GME CONSULTANTS, INC.
CONSULTING ENGINEERS
Lake Shore Drive / P.O. Box 250
Crosby, MN 56441 / (218) 546-6371

July 18, 1995

Mr. Mark Koplitz
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road North
St. Paul, Minnesota 55155

GME Project No. C-2373-B

RE: Quarterly Monitoring Report Submittal for the Dittmer Oil Company site in Fairfax, Minnesota (Leaksite #00001940)

Dear Mr. Koplitz:

On behalf of Mr. Bob Dittmer, enclosed is a copy of the completed Site Monitoring Worksheet which summarizes the results of the most recent groundwater sampling round (June 1, 1995) conducted at the site. In addition to the on-site monitoring wells and the Co-op well, we also sampled the Ralph Bemmels well (see attached laboratory results). We recommend that semi-annual monitoring of the on-site wells be continued and that the Bemmels well be sampled at least one more time. We anticipate conducting the next groundwater sampling round in December of 1995. Please review this submittal as soon as possible.

Please contact us at 218-546-6371, if you have any questions.

Sincerely,

GME CONSULTANTS, INC.

Jay P. Brekke

Jay P. Brekke, E.I.T.
Geological Engineer
Project Manager

Mark D. Millsop

Mark D. Millsop
Senior Hydrogeologist
Corporate Environmental Division Manager

RECEIVED
JUL 31 1995
MPCA, HAZARDOUS WASTE DIVISION

c: Mr. Bob Dittmer
Dittmer Oil Company
600 East Lincoln Ave.
Fairfax, Minnesota 55332

WILLIAM C. KWASNY, P.E.
GREGORY R. REUTER, P.E.
MARK D. MILLSOP
THOMAS PAUL VENEMA, P.E.
WYATT A. GUTZKE, P.E.
SANDRA J. FORREST
WILLIAM E. BLOEMENDAL, P.E.
MERVYN MINDESS, P.E.
STEVEN J. RUESINK, P.E.
An Equal Opportunity Employer

SITE NAME: Dittmer Oil Company
SITE ID NUMBER: LEAK 1940

PETROLEUM TANK RELEASE REPORT CHECKLIST

In order to facilitate report review, the MPCA staff requests your assistance in completing this form which should be attached to all incoming reports. The form will be used to screen reports for completeness and to characterize the degree of contamination at the site.

SITE CHARACTERIZATION	YES	NO	
Emergency:			
Vapor or explosive hazard?	___	X	
- if yes, has this been addressed?	___	___	
Actual drinking water supply impacts?	___	X	
- if yes, has alternate supply been provided?	___	___	
Ground Water and Soil:			
Has ground water been impacted?	X	___	
Is there free product?	___	X	
- if yes, has recovery been initiated?	___	___	
Are there downgradient receptors at risk?	X	___	Co-op Well
Did you answer "yes" to any question, 7 through 14, on the Hydrogeologic Setting and Ground Water Characterization Worksheet?	X	___	
Is this a progress report?	X	___	
- if yes, is it quarterly or annual?	Quarterly		

REPORT CONTENTS

Check the appropriate report type and completed sections (as outlined in the "Petroleum Tank Release Reports" document).

[ ] Excavation Report Form

[ ] All applicable sections completed
[ ] Figures
[ ] Lab reports with chain of custody forms

[ ] RI Report

[ ] Introduction
[ ] Background, Incl. Twp/Rng, Lat/Long
[ ] Excavation Form
[ ] RI Results
[ ] Discussion
[ ] Conclusions
[ ] Recommendations
[ ] Appendices
[ ] Tables, Figures
[ ] Hydrogeologic Characterization Worksheet

[ ] CAD Report

[ ] Proposed CAD
[ ] Appropriate Sections of Appendices
[ ] Figures

[x] Progress Reports

[ ] Introduction
[ ] Background
[ ] Corrective Action
[x] Ground Water Monitoring Results
[ ] Discussion
[ ] Conclusions
[x] Recommendations
[x] Appendices
[x] Tables, figures

If recommendations are included in the report, provide a brief description (e.g., no further action, modification of ground water recovery system, additional monitoring, etc.):

Additional groundwater monitoring and providing an alternative water supply to the Co-op.

If a CAD is proposed, provide a brief description (e.g., soil venting, pump and treat, bioremediation, etc.):

_____

SITE MONITORING WORKSHEET
Fact Sheet #7
Minnesota Pollution Control Agency
LUST Cleanup Program
April 1993

The Minnesota Pollution Control Agency (MPCA) staff expect this worksheet to simplify the required post-investigation site monitoring reports. Submit this worksheet:

* **quarterly, after the remedial investigation (RI) is complete, but before corrective action is taken;**

* **quarterly, during corrective action design (CAD) installation; and**

* **quarterly, after the CAD is operational, along with the "CAD System Monitoring Worksheet", (fact sheet #11).**

Completion and submittal according to the above schedule fulfills your quarterly site monitoring report requirements. You may include a short cover letter whenever circumstances require. However, you must still submit an annual progress report as described in "Petroleum Tank Release Reports" (fact sheet #3). [NOTE: MPCA staff may reduce the frequency of progress reporting on a site specific basis.]

Where attachments are requested (tables, maps, graphs, etc.), please check off those items attached. The only table not mandatory is that for dissolved oxygen.

MPCA Leak Number: 1940

I. Ground Water Monitoring

Please attach the following:

x	**Cumulative table of ground water monitoring results, including all sample blanks.** (Table 2)
x	**Copies of most recent laboratory reports for ground water analyses, including a copy of the Chain of Custody.**
x	**Cumulative table of ground water elevation and product thickness results.** (Table 1)
x	**Hydrograph for all monitoring and recovery wells.** (Figure 3)
x	**Graph(s) showing contaminant concentrations over time for all monitoring and recovery wells.** (Figures 4 through 6)
x	**Ground water contour map based on the most recent ground water elevation data.** (Figure 2)
	Table of dissolved oxygen sample results (if collected)

Please describe unusual circumstances that may have influenced the sampling results:_____

Please detail significant observations made at the site:_____
Analytical results for the Co-op well showed no detections. Results for the Ralph Bemmels water supply well showed no detections with the exception of 2.7 ppb Naphthalene (however, this value falls between the method detection limit and practical quantitation limit). This detection, if "real", may be related to a variety of substances including lubricating oils possibly associated with the well's pump.

II. Vapor Impact Monitoring

If vapor impacts were detected during the remedial investigation, please attach:

_____ **a cumulative table of vapor monitoring results. The table should identify the location of all vapor monitoring points (i.e., sewer manholes, basements, etc.)**

_____ **a map of vapor monitoring locations**

Sampling instrument used:_____
Sampling method:_____

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 MPCA spills unit at voice 612/297-8610, TDD 612/297-5353 or Greater Minnesota TDD 1-800-627-3529.

III. Recommendations

Use this space to detail any recommendations for modifying the current monitoring schedule:

Continue with semi-annual monitoring of the site wells as requested in the March 17, 1995 MPCA letter, plus sample the Bemmels well at least once more.

Upon request, this document can be made available in other formats, including Braille, large print and audio tape. TDD users, call the Minnesota State Relay Service, 612-297-5353 or Greater Minnesota TDD 1-800-627-3529.

TABLE 1
GROUNDWATER ELEVATION SUMMARY
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Measurement Date	Groundwater Elevations (Site Datum) Well MW1	Well MW2	Well MW3	Well MW4	Well MW5	Well MW6	Well MW7	Well MW8	Well MW9
12-06-91	91.98	92.87	93.31						
01-21-92	91.41	93.51	92.45						
06-03-93	93.30	94.00	94.41	92.92	93.25	92.33			
06-17-93	93.65	96.00	96.61	93.91	93.95	94.04			
07-15-93	92.84	93.03	94.86	92.53	93.16	92.22			
08-04-93	92.63	94.57	94.61	92.50	93.20	92.21	93.58		
08-17-93	92.60	94.49	94.40	92.52	92.78	92.22	93.14	75.61*	
05-17-94	92.72	93.45	94.76	92.56	92.90	92.27	92.86	89.23	90.54
06-17-94	92.51	93.11	94.38	92.46	92.75	92.15	92.60	81.93*	90.80
02-15-95	89.68	90.99	91.19	89.57	89.92	89.73	90.35	89.10	88.32
06-01-95	93.15	93.88	95.08	93.04	93.40	92.80	93.20	90.30	91.06

Measurement Date	Groundwater Elevations (Site Datum) TCT Well	Co-op Well
07-15-93	93.43	
08-04-93	93.42	
08-17-93	93.48	
05-17-94		53.29

Note: Elevations referenced to concrete slab in doorway at northeast entrance to main building (cafe entrance).
*Water level likely not stabilized.

TABLE 2
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				Well MW1				
12-06-91	29000*	20000**	7300	3700	ND	3000	ND	ND
01-21-92	27000*	8500**	6700	1700	120	2500	68	ND
06-03-93	ND	ND	ND	ND	ND	ND	ND	3
06-17-93	ND	ND	ND	ND	ND	ND	7.8	4
08-03-93	ND	ND	ND	ND	ND	ND	12.0	2.9
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	ND	ND	ND	1.5	ND	ND	NA	ND
05-18-94	NS	NS	NS	NS	NS	NS	NS	NS
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	NS	NS	NS	NS	NS	NS	NS	NS
				Well MW2				
12-06-91	ND*	ND**	ND	ND	ND	ND	25	ND
01-21-92	ND*	ND**	ND	ND	ND	ND	26	ND
06-03-93	35100	6600	11300	6930	363	2830	2620	3
06-17-93	55400	4900	7890	6180	473	3950	21.6	8
08-03-93	41100	2100	1390	1040	386	1540	794	4.5
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	38900	1700	15200	6610	710	3510	NA	2
05-18-94	NS	NS	NS	NS	NS	NS	NS	NS
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	22100	NA	5730	1320	541	2010	ND***	NA

TABLE 2 (Continued)
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				Well MW3				
12-06-91	ND*	ND**	ND	ND	ND	ND	8.2	ND
01-21-92	ND*	ND**	ND	ND	ND	ND	8.6	ND
06-03-93	ND	ND	1.8	ND	ND	ND	ND	4
06-17-93	ND	ND	ND	ND	ND	ND	10.3	5
08-03-93	ND	ND	ND	ND	ND	ND	6.2	1.5
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	ND	NA	ND	1.2	ND	5.8	NA	ND
05-18-94	NS	NS	NS	NS	NS	NS	NS	NS
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	NS	NS	NS	NS	NS	NS	NS	NS
				Well MW4				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	11900	1100	99.6	182	37.1	309	5.3	7
06-17-93	700	1800	37.8	29.2	8.2	154	5.9	4
08-03-93	16000	1300	78.3	150.2	31.8	425	1281	3.2
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	8500	600	259	156	37.0	303	NA	ND
05-18-94	6000	400	185	88.9	23.0	203	NA	ND
06-17-94	7000	NA	214	28	26	27	3074	NA
02-15-95	4720	NA	172	18.9	14.1	60.2	11.0	NA

TABLE 2 (Continued)
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				Well MW5				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	400	ND	8.9	2.9	3.0	9.4	33.5	2
06-17-93	500	ND	9.7	4.8	ND	ND	5.3	3
08-03-93	500	ND	16.6	3.7	1.6	5.9	88.7	ND
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	800	100	45.2	17.5	7.1	8.7	NA	ND
05-18-94	NS	NS	NS	NS	NS	NS	NS	NS
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	490	NA	17.1	5.5	3.3	6.4	13	NA
				Well MW6				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	ND	ND	1.5	ND	ND	ND	ND	2
06-17-93	ND	ND	ND	ND	ND	ND	1.2	4
08-03-93	ND	ND	ND	ND	ND	ND	ND	1
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	ND	NA	ND	ND	ND	5.1	NA	ND
05-18-94	ND	ND	ND	ND	ND	ND	NA	ND
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2 (Continued)
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				Well MW7				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	NI	NI	NI	NI	NI	NI	NI	NI
06-17-93	NI	NI	NI	NI	NI	NI	NI	NI
08-03-93	28900	2300	74.9	62.2	556	608	4770	2.4
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	14500	1300	422	89.3	379	370	NA	1
05-18-94	NS	NS	NS	NS	NS	NS	NS	NS
06-17-94	NS	NS	NS	NS	NS	NS	NS	NS
02-15-95	6560	NA	176	23.1	139	133	ND	NA
				Well MW8				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	NI	NI	NI	NI	NI	NI	NI	NI
06-17-93	NI	NI	NI	NI	NI	NI	NI	NI
08-03-93	ND	ND	2.9	2.8	ND	ND	9.4	7
08-18-93	ND	ND	ND	ND	ND	ND	ND	11
05-17-94	NS	NS	NS	NS	NS	NS	NS	NS
05-18-94	ND	NA	ND	ND	ND	ND	NA	ND
06-17-94	ND	NA	ND	ND	ND	ND	ND	NA
02-15-95	ND	NA	ND	ND	ND	ND	ND	NA

TABLE 2 (Continued)
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				Well MW9				
12-06-91	NI	NI	NI	NI	NI	NI	NI	NI
01-21-92	NI	NI	NI	NI	NI	NI	NI	NI
06-03-93	NI	NI	NI	NI	NI	NI	NI	NI
06-17-93	NI	NI	NI	NI	NI	NI	NI	NI
08-03-93	NI	NI	NI	NI	NI	NI	NI	NI
08-18-93	NI	NI	NI	NI	NI	NI	NI	NI
05-17-94	NA	ND	ND	ND	ND	ND	ND	ND
05-18-94	500	ND	ND	2.3	1.6	10.1	NA	ND
06-17-94	ND	NA	ND	ND	ND	3.1	ND	NA
02-15-95	ND	NA	ND	ND	ND	ND	ND	NA
				CO-OP Well				
12-06-91	NS	NS	NS	NS	NS	NS	NS	NS
01-21-92	NS	NS	NS	NS	NS	NS	NS	NS
06-03-93	NS	NS	NS	NS	NS	NS	NS	NS
06-17-93	NS	NS	NS	NS	NS	NS	NS	NS
08-03-93	ND	ND	ND	ND	ND	ND	ND	7.2
08-18-93	NS	NS	NS	NS	NS	NS	NS	NS
05-17-94	NS	NS	NS	NS	NS	NS	NS	NS
05-18-94	300	ND	ND	1.1	ND	ND	NA	ND
05-19-94	400	ND	ND	3.0	1.1	5.6	NA	ND
06-17-94	ND	NA	ND	ND	ND	ND	ND	NA
02-15-95	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2 (Continued)
GROUNDWATER CHEMISTRY RESULTS
DITTMER OIL COMPANY
GME PROJECT NO. C-2373-B

Sampling Date	Parameter Analyzed GRO (ppb)	DRO (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	Dissolved Lead (ppb)
				TCT Well				
08-03-93	1200	2700	ND	5.5	ND	5.4	ND	2.3
				B7-WS (Temporary Well)				
05-20-93	960	ND	Masked	19.0	5.83	18.6	155	2
				B12-WS (Temporary Well)				
08-03-93*	ND	ND	ND	ND	ND	ND	ND	ND

Definitions:
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MTBE = methyl tertiary butyl ether
ND = No Detection
NI = Not Installed
NS = Not Sampled
* = Total Petroleum Hydrocarbons as Gasoline
** = Total Petroleum Hydrocarbons as Fuel Oil
*** = Elevated laboratory detection limit due to sample dilution

Notes: Samples collected on 8-3, 8-4 or 8-5-93 are listed as sampling date "08-03-93"; samples collected on 5-18 or 5-19-93 are listed as sampling date "05-18-93".
Sample results for wells MW1 and MW2 may have been "switched" during 12-06-91 and 01-21-92 sampling rounds.

LEGEND

GME MONITORING WELL LOCATION

GME SOIL BORING LOCATION

NOTE: All Dimensions and Locations are Approximate. Dimensions and Orientations of USTs and AGSTs also are approximate.

HIGHWAY 19

B13 B12 B17

CO-OP PROPERTY (Field)

B9

Approximate Property Line

MW2 B8 B14/MW7 B15

B20

Gravel

B18 B3

Fuel Oil AGSTs

Dike

B16

MW5

CO-OP PROPERTY

Approximate Final Extent of Soil Excavation and Locations of 3 USTs

B21

B4 B2

B1

MW1 MW4 B19/MW8

B6 B7

B10

Pavement

Grass

Heating Oil UST

Waste Oil UST

MW3 SE Well

Entry

Dining Room

Cafe

Kitchen

Service

Retail Offices

Restrooms

Storage Garage

MW6

B5

Co-op Water Supply Well

MW9

Co-op Garage

Approximate Scale

0 20 40

Feet

Note: Boring B11 is located approximately 220 feet west.

N

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Crosby, MN 56441

FIGURE 1: Approximate Site Diagram
Dittmer Oil Company
Fairfax, Minnesota

JPB	MDM	7-17-95	C-2373-B

NOTE: Groundwater elevation of MW8 was 90.30'.

LEGEND

- GME Monitoring Well
- 93.15' Groundwater Elevation (6-1-95) in feet (site datum)
- 93.00 Approximate Groundwater Table Contour
- Approximate Shallow Groundwater Flow Direction
- Contour Interval = 0.5 foot

CO-OP PROPERTY
(Field)

Approximate Property Line

CO-OP PROPERTY

HIGHWAY 19

MW2
93.88'

B14/MW7
93.20'

93.40'
MW5

93.15'
MW1

93.04'
MW4

B19/MW8

MW6
92.80'

MW3
95.08'

SE Well

Co-op Water Supply Well

MW9
91.06'

95.00
94.50
94.00
93.50
93.00
92.50
92.00
91.50

Approximate Scale
0 20 40
Feet

N

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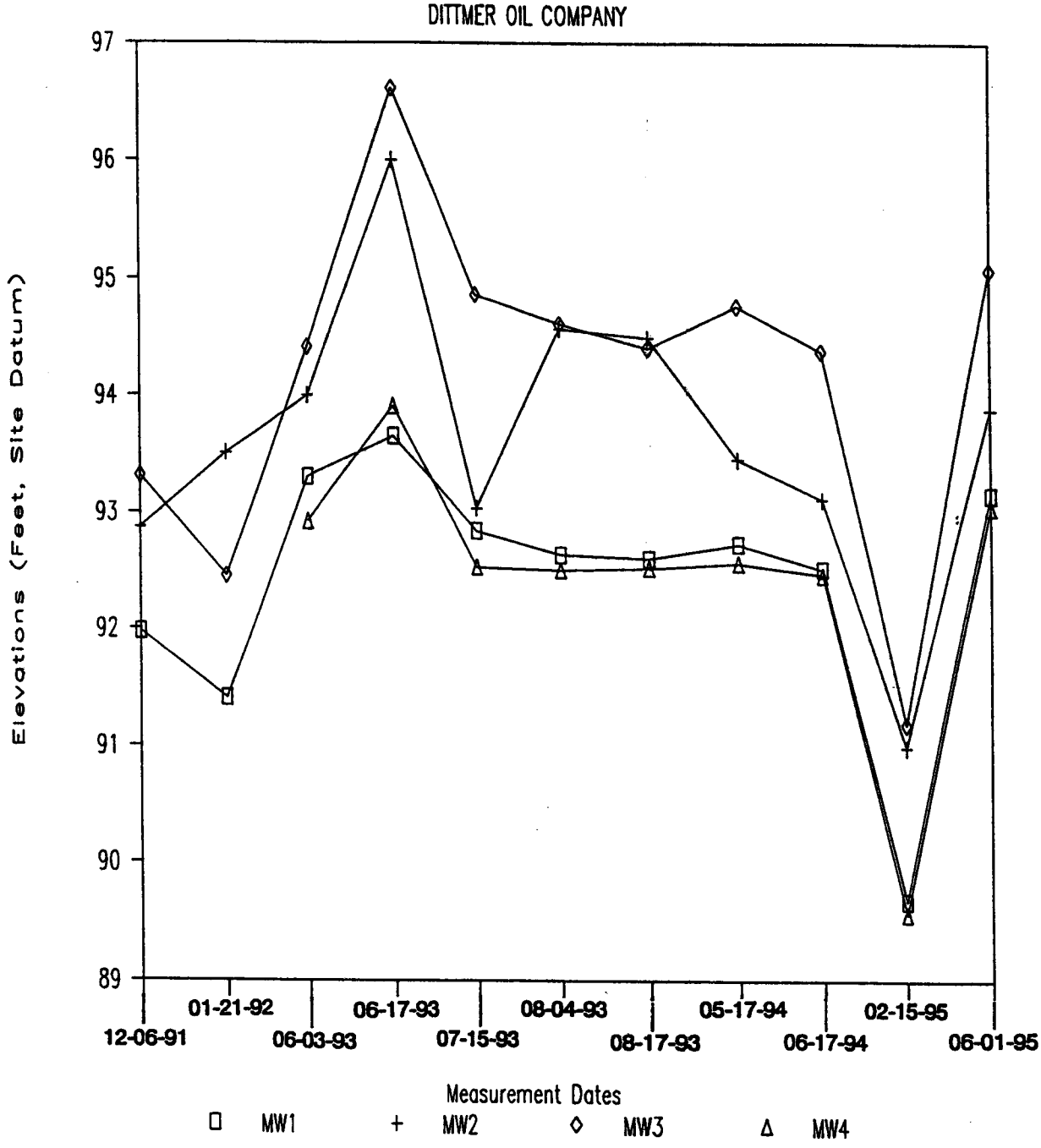
Crosby, MN 56441

FIGURE 2: Approximate Shallow Groundwater Flow Map (6-1-95)
Dittmer Oil Company
Fairfax, Minnesota

JPB	MDM	7-17-95	C-2373-B

GROUNDWATER ELEVATION SUMMARY



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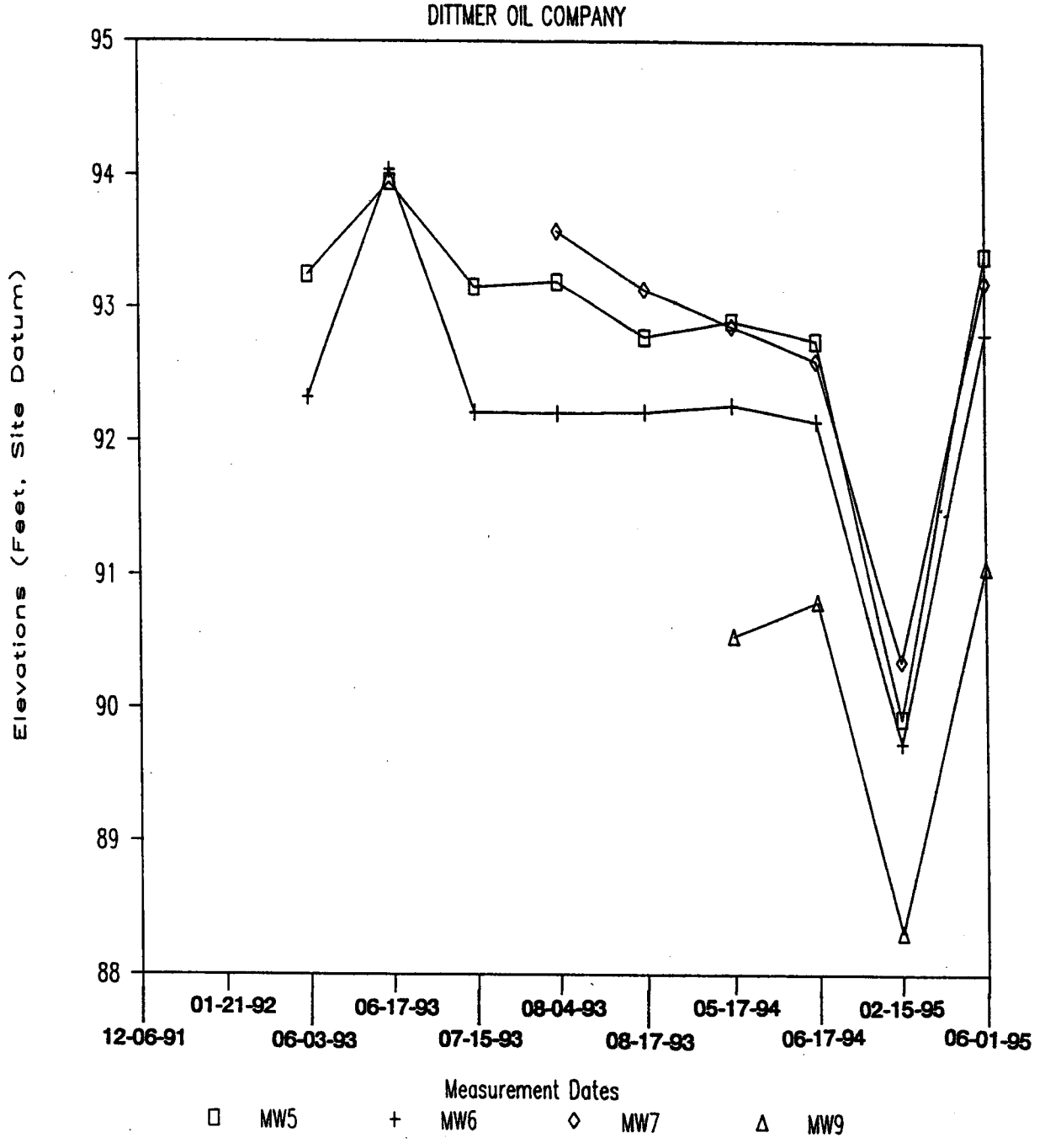
Crosby, MN 56441

FIGURE 3: Hydrograph
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

GROUNDWATER ELEVATION SUMMARY



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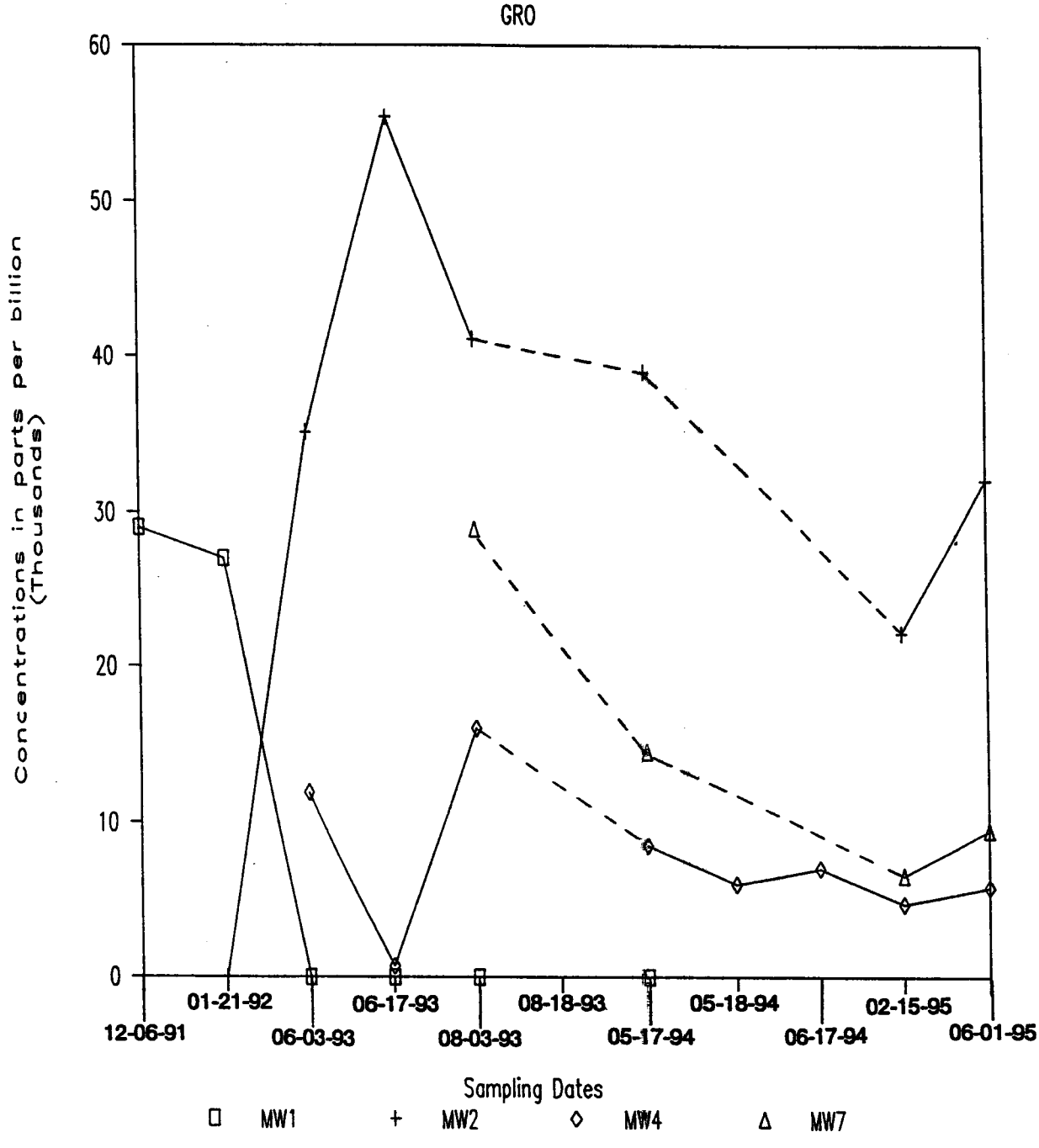
Crosby, MN 56441

FIGURE 3: Hydrograph (Continued)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



Note: Dashed line indicates "skipped" sampling date.

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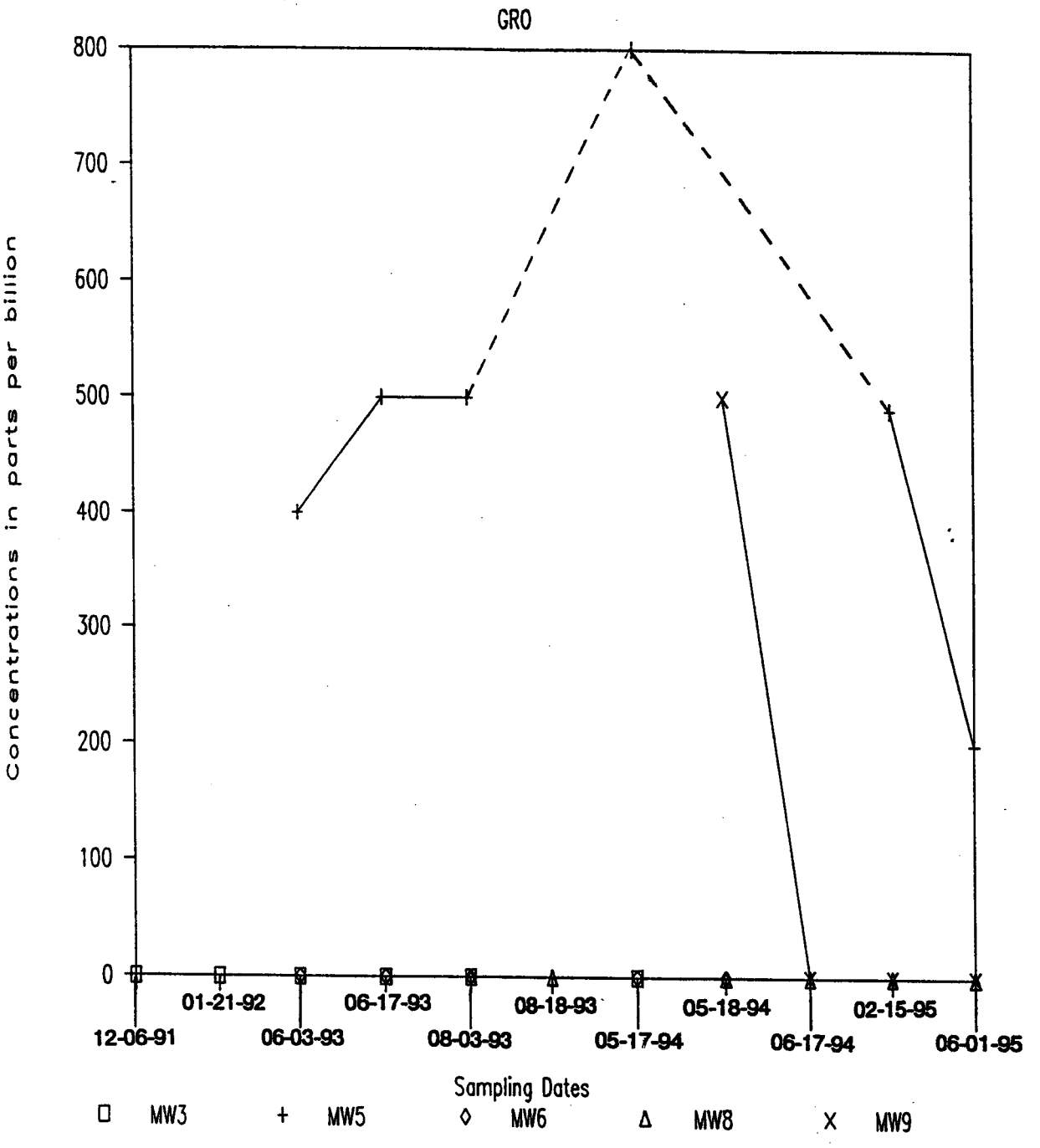
Crosby, MN 56441

FIGURE 4: Groundwater Chemistry Results (GRO)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-94	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



Note: Dashed line indicates "skipped" sampling date.

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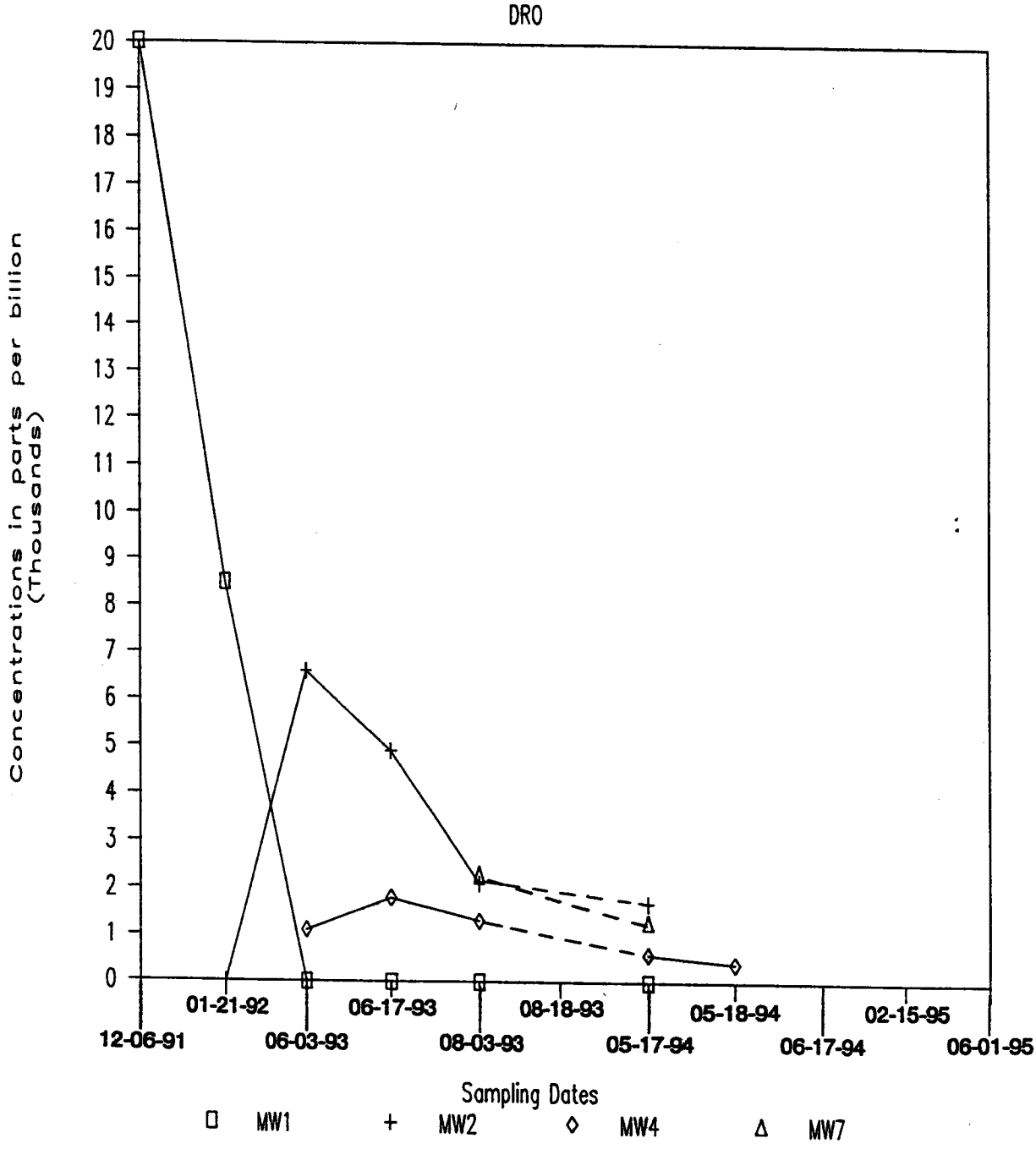
Crosby, MN 56441

FIGURE 4: (Continued)
Groundwater Chemistry Results (GRO)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



Note: Dashed line indicates "skipped" sampling date.

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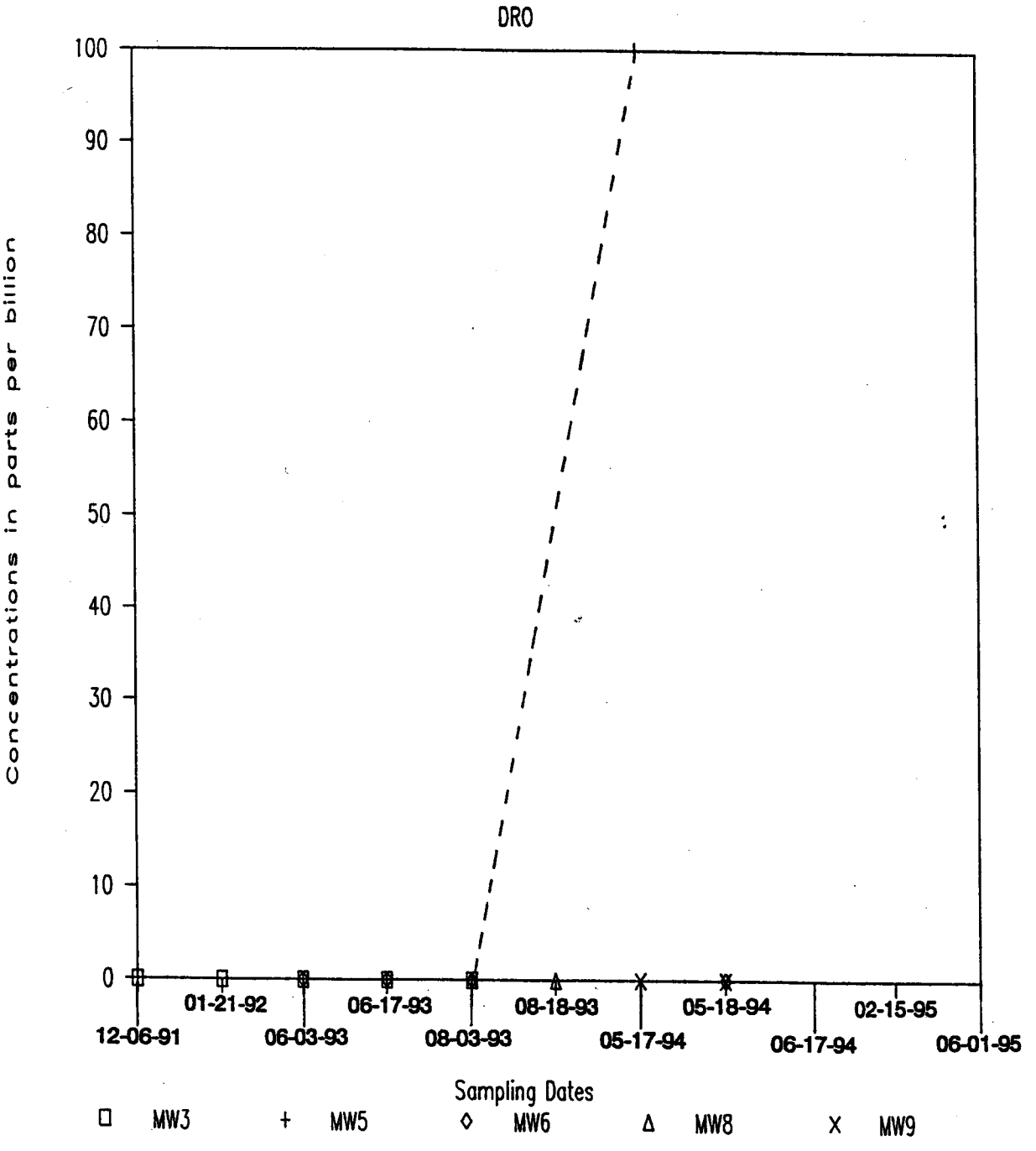
Crosby, MN 56441

FIGURE 5: Groundwater Chemistry Results (DRO)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



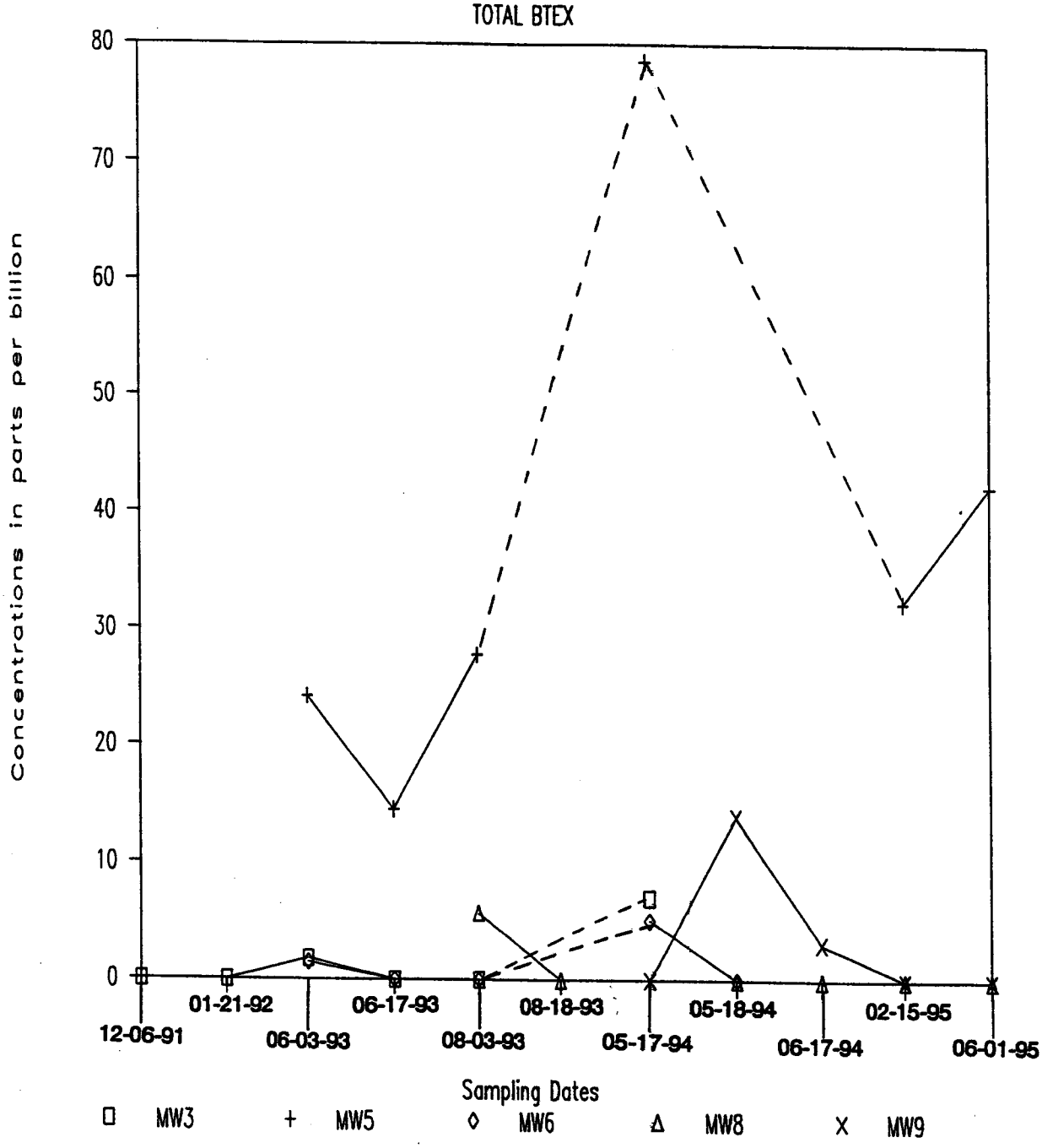
Note: Dashed line indicates "skipped" sampling date.

GME CONSULTANTS, INC.
Lake Shore Drive
Crosby, MN 56441

FIGURE 5: (Continued)
Groundwater Chemistry Results (DRO)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



Note: Dashed line indicates "skipped" sampling date.

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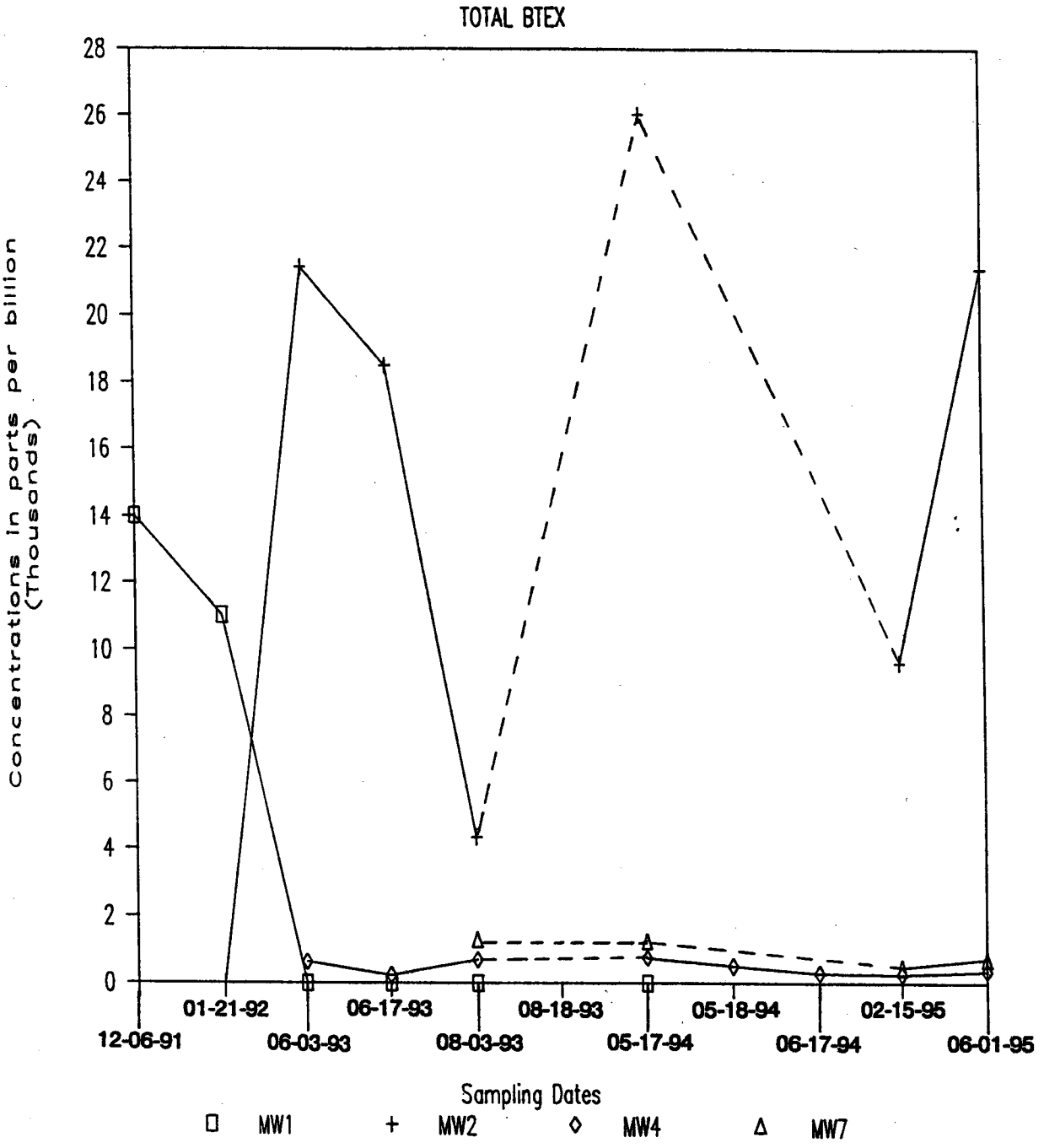
Lake Shore Drive
Crosby, MN 56441

FIGURE 6: Groundwater Chemistry Results (BTEX)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

DITTMER OIL COMPANY
GROUNDWATER CHEMISTRY RESULTS



Note: Dashed line indicates "skipped" sampling date.

GME CONSULTANTS, INC.
Lake Shore Drive
Crosby, MN 56441

FIGURE 6: (Continued)
Groundwater Chemistry Results (BTEX)
Dittmer Oil Company
Fairfax, Minnesota

JLM	MDM	7-17-95	C-2373-B

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

June 14, 1995

Jay Brekke
GME Consultants, Inc.
P.O. Box 250
Crosby, MN 56441

Project ID: Dittmer Oil Co./C-2373-B
Chain of Custody: 13226
Date Sampled: 06-01-95
Date Received: 06-06-95
Date Analyzed: 06-09-95
Matrix: Water
Sample Identification:

Lab ID:		
	95-04228	MW8
	95-04229	MW9
	95-04230	MW5
	95-04231	MW4
	95-04232	MW7
	95-04233	MW2
	95-04234	Bemmels Well
	95-04235	Coop Well
	95-04236	Field Blank
	95-04237	Field Duplicate

Samples were analyzed according to method GRO. The results are reported on the following pages.

Sincerely,

Lon Jones 6/14

Lon Jones
Organic/Bio Group Leader

Parameter:	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as GRO
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)
Method Detection Limit	10.0	1.0	1.0	1.0	3.0	0.1
Sample Number						
95-04228 MW8	BDL	BDL	BDL	BDL	BDL	BDL
95-04229 MW9	BDL	BDL	BDL	BDL	BDL	BDL
95-04230 MW5	2.6	29.8	6.2	2.8	3.4	0.20
95-04231 MW4	1320	89.7	78.6	23.2	169	5.81
95-04232 MW7	3300	93.2	62.4	271	294	9.46
95-04233 MW2	3452	6280	3660	7640	3800	32.0
95-04235 Coop Well	BDL	BDL	BDL	BDL	BDL	BDL
95-04236 Field Blank						BDL
95-04237 Field Dup.	BDL	BDL	BDL	BDL	BDL	BDL

BDL = Below Detection Limit

Note: Field Dup. was collected from Coop well.

Lab ID:	MDL / PQL (µg/L)	95-04234 Bemmels Well (µg/L)	95-04236 Field Blank (µg/L)
Dichlorodifluoromethane	0.2/2.0	BDL	BDL
Chloromethane	0.4/4.0	BDL	BDL
Vinyl chloride	0.3/3.0	BDL	BDL
Bromomethane	0.4/4.0	BDL	BDL
Chloroethane	0.4/4.0	BDL	BDL
Dichlorofluoromethane	0.4/4.0	BDL	BDL
Trichlorofluoromethane	0.5/5.0	BDL	BDL
Ethyl ether	0.6/6.0	BDL	BDL
Acetone	0.3/3.0	BDL	BDL
1,1-Dichloroethene	0.5/5.0	BDL	BDL
Methylene chloride	0.6/6.0	BDL	BDL
Allyl chloride	0.4/4.0	BDL	BDL
Trichlorotrifluoroethane	1.0/10.0	BDL	BDL
Methyl tert-butyl ether	0.3/3.0	BDL	BDL
trans-1,2-Dichloroethene	0.4/4.0	BDL	BDL
1,1-Dichloroethane	0.3/3.0	BDL	BDL
Methyl ethyl ketone	2.8/28.0	BDL	BDL
cis-1,2-Dichloroethene	0.3/3.0	BDL	BDL
Bromochloromethane	0.2/2.0	BDL	BDL
Chloroform	0.2/2.0	BDL	BDL
2,2-Dichloropropane	0.8/8.0	BDL	BDL
Tetrahydrofuran	0.6/6.0	BDL	BDL
1,2-Dichloroethane	0.3/3.0	BDL	BDL
1,1,1-Trichloroethane	0.4/4.0	BDL	BDL
1,1-Dichloropropene	0.3/3.0	BDL	BDL
Carbon tetrachloride	0.4/4.0	BDL	BDL
Benzene	0.5/5.0	BDL	BDL
Dibromomethane	0.3/3.0	BDL	BDL
1,2-Dichloropropane	0.3/3.0	BDL	BDL
Trichloroethene	0.3/3.0	BDL	BDL
Bromodichloromethane	0.4/4.0	BDL	BDL
cis-1,3-Dichloropropene	0.3/3.0	BDL	BDL
Methyl isobutyl ketone	0.7/7.0	BDL	BDL
trans-1,3-Dichloropropene	0.2/2.0	BDL	BDL

BDL = Below Detection Limit, MDL = Method Detection Limit, PQL = Practical Quantitation Limit

Lab ID:	MDL / PQL (µg/L)	95-04234 Bemmels Well (µg/L)	95-04236 Field Blank (µg/L)
1,1,2-Trichloroethane	0.3/3.0	BDL	BDL
Toluene	0.4/4.0	BDL	BDL
1,3-Dichloropropane	0.3/3.0	BDL	BDL
Dibromochloromethane	0.3/3.0	BDL	BDL
1,2-Dibromoethane	0.8/8.0	BDL	BDL
Tetrachloroethene	0.4/4.0	BDL	BDL
1,1,1,2-Tetrachloroethane	1.4/14.0	BDL	BDL
Chlorobenzene	0.4/4.0	BDL	BDL
Ethylbenzene	0.4/4.0	BDL	BDL
m- and p-Xylene	0.5/5.0	BDL	BDL
Bromoform	0.5/5.0	BDL	BDL
Styrene	0.5/5.0	BDL	BDL
O-Xylene	0.3/3.0	BDL	BDL
1,1,2,2-Tetrachloroethane	0.4/4.0	BDL	BDL
1,2,3-Trichloropropane	0.5/5.0	BDL	BDL
Isopropyl benzene	0.7/7.0	BDL	BDL
Bromobenzene	0.2/2.0	BDL	BDL
n-Propyl benzene	0.8/8.0	BDL	BDL
2-Chlorotoluene	0.3/3.0	BDL	BDL
4-Chlorotoluene	0.3/3.0	BDL	BDL
1,3,5-Trimethylbenzene	0.2/2.0	BDL	BDL
tert-Butyl benzene	0.6/6.0	BDL	BDL
1,2,4-Trimethylbenzene	0.7/7.0	BDL	BDL
sec-Butyl benzene	0.5/5.0	BDL	BDL
1,3-Dichlorobenzene	0.4/4.0	BDL	BDL
1,4-Dichlorobenzene	0.4/4.0	BDL	BDL
p-Isopropyl toluene	0.4/4.0	BDL	BDL
1,2-Dichlorobenzene	0.5/5.0	BDL	BDL
n-Butyl benzene	0.3/3.0	BDL	BDL
1,2-Dibromo-3-chloropropane	0.4/4.0	BDL	BDL
1,2,4-Trichlorobenzene	0.5/5.0	BDL	BDL
Naphthalene	0.7/7.0	2.7e	BDL
Hexachlorobutadiene	0.5/5.0	BDL	BDL
1,2,3-Trichlorobenzene	0.2/2.0	BDL	BDL

BDL = Below Detection Limit, MDL = Method Detection Limit, PQL = Practical Quantitation Limit
e = Value falls between MDL and PQL

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD AND REQUEST FOR ANALYSIS

(Instructions on Back of Form)

№ 13226

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

CLIENT: GME Consultants

PROJECT I.D.: Dittmer Oil Co. / C-2373-B

REPORTS TO BE SENT TO: GME, Crosby

SAMPLER NAME: Jay Brekke

SAMPLER SIGNATURE: Jay Brekke

REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

MTBE

NO. OF CONTAINERS	COMP.	GRAB	1995 DATE	TIME	MATRIX: WATER	SOIL	OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (DISS. OR TOTAL)	RCRA 8 METALS	BOD OR CBOD	TSS	FCOL OR TCOL	PRESERVATIVE: HCl	HNO_3	H_2SO_4	ICE	OTHER
3			6/1		X			MW8		95-04228	X														
↓			↓		↓			MW9		4229	X														
↓			↓		↓			MW5		4230	X														
↓			↓		↓			MW4		4231	X														
↓			↓		↓			MW7		4232	X														
↓			↓		↓			MW2		4233	X														
↓			↓		↓			Bemmels Well		4234				X											
↓			↓		↓			Coop Well		4235	X														
↓			↓		↓			Field Blank		4236	X														
↓			↓		↓			Field Duplicate		4237	X														

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jay Brekke	6/5				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Temperature:	Comments:
		Chad [illegible]	6/6/95 10:57	3.4°C	

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED: ☐ NORMAL ☐ RUSH

DATE REQUIRED: