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December 8, 1994

Chris Saari
Wisconsin Department of Natural Resources
6250 South Ranger Rd.
Box 125
Brule, WI 54820-0125
(715) 372-4866

RE: Annual Report for the Moose Junction Lounge LUST Investigation near Dairyland, WI.
Wisconsin Unique ID# 0301.

Dear Mr. Saari:

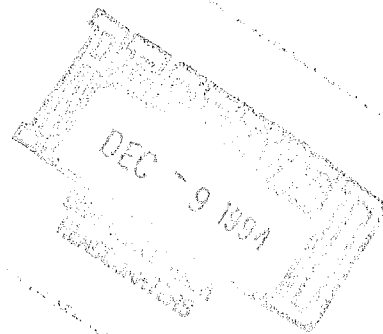
Enclosed is a copies of the Annual report for the Moose Junction Lounge site. A second copy has been sent to DILHR. If you have any questions concerning any aspect of this progress report, please call me at (218) 628-0454 during business hours.

Sincerely,

Roger W. Biebl
Project Hydrogeologist
Earth Burners Inc.

pc: Dale Schultz
John Anderson - DILHR

Annual Report for the Moose Junction Lounge



Prepared for:
Mr. Dale Schultz
13195 South State Hwy 35
Danbury, WI 54830-9009
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Prepared by:
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December 8, 1994

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1.0 INTRODUCTION

Earth Burners Inc. (EBI) provides this Annual Report as part of the on-going investigation at the Moose Junction Lounge. The present responsible party, Dale Schultz, contracted EBI to complete a Site Investigation and Remedial Action Plan (RAP). Our objective is to mitigate soil and groundwater contamination in accordance with Wisconsin guidance. EBI amends the following RAP options based on requests by the WDNR. Design criteria and estimated costs reflect EBI's professional opinion; no warranty is expressed or implied. The site is located in the SE1/4 of the SE1/4 of the SE1/4 of section 18, Township 44N, Range 14W and is shown in Figure 1-1.

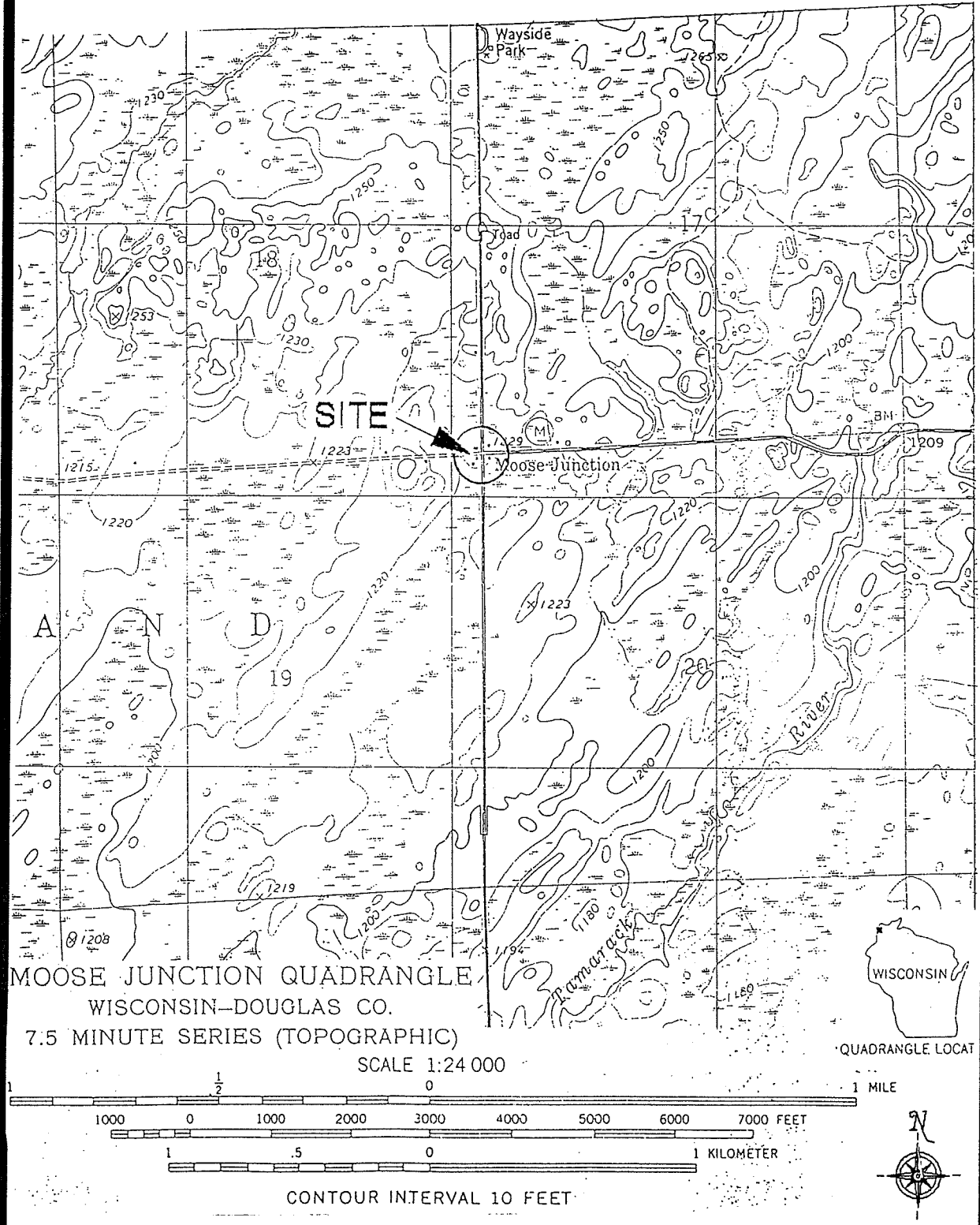
2.0 BACKGROUND INFORMATION

2.1 Site Chronology

The following is an abbreviated chronology of actions to date:

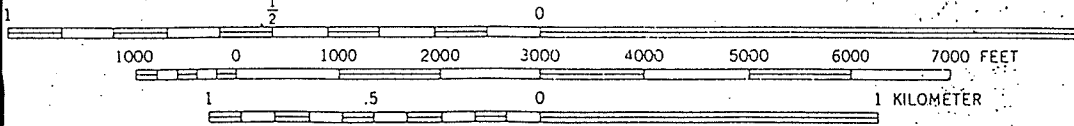
- o 1970 - A 1,000 gallon gasoline UST is registered with the Department of Industry, Labor and Human Relations (DILHR).
- o May 1980 - Edward and Ceil Lyons sell the Moose Junction Site to Frank and Chris Day.
- o Oct 1990 - Aqua-Tech, Inc. conducted a Site Investigation for the Wisconsin Department of Transportation (WDOT).
- o Dec 1990 - WDNR issues a Responsible Party Letter to Chris Day.
- o Oct 1991 - Dale L. Schultz begins operating business at the Moose Junction Site.
- o Feb/Sept 1992 - WDNR determines that past or present possible Responsible Parties have not conducted a Site Investigation.
- o Sept 1992 - WDNR issues a Notice of Violation to both Chris Day and Dale Schultz as Moose Junction is listed as the probable source of petroleum contamination on the WDOT property.
- o Oct 1992 - RMT, Inc. conducts an additional investigation for WDOT. Groundwater flow is estimated to be in a southerly direction with the highest concentration of contaminants near the Moose Junction Lounge property.
- o Oct 1992 - WDNR samples a private potable well south of the site; possible hydrocarbon contamination.

EARTH REMEDIATION SERVICES



MOOSE JUNCTION QUADRANGLE
WISCONSIN-DOUGLAS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

SCALE 1:24 000



CONTOUR INTERVAL 10 FEET

**SITE LOCATION
MOOSE JUNCTION LOUNGE**

FIGURE 1-1

- o Oct 1992 - Dale Schultz notifies DILHR that the Site UST has been taken out of service.
- o Nov 1992 - WDNR/DILHR meet with Chris Day and Dale Schultz to inform them of an impending Administrative Order.
- o Dec 1992 - Dale Schultz retains Earth Remediation Services (ERS), a division of Earth Burners, Inc., as an environmental consultant. Responsible Party is still in dispute.
- o Jan 1993 - Terry Anderson, Manager of ERS, has teleconference with WDNR Project Manager.
- o Feb 1993 - EBI/ERS comply with new PECFA regulations in receiving Consultant Certification Number 04939.
- o Mar 1993 - EBI drafts a workplan, visits the site, teleconferences with WDNR/DILHR/PECFA representatives, and sends out access agreements to surrounding land owners.
- o April 1993 - EBI revises the Site Investigation workplan to accommodate changes by the Wisconsin Department of Natural Resources (WDNR). Access Agreements to place soil borings on neighboring properties are received.
- o May 1993 - EBI installs soil borings and monitoring wells.
- o June 1993 - Earth Burners, Inc. (EBI), a certified tank excavator/site assessor (#04174), removes a 1,000 gallon gasoline UST, pump island, associated supply pipes and grossly contaminated soils from the Moose Junction Lounge property as part of an interim action.
- o July 1993 - Analytical results indicate the soil is not hazardous waste allowing EBI to transport contaminated soils to their thermal treatment unit at Hallett Dock #7 in Duluth, Minnesota. 672 cubic yards of petroleum impacted soils are thermally treated.
- o August 1993 - EBI completes aquifer testing and groundwater sampling.
- o September 1993 - No contaminants are found in the potable wells at the Moose Junction Lounge and Dickman residence for both sampling events. Aquifer test data analyzed.
- o October 1993 - EBI completes a Remedial Action Plan and requests monthly progress reports be amended to be quarterly reports.

- o November, 1993 - EBI completes a third groundwater sampling event.
- o March, 1994 - EBI completes a fourth groundwater sampling event. Again, all analytical parameters are below detection limits for both potable wells.
- o July, 1994 - EBI completes a fifth groundwater sampling event. Bids are received to install a pump and treat system at MW-2. The system is not installed for lack of financial resources.
- o October, 1994 - EBI completes a sixth groundwater sampling event.
- o November, 1994 - EBI prepares a response to a WDNR letter requesting data.
- o December, 1994 - EBI completes an Annual Report.

2.2 Summary of Investigation Results

Groundwater contamination has stayed above 100 ppm GRO at the MW-2 location (see Figure 2-1). Since the interim excavation, groundwater contamination has steadily decreased at the MW-1 location. MW-3 continues to be free of GRO and PVOC analytical parameters except in the July, 1994 sampling event. EBI suspects the July results were analytical laboratory error as the October results returned to no detect. MW-4, the downgradient well, showed very low concentrations of benzene in the May and the August, 1993 and the July, 1994 sampling events but has been below analytical detection limits in all other sample collections.

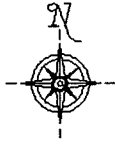
A second vapor risk assessment was accomplished after the interim action excavation. Results improved over the previous risk assessment, but the oil furnace which was probably responsible for some of the elevated readings, was not in use. Results can be viewed in Figure 2-2.

3.0 GROUNDWATER SAMPLING REVIEW

3.1 Groundwater Characteristics

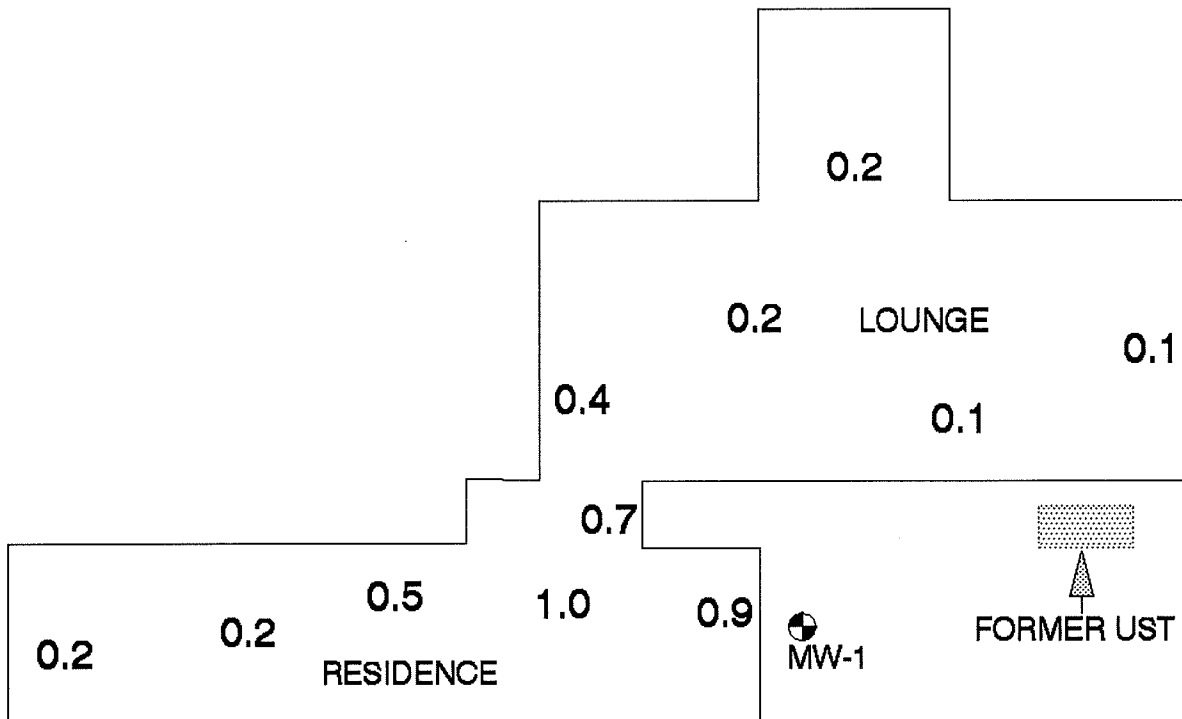
Hydraulic gradient between MW-1 and MW-4 remained at 0.027 ft/ft from May, 1993 to July, 1994. The gradient diminished to 0.025 ft/ft in the last sampling in October, 1994. The gradient is typically greater between MW-1 and MW-2 than between MW-2 and MW-4. MW-2 is believed to be screened just above the bedrock. Note that the Dickman well was reported to enter bedrock at 10 feet below grade. Groundwater contour maps for the sampling events can be viewed in Figures 3-1A through 3-1D. Sandy soils at the MW-2 location give the highest conductivity at 2.77×10^{-5} cm/sec (the average hydraulic conductivity is 3.25×10^{-5} cm/sec). Monitoring well construction details and groundwater elevations can be viewed in Tables 3-1A and 3-1B.

EARTH BURNERS, INC.



LEGEND

- MW-1 MONITORING WELL
- 1.3 VAPOR READING (PPM)

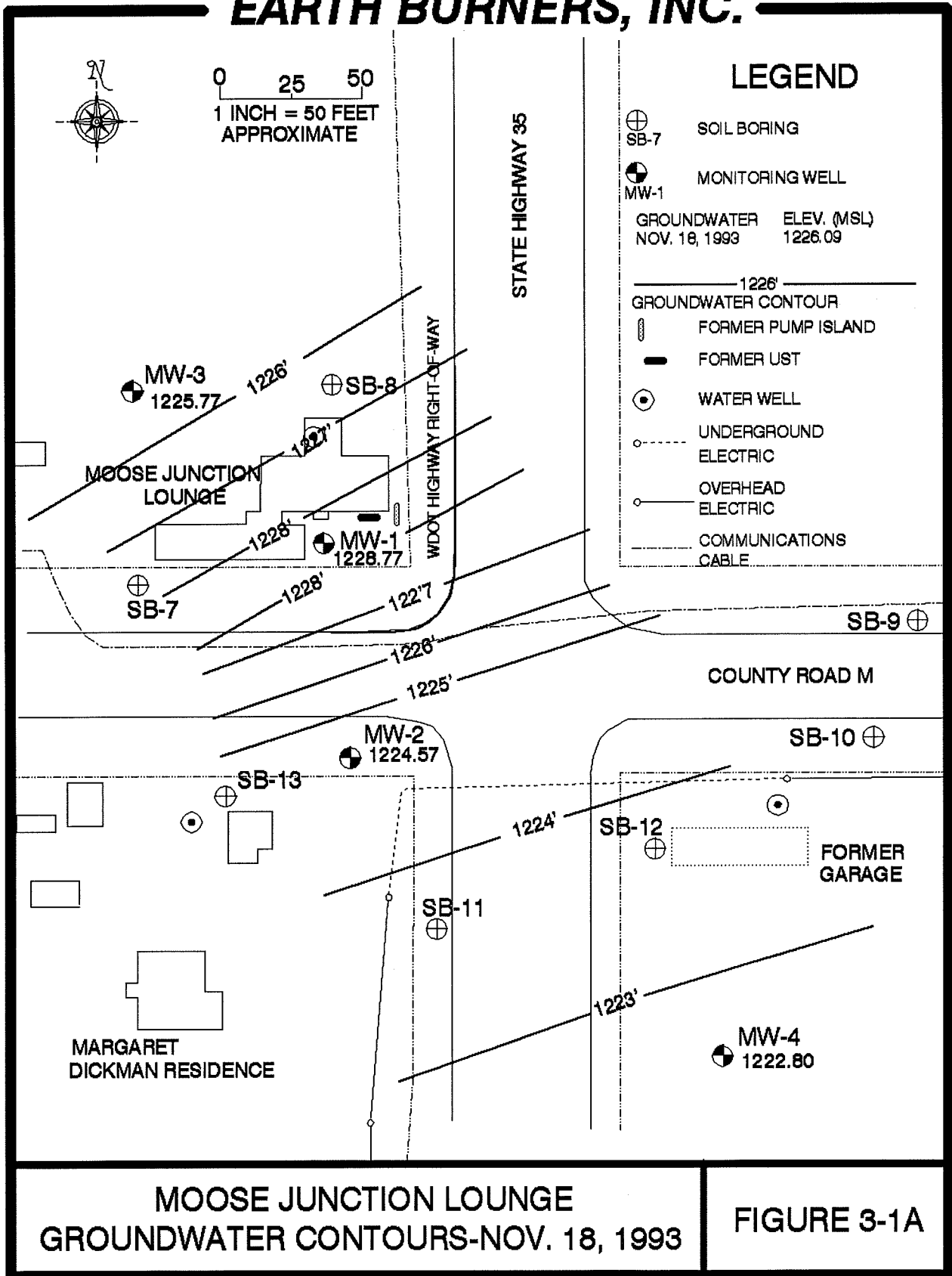


All PID Readings Are Above The background of 1.0 ppm.

MOOSE JUNCTION LOUNGE
SECOND VAPOR RISK ASSESSMENT

FIGURE 2-2

EARTH BURNERS, INC.



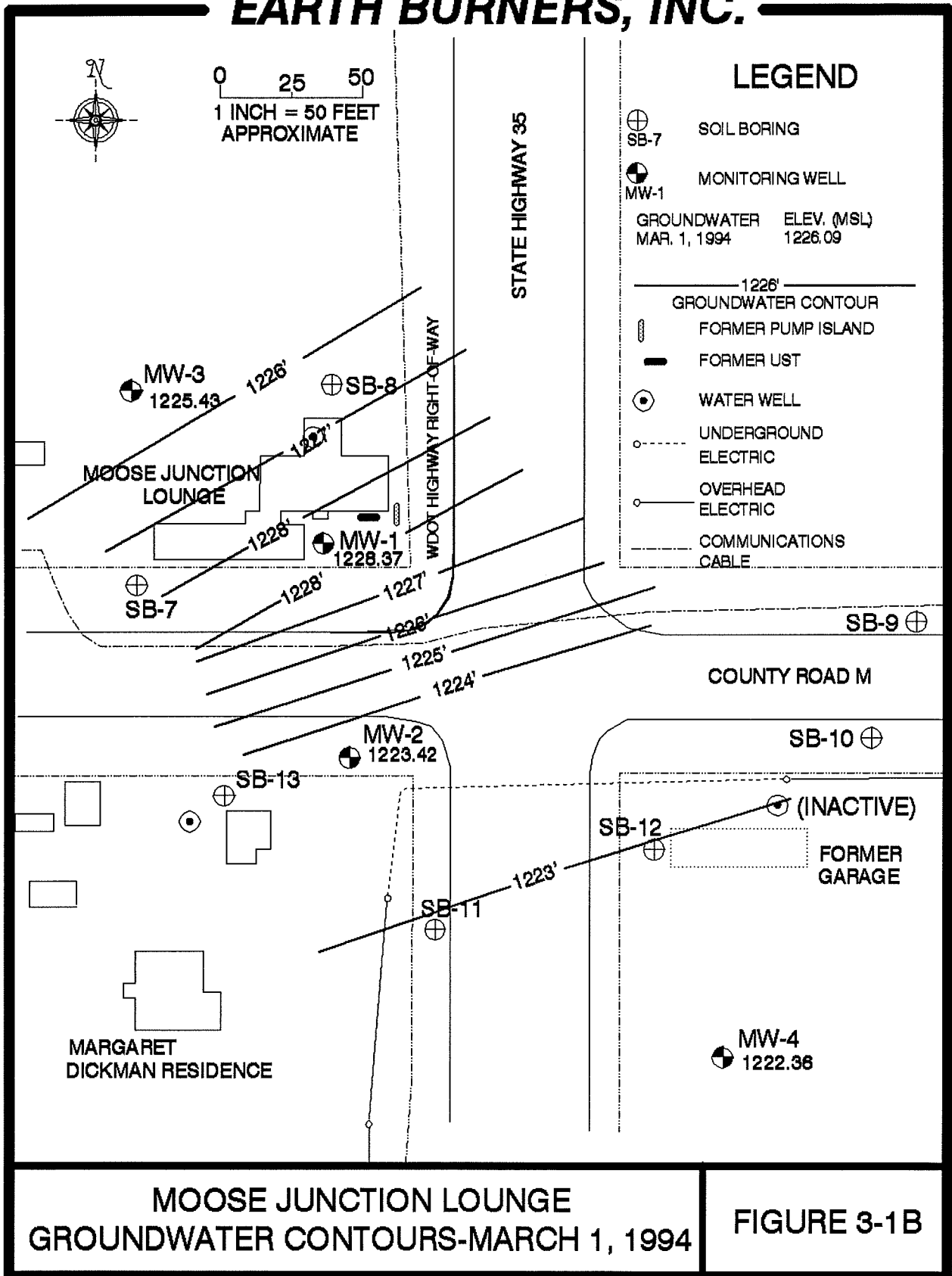
LEGEND

- ⊕ SB-7 SOIL BORING
- ⊙ MW-1 MONITORING WELL
- GROUNDWATER ELEV. (MSL)
NOV. 18, 1993 1226.09
- 1226' ——— GROUNDWATER CONTOUR
- ⊞ FORMER PUMP ISLAND
- FORMER UST
- ⊙ WATER WELL
- ⋯ UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- COMMUNICATIONS CABLE

**MOOSE JUNCTION LOUNGE
GROUNDWATER CONTOURS-NOV. 18, 1993**

FIGURE 3-1A

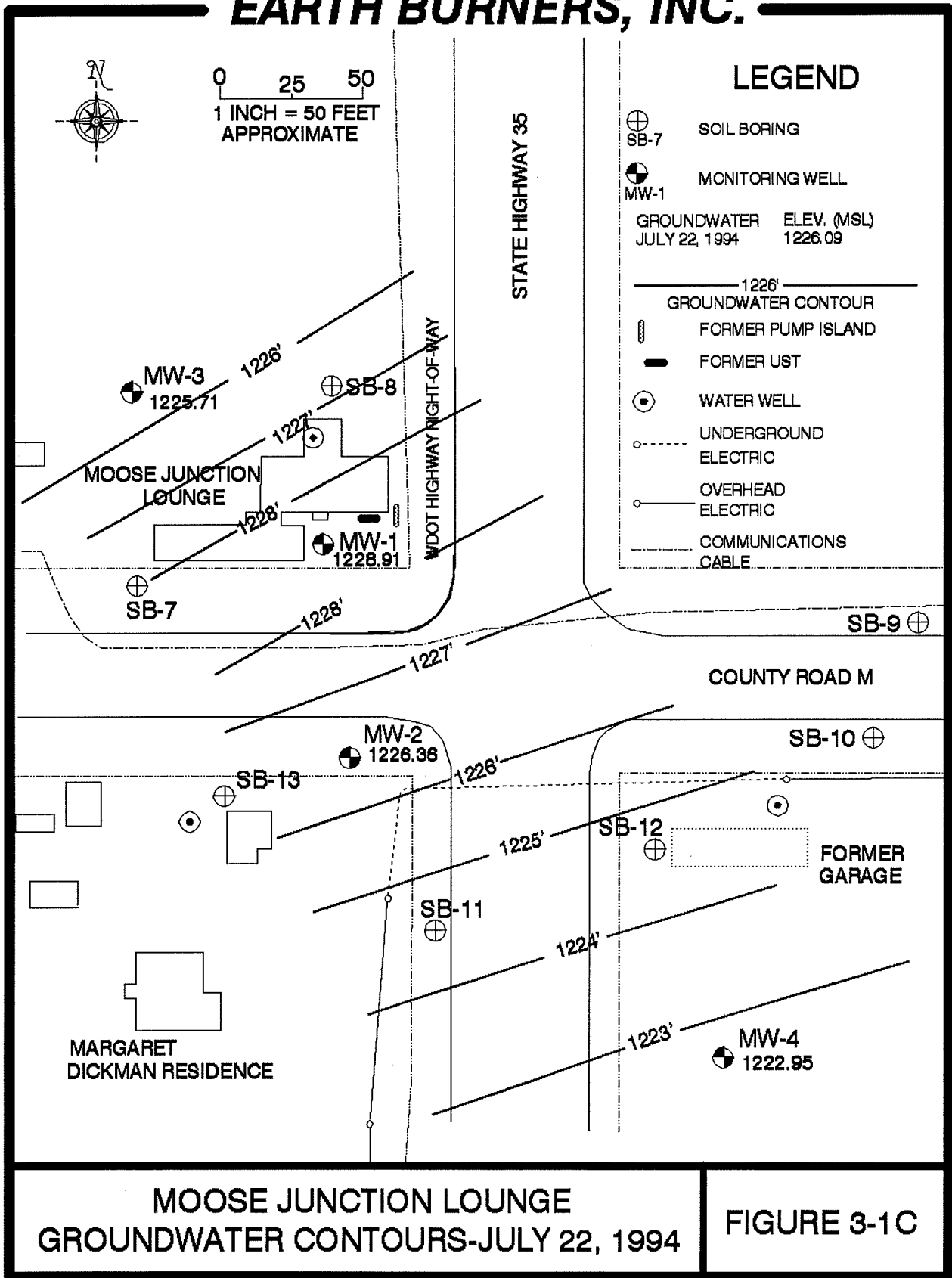
EARTH BURNERS, INC.



MOOSE JUNCTION LOUNGE
GROUNDWATER CONTOURS-MARCH 1, 1994

FIGURE 3-1B

EARTH BURNERS, INC.



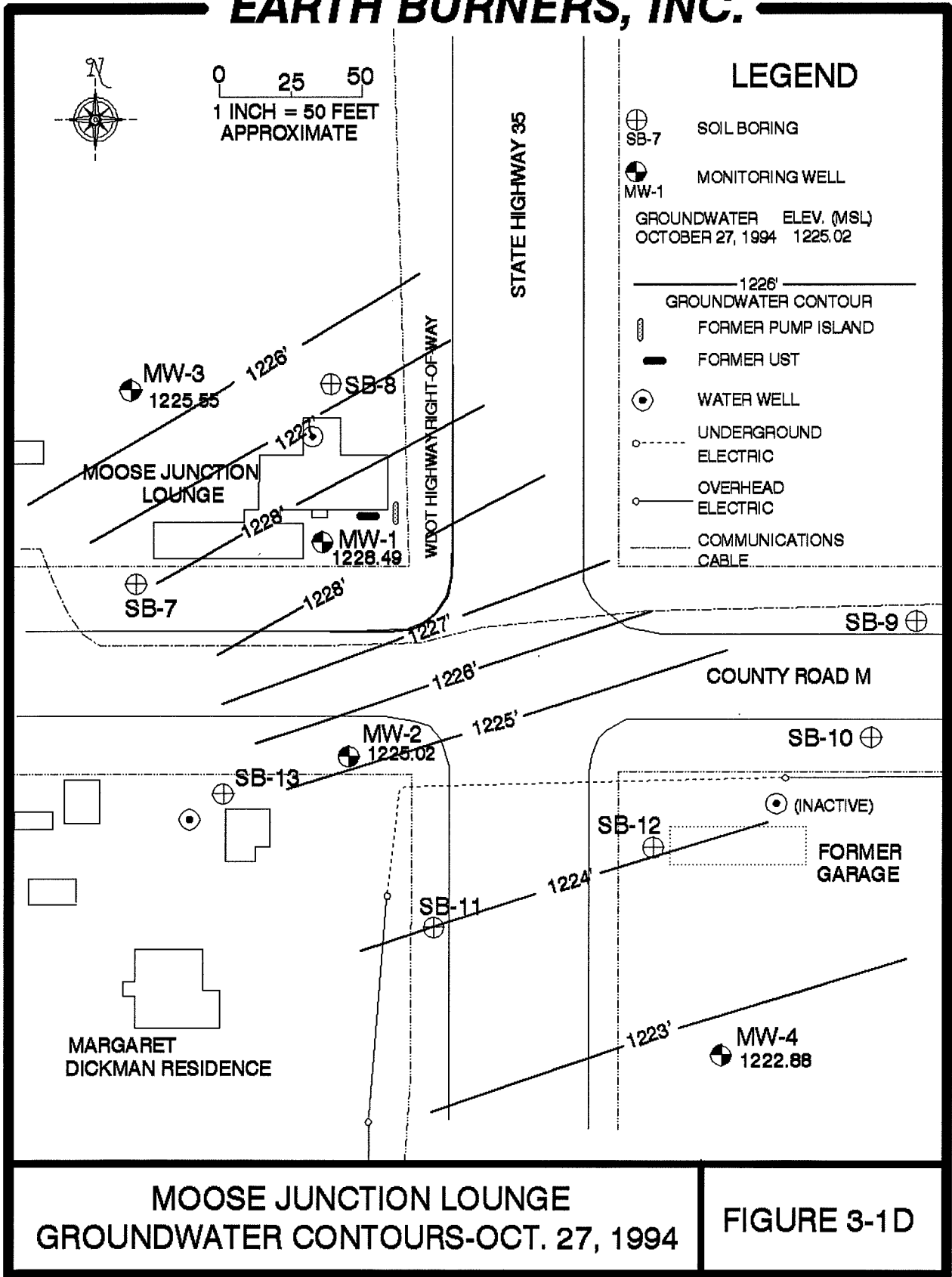
**MOOSE JUNCTION LOUNGE
GROUNDWATER CONTOURS-JULY 22, 1994**

FIGURE 3-1C

LEGEND

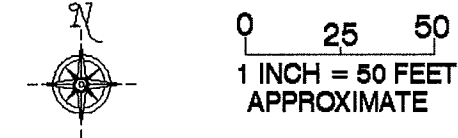
- ⊕ SB-7 SOIL BORING
- ⊙ MW-1 MONITORING WELL
- GROUNDWATER ELEV. (MSL)
JULY 22, 1994 1226.09
- 1226' ——— GROUNDWATER CONTOUR
- ▭ FORMER PUMP ISLAND
- FORMER UST
- ⊙ WATER WELL
- ⊙ UNDERGROUND ELECTRIC
- ⊙ OVERHEAD ELECTRIC
- COMMUNICATIONS CABLE

EARTH BURNERS, INC.



LEGEND

- ⊕ SB-7 SOIL BORING
- ⊙ MW-1 MONITORING WELL
- GROUNDWATER ELEV. (MSL)
OCTOBER 27, 1994 1225.02
- 1226' ——
GROUNDWATER CONTOUR
- ▭ FORMER PUMP ISLAND
- ▬ FORMER UST
- ⊙ WATER WELL
- ⊖ UNDERGROUND ELECTRIC
- ⊖ OVERHEAD ELECTRIC
- ⊖ COMMUNICATIONS CABLE



**MOOSE JUNCTION LOUNGE
GROUNDWATER CONTOURS-OCT. 27, 1994**

FIGURE 3-1D

Table 3-1A Monitor well construction and water levels for Nov., 1993 and Mar., 1994.

	MW-1		MW-2		MW-3		MW-4	
	11/93	03/94	11/93	03/94	11/93	03/94	11/93	03/94
Groundwater Elevation	1228.77	1228.37	1224.59	1223.42	1225.77	1225.43	1222.80	1222.36
Top of Riser Elevation	1233.23		1231.18		1228.93		1226.11	
Ground Surface Elevation	1231.2		1229.2		1226.9		1224.1	
Top of Well Screen Elevation	1228.5		1226.5		1224.1		1221.3	
Bottom of Well Elevation	1220.7		1216.0		1213.6		1210.8	
Top of Filter Pack	1229.0		1227.0		1224.3		1221.9	
Top of Bentonite Seal	1231.0		1229.0		1226.3		1223.9	

All elevations referenced to the National Geodetic Vertical Datum based on Wisconsin Department of Transportation Right of Way points 2025 and 2026 east of the Moose Junction Lounge.

Table 3-1B Monitor well construction and water levels for July and Oct., 1994.

	MW-1		MW-2		MW-3		MW-4	
	07/94	10/94	07/94	10/94	07/94	10/94	07/93	10/94
Groundwater Elevation	1228.91	1228.49	1226.36	1225.02	1225.71	1225.55	1222.95	1222.88
Top of Riser Elevation	1233.23		1231.18		1228.93		1226.11	
Ground Surface Elevation	1231.2		1229.2		1226.9		1224.1	
Top of Well Screen Elevation	1228.5		1226.5		1224.1		1221.3	
Bottom of Well Elevation	1220.7		1216.0		1213.6		1210.8	
Top of Filter Pack	1229.0		1227.0		1224.3		1221.9	
Top of Bentonite Seal	1231.0		1229.0		1226.3		1223.9	

All elevations referenced to the National Geodetic Vertical Datum based on Wisconsin Department of Transportation Right of Way points 2025 and 2026 east of the Moose Junction Lounge.

3.2 Groundwater Analytical Results

Since the RAP report was published in October of 1993, four groundwater sampling events have been accomplished. Groundwater quality was comparable to the first event except the significant increase in the benzene level in MW-4. This could reflect a continued migration of groundwater contaminants southward or a lowered water table caused groundwater to encounter increased concentrations of benzene. Contamination levels of GRO and benzene can be viewed in Figure 3-2. Groundwater analytical results can be viewed in Tables 3-2A and 3-2B. A trend in showing contaminant concentrations and water levels could not be established. A groundwater hydrograph depicting water levels and groundwater quality can be seen in Figure 3-3. Groundwater stabilization forms are located in Appendix A and laboratory analysis reports can be viewed in Appendix B.

4.0 REMEDIAL ACTION PLAN AMENDMENT

4.1 Remedial Action Plan Alternatives

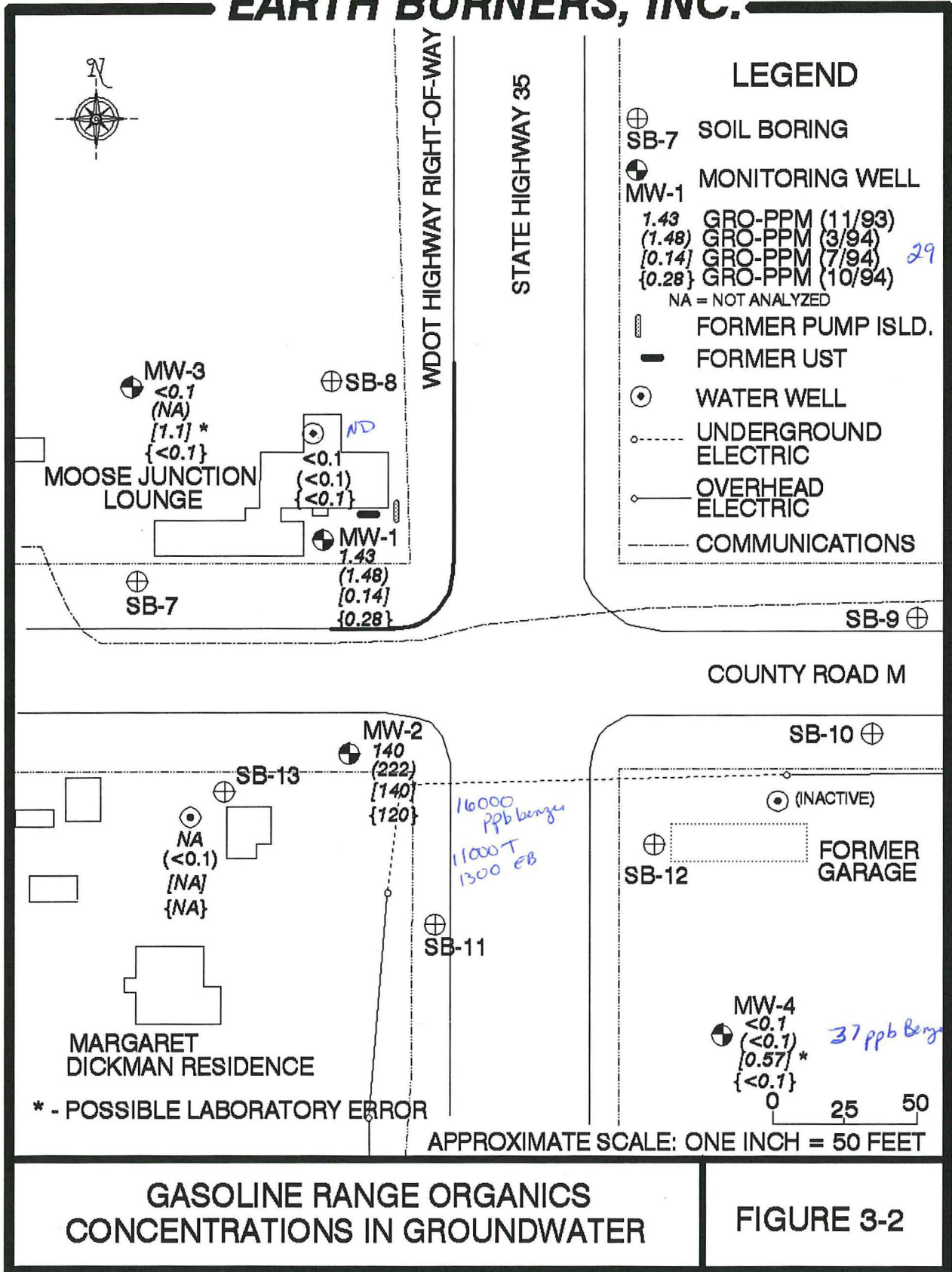
ERS previously considered several options in proposing the RAP. A review of them are as follows:

- o Air Sparging/Soil venting system. - This option would probably offer the most comprehensive soil and groundwater remediation system, it would also be the most expensive and labor intensive. In this scenario, many sparge/vent points would probably be needed for the residual contamination in the soils.

ERS estimates the system would need horizontal components to address the majority of the contaminated soils which are believed to be under the county and state roads. System maintenance and monitoring could be very costly with no guarantee that the system will be compatible with decontamination of the glacial till, even with enhanced bioremediation assisting the venting/sparging. Other possible problems with this alternative are: 1) the elimination of petroleum hydrocarbons, which are typically very concentrated during the first stage of operation, from entering the atmosphere may require a separate air remedial system and associated permits which will increase costs further and 2) the actual remedial period is difficult to predict.

- o Excavation of contaminated soils and remediation through thermal incineration. This method quickly eliminates the remaining source of contaminants. This option does not directly address contaminated groundwater, although elimination of the source should induce less contaminated groundwater samples in the future. However, EBI believes the expense of excavating the road base, and the inconvenience to travelers using the throughway, makes this alternative economically unfeasible.

EARTH BURNERS, INC.



**GASOLINE RANGE ORGANICS
CONCENTRATIONS IN GROUNDWATER**

FIGURE 3-2

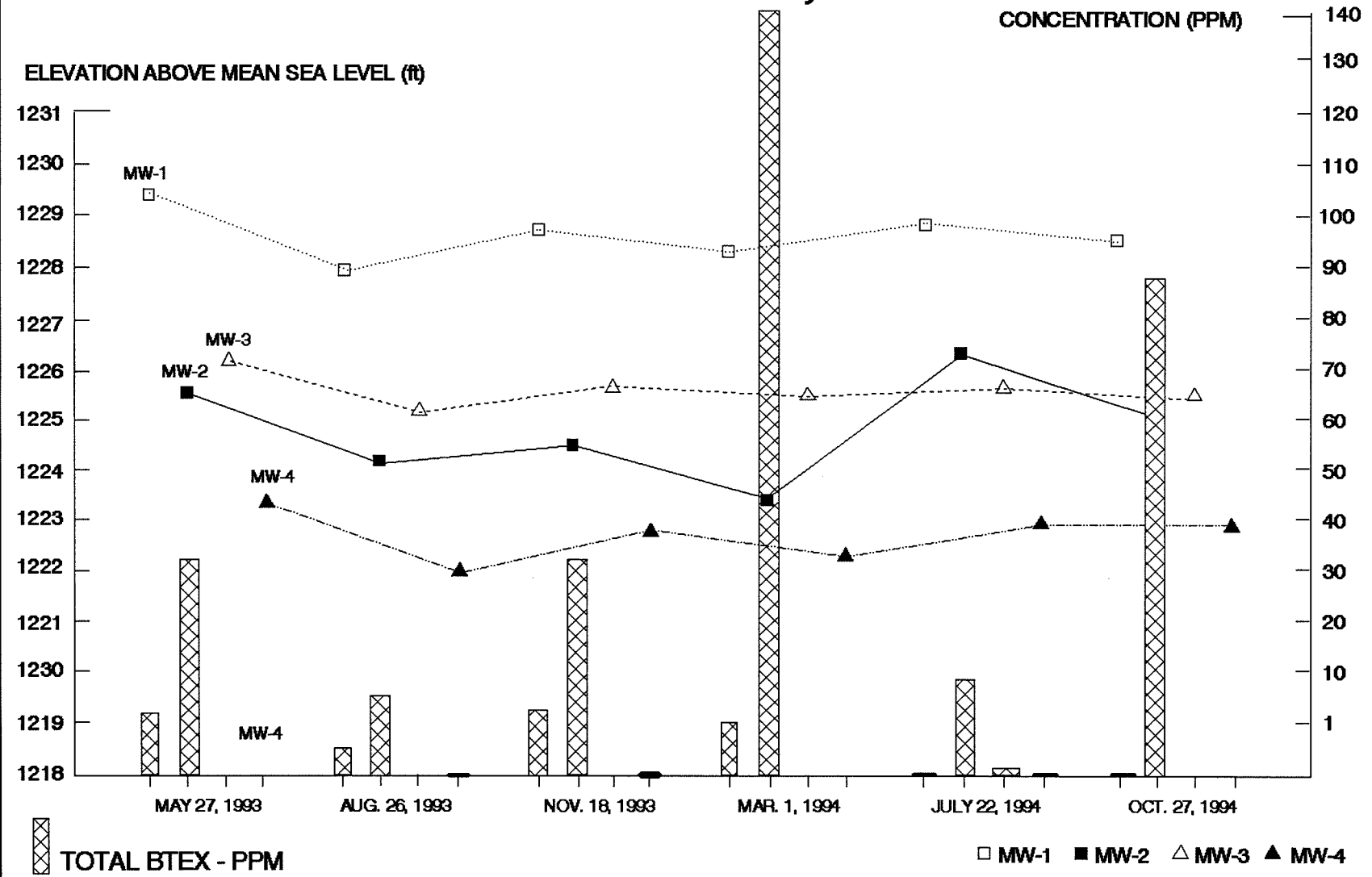
Table 3-2A Groundwater analytical results from the Moose Junction Lounge during Nov., 1993 and Mar., 1994 (ppb).

Elements	MW-1		MW-2		MW-3		MW-4		MD-MW		DS-WW	
	11/93	03/94	11/93	03/94	11/93	03/94	11/93	03/94	11/93	03/94	11/93	03/94
GRO	1430.0	1480.0	140000.0	222000.0	<100.0	NA	<100.0	<100.0	NA	<100.0	<100.0	<100.0
Benzene	48.0	212.0	10500.0	55200.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
Toluene	7.0	14.0	10100.0	51200.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
Ethylbenzene	22.0	25.0	2130.0	4000.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
Xylenes	61.0	154.0	9090.0	29800.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
MTBE	<5.0	23.0	55.0	570.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
1,2,4 Trimethylbenzene	48.0	57.0	1960.0	6450.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
1,3,5 Trimethylbenzene	20.0	9.0	710.0	1570.0	<5.0	NA	<5.0	<5.0	NA	<5.0	<5.0	<5.0
Total Lead	8.0	<2.0	77.0	27.0	11.0	NA	10.0	<2.0	NA	NA	NA	NA

Table 3-2B Groundwater analytical results from the Moose Junction Lounge during July and Oct., 1994 (ppb).

Elements	MW-1		MW-2		MW-3		MW-4		MD-MW		DS-WW	
	07/94	10/94	07/94	10/94	07/94	10/94	07/94	10/94	07/94	10/94	07/94	10/94
GRO	140.0	280.0	140000.0	120000.0	1100.0	< 100	570.0	< 100.0	NA	NA	NA	< 100.0
Benzene	1.7	120.0	120.0	34000.0	4.8	< 5.0	34.0	< 5.0	NA	NA	NA	< 5.0
Toluene	< 5.0	< 5.0	4000.0	33000.0	92.0	< 5.0	34.0	< 5.0	NA	NA	NA	< 5.0
Ethylbenzene	< 5.0	< 5.0	1600.0	2100.0	13.0	< 5.0	2.3	< 5.0	NA	NA	NA	< 5.0
Xylenes	1.9	11.0	3300.0	13000.0	130.0	< 5.0	30.0	< 5.0	NA	NA	NA	< 5.0
MTBE	1.7	< 5.0	240.0	280.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA	NA	< 5.0
1,2,4 Trimethylbenzene	< 5.0	7.3	1500.0	2300.0	65.0	< 5.0	18.0	< 5.0	NA	NA	NA	< 5.0
1,3,5 Trimethylbenzene	< 5.0	< 5.0	340.0	370.0	23.0	< 5.0	19.0	< 5.0	NA	NA	NA	< 5.0
Total Lead	< 50.0	70.0	< 50.0	60.0	< 50.0	80.0	< 50.0	140.0	NA	NA	NA	NA

EARTH BURNERS, INC.



MOOSE JUNCTION LOUNGE
GROUNDWATER QUALITY AND ELEVATION HYDROGRAPH

FIGURE 3-3

- o Passive bioremediation/Long-term groundwater monitoring. Although this remedial method is the most economical, it does not address groundwater contamination which could eventually impact the Dickman potable well. Water samples collected by EBI from the Dickman and Moose Junction Lounge potable wells have not detected any contaminants to date.
- o Convert MW-2 into a low volume pump system and remediate the groundwater with air diffusion tanks. The well would be monitored weekly for GRO and PVOC to ensure the batch flush model is decreasing the contaminant concentrations. Although this does not fully address soil contamination, EBI expects vapors and contaminants in the soils will lessen as the strongest source of the contamination is believed to be in the groundwater. Advection, dispersion, diffusion, biodegradation, and chemical adsorption will further lower concentration levels in the soils.

All of the RAP alternatives include provisions for long term groundwater sampling of the monitoring and potable wells at both the Moose Junction Lounge and the Margaret Dickman residence. Groundwater samples will be analyzed for GRO, PVOC, and total lead. The monitoring and sampling will continue until two consecutive sampling events indicate groundwater analytics are under the following levels:

benzene 5 ppb	ethylbenzene 1360 ppb
toluene 343 ppb	xylene 620 ppb
lead 50 ppb	

If the potable well samples at either the Moose Junction Lounge or the Margaret Dickman residence show any contaminants above the WDNR groundwater quality standards as listed above, the WDNR will be notified immediately.

4.2 Estimated Costs

A range of costs is estimated to cover possible problems encountered during the RAP implementation. Costs are not broken down for each RAP alternative. After EBI and the WDNR agree on the most suitable action plan, a detailed cost estimate could be formulated. Costs are as follows:

o Air Sparging/ Soil Venting	\$60,000 - 80,000
o Soil Excavation/ Thermal Treatment	\$40,000 - 60,000
o Passive Remediation/ Groundwater Monitoring	\$ 8,000 - 10,000
o Batch Flush/ Pump and Treat	\$18,000 - 28,000

4.3 Schedule/Permits

Groundwater will continue to be sampled on a quarterly basis. The Moose Junction Lounge potable well will be sampled on a biannual basis. The Dickman potable well will not be sampled at the request of Margaret Dickman. Since the sampling of this well is part of Administrative Order NWD-92-023, EBI requests help from the WDNR in convincing Mrs. Dickman that sampling her potable well is in her best interest.

Because winter frost and cold conditions cause escalated costs, EBI recommends the remedial action be postponed to late spring, possibly after road restrictions have been lifted from Highway 35.

ERS does not foresee any special permits needed for the remedial action unless air sparging/ soil venting is employed. In this case an air quality permit will be needed for the vented vapors and a variance will be required to place remedial equipment on WDOT property. Access agreements between EBI, Mary McKelvey, and Margaret Dickman will have to be renewed for access to MW-4 and MW-2 which are located on their properties, respectively. Figure 5-1 estimates the horizontal zone of influence of the recovery well. Figure 5-2 shows the approximate vertical zone of influence.

5.0 RECOMMENDATIONS

ERS recommends a pilot study to pump and treat 10,000 gallons from MW-2. After removal, the groundwater will be sampled. After removal of 10,000 gallons and analytical samples indicate no significant reduction in contaminant concentrations, EBI will stop the operation and report results to the WDNR so another remedial alternative pilot study can be initiated. If the batch flush system lowers concentrations, a time curve could determine the duration of the flush system based on lowering contaminants to prescribed WDNR levels.

6.0 STANDARD OF CARE

The conclusions contained in this report represent our professional opinion. These opinions were arrived at in accordance with currently accepted environmental practices. No warranty is implied or intended.

Prepared By:

Roger W. Biebl

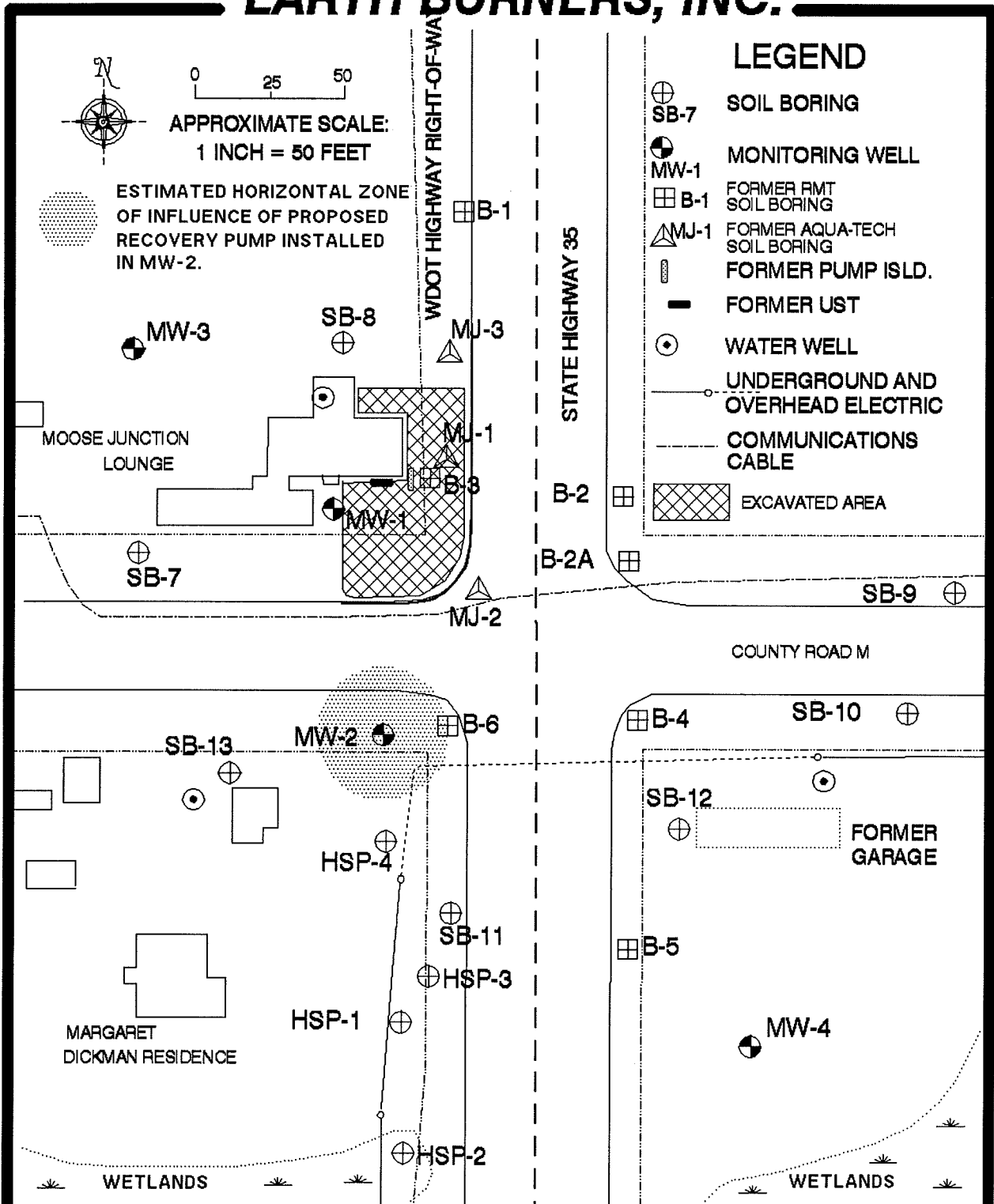
Roger W. Biebl
Project Hydrologist

Reviewed By:

Les Conway

Les Conway, PE
Consulting Engineer

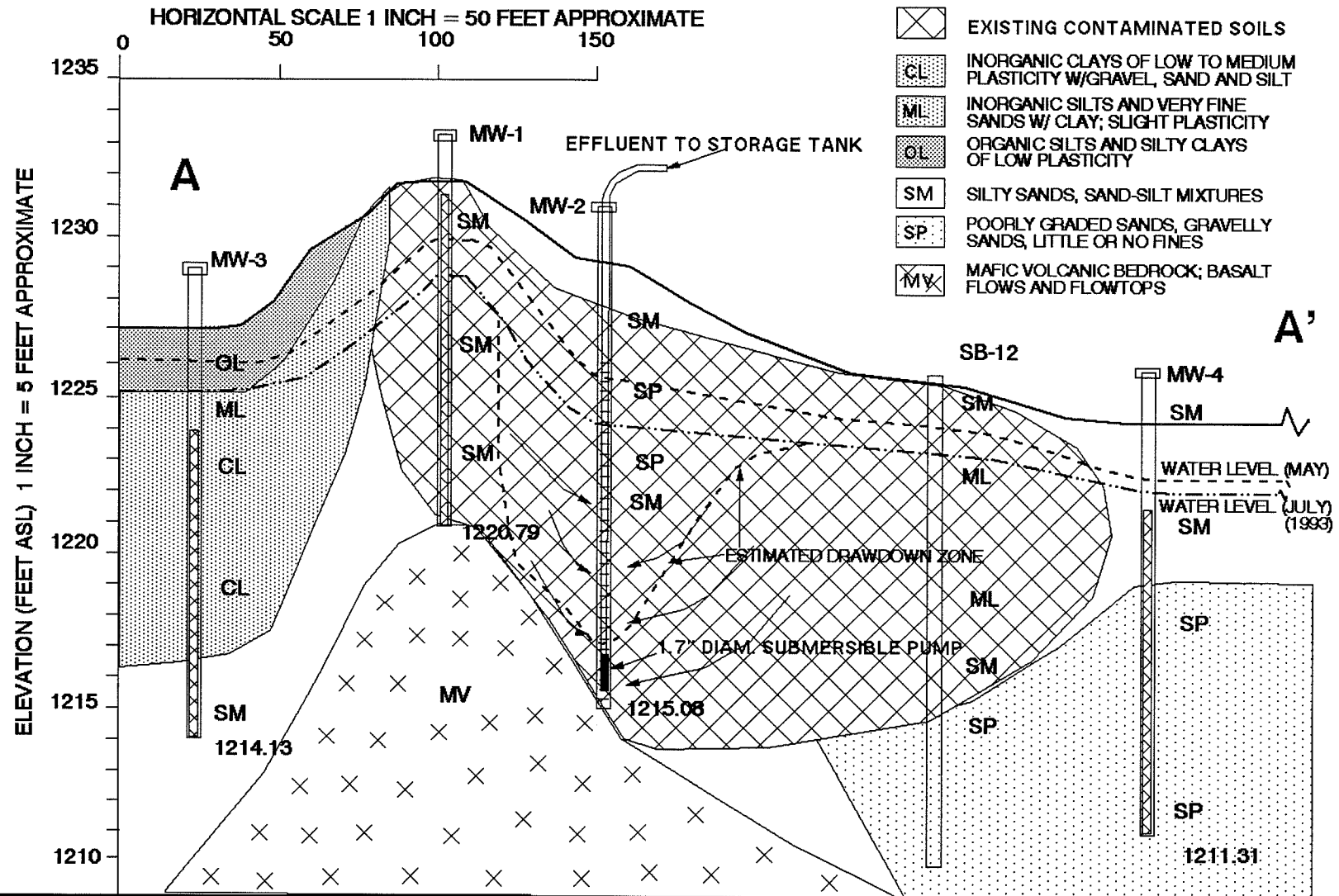
EARTH BURNERS, INC.



**MOOSE JUNCTION LOUNGE
HORIZONTAL EXTENT OF INFLUENCE**

FIGURE 5-1

EARTH BURNERS, INC.



**MOOSE JUNCTION LOUNGE
VERTICAL EXTENT OF RECOVERY WELL CONE OF DEPRESSION**

FIGURE 5-2

REFERENCES

American Petroleum Institute, August, 1989. A Guide to the Assessment and Remediation of Underground Petroleum Releases.

Aqua-Tech, November, 1990. Environmental Assessment Report for the Moose Junction Lounge.

Earth Remediation Services, July, 1993. Summary Report: Moose Junction Lounge Site Investigation.

Fetter, C. W., 1988. Applied Hydrogeology. Charles E. Merrill Publishing Company, Columbus, Ohio.

Garret, Peter & Marcel Moreau MTBE as a Groundwater Contaminant. Maine Department of Environmental Protection.

Geraghty & Miller, Inc. June, 1992. AQTESOLV - Aquifer Test and Analysis Computer Software Manual.

Kamnikar, Brian, "Bioremediation of Contaminated Soils" Pollution Engineering November, 1992.

RMT, Inc., October, 1992. Moose Junction Lounge - WDOT Subsurface Investigation.

Schultz, Dale, 1993. Personal communication

Wisconsin Department of Natural Resources, March 1992. Guidance for Conducting Environmental Response Actions.

Wisconsin Department of Natural Resources, October 1990. NR 140 Groundwater Quality.

Wisconsin Department of Natural Resources, June 1991. NR 141 Groundwater Monitoring Well Requirements.

Appendix A Groundwater Stabilization Logs

EARTH REMEDIATION SERVICES

a division of Earth Burners, Inc.
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PO Box 16083
Duluth, MN 55816-0083

Office: (218) 628-0248
Fax: (218) 628-0455

GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: November 18, 1993 WEATHER CONDITIONS: Clear and
WELL #: MW-1 cool 32°F
PROJECT #: 9308 SAMPLED BY: RWB/JRW

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.00 feet
Total depth of well below measuring point: 12.35 feet
Depth of water table from measuring point: 4.46 feet
Length of water column: 7.89 feet
Purge method: Dedicated Bailer
Required purge volume: 1.3 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.3	6.3	450	41.8	Light orange brown
2.6	6.3	470	43.5	Light orange brown
3.9	6.3	470	44.5	Dark orange brown
5.2	6.3	460	45.0	Dark orange brown

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 11:30

Analysis	Containers	Sample Prep/ Preservation
PVOC's / GRO	3-40 ml	HCl
Total Pb (filtered)	1-250 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL #
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Slight petroleum odor.

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Office: (218) 628-0248

Fax: (218) 628-0455

GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: November 18, 1993 WEATHER CONDITIONS: Clear and
WELL #: MW-2 cool 32°F
PROJECT #: 9308 SAMPLED BY: RWB/JRW

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.00 feet
Total depth of well below measuring point: 15.40 feet
Depth of water table from measuring point: 6.61 feet
Length of water column: 8.79 feet
Purge method: Dedicated Bailer
Required purge volume: 1.40 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.4	6.4	1310	43.6	Greenish reddish brown
2.8	6.2	1400	45.7	Greenish reddish brown
4.2	6.1	1360	46.5	Greenish orange brown
5.6	6.0	1350	47.1	Greenish oragne brown

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 12:00

Analysis	Containers	Sample Prep/ Preservation
PVOC's / GRO	3-40 ml	HCl
Total Pb (filtered)	1-250 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL #

Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Heavy petroleum odor with sheen on water surface.

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Office: (218) 628-0248
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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: November 18, 1993 WEATHER CONDITIONS: Clear and
 WELL #: MW-3 cool 32°F
 PROJECT #: 9308 SAMPLED BY: RWB/JRW

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.00 feet
 Total depth of well below measuring point: 15.10 feet
 Depth of water table from measuring point: 3.16 feet
 Length of water column: 11.94 feet
 Purge method: Dedicated Bailer
 Required purge volume: 1.90 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.9	8.3	500	38.9	Reddish brown
3.8	7.7	520	42.4	Reddish brown
5.7	7.2	520	44.2	Reddish brown
7.6	7.0	520	44.7	Brown

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 10:30

Analysis	Containers	Sample Prep/ Preservation
PVOC's / GRO	3-40 ml	HCl
Total Pb (filtered)	1-250 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL #
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: November 18, 1993 WEATHER CONDITIONS: Clear and
WELL #: MW-4 cool 32°F
PROJECT #: 9308 SAMPLED BY: RWB/JRW

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.00 feet
Total depth of well below measuring point: 15.10 feet
Depth of water table from measuring point: 3.31 feet
Length of water column: 11.79 feet
Purge method: Dedicated Bailer
Required purge volume: 1.90 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.9	7.0	370	40.9	Light brown
3.8	6.7	390	42.0	Light brown
5.7	6.6	390	42.1	Clear
7.6	6.6	400	42.5	Clear

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 11:00

Analysis	Containers	Sample Prep/ Preservation
PVOC's / GRO	3-40 ml	HCl
Total Pb (filtered)	1-250 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Well went dry between third and fourth purge volume.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: November 17, 1993 WEATHER CONDITIONS: Clear and
 WELL #: MW-4A cool 32°F
 PROJECT #: 9308 SAMPLED BY: RWB/JRW

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: _____ feet
 Total depth of well below measuring point: _____ feet
 Depth of water table from measuring point: _____ feet
 Length of water column: _____ feet
 Purge method: Dedicated Bailer
 Required purge volume: _____ gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 11:00

Analysis	Containers	Sample Prep/ Preservation
PVOC's / GRO	3-40 ml	HCl

Chain of Custody form: [] No [X] Yes
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Duplicate sample from MW-4

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: March 1, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-1 calm 20° F.
PROJECT #: R424-0301 SAMPLED BY: RWB/WO

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: 12.42 feet
Depth of water table from measuring point: 4.86 feet
Length of water column: 7.56 feet
Purge method: Dedicated Bailer
Required purge volume: 1.2 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.2	6.8	1450	37.1	Brown
2.4	6.7	1460	36.9	"
3.6	6.6	1470	36.8	"
4.8	6.6	1460	36.9	"

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 13:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL # 11402
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Very slight petroleum odor.

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GROUND WATER SAMPLING FORM

SITE: Mosse Junction Lounge WELL CONDITION: Capped & Locked
DATE: March 1, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-2 calm 20° F.
PROJECT #: R424-0301 SAMPLED BY: RWB/WO

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: 15.32 feet
Depth of water table from measuring point: 7.76 feet
Length of water column: 7.56 feet
Purge method: Dedicated Bailer
Required purge volume: 1.2 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.2	6.7	1580	37.2	Yellowish brown
2.4	6.6	1640	38.5	" "
3.6	6.6	1650	38.5	" "
4.8	6.6	1670	38.7	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 14:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL # 11402

Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Very heavy sheen and a strong petroleum odor was noted in the groundwater.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: March 1, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-3 calm 20° F.
PROJECT #: R424-5607 SAMPLED BY: RWB/WO

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: feet
Depth of water table from measuring point: 3.5 feet
Length of water column: feet
Purge method: Dedicated Bailer
Required purge volume: gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: _____

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [] Yes
Chain of Custody Tape: [] No [] Yes

Shipping Container: _____

NOTES: Not sampled, groundwater in well frozen.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: March 1, 1994 WEATHER CONDITIONS: Overcast and
WELL #: MW-4 calm 20° F.
PROJECT #: R424-0301 SAMPLED BY: RWB/WO

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: 15.40 feet
Depth of water table from measuring point: 3.75 feet
Length of water column: 11.56 feet
Purge method: Dedicated Bailer
Required purge volume: 1.9 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.9	7.6	560	39.8	Light brown
3.8	7.2	570	38.8	" "
5.7	7.2	590	38.5	" "
6.6	7.1	600	38.5	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 12:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes LSL #11402
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: March 1, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-2A calm 20° F.
PROJECT #: R424-0301 SAMPLED BY: RWB/WO

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface:
Total depth of well below measuring point:
Depth of water table from measuring point:
Length of water column:
Purge method:
Required purge volume:

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 14:15

Analysis	Containers	Sample Prep/ Preservation
GRO	3-40 ml each	HCl

Chain of Custody form: [] No [X] Yes LSL # 11402

Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Duplicate of MW-2

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: July 22, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-1 Windy 70° F.
 PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 12.55 feet
 Depth of water table from measuring point: 4.32 feet
 Length of water column: 8.23 feet
 Purge method: Dedicated Bailer
 Required purge volume: 1.3 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.3	6.8	540	59.5	Brown
2.6	6.9	520	59.1	"
3.9	7.0	490	59.0	"
5.1	7.0	500	58.6	"

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 15:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: July 22, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-2 Windy 70° F.
PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: 15.42 feet
Depth of water table from measuring point: 4.82 feet
Length of water column: 10.60 feet
Purge method: Dedicated Bailer
Required purge volume: 1.7 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.7	6.5	1570	60.1	Yellowish brown
3.4	6.8	1530	58.0	" "
5.1	6.8	1490	56.4	" "
6.8	6.9	1470	55.5	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 16:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Very heavy sheen and a strong petroleum odor was noted in the groundwater.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: July 22, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-3 Windy 70° F.
 PROJECT #: R424 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 15.42 feet
 Depth of water table from measuring point: 3.22 feet
 Length of water column: 12.20 feet
 Purge method: Dedicated Bailer
 Required purge volume: 2.0 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
2	7.0	610	57.5	Reddish
4	6.9	600	57.4	
6	7.0	590	57.0	
8	6.9	580	56.1	

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: _____

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [] Yes
 Chain of Custody Tape: [] No [] Yes

Shipping Container: _____

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: July 22, 1994 WEATHER CONDITIONS: Clear,
 WELL #: MW-4 Windy 70° F.
 PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 15.18 feet
 Depth of water table from measuring point: 3.16 feet
 Length of water column: 11.95 feet
 Purge method: Dedicated Bailer
 Required purge volume: 2.0 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
2	7.5	780	59.4	Light brown
4	7.1	770	59.3	" "
6	7.0	750	58.1	" "
8	7.0	760	58.0	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 14:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: July 22, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-2A Windy 70° F.
 PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface:
 Total depth of well below measuring point:
 Depth of water table from measuring point:
 Length of water column:
 Purge method:
 Required purge volume:

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 16:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC	3-40 ml each	HCl

Chain of Custody form: [] No [X] Yes
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Duplicate of MW-2

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Office: (218) 628-0454
 Fax: (218) 628-0455

GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: Oct. 27, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-1 Windy 50° F.
 PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 12.45 feet
 Depth of water table from measuring point: 4.74 feet
 Length of water column: 7.71 feet
 Purge method: Dedicated Bailer
 Required purge volume: 1.3 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.3	6.8	720	54.8	Yellowish brown
2.6	6.9	690	54.9	"
3.9	6.9	690	55.0	"
5.1	6.9	690	54.8	"

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 13:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes AET # 94312

Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Very slight petroeuem odor.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: Oct. 27, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-2 Windy 50° F.
 PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 15.40 feet
 Depth of water table from measuring point: 6.16 feet
 Length of water column: 9.24 feet
 Purge method: Dedicated Bailer
 Required purge volume: 1.5 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.5	7.0	1130	54.8	Yellowish brown
3.0	7.0	1140	53.8	" "
4.5	6.9	1130	53.7	" "
6.0	6.9	1120	53.7	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 14:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes AET # 94312
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Very heavy sheen and a strong petroleum odor was noted in the groundwater.

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
 DATE: Oct. 27, 1994 WEATHER CONDITIONS: Clear
 WELL #: MW-3 Windy 50° F.
 PROJECT #: R424 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
 Height of measuring point above ground surface: 2.0 feet
 Total depth of well below measuring point: 15.42 feet
 Depth of water table from measuring point: 3.38 feet
 Length of water column: 12.04 feet
 Purge method: Dedicated Bailer
 Required purge volume: 2.0 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
2	6.9	560	54.2	Reddish brown
4	7.0	550	54.3	
6	7.0	540	54.3	
8	7.0	540	53.8	

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 11:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes AET # 94312
 Chain of Custody Tape: [X] No [] Yes

Shipping Container: _____

NOTES: _____

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GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: Oct. 27, 1994 WEATHER CONDITIONS: Clear,
WELL #: MW-4 Windy 50° F.
PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface: 2.0 feet
Total depth of well below measuring point: 15.10 feet
Depth of water table from measuring point: 3.23 feet
Length of water column: 11.87 feet
Purge method: Dedicated Bailer
Required purge volume: 1.9 gallons

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color
1.9	7.2	590	53.3	Light brown
3.8	7.2	580	52.4	" "
5.7	7.1	590	52.2	" "
6.6	7.0	600	52.2	" "

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 12:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC's	3-40 ml	HCl
Total Pb	1-500 ml plastic	HNO ₃

Chain of Custody form: [] No [X] Yes AET # 94312
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: _____

EARTH BURNERS, INC.

500 Leisure Street
PO Box 16083
Duluth, MN 55816-0083

Office: (218) 628-0454
Fax: (218) 628-0455

GROUND WATER SAMPLING FORM

SITE: Moose Junction Lounge WELL CONDITION: Capped & Locked
DATE: Oct. 27, 1994 WEATHER CONDITIONS: Clear
WELL #: MW-1A Windy 50° F.
PROJECT #: R424-0301 SAMPLED BY: RWB

WATER LEVEL MEASUREMENT AND WELL PURGING

Location of measuring point: Top of Casing
Height of measuring point above ground surface:
Total depth of well below measuring point:
Depth of water table from measuring point:
Length of water column:
Purge method:
Required purge volume:

Volume Removed Gallons	pH	Cond. (um/cm)	Temp (F)	Color

SAMPLE COLLECTION

Collection method: Dedicated Bailer Time: 13:30

Analysis	Containers	Sample Prep/ Preservation
GRO/PVOC	3-40 ml each	HCl

Chain of Custody form: [] No [X] Yes
Chain of Custody Tape: [X] No [] Yes

Shipping Container: Iced Cooler

NOTES: Duplicate of MW-1

Appendix B Groundwater Laboratory Analysis Reports



728 GARFIELD AVENUE • DULUTH, MINNESOTA 55802
MN (218) 722-1911 • FAX (218) 722-3295

A DIVISION OF TWIN PORTS TESTING, INC.

SERIAL NUMBER

No 11206

LABORATORY REQUEST AND
CHAIN OF CUSTODY RECORD

LAKE SUPERIOR LABORATORIES

Project Name/No. Moose Junction Lounge 9308-0301 P.O. # _____

Client Earth Remediation Serv. Report To Roger Biehl

Address P.O. Box 16083

Duluth MN 55816 Bill To EBI

Phone 628-0248

Remarks * Filtered in the field
Rec'd on Ice

Sampler Signature Roger W Biehl

Sampler (Print) Roger W Biehl

Sample No./Location	Date	Time	Matrix			Number of Containers	Preservative	Analyses										LSL No.					
			Air	Liquid	Solid			GRV/PVOC	Total Lead*														
9308-MW3	11/18/93	10:30	✓			4		3	1														3436
9308-MW4		11:00	✓			4		3	1														3437
9308-MW1		11:30	✓			4		3	1														3438
9308-MW2		12:00	✓			4		3	1														3439
9308-DSIW	✓	12:00	✓			3		3															3440
9308-MW4A	✓	11:00	✓			3		3															3441
Relinquished By <u>Roger W Biehl</u>		Date/Time <u>11-17-93 13:10</u>		Received By <u>[Signature]</u>			Relinquished By		Date/Time		Received By			Relinquished By		Date/Time		Received By					
Relinquished By		Date/Time		Received By			Relinquished By		Date/Time		Received By			Relinquished By		Date/Time		Received By					



LABORATORY ANALYSIS REPORT

728 GARFIELD AVENUE ■ DULUTH, MINNESOTA 55802
MN (218) 722-1911 ■ FAX (218) 722-3295

SUPERIOR LABORATORIES

A DIVISION OF TWIN PORTS TESTING, INC.

Page 2

Client
Earth Remediation Services
500 Leisure Street
Duluth, MN 55816
(218) 628-0248

Project Moose Junction, WI
Project No. 9308-0301

Collected By Roger Biebl
Delivered By Roger Biebl

Chem. Lab ID	3440-93LS	3441-93LS		
Sample Type	Water	Water		
Collected	11/18/93	11/18/93		
Received	11/18/93	11/18/93		
Analyzed	11/26/93	11/26/93		
Reported	12/01/93	12/01/93		
Sample Description	9308-DSWW	9308-MW4A		
Analysis				
Gasoline Range Organics	<0.100 mg/L	<0.100 mg/L		
Methyl Tertiary Butyl Ether	<0.005 mg/L	<0.005 mg/L		
1,2,4-Trimethylbenzene	<0.005 mg/L	<0.005 mg/L		
1,3,5-Trimethylbenzene	<0.005 mg/L	<0.005 mg/L		
Benzene	<0.005 mg/L	<0.005 mg/L		
Ethylbenzene	<0.005 mg/L	<0.005 mg/L		
Lead	-	-		
Toluene	<0.005 mg/L	<0.005 mg/L		
Total Xylenes	<0.005 mg/L	<0.005 mg/L		

Remarks

- Not tested for.

Samples MW-1 and MW-2 contain peaks extending beyond the GRO window.

Sarah Arthur 12/17/93
Analyzed By **Date**

[Signature] 12-17-93
Reviewed By **Date**

**LABORATORY ANALYSIS REPORT**728 GARFIELD AVENUE ■ DULUTH, MINNESOTA 55802
MN (218) 722-1911 ■ FAX (218) 722-3295**LAKE SUPERIOR LABORATORIES****A DIVISION OF TWIN PORTS TESTING, INC.**

Page 1

Client
Earth Remediation Services
500 Leisure Street
Duluth, MN 55816
(218) 628-0248**Project** Moose Junction, WI
Project No. 9308-0301**Collected By** Roger Biebl
Delivered By Roger Biebl

Chem. Lab ID	3436-93LS	3437-93LS	3438-93LS	3439-93LS
Sample Type	Water	Water	Water	Water
Collected	11/18/93	11/18/93	11/18/93	11/18/93
Received	11/18/93	11/18/93	11/18/93	11/18/93
Analyzed	11/26/93	11/26/93	11/26/93	11/26/93
Reported	12/01/93	12/01/93	12/01/93	12/01/93
Sample Description	9308-MW3	9308-MW4	9308-MW1	9308-MW2

Analysis

Gasoline Range Organics	<0.100 mg/L	<0.100 mg/L	1.43 mg/L	140 mg/L
Methyl Tertiary Butyl Ether	<0.005 mg/L	<0.005 mg/L	<0.005 mg/L	0.055 mg/L
1,2,4-Trimethylbenzene	<0.005 mg/L	<0.005 mg/L	0.048 mg/L	1.96 mg/L
1,3,5-Trimethylbenzene	<0.005 mg/L	<0.005 mg/L	0.020 mg/L	0.710 mg/L
Benzene	<0.005 mg/L	<0.005 mg/L	0.048 mg/L	10.5 mg/L
Ethylbenzene	<0.005 mg/L	<0.005 mg/L	0.022 mg/L	2.13 mg/L
Lead	0.011 mg/L	0.010 mg/L	0.008 mg/L	0.077 mg/L
Toluene	<0.005 mg/L	<0.005 mg/L	0.007 mg/L	10.1 mg/L
Total Xylenes	<0.005 mg/L	<0.005 mg/L	0.061 mg/L	9.09 mg/L

Remarks

Samples MW-1 and MW-2 contain peaks extending beyond the GRO window.

Sarah Arthur 12/17/93
Analyzed By **Date**

[Signature] 12-17-93
Reviewed By **Date**



Project Name/No. MOOSE JUNCTION LOUNGE R424 P.O. # _____

Client Earth Remediation Services Report To Roger Biehl

Address P.O. Box 16083

Duluth MN 55816 Bill To EBE

Phone 628-0248

Remarks

Sampler Signature Roger W Biehl

Sampler (Print) Roger W Biehl

Sample No./Location	Date	Time	Matrix			Number Or Containers	Preservative	Analyses										LSL No.			
			Air	Liquid	Solid			PVOC/GRO	Total Pb (Filtered)												
R424 - MDWW	3/1/94	11:30		✓		3	HCL HNO ₃	3													1400
R424 - DSWW		12:45				3		3													1401
R424 - MW4		12:30				4		3	1												1402
R424 - MW3						4		3	1												1403
R424 - MW1		13:30				4		3	1												1403
R424 - MW2		14:30				4		3	1												1404
R424 - MW2A		14:15		✓		3	✓	3													1405
Relinquished By <u>Roger W Biehl</u>	Date/Time <u>3/1/94 15:15</u>	Received By <u>[Signature]</u>											Relinquished By	Date/Time	Received By						
Relinquished By	Date/Time	Received By											Relinquished By	Date/Time	Received By						



728 GARFIELD AVENUE ■ DULUTH, MINNESOTA 55802
MN (218) 722-1911 ■ FAX (218) 722-3295

LAKE SUPERIOR LABORATORIES

A DIVISION OF TWIN PORTS TESTING, INC.

Date: 03/22/94

Total Pages Including This Cover Page: 4

Client: Earth Remediation Services
500 Leisure Street
P.O Box 16083
Duluth, MN 55816

Attn: Roger Biebl

Phone: (218) 628-0248

Fax: (218) 628-0455

Chain of Custody #: 11402

Project: Moose Junction Lounge

Project ID: R424

LAB ID #	SAMPLE ID
1400-94LS	MDWW
1401-94LS	DSWW
1402-94LS	MW4
1403-94LS	MW1
1404-94LS	MW2
1405-94LS	MW2A

Signature

Linda Thiry, Director
Tim Buck, Lab Manager

Wis. Certification Number: 816057440

Minn. Certification Number: 027-137-307

Quality Assurance / Quality Control Report

Client: Earth Remediation Services

Chain Of Custody #: 11402

Project: Moose Junction Lounge

Project ID: R424

QC Parameter	GRO	DRO	BTEX/PVOC	VOC	INORGANICS
Blank	Pass	NA	Pass	NA	NA
Duplicate	NA	NA	NA	NA	Pass
Spike	Pass	NA	Pass	NA	Pass
Spike Replicate	Pass	NA	Pass	NA	NA
Soil Spike	NA	NA	NA	NA	NA

Remarks

LABORATORY ANALYSIS REPORT

Client
 Earth Remediation Services
 500 Leisure Street
 P.O Box 16083
 Duluth, MN 55816

Project: Moose Junction Lounge
Project ID: R424

Collected By: Roger W. Biebl
Delivered By: Roger W. Biebl

Chem. Lab ID	1400-94LS	1401-94LS	1402-94LS	1403-94LS
Sample Type	Water	Water	Water	Water
Collected	03/01/94	03/01/94	03/01/94	03/01/94
Received	03/01/94	03/01/94	03/01/94	03/01/94
Analyzed	03/11/94	03/11/94	03/11/94	03/11/94
Reported	03/22/94	03/22/94	03/22/94	03/22/94
Sample Description	MDWW	DSWW	MW4	MW1

Analysis

Gasoline Range Organics	<0.100 mg/l	<0.100 mg/l	<0.100 mg/l	1.48 mg/l
Methyl tert-Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.023 mg/l
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.212 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.014 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.025 mg/l
Xylenes, Total	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.154 mg/l
1,3,5-Trimethyl Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.009 mg/l
1,2,4-Trimethyl Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	0.057 mg/l
Lead	-	-	<0.002 mg/l	<0.002 mg/l

- Not Tested For

Remarks

LABORATORY ANALYSIS REPORT

Client
 Earth Remediation Services
 500 Leisure Street
 P.O. Box 16083
 Duluth, MN 55816

Project: Moose Junction Lounge
Project ID: R424

Collected By: Roger W. Biebl
Delivered By: Roger W. Biebl

Chem. Lab ID	1404-94LS	1405-94LS		
Sample Type	Water	Water		
Collected	03/01/94	03/01/94		
Received	03/01/94	03/01/94		
Analyzed	03/11/94	03/11/94		
Reported	03/22/94	03/22/94		
Sample Description	MW2	MW2A		

Analysis

Gasoline Range Organics	222 mg/l	202 mg/l		
Methyl tert-Butyl Ether	0.570 mg/l	0.596 mg/l		
Benzene	55.200 mg/l	26.200 mg/l		
Toluene	51.200 mg/l	22.700 mg/l		
Ethylbenzene	4.000 mg/l	3.170 mg/l		
Xylenes, Total	29.800 mg/l	16.500 mg/l		
1,3,5-Trimethyl Benzene	1.570 mg/l	1.060 mg/l		
1,2,4-Trimethyl Benzene	6.450 mg/l	3.240 mg/l		
Lead	0.027 mg/l	-		

- Not Tested For

Remarks

SAMPLE CONDITION UPON RECEIPT CHECKLIST

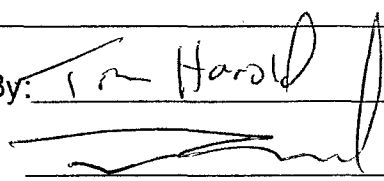
Client: Earth Remediation Services

Project: Moose Junction Lagoon R424

Date Received: 3-1-94

COC #: 11402

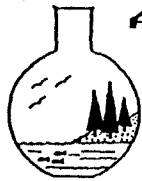
Samples Received By: Tom Harold


(Signature)

- | | Yes | No |
|--|-------------------------------------|--------------------------|
| 1. Is there a chain of custody (COC) or letter stating information contained on a COC? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Is the date and time relinquished in agreement with that written on the letter or COC? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Do the samples received agree with the COC or accompanying paperwork (i.e. number of samples, matrices, sample tags, sample containers, analyses, etc.)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Are all the samples within the holding times for requested analyses? Communicate any lapse of greater than 4 days beyond date of collection for VOA analysis. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Are all the sample containers intact (i.e., not broken, leaking, etc.)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Did the samples arrive on ice?
a) Are the samples at the proper temperature? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Is there enough sample to do all the analyses? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8. Are the samples preserved correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9. Are the VOA vials head-space free? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

'NO' Items Explained:

NA = Not Applicable



**ACCURATE
ENVIRONMENTAL
TESTING**

2231 CATLIN SUITE 420
SUPERIOR, WI 54880

**CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS**

No 94182

TOLL FREE (800) TEST-AET
LAB (715) 392-5844
FAX (715) 394-7414

* WISCONSIN ** Field Filtered

CLIENT: Earth Remediation Services				SAMPLER NAME: Roger Biehl				BILLING ADDRESS: P.O. Box 16083, Duluth, MN 55816																	
PROJECT I.D.: R424 Moose Junction Lounge				SAMPLER SIGNATURE:				GRO (Includes BTEX) <input checked="" type="checkbox"/> DRO <input type="checkbox"/> BTEX <input type="checkbox"/> VOC (465-D) <input type="checkbox"/> PH <input type="checkbox"/> (P) (Diss. or Total) * <input checked="" type="checkbox"/> RCRA 8 METALS <input checked="" type="checkbox"/> BOD OR CBOD <input type="checkbox"/> TSS <input type="checkbox"/> Fcol or Tcol <input type="checkbox"/> PRESERVATIVE: HCl <input type="checkbox"/> HNO ₃ <input type="checkbox"/> MeOH <input type="checkbox"/> ICE <input type="checkbox"/> OTHER <input type="checkbox"/>																	
REPORTS TO BE SENT TO: Roger Biehl				REMARKS:																					
NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX			SAMPLE IDENTIFICATION			GRO	DRO	BTEX	VOC	PH	(P) (Diss. or Total) *	RCRA 8 METALS	BOD OR CBOD	TSS	Fcol or Tcol	HCl	HNO ₃	MeOH	ICE	OTHER
					WATER	SOIL	OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.															
4			7/22/94	14:30	✓			R424 MW-4																	
4				13:30	✓			R424 MW-3																	
4				15:30	✓			R424 MW-1																	
4				16:30	✓			R424 MW-2																	
3		↓		16:30	✓			R424 MW-2A																	
Relinquished by: (Signature) Roger W Biehl				Date / Time 7/25/94		Received by: (Signature) Jay Thompson				Relinquished by: (Signature)				Date / Time		Received by: (Signature)				CHECK HERE FOR DRINKING WATER DETECTION LIMITS <input type="checkbox"/>					
Relinquished by: (Signature)				Date / Time		Received by: (Signature)				Relinquished by: (Signature)				Date / Time		Received by: (Signature)				TURNAROUND TIME REQUIRED: <input type="checkbox"/> NORMAL <input type="checkbox"/> RUSH					
Contents Temperature:						Comments on Sample Condition:						DATE REQUIRED:													

Earth Burners, Inc.
 P.O. Box 16083
 Duluth, MN 55816-6083

Chain of Custody # 94182
 Project Name: R424 Moose Junction Lounge
 Sampler Name: Roger Biebl

Collected on	7/22/94	7/22/94	7/22/94	7/22/94	7/22/94
Received on	7/25/94	7/25/94	7/25/94	7/25/94	7/25/94
GRO Analyzed on	8/3/94	8/3/94	8/3/94	8/3/94	8/3/94
Sample Description	R424 MW 4	R424 MW-3	R424 MW-1	R424 MW-2	R424 MW-2A
Sample I.D.	MW-4	MW-3	MW-1	MW-2	MW-2A
Lab I.D.	94852	94853	94854	94855	94856

Parameter	PQL	WATER	WATER	WATER	WATER	WATER
Temperature	NA	on ice	on ice	on ice	on ice	on ice
Gasoline Range Organics	100 ug/L	570 ug/L	1100 ug/L	140 ug/L	140 mg/L	140 mg/L
MTBE	5 ug/L	< PQL	< PQL	1.7 ug/L	240 ug/L	220 ug/L
Benzene	5 ug/L	34 ug/L	4.8 ug/L	4.0 ug/L	120 ug/L	5800 ug/L
Toluene	5 ug/L	34 ug/L	92 ug/L	< PQL	4000 ug/L	4000 ug/L
Ethylbenzene	5 ug/L	2.3 ug/L	13 ug/L	< PQL	1600 ug/L	1700 ug/L
Total Xylenes	5 ug/L	30 ug/L	130 ug/L	1.9 ug/L	3300 ug/L	5700 ug/L
1,3,5-Trimethylbenzene	5 ug/L	19 ug/L	23 ug/L	< PQL	340 ug/L	710 ug/L
1,2,4-Trimethylbenzene	5 ug/L	18 ug/L	65 ug/L	< PQL	1500 ug/L	1600 ug/L
Dissolved Lead	50 ug/L	< PQL	< PQL	< PQL	< PQL	< PQL
Comments	none	none	none	none	A/B	A/B

PQL indicates that practical quantitation limits were not met in analyses.

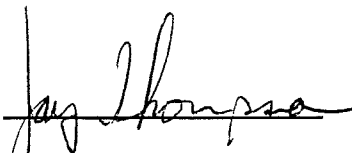
NA implies that this parameter

A Sample results in some compounds exceeded the highest calibration pt.

Sample was not reanalyzed due to holding time limits.

B Please note the units change for Gasoline Range Organics from ug/L to mg/L

Dissolved Lead was analyzed by Era Laboratories: WI Certification #999446800

Filled out by:  Date: 8/26/94 12:11 PM

The following tests were performed according to the WI DRN specification listed in ch. NR 149 of the WI Adm. Code. WI DNR Certification # 816079330

Earth Burners, Inc.
 P.O. Box 16083
 Duluth, MN 55816-6083

Chain of Custody # 94182
 Project Name: R424 Moose Junction Lounge
 Sampler Name: Roger Biebl

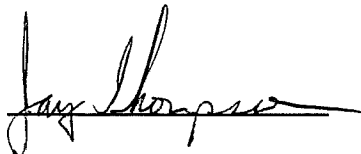
Collected on	NA	NA			
Received on	NA	NA			
GRO Analyzed on	8/2/94	8/2/94			
Sample Description	Duplicate Spike	Duplicate Spike			
Sample I.D.	NA	NA			
Lab I.D.	456GQC	457GQC			
Parameter	Amount Spiked	WATER	WATER		
Temperature	NA	NA	NA		
Gasoline Range Organics	500 ug/L	113%	107%		
MTBE	50 ug/L	93%	92%		
Benzene	50 ug/L	104%	103%		
Toluene	50 ug/L	107%	105%		
Ethylbenzene	50 ug/L	113%	109%		
Total Xylenes	50 ug/L	120%	114%		
1,3,5-Trimethylbenzene	50 ug/L	120%	112%		
1,2,4-Trimethylbenzene	50 ug/L	122%	113%		
Comments	none	A	none		

PQL indicates that practical quantitation limits were not met in analyses.

NA implies that this parameter was not analyzed or not applicable to test run

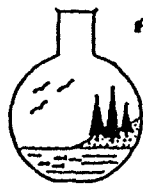
A The Quality Control Parameter range of 80% to 120 % was exceeded by 1,2,4-Trimethylbenzene.

Filled out by:



Date: 8/26/94 12:11 PM

The following tests were performed according to the WI DRN specification listed in ch. NR 149 of the WI Adm. Code. WI DNR Certification # 816079330



ACCURATE
ENVIRONMENTAL
TESTING

2231 CATLIN SUITE 420
SUPERIOR, WI 54880

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS

№ 94312

TOLL FREE (800) TEST-AET
LAB (715) 392-5844
FAX (715) 394-7414

CLIENT: <u>Earth Burners Inc.</u>					SAMPLER NAME: <u>Roger Biebl</u>					BILLING ADDRESS: <u>P.O. Box 16083, Duluth, MN 55816</u>																																							
PROJECT ID: <u>R424</u>					SAMPLER SIGNATURE: <u>Roger W Biebl</u>					<table border="1"> <tr> <td colspan="10">REMARKS:</td> <td colspan="5">PRESERVATIVE</td> </tr> <tr> <td>GRO</td> <td>DRO</td> <td>SPRINK</td> <td>VOC (465-D)</td> <td>PH</td> <td>Pb (Diss. or TOTAL)</td> <td>RCRA 8 METALS</td> <td>BOD or CBOD</td> <td>TSS</td> <td>Fcol or Tcol</td> <td>HCl</td> <td>HNO₃</td> <td>MeOH</td> <td>ICE</td> <td>OTHER</td> </tr> </table>										REMARKS:										PRESERVATIVE					GRO	DRO	SPRINK	VOC (465-D)	PH	Pb (Diss. or TOTAL)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	HCl	HNO ₃	MeOH	ICE	OTHER
REMARKS:																				PRESERVATIVE																													
GRO	DRO	SPRINK	VOC (465-D)	PH	Pb (Diss. or TOTAL)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	HCl	HNO ₃	MeOH	ICE	OTHER																																			
REPORTS TO BE SENT TO: <u>R. Biebl</u>																																																	
NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX			SAMPLE IDENTIFICATION			GRO	DRO	SPRINK	VOC (465-D)	PH	Pb (Diss. or TOTAL)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	HCl	HNO ₃	MeOH	ICE	OTHER																								
					WATER	SOIL	OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.																																							
3			<u>10/27/04</u>	<u>12:00</u>				<u>R424-DSWW</u>	<u>1443</u>	<u>3</u>	<u>✓</u>				<u>✓</u>																																		
<u>4</u>				<u>11:30</u>				<u>R424-MW-3</u>	<u>1444</u>	<u>3</u>	<u>✓</u>				<u>✓</u>																																		
<u>4</u>				<u>12:30</u>				<u>R424-MW-4</u>	<u>1445</u>	<u>3</u>	<u>✓</u>				<u>✓</u>																																		
<u>4</u>				<u>13:30</u>				<u>R424-MW-1</u>	<u>1446</u>	<u>3</u>	<u>✓</u>				<u>✓</u>																																		
<u>4</u>				<u>14:30</u>				<u>R424-MW-2</u>	<u>1447</u>	<u>3</u>	<u>✓</u>				<u>✓</u>																																		
<u>3</u>			<u>✓</u>	<u>13:30</u>				<u>R424-MW-1A</u>	<u>1448</u>	<u>3</u>	<u>✓</u>																																						
Requisitioned by: (Signature) <u>Roger W Biebl</u>					Date / Time <u>10/27/04 11:58</u>					Received by: (Signature) <u>David Peterson</u>					Date / Time					Received by: (Signature)					CHECK HERE FOR DRINKING WATER DETECTION LIMITS <input type="checkbox"/>																								
Requisitioned by: (Signature)					Date / Time					Received by: (Signature)					Date / Time					Received by: (Signature)					TURNAROUND TIME REQUIRED: <input type="checkbox"/> NORMAL <input type="checkbox"/> RUSH																								
Contents Temperature:					Comment on Sample Conditions:															DATE REQUIRED:																													

Earth Burners, Inc.
 P.O. Box 16083
 Duluth, MN 55816-6083

Chain of Custody # 94312
 Project Name: R424
 Sampler Name: Roger W. Biebl

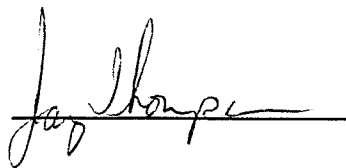
Collected on	10/27/94	10/27/94	10/27/94	10/27/94	10/27/94	10/27/94
Received on	10/27/94	10/27/94	10/27/94	10/27/94	10/27/94	10/27/94
PVOC Analyzed on	11/3/94	11/3/94	11/3/94	11/3/94	11/3/94	11/3/94
Sample Description	D5WW	MW-3	MW-4	MW-1	MW-2	MW-1A
Sample I.D.	R424	R424	R424	R424	R424	R424
Lab I.D.	1443	1444	1445	1446	1447	1448

Parameter	PQL	WATER	WATER	WATER	WATER	WATER	WATER
Temperature	NA	on ice	on ice	on ice	on ice	on ice	on ice
Gasoline Range Organics	100 ug/L	< PQL	< PQL	< PQL	280 ug/L	120000 ug/L	280 ug/L
MTBE	5 ug/L	< PQL	< PQL	< PQL	< PQL	280 ug/L	< PQL
Benzene	5 ug/L	< PQL	< PQL	< PQL	120 ug/L	34000 ug/L	111 ug/L
Toluene	5 ug/L	< PQL	< PQL	< PQL	< PQL	33000 ug/L	< PQL
Ethylbenzene	5 ug/L	< PQL	< PQL	< PQL	< PQL	2100 ug/L	< PQL
Total Xylenes	5 ug/L	< PQL	< PQL	< PQL	11 ug/L	13000 ug/L	10 ug/L
1,3,5-Trimethylbenzene	5 ug/L	< PQL	< PQL	< PQL	< PQL	370 ug/L	< PQL
1,2,4-Trimethylbenzene	5 ug/L	< PQL	< PQL	< PQL	7.3 ug/L	2300 ug/L	6.2 ug/L
Comments	none	none	none	none	none	none	none

PQL indicates that practical quantitation limits were not met in analyses.

NA implies that this parameter was not analyzed or not applicable to test run

Filled out by:



Date:

11/28/94 10:25 AM

The following tests were performed according to the WI DRN specification listed in ch. NR 149 of the WI Adm. Code. WI DNR Certification # 816079330

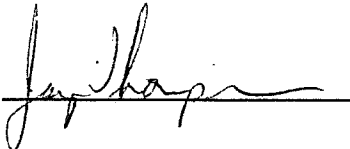
Earth Burners, Inc.
 P.O. Box 16083
 Duluth, MN 55816-6083

Chain of Custody 94312
 Project Name: R424
 Sampler Name: Roger W. Biebl

Collected on	NA	NA			
Received on	NA	NA			
PVOC Analyzed on	11/3/94	11/3/94			
Sample Description	Duplicate Spike	Duplicate Spike			
Sample I.D.	NA	NA			
Lab I.D.	695GAC	696GQC			

Parameter	PQL	WATER	WATER			
Temperature	NA	on ice	on ice			
Gasoline Range Organics	100 ug/L	110%	99%			
MTBE	5 ug/L	92%	101%			
Benzene	5 ug/L	111%	103%			
Toluene	5 ug/L	111%	100%			
Ethylbenzene	5 ug/L	112%	97%			
Total Xylenes	5 ug/L	114%	102%			
1,3,5-Trimethylbenzene	5 ug/L	112%	99%			
1,2,4-Trimethylbenzene	5 ug/L	108%	96%			
Comments	none	none	none			

PQL indicates that practical quantitation limits were not met in analyses.
 NA implies that this parameter was not analyzed or not applicable to test run

Filled out by:  Date: 11/28/94 10:25 AM

The following tests were performed according to the WI DRN specification listed in ch. NR 149 of the WI Adm. Code. WI DNR Certification # 816079330

Era Laboratories, Inc.

24 North 21st Avenue West
Duluth, MN 55806-2017 (218) 727-6380



LABORATORY REPORT

Mr. Jay Thompson
Accurate Environmental Testing
2231 Catlin Avenue, Suite 420
Superior, WI 54880

LAB NO: 410271
DATE REC'D: 10/28/94
REPORT DATE: 11/10/94

Water Samples

<u>Sample I.D.</u>	<u>Lead ($\mu\text{g/L}$)</u>
R424-D5WW 10/27/94, 12:00	*
R424-MW-3 10/27/94, 11:30	80
R424-MW-4 10/27/94, 12:30	140
R424-MW-1 10/27/94, 13:30	70
R424-MW-2 10/27/94, 14:30	60
Temp. Upon Arrival	iced

*Missing sample upon arrival.

ERA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "R. Magnuson", written over a horizontal line.

Robert D. Magnuson

MN Certification #027-137-152

WI Certification #999446800