
2-Fluorophenol	34	59	35	113
Phenol-$_{d5}$	19	38	29	114
2-Chlorophenol-$_{d4}$	59	120	34	107
1,2-Dichlorobenzene-$_{d4}$	49	111	27	116
Nitrobenezene-$_{d5}$	68	112	32	118
2-Fluorobiphenyl	61	136	26	126
2,4,6-Tribromophenol	62	150	17	129
Terphenyl-$_{d14}$	70	167	23	141

	Aqueous		Solids	
TPH Diesel	LCL	UCL	LCL	UCL
o - Terphenyl	33	133	34	106

	Aqueous		Solids	
TPH Gas	LCL	UCL	LCL	UCL
α,α,α–Trifluorotoluene	80	124	69	146

Sample Condition Upon Receipt

Pace Analytical

Client Name: Enviro-Risk Cons. Project # 860991

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used ifo Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: 6-30-05 SFaek 6-30-05GD

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No		Initial when completed
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CB 7/6/05 **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

(Please Print Legibly)
Company Name: ENVIRO-RISK CONSULTANTS
Branch or Location: ST. PAUL, MN
Project Contact: B. BURKE
Telephone: 651-735-7001
Project Number: 20-02014
Project Name: YOCUM OIL
Project State: MN
Sampled By (Print): B. BURKE
PO #: 2014

EN CHEM INC.
...chemistry for the environment.
1241 Bellevue St., Suite 9
Green Bay, WI 54302
920-469-2436
Fax 920-469-8827

CHAIN OF CUSTODY

No 129005

Page 1 of 1
Quote #:
Mail Report To: BRAD BURKE
Company: ENVIRO-RISK
Address: 1176 SILVERWOOD BAY
ST. PAUL, MN 55125
Invoice To:
Company:
Address: SAME
Mail Invoice To:

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=EnCore F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Data Package Options - (please circle if requested)
Sample Results Only (no QC)
EPA Level II (Subject to Surcharge)
EPA Level III (Subject to Surcharge)
EPA Level IV (Subject to Surcharge)

Regulatory Program: UST, RCRA, SDWA, NPDES, CERCLA

Matrix Codes: W=Water, S=Soil, A=Air, C=Charcoal, B=Biota, Sl=Sludge

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	ANALYSES REQUESTED: BTEX, MTBE	ANALYSES REQUESTED: GRO	TOTAL # OF BOTTLES SENT	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
001	MW-2	6/29/05	0935	W	N	B	X	X	3	3-40MLB	
002	MW-3	"	0910	W	N	B	X	X	3	"	
003	DUP	"	0915	W	N	B	X	X	3	"	
004	TRIP BLANK	—	—	W	N	B	X	X	2	"	

Rush Turnaround Time Requested (TAT) - Prelim
(Rush TAT subject to approval/surcharge)
Date Needed: STANDARD
Transmit Prelim Rush Results by (circle):
Phone Fax E-Mail
Phone #:
Fax #:
E-Mail Address:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	6/29/05 1145	[signature]	6/29/05 11:45
DUNHAM		[signature]	6-30-05 855

En Chem Project No. 860991
Sample Receipt Temp. 2°C
Sample Receipt pH (Wet/Metals) NA
Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 4.0: 07/03

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Minneapolis, MN 55414
Phone: (612)607-1700
Fax: (612)607-6444

February 14, 2006

Mr. Brad Burke
Enviro-Risk Consulting
1176 Silverwood Bay
St. Paul, MN 55125

RE: Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Dear Mr. Burke:
Enclosed are the analytical results for sample(s) received by the laboratory on February 01, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Seth Jacobson

seth.jacobson@pacelabs.com
Project Manager

Illinois Certification #: 200011
Iowa Certification #: 368
Minnesota Certification #: 027-053-137
Wisconsin Certification #: 999407970

Enclosures

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SAMPLE SUMMARY

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1027317001	MW-2	Water	02/01/06 12:15	02/01/06 13:30
1027317002	MW-3	Water	02/01/06 11:45	02/01/06 13:30
1027317003	DUP	Water	02/01/06 11:45	02/01/06 13:30
1027317004	TRIP BLANK	Water		02/01/06 13:30

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SAMPLE ANALYTE COUNT

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Lab ID	Sample ID	Method	Analytes Reported
1027317001	MW-2	TPH WI GRO/PVOC 8021	7
1027317002	MW-3	TPH WI GRO/PVOC 8021	7
1027317003	DUP	TPH WI GRO/PVOC 8021	7
1027317004	TRIP BLANK	TPH WI GRO/PVOC 8021	7

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ANALYTICAL RESULTS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Sample: MW-2 **Lab ID: 1027317001** Collected: 02/01/06 12:15 Received: 02/01/06 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TPH WI GRO/PVOC 8021							
Benzene	**9980**	ug/L	100	100		02/07/06 12:47	71-43-2	
Ethylbenzene	**1460**	ug/L	100	100		02/07/06 12:47	100-41-4	
Gasoline Range Organics	**47200**	ug/L	10000	100		02/07/06 12:47		
Methyl-tert-butyl ether	ND	ug/L	400	100		02/07/06 12:47	1634-04-4	
Toluene	**6770**	ug/L	100	100		02/07/06 12:47	108-88-3	
Xylene (Total)	**8080**	ug/L	300	100		02/07/06 12:47	1330-20-7	
a,a,a-Trifluorotoluene (S)	134	%	80-141	100		02/07/06 12:47	98-08-8	

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ANALYTICAL RESULTS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Sample: MW-3 **Lab ID: 1027317002** Collected: 02/01/06 11:45 Received: 02/01/06 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TPH WI GRO/PVOC 8021							
Benzene	**4250**	ug/L	100	100		02/07/06 13:48	71-43-2	
Ethylbenzene	**332**	ug/L	100	100		02/07/06 13:48	100-41-4	
Gasoline Range Organics	**26300**	ug/L	10000	100		02/07/06 13:48		
Methyl-tert-butyl ether	ND	ug/L	400	100		02/07/06 13:48	1634-04-4	
Toluene	**5660**	ug/L	100	100		02/07/06 13:48	108-88-3	
Xylene (Total)	**4280**	ug/L	300	100		02/07/06 13:48	1330-20-7	
a,a,a-Trifluorotoluene (S)	131	%	80-141	100		02/07/06 13:48	98-08-8	

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ANALYTICAL RESULTS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Sample: DUP **Lab ID: 1027317003** Collected: 02/01/06 11:45 Received: 02/01/06 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TPH WI GRO/PVOC 8021							
Benzene	**4080**	ug/L	100	100		02/07/06 14:18	71-43-2	
Ethylbenzene	**232**	ug/L	100	100		02/07/06 14:18	100-41-4	
Gasoline Range Organics	**23400**	ug/L	10000	100		02/07/06 14:18		
Methyl-tert-butyl ether	ND	ug/L	400	100		02/07/06 14:18	1634-04-4	
Toluene	**5590**	ug/L	100	100		02/07/06 14:18	108-88-3	
Xylene (Total)	**4110**	ug/L	300	100		02/07/06 14:18	1330-20-7	
a,a,a-Trifluorotoluene (S)	104	%	80-141	100		02/07/06 14:18	98-08-8	

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ANALYTICAL RESULTS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Sample: TRIP BLANK **Lab ID: 1027317004** Collected: Received: 02/01/06 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TPH WI GRO/PVOC 8021							
Benzene	ND	ug/L	1.0	1		02/07/06 15:48	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		02/07/06 15:48	100-41-4	
Gasoline Range Organics	ND	ug/L	100	1		02/07/06 15:48		
Methyl-tert-butyl ether	ND	ug/L	4.0	1		02/07/06 15:48	1634-04-4	
Toluene	ND	ug/L	1.0	1		02/07/06 15:48	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		02/07/06 15:48	1330-20-7	
a,a,a-Trifluorotoluene (S)	100	%	80-141	1		02/07/06 15:48	98-08-8	

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ANALYTICAL RESULTS QUALIFIERS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

PARAMETER QUALIFIERS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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QUALITY CONTROL DATA

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

QC Batch: GCV/2763 Analysis Method: TPH WI GRO/PVOC 8021
QC Batch Method: TPH WI GRO/PVOC 8021 Analysis Description: WIGRO GCV Water
Associated Lab Samples: 1027317001, 1027317002, 1027317003, 1027317004

METHOD BLANK: 186697
Associated Lab Samples: 1027317001, 1027317002, 1027317003, 1027317004

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Gasoline Range Organics	ug/L	ND	100	
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Methyl-tert-butyl ether	ug/L	ND	4.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
a,a,a-Trifluorotoluene (S)	%	103	80-141	

LABORATORY CONTROL SAMPLE: 186698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	1000	1030	103	80-120	
Benzene	ug/L	100	90.2	90	80-120	
Ethylbenzene	ug/L	100	98.2	98	80-120	
Methyl-tert-butyl ether	ug/L	100	94.4	94	80-120	
Toluene	ug/L	100	94.8	95	80-120	
Xylene (Total)	ug/L	300	273	91	80-120	
a,a,a-Trifluorotoluene (S)	%			106	80-141	

MATRIX SPIKE SAMPLE: 186702

Parameter	Units	1027321001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	ug/L	ND	1000	969	97	80-120	
Benzene	ug/L	ND	100	93.6	94	80-120	
Ethylbenzene	ug/L	ND	100	104	104	80-120	
Methyl-tert-butyl ether	ug/L	ND	100	98.8	99	80-120	
Toluene	ug/L	ND	100	100	100	80-120	
Xylene (Total)	ug/L	ND	300	284	95	80-120	
a,a,a-Trifluorotoluene (S)	%				95	80-141	

SAMPLE DUPLICATE: 186703

Parameter	Units	1027317001 Result	Dup Result	RPD	Max RPD	Qualifiers
Gasoline Range Organics	ug/L	47200	43800	7	30	
Benzene	ug/L	9980	9530	5	30	
Ethylbenzene	ug/L	1460	1210	19	30	
Methyl-tert-butyl ether	ug/L	ND	ND	0	30	
Toluene	ug/L	6770	6390	6	30	

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QUALITY CONTROL DATA

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

SAMPLE DUPLICATE: 186703

Parameter	Units	1027317001 Result	Dup Result	RPD	Max RPD	Qualifiers
Xylene (Total)	ug/L	8080	7580	6	30	
a,a,a-Trifluorotoluene (S)	%	138	138	2		

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QUALITY CONTROL DATA QUALIFIERS

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

QUALITY CONTROL PARAMETER QUALIFIERS

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate

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Phone: (612)607-1700
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: YOCUM OIL #20-02014
Pace Project No.: 1027317

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1027317001	**MW-2**	TPH WI GRO/PVOC 8021	GCV/2763		
1027317002	**MW-3**	TPH WI GRO/PVOC 8021	GCV/2763		
1027317003	**DUP**	TPH WI GRO/PVOC 8021	GCV/2763		
1027317004	**TRIP BLANK**	TPH WI GRO/PVOC 8021	GCV/2763		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical®

1027317

Page: of 0969979

Section A
Required Client Information:

Company:	ENVIRO-RISK CONSULTING
Address:	1176 SILVERWOOD BAY ST. PAUL, MN 55125
Email To:	bburke@enviro-risk.com
Phone:	651-735-7001
Fax:	651-735-8003
Requested Due Date/TAT:	STANDARD

Section B
Required Project Information:

Report To:	BRAD BURKE
Copy To:	—
Purchase Order No.:	2014
Project Name:	YOCUM OIL
Project Number:	# 20-02014

Section C
Invoice Information:

Attention:	BRAD BURKE
Company Name:	—
Address:	SAME
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ Other_____

SITE LOCATION: ☐GA ☐IL ☐IN ☐MI ☒MN ☐NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D
Required Client Information

SAMPLE ID

One Character per box.
(A-Z, 0-9 / -)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: BTEX MTBE GRO	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	MW-2	WT	G	2/1/06	1215	—	—		3				X					N	X X		001
2	MW-3				1145	—	—		3				X						X X		002
3	DUP				1145	—	—		3				X						X X		003
4	TRIP BLANK			—	—	—	—		2				X						X X		004
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
ENVIRO-RISK	2/1/06	1		2/1/06	13:30

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
11.5	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

ALL-0020rev.3 31Mar05

Pace Analytical

Sample Condition Upon Receipt

Client Name: Enviro-Risk Project # 1027317

Courier: [ ] Fed Ex [ ] UPS [ ] USPS [X] Client [ ] Commercial [ ] Pace Other _____

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: [ ] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other _____

Thermometer Used 230194010 Type of Ice: Wet Blue (None) [ ] Samples on ice, cooling process has begun

Cooler Temperature 11.5 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JT 2/1/06

		Comments:
Chain of Custody Present:	[X]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[X]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[X]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC	[X]Yes [ ]No [ ]N/A	4
Samples Arrived within Hold Time:	[X]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [X]No [ ]N/A	6.
Rush Turn Around Time Requested:	[ ]Yes [X]No [ ]N/A	7.
Sufficient Volume:	[X]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[X]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[X]Yes [ ]No [ ]N/A	
Containers Intact:	[X]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [X]No [ ]N/A	11.
Sample Labels match COC:	[X]Yes [ ]No [ ]N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	[ ]Yes [ ]No [X]N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [X]N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[X]Yes [ ]No	Initial when completed
Samples checked for dechlorination:	[ ]Yes [X]No [ ]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [X]No [ ]N/A	15.
Trip Blank Present:	[X]Yes [ ]No [ ]N/A	16.
Trip Blank Custody Seals Present	[X]Yes [ ]No [ ]N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: SDT **Date:** 2/1/06

Note Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

APPENDIX B

SAMPLE COLLECTION PROCEDURES

Groundwater Sampling & Analysis

All groundwater sampling and analysis was conducted in general accordance with MPCA Fact Sheet #4-05. The depth to groundwater was recorded using a Solinst oil-water interface probe capable of detecting free product and water to 0.01 foot. The Solinst probe was decontaminated with a soap/water mixture and then triple rinsed between each well.

Following collection of water level data, a minimum of 3 well volumes of water was purged from each monitoring well with a disposable bailer. Following well purging, a new disposable bailer (Aqua Bailer - polyethylene) was then utilized to collect a sample from the well. Water from the bailer was discharged from the bottom of the bailer into sampling glassware by unseating the bailer's ball check valve. This was done to minimize disturbance of the water sample and volatilization during transfer.

All water samples were collected in laboratory-provided containers, stored on ice in a cooler, and maintained under proper chain-of-custody until they were delivered to the analytical laboratory. Water samples were analyzed for benzene, toluene, ethyl benzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), and gasoline range organics (GROs).

APPENDIX C

FIELD SAMPLING DATA SHEETS

ENVIRO-RISK
CONSULTING GROUP, INC.

.10
11.1
163
1630
16300
1809
1803

PROJE_NAME: Yocum Oil Co.
PROJECT NO.: #20-02014
LOCATION: Jordan, MN
DATE: 6/29/05

GROUNDWATER SAMPLING DATA FORM

PERSONELL: B. Burke
WEATHER: Cloudy, Lt. Rain 65°F
WELL TYPE: Monitor Well

NOTES/COMMENTS:

WELL DEPTH & PURGING DETAILS

WELL NO	MW-2	WC LENGTH	11.1	PURGE EQUIP	PE Bailer
WELL DEPTH	17.25	CASING DIAM	2"	START TIME	0920
STATIC DTW	6.15	Gal/Ft: 1"=0.041;2"=0.163;4"= 0.653		END TIME	0930
FREE PROD?	N	WC VOLUME	1.8	PURGE RATE	
ODOR?	Yes - Petro	GAL PURGED	5.5 Gal	APPEARANCE	

FIELD MEASUREMENTS

	VOL/TIME	VOL/TIME	VOL/TIME	VOL/TIME
TEMP				
ELEC COND				
SPEC COND				
PH				
DISS OXYGEN				
Eh				
TURBIDITY				

SAMPLE COLLECTION

SAMPLING EQUIP	PE Bailer
START TIME	0935
END TIME	
NOTES/COMMENTS	3-40ml VOAs

DIAGRAM

ENVIRO-RISK
CONSULTING GROUP, INC.

10.7 × .163 = 1.74 ; 1.75 × 3

PROJECT NAME: Yocum Oil
PROJECT NO.: # 20-02014
LOCATION: Jordan, MN
DATE: 6/29/05

GROUNDWATER SAMPLING DATA FORM

PERSONELL: B. Burke
WEATHER: Cloudy, Lt. Rain 65°F
WELL TYPE: Monitor Well

NOTES/COMMENTS:

WELL DEPTH & PURGING DETAILS

WELL NO	MW-3	WC LENGTH	10.7	PURGE EQUIP	PE Bailer
WELL DEPTH	17.39	CASING DIAM	2"	START TIME	0855
STATIC DTW	6.72	Gal/Ft: 1"=0.041;2"=0.163;4"= 0.653		END TIME	0910
FREE PROD?	No	WC VOLUME	1.75	PURGE RATE	—
ODOR?	Yes-Petro	GAL PURGED	5.5 Gal	APPEARANCE	Clear/Grey

FIELD MEASUREMENTS

	VOL/TIME	VOL/TIME	VOL/TIME	VOL/TIME
TEMP				
ELEC COND				
SPEC COND				
PH				
DISS OXYGEN				
Eh				
TURBIDITY				

SAMPLE COLLECTION

SAMPLING EQUIP: PE Bailer
START TIME: 0910
END TIME:
NOTES/COMMENTS:
3-40ml VOAs
Plus
3-40ml VOAs Dups

DIAGRAM

ENVIRO-RISK
CONSULTING GROUP, INC.

PROJECT NAME: Yoxum Oil
PROJECT NO.: #20-02014
LOCATION: Jordan, MN
DATE: 2/1/06

GROUNDWATER SAMPLING DATA FORM

PERSONELL: B. Burke
WEATHER: Overcast 25°F
WELL TYPE: Monitor

NOTES/COMMENTS:

WELL DEPTH & PURGING DETAILS

WELL NO	MW-2	WC LENGTH	10.43	PURGE EQUIP	PE Bailer
WELL DEPTH	17.25	CASING DIAM	2"	START TIME	1200
STATIC DTW	6.82	Gal/Ft: 1"=0.041;2"=0.163;4"= 0.653		END TIME	1210
FREE PROD?	N	WC VOLUME	1.7	PURGE RATE	
ODOR?	Y	GAL PURGED	5.1	APPEARANCE	Clear

FIELD MEASUREMENTS

	VOL/TIME	VOL/TIME	VOL/TIME	VOL/TIME
TEMP				
ELEC COND				
SPEC COND				
PH				
DISS OXYGEN				
Eh				
TURBIDITY				

SAMPLE COLLECTION

SAMPLING EQUIP	~~FDT~~ PE Bailer
START TIME	1216
END TIME	1215
NOTES/COMMENTS	(3) 40ml VOAs

DIAGRAM

ENVIRO-RISK
CONSULTING GROUP, INC.

PROJECT NAME: Yocum Oil
PROJECT NO.: #20-02014
LOCATION: Jordan, MN
DATE: 2/1/06

GROUNDWATER SAMPLING DATA FORM

PERSONELL: B. Burke
WEATHER: Overcast 25°F
WELL TYPE: Monitor

NOTES/COMMENTS:

WELL DEPTH & PURGING DETAILS

WELL NO	MW-3	WC LENGTH	9.99	PURGE EQUIP	PE Bailer
WELL DEPTH	17.39	CASING DIAM	2	START TIME	1125
STATIC DTW	7.40	Gal/Ft: 1"=0.041;2"=0.163;4"= 0.653		END TIME	1135
FREE PROD?	N	WC VOLUME	1.63	PURGE RATE	—
ODOR?	Y	GAL PURGED	5	APPEARANCE	Clear

FIELD MEASUREMENTS

	VOL/TIME	VOL/TIME	VOL/TIME	VOL/TIME
TEMP				
ELEC COND				
SPEC COND				
PH				
DISS OXYGEN				
Eh				
TURBIDITY				

SAMPLE COLLECTION

SAMPLING EQUIP	PE Bailer
START TIME	1140
END TIME	1145

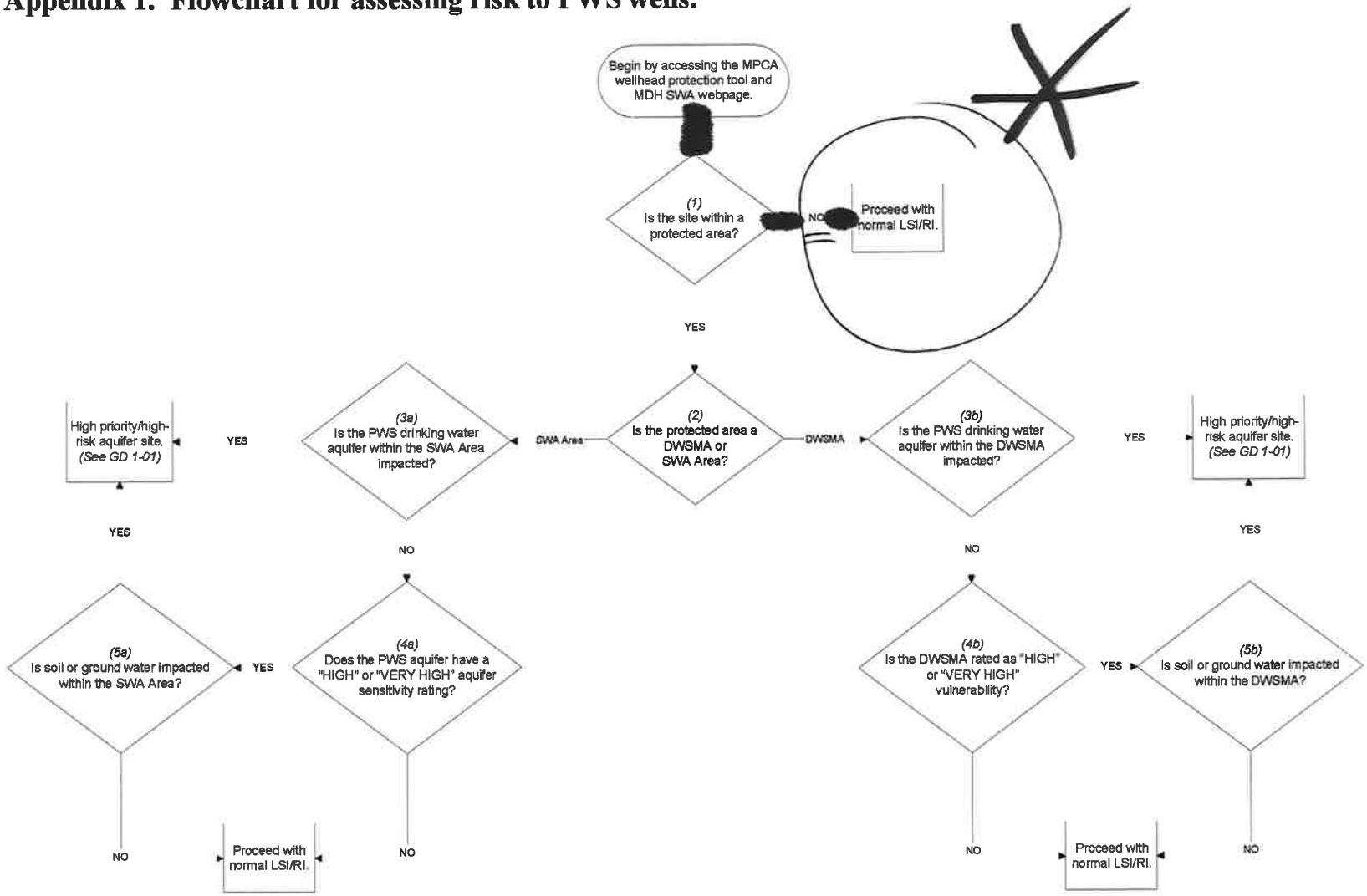
NOTES/COMMENTS
(3) 40ml VOAs
+ (3) 40ml VOAs (DUP)

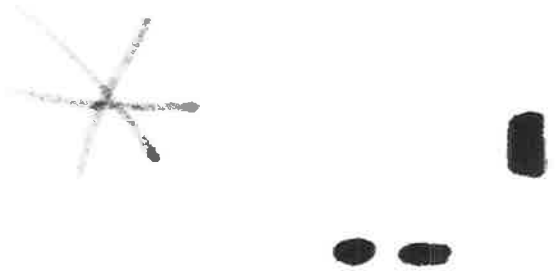
DIAGRAM

APPENDIX D

PUBLIC WATER SUPPLY
RISK ASSESSMENT

Appendix 1. Flowchart for assessing risk to PWS wells.





Jordan Texaco - Public Water Supply Risk Assessment Map

Disclaimer: Map and site information is believed to be accurate but accuracy is not guaranteed. No portion of the information should be considered to be, or used as, a legal document. The information is provided subject to the express condition that the user knowingly waives any and all claims for damages against MPCA that may arise from the use of this data.

Legend

- Private Wells
- Petroleum Remediation Program
- Wellhead Protection Area
- Drinking Water Supply Management Area
- Source Water Assessment Area
- Moderate Vulnerability
- High Vulnerability

Minnesota Pollution Control Agency

APPENDIX E

SPATIAL DATA REPORTING FORM

(MPCA Guidance Doc 1-03a)

Petroleum Remediation Program
Minnesota Pollution Control Agency
http://www.pca.state.mn.us/programs/lust_p.html

Spatial Data Reporting Form

Guidance Document 1-03a
(For complete instructions, see Guidance Document 1-03.)

Part 1. Background

Has a site location data point been submitted for this site (circle/highlight)? YES or **NO**
If yes, you do not need to complete Part 2 of this form but should complete Part 3 if there are additional site features to report. This form can be submitted electronically if desired (e.g., as an e-mail attachment to the project manager).

MPCA Site ID: LEAK000***11991***
Site Name: ***Jordan Texaco (now Holiday)***
Data Collection Date: ***04/28/06***
Name of Person Who Collected Data: ***Brad M. Burke***
Organization Name: ***Enviro-Risk Consulting Group, Inc.***
Organization Type: ***Consultant***

Part 2. Site Location (use one of the three spatial data reporting formats provided)

Point Description: ***Appx Location of UST Basin***
Collection Method: ***Large Scale Map Interpolation from MPCA – What's in my Neighborhood http://www.pca.state.mn.us/backyard/neighborhood.html***
Datum (circle/highlight): ~~WGS84~~ **NAD83**

1) Longitude (dd mm ss.ss):
2) Longitude (dd.dddddd):
3) UTM - X (Easting): ***449,425***
   UTM Zone: ***15E***

Latitude (dd mm ss.ss):
Latitude (dd.dddddd):
UTM - Y (Northing): ***4,946,575***

Part 3. Other Site Features

Point Description: ***Appx Location of Monitor Well MW-1***
Collection Method: ***Large Scale Map Interpolation from MPCA – What's in my Neighborhood http://www.pca.state.mn.us/backyard/neighborhood.html***
Datum (circle/highlight): ~~WGS84~~ **NAD83**
1) Longitude (dd mm ss.ss):
2) Longitude (dd.dddddd):
3) UTM - X (Easting): ***449,422***
UTM Zone: ***15E***
Latitude (dd mm ss.ss):
Latitude (dd.dddddd):
UTM - Y (Northing): ***4,946,582***

Point Description: ***Appx Location of Monitor Well MW-2***
Collection Method: ***Large Scale Map Interpolation from MPCA – What's in my Neighborhood http://www.pca.state.mn.us/backyard/neighborhood.html***
Datum (circle/highlight): ~~WGS84~~ **NAD83**
1) Longitude (dd mm ss.ss):
2) Longitude (dd.dddddd):
3) UTM - X (Easting): ***449,407***
UTM Zone: ***15E***
Latitude (dd mm ss.ss):
Latitude (dd.dddddd):
UTM - Y (Northing): ***4,946,581***

Point Description: ***Appx Location of Monitor Well MW-3***
Collection Method: ***Large Scale Map Interpolation from MPCA – What's in my Neighborhood http://www.pca.state.mn.us/backyard/neighborhood.html***
Datum (circle/highlight): ~~WGS84~~ **NAD83**
1) Longitude (dd mm ss.ss):
2) Longitude (dd.dddddd):
3) UTM - X (Easting): ***449,415***
UTM Zone: ***15E***
Latitude (dd mm ss.ss):
Latitude (dd.dddddd):
UTM - Y (Northing): ***4,946,576***

Point Description:
Collection Method:
Datum (circle/highlight): WGS84 NAD83
1) Longitude (dd mm ss.ss):
2) Longitude (dd.dddddd):
3) UTM - X (Easting):
UTM Zone:
Latitude (dd mm ss.ss):
Latitude (dd.dddddd):
UTM - Y (Northing):

MPCA GUIDANCE DOCUMENT #4-14

Corrective Action Design
System Monitoring Worksheet

Petroleum Remediation Program
Minnesota Pollution Control Agency
http://www.pca.state.mn.us/programs/lust_p.html

Corrective Action Design System Monitoring Worksheet

Guidance Document 4-14

This worksheet documents ongoing system emissions and efficiency, in part to fulfill U.S. Environmental Protection Agency (EPA) requirements. Complete and submit this monitoring worksheet quarterly for the first year and annually thereafter. Submit an annual monitoring report as described in Guidance Document 4-08 *Annual Monitoring Report.* [Note: Minnesota Pollution Control Agency (MPCA) staff may vary the frequency of progress reporting on a site specific basis.]

For several remedial technologies, you are asked to provide contaminant mass removal rates in terms of gallons/day. To aid you in calculating these values, we provide a standard equation and have calculated the gallon/kilogram (gal/kg) values for various petroleum products. Please use these values in your calculations:

Product	gal/kg
gasoline	0.37
kerosene, JP4	0.33
fuel oil #1, diesel	0.31
fuel oil #2	0.30
fuel oil #4	0.29

MPCA Site ID #: Leak000***11991*** Date Form Completed: ***4/28/06***
Site Name: ***Jordan Texaco***
Facility address***: 255 Triangle Lane, Jordan, MN***

Responsible party: ***Yocum Oil Company*** RP phone: ***651-739-9141***
Consultant: ***Enviro-Risk Consulting Group, Inc.*** Consultant phone: ***651-735-7001***

For all sites, attach a table showing uptime and downtime for each treatment system at the site. Include explanations for any downtime that occurred during the reporting period, and a discussion of actions taken to remedy operational problems.

FREE PRODUCT RECOVERY SYSTEMS

Attach a table of free product thickness in all monitoring and recovery wells (to 0.1 feet).

Free product recovery rate: ***0.0 gallons/day (no recoverable free product observed recently)***
Total product recovered to date: ***greater than 2,430 gallons***

GROUND WATER PUMP-OUT SYSTEMS

Influent/Effluent concentrations

☐ Attach a table of cumulative ground water influent and effluent discharge concentrations (in ug/L).

Operating parameters

Pumping rate: gallons per minute
Amount of water table drawdown: feet

Contaminant mass removal

Estimated contaminant mass removal rate: gallons/day
Estimated contaminant mass removal to date: gallons
Cumulative mass removal vs. time (plot)

SOIL VENTING SYSTEMS

Emission concentrations

☐ Attach a table containing field screening results for each vapor extraction point.
☐ Attach a table of soil vent system emissions concentrations. Include all analytical samples collected since system startup. Collect the samples from a sampling port located upstream of the blower. Analyze the samples for benzene, ethyl benzene, toluene and xylene using EPA Method 18. Include the Screening Emission Rates (SERs) for each compound on the table.

Operating parameters

Extraction airflow rate: standard cubic feet/minute (scfm)

☐ Attach a table of cumulative vacuum data from vent points and monitoring points.

Bioactivity measurements

☐ Attach a table of cumulative extraction system CO_2 and O_2 concentrations.

Contaminant mass removal:

Estimated contaminant mass removal rate: kg/day x gal/kg = gal/day
Estimated contaminant mass removal to date: gallons
Cumulative mass removal vs time (plot)

SOIL VENTING/AIR SPARGING SYSTEMS

(Complete the soil venting systems section above for all air sparge/soil venting combination systems)

☐ Attach a table of air injection rates for each sparge point in the system.

Total air injection rate: scfm
Total air removal rate scfm

TOTAL SITE CONTAMINANT MASS REMOVAL

Fill out this section if ground water pump-out is used in combination with a soil venting system or a soil venting/air sparging system.

Total estimated contaminant mass removal rate for the site: gallons/day
Total estimated contaminant mass removal to date for the site: gallons
Cumulative mass removal vs time (plot).

SYSTEM CHANGES

Describe in detail any changes in system operation or configuration made during this reporting period (attach additional pages if needed). Also explain any periods during which the system was not operating.

The free product collection system consists of two pneumatic submersible pumps installed in MW-2 and MW-3, which is designed to automatically remove free product from the wells and discharge into an aboveground storage tank located on site. A site map is attached for your reference. During our initial site visit on June 13, 2002, it was discovered that the air compressor, which operates the product recovery pumps, was inoperable. It appears that a new compressor would be needed, at a minimum, to resume operation of the free product collection system. It is unknown how long the free product system had not been running and currently the system is not operating. No free product has been measured recently in MW-2 and MW-3. The submersible pumps have been removed.

RECOMMENDATIONS

List recommendations for modifying the monitoring schedule, system operation, system configuration or site closure (attach additional pages if needed):

Based on measured free product levels, resuming operation of the system (and replacement of the air compressor) is not be needed since free product levels in the two recovery wells (MW-2 and MW-3) are relatively minor, and recently non-existent. Enviro-Risk recommends removing / dismantling the free product recovery system.

OBSERVATIONS

Please provide observations made at the site and describe unusual circumstance that may have influenced the sampling results:

The total quantity of gasoline actually released has never been clearly determined. Based on MPCA records, stated quantities ranged between 0.2 gal per hour (5 gal /day) to as much as 100 gal /day. The release apparently occurred over a 30 to 40 day period in September / October 1998 and the total quantity released was in excess of 1,000 gallons.

Based on past reports submitted by Arden Environmental, at least 2,230 gallons of free product was removed from the wells during the period of November 1998 through January 1999. Additional product was likely removed during 1999, however Enviro-Risk could not locate any additional 1999 data during our MPCA file search. IT Corporation took over free product monitoring / removal activities in 2000 through 2001. During this period, only product level measurements were obtained from the free product aboveground storage tank (AST) on site and no known removal of free product occurred from the site.

In 2002, Enviro-Risk was assigned to monitor / recover free product at the site. No additional free product has been recovered since the air compressor is inoperable. However, based on level measurements taken in the free product AST, Enviro-Risk estimates that approximately 200 gallons of free product is contained in the tank.

Summary: ***Potential Release Quantity:*** ***greater than 1,000 gallons***
Documented Quantity Recovered: ***2,430 gallons***

Given that additional free product recovery probably occurred in 1999, for which data is not readily available, it is likely that the actual quantity of free product removed is closer to 3,000 gallons. Therefore, it is feasible that the free product recovery system has removed the majority of product associated with the 1998 release. Given this possibility, and the lack of measured free product in MW-2 and MW-3, removal of the free product recovery system is justified.

TABLES & GRAPHS

Tables and graphs as requested above. ***See April 2006 Annual Report.***

Web pages and phone numbers

MPCA staff	http://data.pca.state.mn.us/pca/emplsearch.html
MPCA toll free	**1-800-657-3864**
Petroleum Remediation Program web page	http://www.pca.state.mn.us/programs/lust_p.html
MPCA Infor. Request	http://www.pca.state.mn.us/about/inforequest.html
PetroFund Web Page	http://www.commerce.state.mn.us/mainpf.htm
PetroFund Phone	**651-297-1119, or 1-800-638-0418**
State Duty Officer	**651-649-5451 or 1-800-422-0798**