Carlson McCain

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

September 5, 2013

Mr. Jamie Dunn – Hydrogeologist
Wisconsin Department of Natural Resources
Remediation and Redevelopment
810 West Maple Street
Spooner, Wisconsin 54801

RE: Groundwater Monitoring Report
Moose Junction Lounge
13195 South S.H. 35
Dairyland, Wisconsin
BRRTS #03-16-000301

Dear Mr. Dunn:

Carlson McCain, Inc. (Carlson McCain) has prepared the attached Groundwater Monitoring Report on behalf of Mr. Trent Sprague (Responsible Party) of the Moose Junction Lounge. The attached report is being submitted as an annual report for the continued groundwater monitoring events completed at the Site. The remedial and monitoring activities that occurred at the Site over the reporting period included: remedial action through injection of an in situ chemical treatment; post injection soil sampling; installation of a monitoring well/piezometer nest; seven rounds of quarterly post injection groundwater monitoring; eight rounds of quarterly drinking water well sampling of the Site well and Swenson residence well; and annual reporting. This report serves to summarize the first year of quarterly monitoring events.

Carlson McCain has completed in situ chemical treatment at the Site and a report will be submitted shortly detailing the injection events. This report summarizes the results of the post-injection soil sampling, monitoring well installation activities and groundwater and potable well sampling.

If you have any questions regarding the attached report, or any other questions relating to the Site, please contact me at (763) 489-7900.

Sincerely,

Carlson McCain, Inc.

Kelly Strick
FOR
Jeff Neisse
Staff Hydrogeologist

Enclosure: Groundwater Monitoring Report and associated appendices

Cc: Mr. Trent Sprague (Responsible Party)
Mr. Ralph Smith (Wisconsin Department of Safety and Professional Services)

GROUNDWATER MONITORING REPORT

Moose Junction Lounge
13195 South State Highway 35
Dairyland, Wisconsin 54830
Commerce # 54830-9999-97-A
BRRTS # 03-16-000301
Project #2490-00

Prepared for:

Moose Junction Lounge
Mr. Trent Sprague
2116 16 ½ Street
Rice Lake, Wisconsin 54868

September 5, 2013

Carlson McCain

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ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

September 5, 2013

Mr. Ralph Smith
Wisconsin DSPS
Bureau of PECFA
P.O. Box 8044
Madison, Wisconsin 53708

Mr. Jamie Dunn - Hydrogeologist
Wisconsin Department of Natural Resources
Remediation and Redevelopment
810 West Maple Street
Spooner, Wisconsin 54801

Re: **Groundwater Monitoring Report**
Moose Junction Lounge
Dairyland, Wisconsin
Commerce #54830-9999-97-A
BRRTS #03-16-000301

Dear Mr. Smith and Mr. Dunn:

On behalf of Mr. Trent Sprague of the Moose Junction Lounge (Responsible Party), Carlson McCain, Inc. (Carlson McCain), has prepared this Groundwater Monitoring Report to summarize the environmental activities that have occurred at the Moose Junction Lounge (Site) between February 2012 and January 2013. ProSource Technologies, Inc. (ProSource) was initially retained by Mr. Trent Sprague to complete the work at the Site. On June 1, 2009, the environmental and engineering staff of ProSource initiated services under the name Carlson Professional Services, Inc. (Carlson) as part of a corporate restructuring. On June 1, 2011, Carlson merged with McCain Associates, Inc. and continues services under the name Carlson McCain, Inc. (Carlson McCain).

The remedial and monitoring activities that occurred at the Site over the reporting period included two rounds of quarterly post injection groundwater monitoring. This report serves to summarize these quarterly monitoring events. The Site is located at 13195 South State Highway 35 in Dairyland, in Douglas County, Wisconsin. The Site location is visually depicted on the attached Figure 1. A site plan overview is provided as Figure 2a (attached).

Brief History of Site Activities

The Site currently operates as a tavern, which formerly sold gasoline. Based on figures provided from previous reports, it appears the Site operated two underground storage tanks (USTs): one UST appears to have existed on the north side of the tavern, near the northeast corner of the Site building; and, one UST existed on the south side of the tavern, near the southeast corner of the building. The Site also operated two dispenser islands and associated piping: one pump island existing near the east side of the tavern near State Highway 35; and one existing near the southeastern corner of the tavern, just east of a former UST. Soil and groundwater contamination were discovered at the Site in October 1990 during a Phase II Environmental Assessment performed for the Department of Transportation (DOT) on the State Highway 35 right-of-way.

Earth Remediation Services (ERS) was contacted by Dale Schultz (the former property owner) to conduct a Site Investigation at the Site. ERS removed one 1,000-gallon UST and an associated pump island in June of 1993; one UST and former pump island had previously been removed. At the time of tank removal, approximately 672 cubic yards of contaminated soil were excavated from the Site. Figure 2a depicts the approximate extents of the 1993 excavation. The extent of the excavation was limited in both size and depth due to the presence of the Site building and adjacent roadways. Contaminated soil remained in-place along the southern limits of the excavation, adjacent to the intersection of State Highway 35 and Moose Road. Soil borings and monitoring wells were installed across the Site in an attempt to define the extents of contamination. Evidence of off-site contaminant migration prompted ERS to gain access from four surrounding property owners to advance soil borings on their properties. Laboratory analytical results of the off-site monitoring well MW-4 revealed elevated contaminant concentrations which lead ERS to believe this was an additional source area other than the Site contaminant plume. Reports from local residents indicated that a former tavern and gas station existed on the southeast corner of the intersection of State Highway 35 and Moose Road.

The Site is currently developed as a tavern with a gravel parking area and a small shed near the western edge of the parking area. The Site operates a septic system, existing adjacent to monitoring well MW-3. A majority of the Site and surrounding property uses are undeveloped wooded lots with a few rural residential properties existing to the south and west. The Site has relatively flat topography, with small ditches existing on either side of State Highway 35. The Site is located in the SE ¼ of the SE ¼ of Section 18, Township 44 North, Range 14 West in Douglas County, Wisconsin.

The geology of the investigated area consists of variable layers of medium-grained sand, silty sand and silty clay (till). The till can range in thickness, generally several meters thick (Clayton, 1985). Bedrock in the area is depicted as middle Proterozoic Keweenawan volcanic rock and is reported at a depth ranging between five and 50 feet below ground surface (Wisconsin Geological and Natural History Survey, 2005). Soils encountered at the Site consist of silty sands and medium-grained sands. A "bedrock ridge" has been reported to be encountered during Site investigation activities at depths between 10 and 12 feet below ground surface (bgs). The water table is typically at depths between one and three feet bgs.

The regional groundwater flow direction is to the south. Hydraulic conductivity tests conducted in Site monitoring wells determined values ranging between $2.7x10^{-5}$ and $4.3x10^{-5}$ centimeters per second (cm/sec), with a resultant groundwater flow velocity of 3.6 feet per year (ft/yr). The Site and adjacent properties are supplied potable water through private potable water wells. The drinking water well at the Swenson residence, south of the Site, has been sampled periodically since 1992 and has identified concentrations of benzene above the WDNR Enforcement Standard (ES) of 5 µg/L. The on-site potable well serving the tavern has also been periodically sampled since 1992 and has not reported contaminant concentrations above WDNR ES except during the October 2011 sampling event.

The Wisconsin Department of Commerce approved an additional cost cap modification to perform remediation and additional groundwater monitoring activities at the Site (Bid Round 57). Bid requirements included: remedial action through injection of an in situ chemical treatment; post injection soil sampling; installation of a monitoring well/piezometer nest; eight rounds of quarterly post

injection groundwater monitoring; eight rounds of quarterly drinking water well sampling of the Site well and Swenson residence well; and annual reporting.

Two rounds of in-situ chemical treatments were completed (October 18-19 and November 8-9 of 2010). Carlson McCain personnel supervised the advancement and injection of in-situ chemical treatment. The details of the in-situ chemical injections are detailed in a separate report prepared by Carlson McCain and will be submitted under separate cover to the WDNR.

Groundwater Sampling Methods and Procedures

Monitoring wells MW-2, MW-4 and MW-5R were sampled during the April 27, 2012, and October 5, 2012 sampling events. The collected groundwater samples were submitted for laboratory analysis of petroleum volatile organic compounds (PVOCs) and naphthalene. Groundwater elevations were measured from the monitoring wells during each sampling round; all measurements were collected from the top of casing (TOC) for each monitoring well and measured to the nearest 0.01 foot using an electronic water level indicator. A table summarizing water level measurements is included as Table 1.

Purging and sampling of monitoring wells was conducted in accordance with WDNR regulations. Water level measurements were collected prior to purging each well. A minimum of three well volumes was removed from each well prior to sampling. Well purging and sampling was conducted using a dedicated high density polyethylene (HDPE) bailer for each well. During the purging process color and odors were noted. Volume calculations and measurements were recorded onto a groundwater purging/sampling data sheet. Field data sheets are attached as Appendix B.

All samples submitted to Siemens Water Technologies (Siemens) and Environmental Science Corporation (ESC) were analyzed in accordance with WDNR and Environmental Protection Agency (EPA) methods and procedures. All water samples were preserved in the field and placed into clean, laboratory supplied sample containers. Each sample container was uniquely numbered and labeled using indelible ink. Additional information on the label included the analytical parameters, preservative, sampling personnel, date and time of sample collection, sample type (grab or composite) and the project number. The label was directly affixed to the appropriate sample container. The samples were placed on ice and maintained at a temperature of 4° C. A chain of custody was initiated and kept with the samples until custody was relinquished to the laboratory.

Groundwater Sampling Results

April 2012

The first groundwater sampling event for this reporting period was conducted on April 27, 2012. Groundwater samples were collected from the monitoring well network (MW-2, MW-4 and MW-5R). Groundwater samples were submitted to Siemens for laboratory analysis of PVOCs and naphthalene. The WDNR enforcement standard (ES) for benzene (5 micrograms per liter (µg/L)) was only exceeded at sampling locations MW-2 (2,930 µg/L) during this event. Monitoring location MW-2 also exceeded the WDNR ES for the following compounds: toluene (4,270 µg/L); ethylbenzene (1,670 µg/L); xylenes

(6,860 µg/L); trimethylbenzenes (1,377 µg/L) and naphthalene (578 µg/L). Groundwater sample laboratory analytical results are attached for reference in Appendix A and are summarized in the attached Table 2. The benzene isoconcentration contour map for the April 27, 2012, sampling event is attached as Figure 3a. Groundwater flow direction was interpolated to be to the south. The potentiometric surface map for the April 27, 2012, sampling event is attached as Figure 4a.

October 2012

The second groundwater sampling event for this reporting period was completed on October 5, 2010. Groundwater samples were collected from the monitoring well network (MW-2, MW-4 and MW-5R) and submitted to ESC for laboratory analysis of PVOCs and naphthalene. Monitoring location MW-2 exceeded the WDNR ES for the following compounds: benzene (5,600 µg/L); toluene (13,000 µg/L); ethylbenzene (1,900 µg/L); xylenes (12,400 µg/L); methyl tert-butyl ether (MTBE - 280 µg/L); trimethylbenzenes (1,920 µg/L); and naphthalene (580 µg/L). In addition, benzene exceeded the ES at MW-4 with a concentration of 110 µg/L. Groundwater sample laboratory analytical results are attached for reference in Appendix A and are summarized in the attached Table 3. The benzene isoconcentration contour map for the October 5, 2012, sampling event is attached as Figure 3b. Groundwater flow direction appears to be to the south. The potentiometric surface map for the October 5, 2012, sampling event is attached as Figure 4b.

Potable Well Water Sampling

Swenson Well

Potable well water samples were collected from the Swenson residence during the groundwater monitoring events as well. The Swenson residence is located at 2794 East Moose Road and is in the down-gradient direction from the source area existing at the Site. A drinking water sample was collected from the Swenson residence on April 27th and October 5th, 2012. The analytical reports of the Swenson potable well water sampling are included in Appendix A and are summarized in the attached Tables 3a and 3b.

Results of the Swenson potable well water sampling completed on April 27, 2012, indicate that benzene was just below the WDNR ES at a concentration of 4.95 µg/L. Subsequent potable well water sampling completed on October 5, 2012, indicated that benzene was above the WDNR ES at a concentration of 8.6 µg/L. Minor concentrations of other BTEX constituents were also identified within the drinking water samples collected on April 27th and October 5th, 2012 but were reported below WDNR PALs.

Site Drinking Water Well

Potable well water samples were collected from the Site Drinking Water Well during the periodic groundwater monitoring events. The Site drinking water well was sampled on April 27, and October 5, 2012, and the results are summarized in the attached Table 3. The results indicate that the drinking water was below laboratory detection limits for all laboratory analyzed constituents in both of the sampling events conducted during this reporting period.

Conclusions/Recommendations

Based on the continually high petroleum compounds detected in water collected from the Swenson well, Carlson McCain recommends that the potable water well at the Swenson Residence be equipped with a carbon treatment system or properly abandoned and reinstalled in an area away from the groundwater plume.

To further assess petroleum impacts observed in the on-site potable well, it is our recommendation that this well be sampled on a quarterly schedule to determine if a seasonal fluctuation may be responsible for the previously noted elevated benzene concentration.

Petroleum constituents in MW-2 appear to be generally declining. Semi-annual monitoring of the monitoring well network should continue to further document steady or declining trends. In addition, the continued monitoring of the monitoring well network is recommended to determine if there is a link between the source at the Site and the contamination observed in the off-site monitoring well (MW-4).

Following the completion of the continued sampling events and Swenson well modifications, the completion of an Annual Monitoring Report summarizing the results to date is recommended. At that time, it can be determined if additional work is necessary.

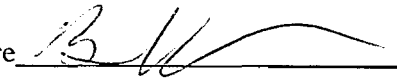
Closing

If you have any questions, or require additional information, please contact me at (763) 489-7900 (office).

"I, Jeffrey M. Neisse, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Signature Kelly Street FOR Jeff Neisse Date 9-5-13

"I, Barbara A. Ryan, hereby certify that I am a registered professional geologist in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 10, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs NR 700 to 726, Wis. Adm. Code."

Signature  Date 9/5/13

Cc: Mr. Trent Sprague (Moose Junction Lounge – Responsible Party)

Attachments:

Tables

Table 1a	Water Level Measurements
Table 2	Groundwater Monitoring Analytical Results
Table 3a	Potable Well Laboratory Analytical Results
Table 3b	Other Contaminants Detected in Potable Well Water

Figures

Figure 1	Site Location Map
Figure 2	Site Plan View
Figure 3a-	Groundwater Isoconcentration Map 4/27/2012
Figure 3b	Groundwater Isoconcentration Map 10/05/2012
Figures 4a-	Potentiometric Surface Map 4/27/2012
Figures 4b	Potentiometric Surface Maps 10/05/2012

Appendices

Appendix A	Laboratory Analytical Results
Appendix B	Field Forms

Carlson McCain

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Project Moose junction

Project No. 2496

Arrive on site 1020

Stop in w/ Ms. Swenson - she directs me to outdoor spigot where she wants (to allow) me to sample. Hook up & begin running well @ 1030 am. ~~Stu~~ disconnected flushing hose 11:00 AM & collected sample @ spigot.

Contacted bar owner 11:45 directed to site well. connected discharge hose @ tap 12pm Flushed well. disconnected discharge hose & sampled from tap @ wellhead before pressure tank 1225 pm (25 min Purge)

Proceeded w/ other site sampling.

Signature

Date 10/5/12

Lino Lakes, MN 763-489-7900 | Duluth, MN 218-625-7004 | Maple Plain, MN 952-346-3900 | Warrenville, IL 630-836-0326 | Bismarck, ND 701-255-1475 | Watford City, ND 701-202-5147

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Table 1
Water Level Measurements
Moose Junction Lounge
Dairyland, Wisconsin
BRRTS # 03-16-000301

Sample ID#	Date	Depth of Water from Top of Riser	Product Thickness (inches)	Relative Groundwater Elevation
MW-1 TOC = 101.98	7/13/10	5.51	--	96.47
	11/23/10	5.57	--	96.41
	3/4/11	6.11	--	95.87
	7/22/11	5.41	--	96.57
	10/27/11	6.47	--	95.51
	1/26/12	7.41	--	94.57
	4/27/12	5.20	--	96.78
	10/05/12	7.82	--	94.16
MW-2 TOC = 100.56	7/13/10	6.08	--	94.48
	11/23/10	6.15	--	94.41
	3/4/11	6.63	--	93.93
	7/22/11	5.86	--	94.70
	10/27/11	7.30	--	93.26
	1/26/12	7.99	--	92.57
	4/27/12	5.83	--	94.73
	10/05/12	8.25	--	92.31
MW-3 TOC = 100.41	7/13/10	4.05	--	96.36
	11/23/10	3.54	--	96.87
	1/26/12	5.10	--	95.31
	4/27/12	3.33	--	97.08
	10/05/12	5.92	--	94.49
MW-4 TOC = 96.82	7/13/10	4.81	--	92.01
	11/23/10	3.97	--	92.85
	3/4/11	4.16	--	92.66
	7/22/11	4.23	--	92.59
	10/27/11	4.69	--	92.13
	1/26/12	5.17	--	91.65
	4/27/12	3.99	--	92.83
	10/05/12	5.82	--	91
MW-5R TOC = 96.79	7/13/10	4.04	--	92.75
	11/23/10	4.34	--	92.45
	3/4/11	4.67	--	92.12
	7/22/11	4.15	--	92.64
	10/27/11	5.29	--	91.50
	1/26/12	5.67	--	91.12
	4/27/12	4.35	--	92.44
	10/05/12	6.28	--	90.51

Notes: Benchmark is the cement top of the Site septic system.
-- = No product observed.

Table 2
Groundwater Monitoring Analytical Results
Moose Jucntion Lounge
Dairyland, Wisconsin
BRRTS# 03-16-000301

Sample ID#	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	Naphthalene
MW-1	5/27/1993	**41**	*210*	22	*820*	NA	*96*	*190*	<1.00
	11/1/1993	**48**	7	22	61	<5.00	68		NA
	3/1/1994	**212**	14	25	154	*23*	66		NA
	11/3/2013	**8**	<0.60	<0.20	<3.00	<0.70	<2.00		NA
	4/6/2013	<0.10	<0.20	<0.50	<2.00	0.11	<2.00		NA
	4/18/2007	<0.25	<0.11	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	8/15/2007	<0.25	<0.11	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	10/3/2007	<0.25	0.46	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	7/13/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	NA
	11/23/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	3/4/2011	<0.14 j5	<0.13 j5	<0.14 j5	<0.43 j5	<0.30 j5	<0.12 j5	<0.14 j5	<0.48 j5
	7/22/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/27/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
MW-2	5/27/1993	**19,000**	**29,000**	**1,600**	**16,500**	NA	**390**	**470**	<1.00
	11/1/1993	**10,500**	**10,100**	**2,130**	**9,090**	*55*	**2,670**		NA
	3/1/1994	**55,200**	**51,200**	**4,000**	**29,800**	**570**	**8,020**		NA
	11/3/2013	**6,400**	**3,800**	**840**	**5,330**	<69.0	**1,630**		NA
	4/6/2013	**4,900**	**770**	**720**	**3,300**	<6.00	**1,430**		NA
	4/18/2007	77	130	23	260	<0.23	*79*	*33*	*12*
	8/15/2007	**8,600**	**17,000**	**1,600**	**14,000**	<46	**2,100**	**630**	**550**
	10/3/2007	**170**	**450**	41	*630*	<2.30	*130*	*51*	*20*
	7/13/2010	**4,060**	**1,410**	**866**	**7,240**	*50.1*	**1,360**	**425**	NA
	11/23/2010	**4,100**	**4,860**	*622*	**6,990**	**68.4 J**	**1,580**	**649**	**443**
	3/4/2011	**6,000**	**7,700**	**750**	*870*	*42 j5*	**1,200**	**480**	**290 n**
	7/22/2011	**7,310**	**9,780**	**1,110**	**11,090**	<30.0	**1,280**	**533**	**352**
	10/27/2011	**6,930**	**13,800**	**1,980**	**12,330**	<30.0	**1,440**	**468**	**432**
	1/26/2012	**8,350**	**19,900**	**2,500**	**16,530**	<30.0	**1,920**	**592**	**586**
	4/27/2012	**2,930**	**4,270**	**1,670**	**6,860**	<60.0	**1,000**	**377 J**	**578**
	10/5/2012	**5,600**	**13,000**	**1,900**	**12,400**	**280**	**1,500**	**420**	**580**
Preventative Action Limits		0.5	160	140	400	12	96 Combined		10
Enforcement Standards		5	800	700	2,000	60	480 Combined		100

Notes: All concentrations are listed in ug/l (ppb) unless otherwise stated.
J = estimated concentration below laboratory quantitation level
j5 = estimated value. The value is reported to the limit of detection
MTBE = methyl-tert-butyl-ether
n = matrix spike recovery not within control limits
TMB = trimethylbenzene
Italicized indicates concentration has exceeded the Preventative Action Limit
Bold indicates the concentration exceeds the Enforcement standards

Table 2
Groundwater Monitoring Analytical Results
Moose Jucntion Lounge
Dairyland, Wisconsin
BRRTS# 03-16-000301

Sample ID#	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	Naphthalene
MW-3	5/27/1993	<1.00	<1.00	<1.00	<2.00	NA	<1.00	<1.00	<1.00
	4/18/2007	<0.25	<0.11	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	7/13/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	NA
	11/23/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	1/26/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
MW-4	5/27/1993	*3*	<1.00	<1.00	<2.00	NA	<1.00	<1.00	<1.00
	11/1/1993	<0.50	<5.00	<5.00	<5.00	<5.00	<5.00		NA
	3/1/1994	<0.50	<5.00	<5.00	<5.00	<5.00	<5.00		NA
	11/3/2013	<0.50	<5.00	<5.00	<5.00	<5.00	<5.00		NA
	4/6/2013	<0.50	<5.00	<5.00	<5.00	<5.00	<5.00		NA
	4/18/2007	<0.25	<0.11	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	8/15/2007	**74**	0.24 J	<0.22	0.70 J	<0.23	<0.25	<0.19	<0.50
	10/3/2007	<0.25	0.42	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	7/13/2010	**11.5**	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	NA
	11/23/2010	*2.6*	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	3/4/2011	**21**	<0.13 j5	<0.14 j5	<0.43 j5	<0.30 j5	<0.12 j5	<0.14 j5	<0.48 j5
	7/22/2011	**70.6**	0.448 J	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/27/2011	**41.1**	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	1/26/2012	**77**	0.577 J	<0.50	0.943 J	<0.30	<0.40	<0.44	<2.00
	4/27/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/5/2012	**110**	<5.0	<0.50	2.75	4.9	<1.0	<1.0	<5.0
Preventative Action Limits		0.5	160	140	400	12	96 Combined		10
Enforcement Standards		5	800	700	2,000	60	480 Combined		100

Notes:
All concentrations are listed in ug/l (ppb) unless otherwise stated.
J = estimated concentration below laboratory quantitation level
j5 = estimated value. The value is reported to the limit of detection
MTBE = methyl-tert-butyl-ether
n = matrix spike recovery not within control limits
TMB = trimethylbenzene
Italicized indicates concentration has exceeded the Preventative Action Limit
Bold indicates the concentration exceeds the Enforcement standards

Table 2
Groundwater Monitoring Analytical Results
Moose Jucntion Lounge
Dairyland, Wisconsin
BRRTS# 03-16-000301

Sample ID#	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	Naphthalene
MW-5	4//18/07	<0.25	0.13 J	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	8/15/2007	<0.25	<0.11	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	10/3/2007	<0.25	0.29 J	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
MW-5R	7/13/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	NA
	11/23/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	3/4/2011	<0.14 j5	<0.13 j5	<0.14 j5	<0.43 j5	<0.30 j5	<0.12 j5	<0.14 j5	<0.48 j5
	7/22/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/27/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	1/26/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	4/27/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/5/2012	<0.50	<5.0	<0.50	<1.50	<1.0	<1.0	<1.0	<5.0
Trip Blank	4/18/2007	<0.25	0.15 J	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	8/15/2007	<0.25	0.18 J	<0.22	<0.39	<0.23	<0.25	<0.19	<0.50
	7/13/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	NA
	11/23/2010	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	3/4/2011	<0.14 j5	<0.13 j5	<0.14 j5	<0.43 j5	<0.30 j5	<0.12 j5	<0.14 j5	<0.48 j5
	7/22/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/27/2011	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	1/26/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	4/27/2012	<0.31	<0.37	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
	10/5/2012	<0.31	0.7	<0.50	<1.39	<0.30	<0.40	<0.44	<2.00
Preventative Action Limits		0.5	160	140	400	12	96 Combined		10
Enforcement Standards		5	800	700	2,000	60	480 Combined		100

Notes:
All concentrations are listed in ug/l (ppb) unless otherwise stated.
J = estimated concentration below laboratory quantitation level
j5 = estimated value. The value is reported to the limit of detection
MTBE = methyl-tert-butyl-ether
n = matrix spike recovery not within control limits
TMB = trimethylbenzene
Italicized indicates concentration has exceeded the Preventative Action Limit
Bold indicates the concentration exceeds the Enforcement standards

Table 3a
Potable Well Laboratory Analytical Results
Moose Junction Lounge
Dairyland, Wisconsin
BRRTS# 03-16-000301

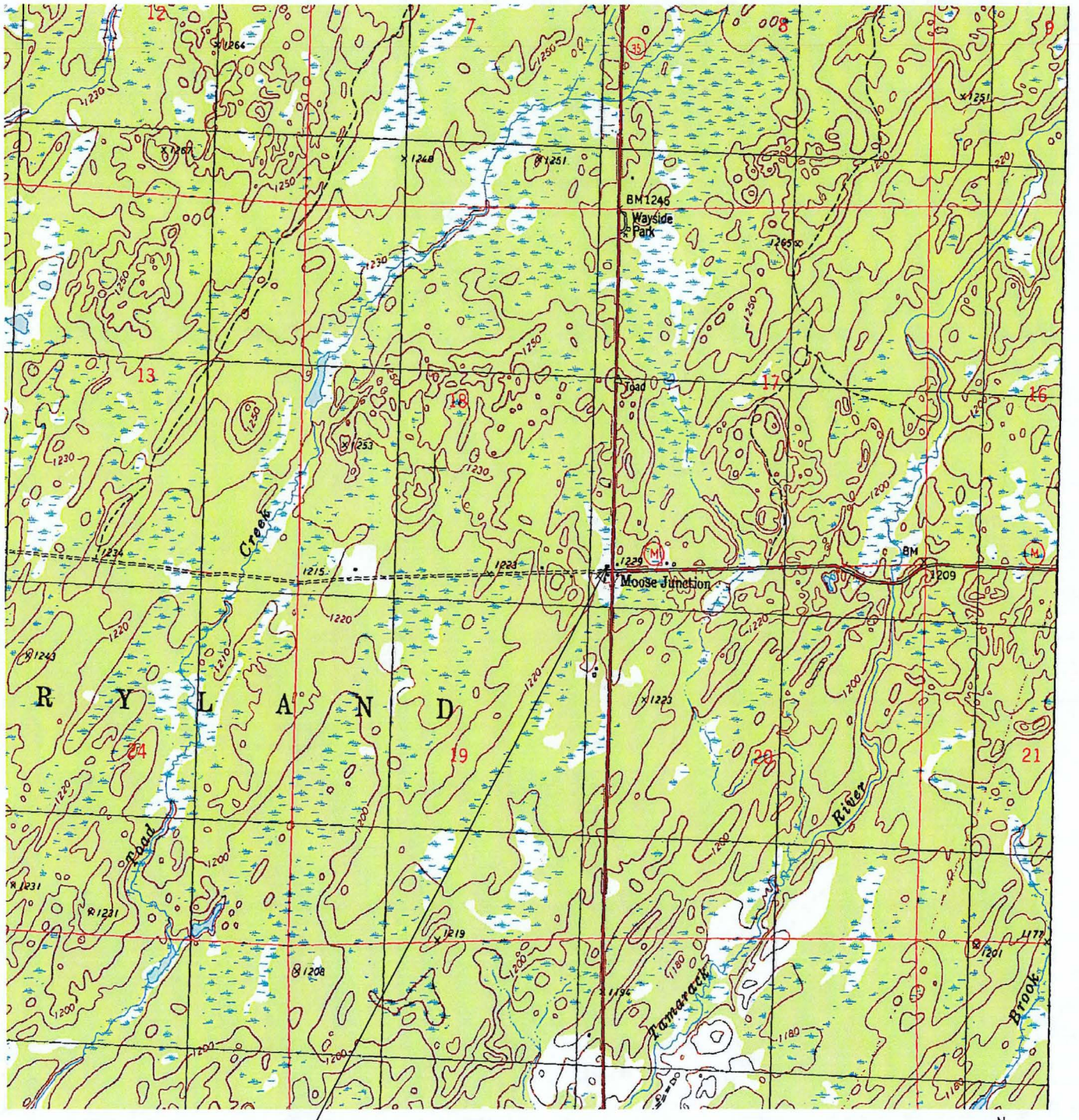
Sample ID#	Date	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2,4-TMB	1,3,5-TMB	1,2-Dichloro-ethane	Isopropyl-benzene
Swenson Potable Well	11/1/2003	<0.50	<0.60	2.6	4.4	<0.70	0.55		NA	NA
	4/1/2006	*4.3*	<0.25	1.41	1.4	<0.40	0.59		NA	NA
	4/18/2007	**15.8**	0.53 J	4.25	<1.00	<0.20	1.97	0.97	<0.20	0.29
	5/15/2007	<0.20	<0.40	0.42 J	<1.00	<0.20	<0.20	<0.20	<0.20	<0.10
	10/3/2007	<0.050	0.88	0.10 J	0.37	<0.050	0.12 J	<0.050	<0.050	<0.050
	7/13/2010	**5.29**	<0.40	3.25	3.05	<0.50	0.99	0.99	0.36 J	<0.20
	8/3/2010	*4.8*	<0.40	2.65	3.12	<0.50	0.94	1.22	0.34 J	<0.20
	11/23/2010	**21.6**	0.61 J	7.99	8.01	<0.50	3.94	1.94	<0.30	0.48 J
	3/4/2011	**6.1**	<0.50	3.4	2.7	<0.50	0.82	<0.50	<0.50	<0.50
	7/22/2011	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	10/27/2011	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	1/26/2012	**12.7**	<0.40	4.63	4.05	<0.50	1.91	1.31	<0.30	0.30 J
	4/27/2012	4.95	<0.40	2.32	1.9	<0.50	1.02	0.52	<0.30	<0.20
	10/5/2012	**8.6**	<0.50	2.6	3.3	<0.50	NA	NA	<0.50	NA
Site Potable Well	5/27/1993	<1.00	<1.00	<1.00	<2.00	NA	<1.00	<1.00	<1.00	<1.00
	4/1/2006	<0.17	<0.25	<0.20	<0.51	<0.34	<1.40		NA	NA
	4/18/2007	<0.20	0.49 J	<0.10	<1.00	<0.20	<0.20	<0.20	<0.20	<0.10
	10/3/2007	<0.050	0.35	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	10/27/2011	**8.36**	<0.40	4.62	4.48	<0.50	1.88	1.65	0.47 J	0.24 J
	1/26/2012	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	3/15/2012	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	4/27/2012	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	10/5/2012	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50	NA
Trip Blank	4/18/2007	<0.20	0.87 J	<0.10	<1.00	<0.20	<0.20	<0.20	<0.20	<0.10
	5/15/2007	<0.20	<0.40	<0.10	<1.00	<0.20	<0.20	<0.20	<0.20	<0.10
	7/13/2010	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	8/3/2010	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	11/23/2010	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	3/4/2011	<0.50	<0.50	<0.50	<1.50	<0.50	<0.50	<0.50	<0.50	<0.50
	7/22/2011	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	10/27/2011	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	1/26/2012	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	4/27/2012	<0.20	<0.40	<0.20	<1.00	<0.50	<0.20	<0.20	<0.30	<0.20
	10/5/2012	<0.50	0.70	<0.50	<0.50	<0.50	NA	NA	<0.50	NA
Preventive Action Limits		0.5	160	140	400	12	96 combined		0.5	NS
Enforcement Standards		5	800	700	2,000	60	480 combined		5	NS

Notes:
All concentrations are listed in ug/l (ppb) unless otherwise stated.
J = Estimated concentration below laboratory quantitation level
MTBE = methyl-tert-butyl-ether
NA = Not analyzed; NS = No standard
Italics indicates concentration has exceeded the Preventative Action Limit
Bold indicates concentration has exceeded the Enforcement Standard
TMB = trimethylbenzene

Table 3b
Other Contaminants Detected in Potable Water
Moose Junction Lounge
Dairyland, Wisconsin
BRRTS# 03-16-000301

Sample ID#	Date	Chloro-methane	Methylene Chloride	1,4-Dichloro-benzene	Naph-thalene	1,1,1-Trichloro-ethane	Bromo-benzene	Chloroform	GRO	Lead
Swenson Potable Well	5/27/1993	NA	NA	NA	NA	NA	NA	NA	<100	*7*
	11/3/2013	-	-	-	-	-	-	-	NA	NA
	4/6/2013	-	-	-	-	-	-	-	NA	NA
	4/18/2007	<0.30	<0.40	<0.80	<1.00	<0.20	<0.20	<0.20	NA	NA
	5/15/2007	<0.30	<0.40	<0.80	<1.00	<0.20	<0.20	<0.20	NA	NA
	10/3/2007	0.16 J	0.40 J, S2	0.56	1.4	0.17	<0.050	<0.050	NA	NA
	7/13/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	8/3/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	11/23/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	3/10/2011	<1.00	<4.00	<0.50	<1.00	<0.50	<0.50	<0.50	NA	NA
	7/22/2011	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	10/27/2011	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	1/26/2012	0.89 J	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
Site Potable Well	5/27/1993	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<100	<2.0
	4/6/2013	-	-	-	-	-	-	-	NA	NA
	4/18/2007	<0.30	<0.40	<0.80	<1.00	<0.20	<0.20	<0.20	NA	NA
	10/3/2007	0.11 J	0.28 J, S2	<0.050	<0.25	<0.050	<0.050	<0.050	NA	NA
	10/27/2011	<0.40	<0.40	<0.80	<1.00	<0.50	0.79 J	0.39 J	NA	NA
	1/26/2012	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
Trip Blank	4/18/2007	<0.30	<0.40	<0.80	<1.00	<0.20	<0.20	<0.20	NA	NA
	5/15/2007	<0.30	<0.40	<0.80	<1.00	<0.20	<0.20	<0.20	NA	NA
	7/13/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	8/3/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	11/23/2010	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	3/10/2011	<1.00	<4.00	<0.50	<1.00	<0.50	<0.50	<0.50	NA	NA
	7/22/2011	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	10/27/2011	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
	1/26/2012	<0.40	<0.40	<0.80	<1.00	<0.50	<0.30	<0.20	NA	NA
Preventive Action Limits		3	0.5	15	10	40	NS	0.6	NS	1.5
Enforcement Standards		30	5	75	100	200	NS	6	NS	15

Notes:
All concentrations are listed in ug/l (ppb) unless otherwise stated.
GRO = gasoline range organics
J = Estimated concentration below laboratory quantitation level
NA = Not analyzed; - = Data not available
NS = No standard
Italics indicates concentration has exceeded the Preventative Action Limit
Bold indicates concentration has exceeded the Enforcement Standard
S2 = Compound is a common lab solvent and contaminant



SOURCE: USGS MOOSE JUNCTION 7.5 MIN. QUADRANGLE

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INJECTION REPORT
Moose Junction Lounge
13195 Highway 35 South
Dairyland, Wisconsin
Carlson Project No.: 2490-00

FIGURE 1
SITE LOCATION MAP

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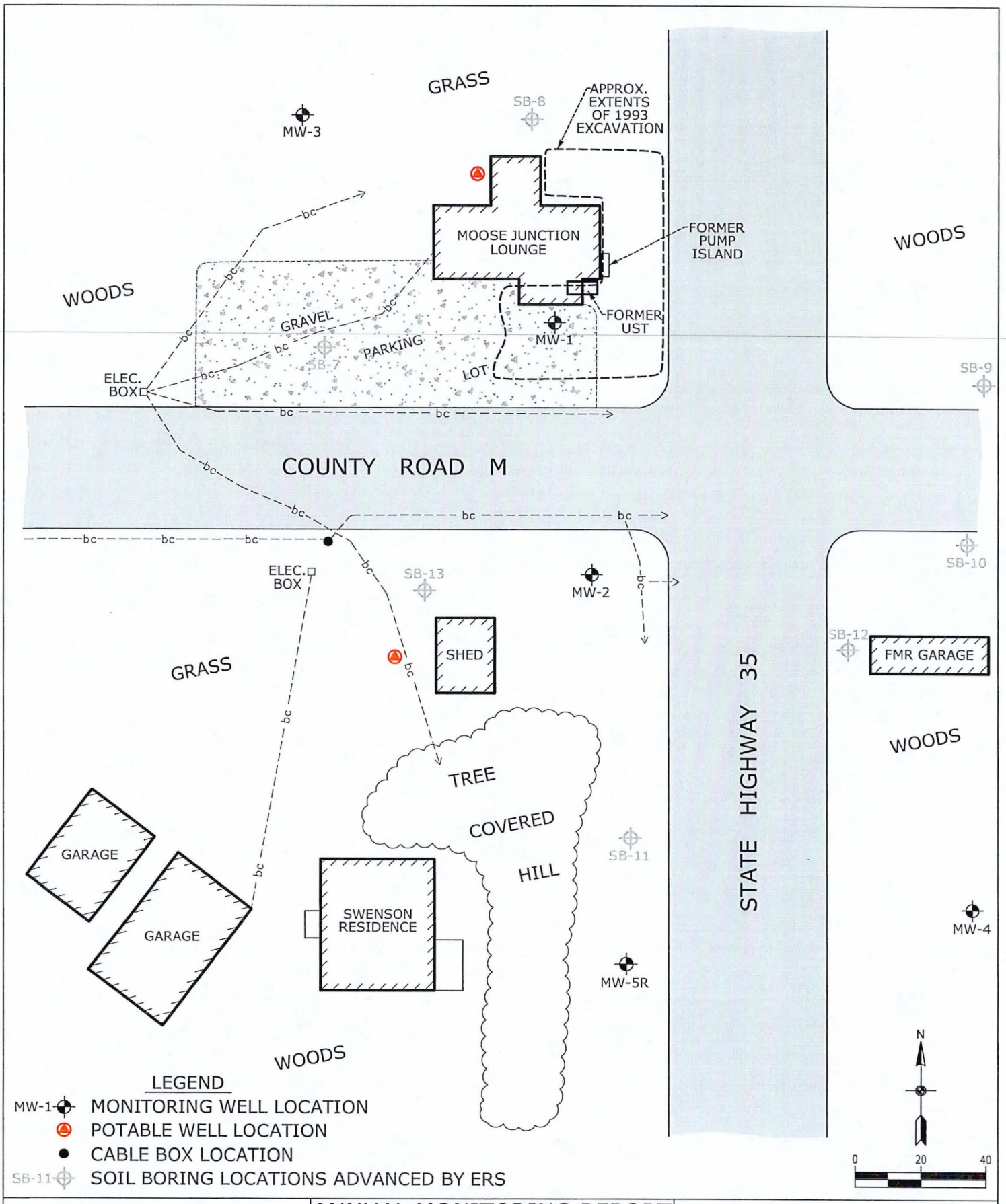

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Carlson Project No.: 2490-00

FIGURE 2
SITE PLAN VIEW

F:\jobs\2481-2500\2490 - Moose Junction Lounge\CAD\AMR 2013\2490Fig.2-4b.dwg 1/17/2013 1:50:09 PM CST

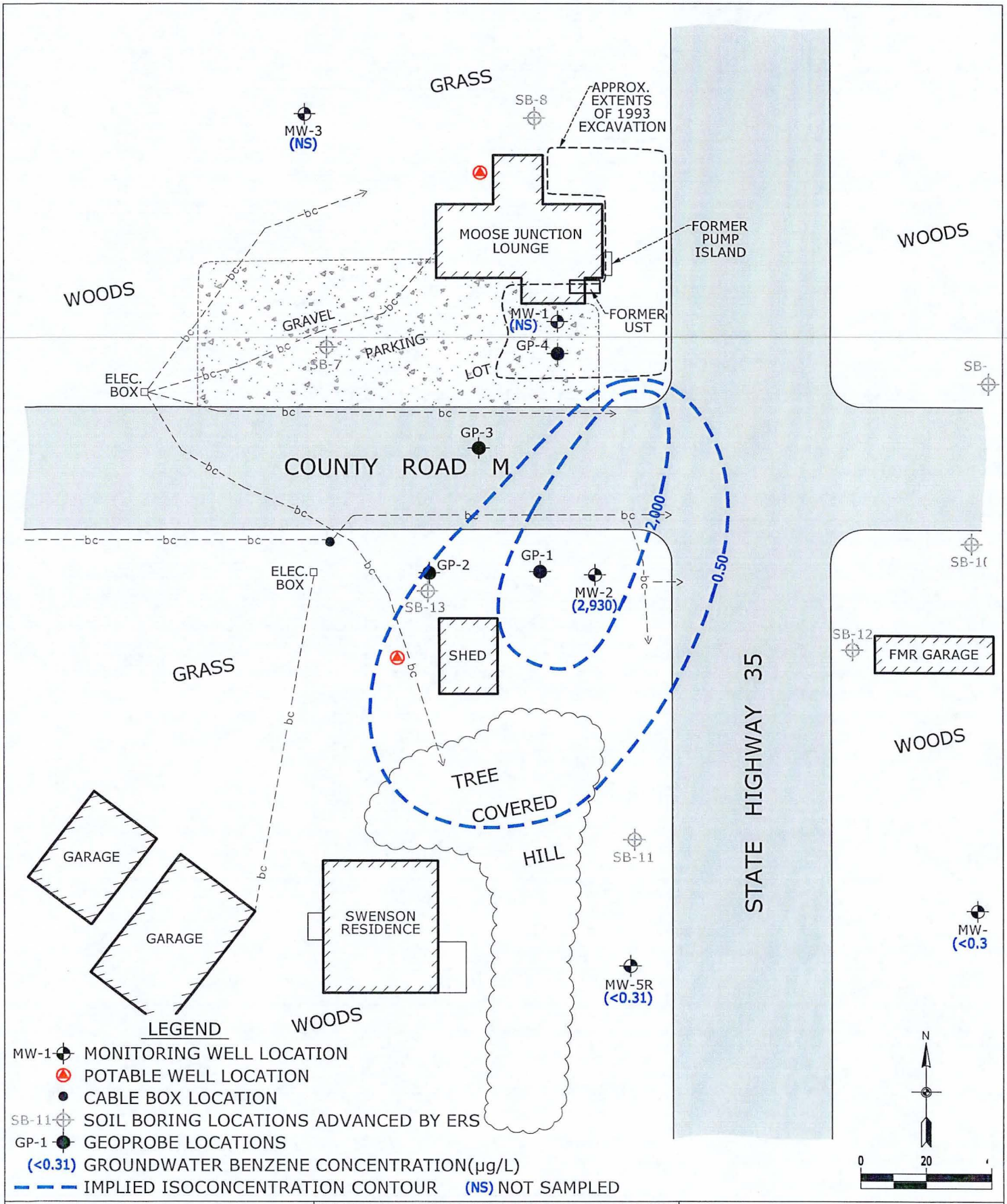

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FIGURE 3a
GROUNDWATER BENZENE ISOCONCENTRATION MAP
04/27/12

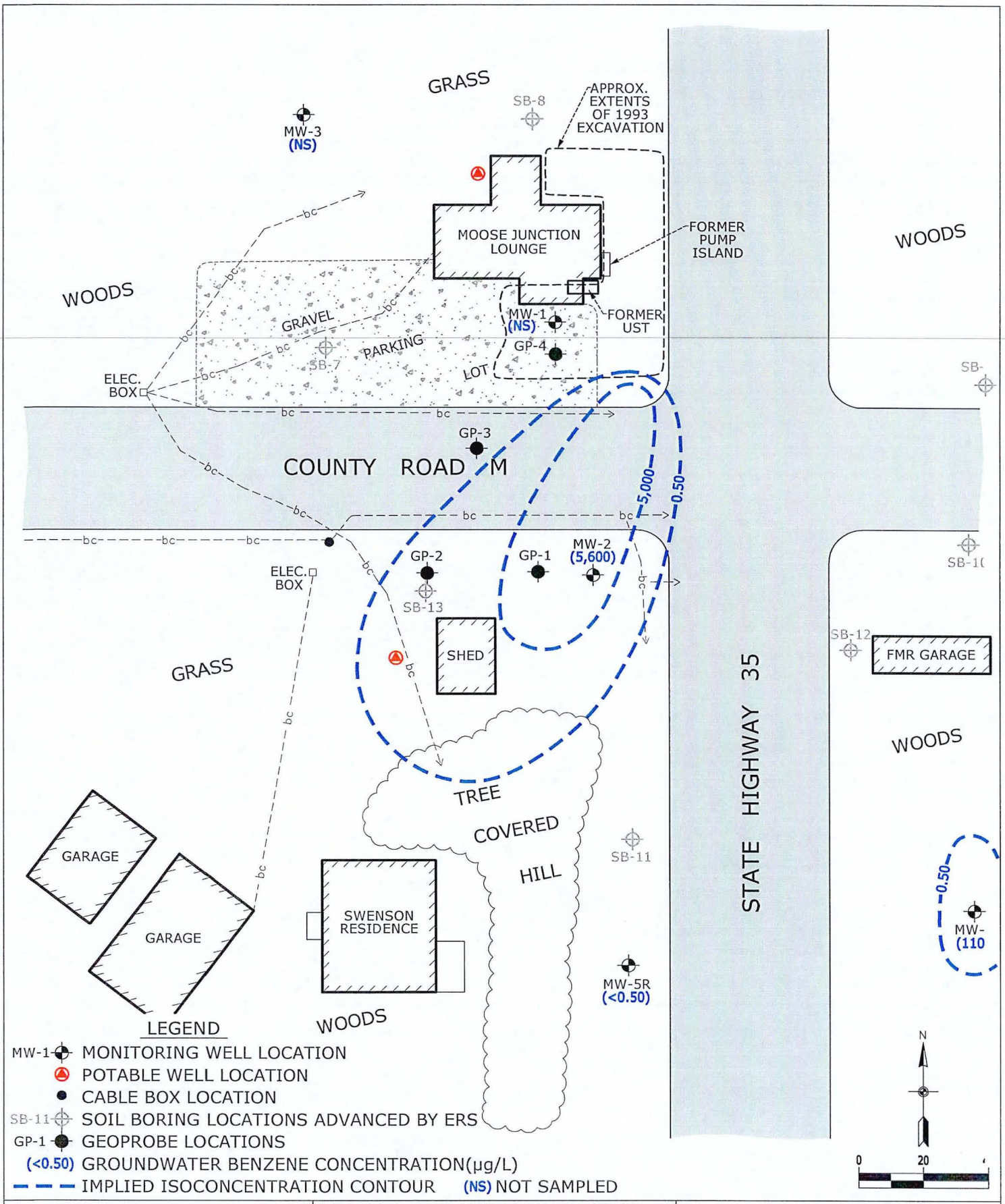

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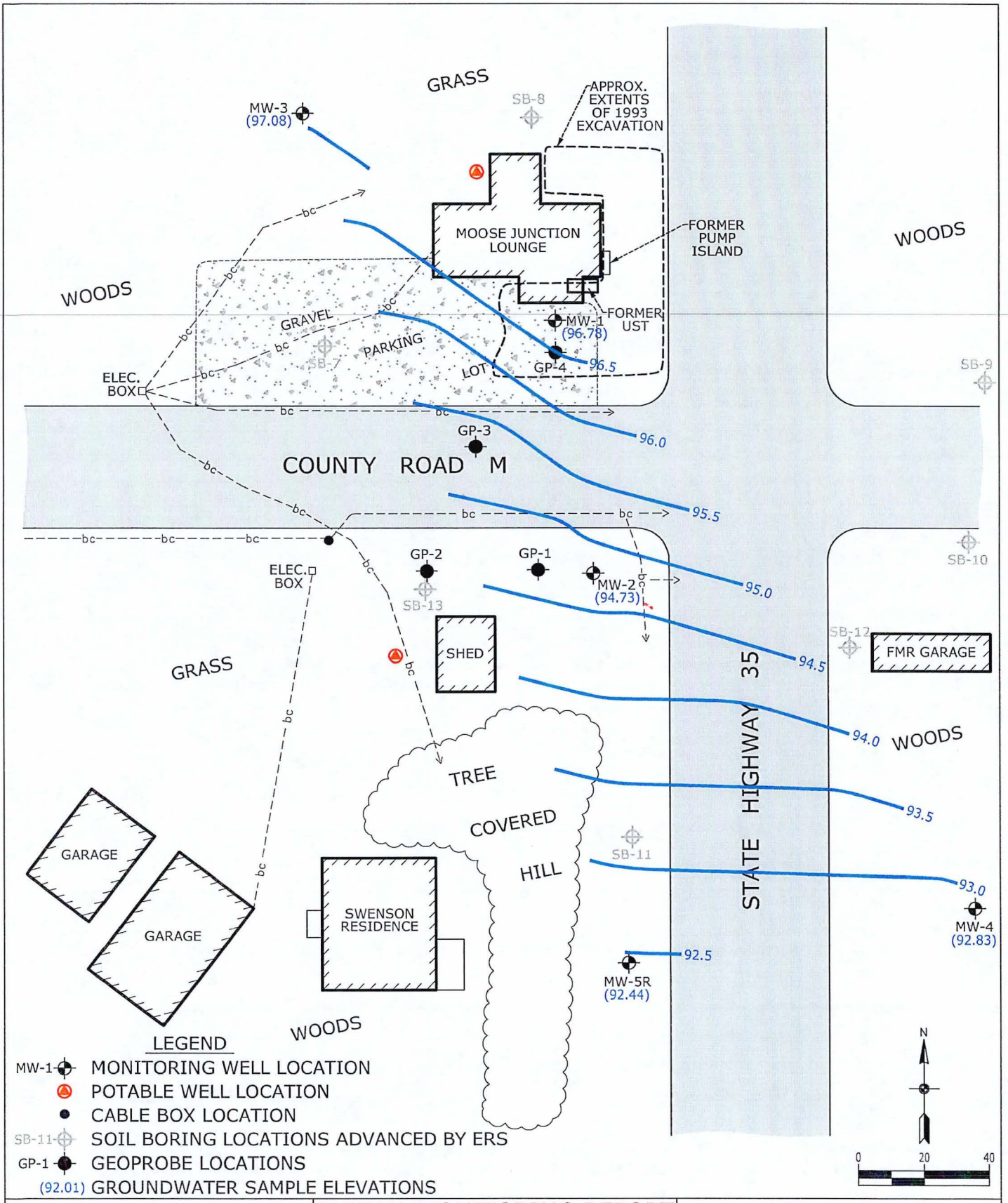
FIGURE 3b
GROUNDWATER BENZENE ISOCONCENTRATION MAP
10/05/12



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Dairyland, Wisconsin
Carlson Project No.: 2490-00

FIGURE 4a
POTENTIOMETRIC
SURFACE MAP
04/27/12

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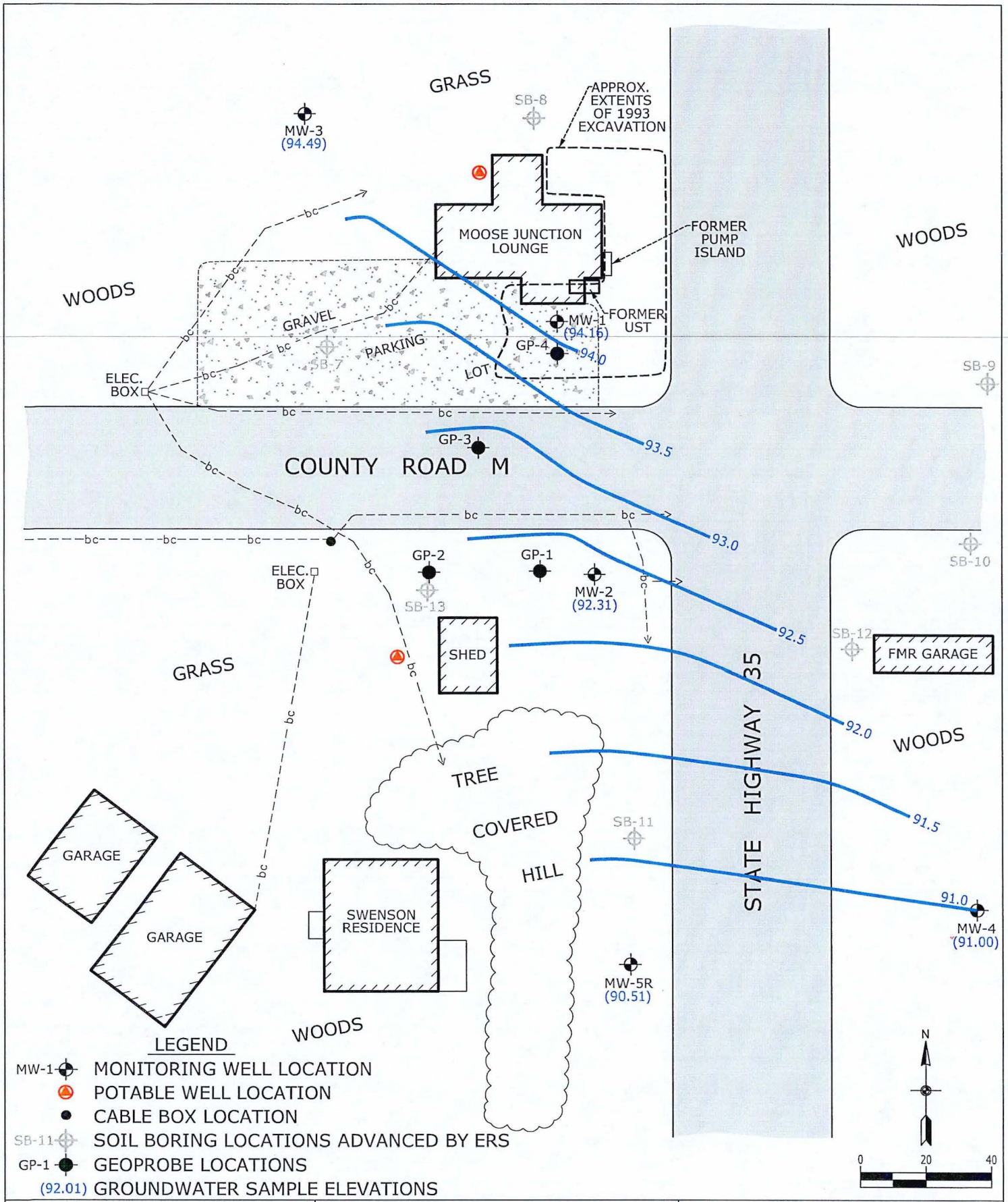

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Dairyland, Wisconsin
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FIGURE 4b
POTENTIOMETRIC SURFACE MAP
10/05/12

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SIEMENS

May 09, 2012

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

Attn: Hillary McGown

REPORT NO.: 1205013 **PROJECT NO.: Moose Junction Lounge #2490-00**

Please find enclosed the analytical report, including the Sample Summary, Sample Narrative and Chain of Custody for your sample set received May 1, 2012.

All analyses were performed in accordance with TNI Standards using approved methods as indicated on this report.

If you have any questions about the results, please call. Thank you for using Siemens Industry, Inc. for your analytical needs.

Sincerely,

Siemens Industry, Inc.

Bruce Schertz
Lab Manager
Enviroscan Analytical™ Services

I certify that the data contained in this report has been generated and reviewed in accordance with the Siemens Industry, Inc. Quality Assurance Manual. Exceptions, if any, are discussed in the sample narrative. Samples will be retained for 30 days from the date of this report, then disposed in an appropriate manner. Siemens Industry, Inc. reserves the right to return samples identified as hazardous. Release of this Final Report is authorized as verified by the following signature. The contents of this report apply to the sample(s) analyzed. No duplication of this report is allowed except in its entirety.

Reviewed by: _____

Certifications:
Wisconsin 737053130
Minnesota 055-999-302
Illinois 100317

SIEMENS

SAMPLE SUMMARY

Lab Id	Client Sample Id	Date/Time	Matrix
1205013-01	MW-2	04/27/12 13:50	Ground Water
1205013-02	MW-4	04/27/12 13:05	Ground Water
1205013-03	MW-5R	04/27/12 12:00	Ground Water
1205013-04	Trip Blank	04/27/12 00:00	Water
1205013-05	Site Well	04/27/12 14:10	Drinking Water
1205013-06	Swenson Well	04/27/12 11:10	Drinking Water
1205013-07	Trip Blank	04/27/12 00:00	Water

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Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: MW-2 Matrix: Ground Water Sample Date/Time: 04/27/12 13:50 Lab No. : 1205013-01

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	1000	ug/L	80.0	400	200		05/02/12	ALZ
1,3,5-Trimethylbenzene	377	ug/L	88.0	400	200	J	05/02/12	ALZ
Benzene	2930	ug/L	62.0	400	200		05/02/12	ALZ
Ethylbenzene	1670	ug/L	100	400	200		05/02/12	ALZ
m&p-Xylene	4960	ug/L	124	420	200		05/02/12	ALZ
Methyl Tert Butyl Ether	ND	ug/L	60.0	400	200		05/02/12	ALZ
Naphthalene	578	ug/L	400	532	200		05/02/12	ALZ
o-Xylene	1900	ug/L	154	400	200		05/02/12	ALZ
Toluene	4270	ug/L	74.0	400	200		05/02/12	ALZ

Sample ID: MW-4 Matrix: Ground Water Sample Date/Time: 04/27/12 13:05 Lab No. : 1205013-02

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	ND	ug/L	0.400	2.00	1		05/02/12	ALZ
1,3,5-Trimethylbenzene	ND	ug/L	0.440	2.00	1		05/02/12	ALZ
Benzene	ND	ug/L	0.310	2.00	1		05/02/12	ALZ
Ethylbenzene	ND	ug/L	0.500	2.00	1		05/02/12	ALZ
m&p-Xylene	ND	ug/L	0.620	2.10	1		05/02/12	ALZ
Methyl Tert Butyl Ether	ND	ug/L	0.300	2.00	1		05/02/12	ALZ
Naphthalene	ND	ug/L	2.00	2.66	1		05/02/12	ALZ
o-Xylene	ND	ug/L	0.770	2.00	1		05/02/12	ALZ
Toluene	ND	ug/L	0.370	2.00	1		05/02/12	ALZ

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: MW-5R | Matrix: Ground Water | Sample Date/Time: 04/27/12 12:00 | Lab No. : 1205013-03

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	ND	ug/L	0.400	2.00	1		05/02/12	ALZ
1,3,5-Trimethylbenzene	ND	ug/L	0.440	2.00	1		05/02/12	ALZ
Benzene	ND	ug/L	0.310	2.00	1		05/02/12	ALZ
Ethylbenzene	ND	ug/L	0.500	2.00	1		05/02/12	ALZ
m&p-Xylene	ND	ug/L	0.620	2.10	1		05/02/12	ALZ
Methyl Tert Butyl Ether	ND	ug/L	0.300	2.00	1		05/02/12	ALZ
Naphthalene	ND	ug/L	2.00	2.66	1		05/02/12	ALZ
o-Xylene	ND	ug/L	0.770	2.00	1		05/02/12	ALZ
Toluene	ND	ug/L	0.370	2.00	1		05/02/12	ALZ

Sample ID: Trip Blank | Matrix: Water | Sample Date/Time: 04/27/12 0:00 | Lab No. : 1205013-04

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	ND	ug/L	0.400	2.00	1		05/02/12	ALZ
1,3,5-Trimethylbenzene	ND	ug/L	0.440	2.00	1		05/02/12	ALZ
Benzene	ND	ug/L	0.310	2.00	1		05/02/12	ALZ
Ethylbenzene	ND	ug/L	0.500	2.00	1		05/02/12	ALZ
m&p-Xylene	ND	ug/L	0.620	2.10	1		05/02/12	ALZ
Methyl Tert Butyl Ether	ND	ug/L	0.300	2.00	1		05/02/12	ALZ
Naphthalene	ND	ug/L	2.00	2.66	1		05/02/12	ALZ
o-Xylene	ND	ug/L	0.770	2.00	1		05/02/12	ALZ
Toluene	ND	ug/L	0.370	2.00	1		05/02/12	ALZ

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

Attn: Hillary McGown

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Sample ID: Site Well | Matrix: Drinking Water | Sample Date/Time: 04/27/12 14:10 | Lab No. : 1205013-05

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2								
1,1,1,2-Tetrachloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,1,1-Trichloroethane	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,1,2,2-Tetrachloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1,2-Trichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloropropylene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2,3-Trichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,2,4-Trimethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,2-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2-Dichloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,2-Dichloropropane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,3,5-Trimethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,3-Dichlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,3-Dichloropropane	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,4-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
2,2-Dichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
2-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Isopropyltoluene	ND	ug/L	0.40	1.33	1		05/03/12	MPM
Benzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Bromobenzene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Bromodichloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Bromoform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Bromomethane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Carbon Tetrachloride	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Chlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloroethane	ND	ug/L	0.70	2.30	1		05/03/12	MPM
Chloroform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,2-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,3-Dichloropropylene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Dibromochloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dibromomethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dichlorodifluoromethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Ethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Hexachlorobutadiene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Isopropylbenzene (Cumene)	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Methylene Chloride	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Methyl-tert-Butyl Ether	ND	ug/L	0.50	2.00	1		05/03/12	MPM

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown
Sample ID: Site Well Matrix: Drinking Water Sample Date/Time: 04/27/12 14:10 Lab No. : 1205013-05

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2 Continued								
Naphthalene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Styrene	ND	ug/L	0.10	1.00	1		05/03/12	MPM
Tetrachloroethene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Toluene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
trans-1,2-Dichloroethylene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
trans-1,3-Dichloropropylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Trichloroethene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Vinyl chloride	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Xylenes, (Total)	ND	ug/L	1.00	1.00	1		05/03/12	MPM

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: Swenson Well | Matrix: Drinking Water | Sample Date/Time: 04/27/12 11:10 | Lab No. : 1205013-06

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2								
1,1,1,2-Tetrachloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,1,1-Trichloroethane	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,1,2,2-Tetrachloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1,2-Trichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloropropylene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2,3-Trichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,2,4-Trimethylbenzene	1.02	ug/L	0.20	1.00	1		05/03/12	MPM
1,2-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2-Dichloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,2-Dichloropropane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,3,5-Trimethylbenzene	0.52	ug/L	0.20	1.00	1	J	05/03/12	MPM
1,3-Dichlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,3-Dichloropropane	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,4-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
2,2-Dichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
2-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Isopropyltoluene	ND	ug/L	0.40	1.33	1		05/03/12	MPM
Benzene	4.95	ug/L	0.20	1.00	1		05/03/12	MPM
Bromobenzene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Bromodichloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Bromoform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Bromomethane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Carbon Tetrachloride	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Chlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloroethane	ND	ug/L	0.70	2.30	1		05/03/12	MPM
Chloroform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,2-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,3-Dichloropropylene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Dibromochloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dibromomethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dichlorodifluoromethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Ethylbenzene	2.32	ug/L	0.20	1.00	1		05/03/12	MPM
Hexachlorobutadiene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Isopropylbenzene (Cumene)	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Methylene Chloride	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Methyl-tert-Butyl Ether	ND	ug/L	0.50	2.00	1		05/03/12	MPM

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: Swenson Well Matrix: Drinking Water Sample Date/Time: 04/27/12 11:10 Lab No. : 1205013-06

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2 Continued								
Naphthalene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Styrene	ND	ug/L	0.10	1.00	1		05/03/12	MPM
Tetrachloroethene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Toluene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
trans-1,2-Dichloroethylene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
trans-1,3-Dichloropropylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Trichloroethene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Vinyl chloride	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Xylenes, (Total)	1.90	ug/L	1.00	1.00	1		05/03/12	MPM

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: **Trip Blank** Matrix: **Water** Sample Date/Time: **04/27/12 0:00** Lab No. : **1205013-07**

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2								
1,1,1,2-Tetrachloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,1,1-Trichloroethane	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,1,2,2-Tetrachloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1,2-Trichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,1-Dichloropropylene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2,3-Trichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
1,2,4-Trimethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,2-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
1,2-Dichloroethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
1,2-Dichloropropane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
1,3,5-Trimethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,3-Dichlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,3-Dichloropropane	ND	ug/L	0.20	1.00	1		05/03/12	MPM
1,4-Dichlorobenzene	ND	ug/L	0.80	2.70	1		05/03/12	MPM
2,2-Dichloropropane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
2-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Chlorotoluene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
4-Isopropyltoluene	ND	ug/L	0.40	1.33	1		05/03/12	MPM
Benzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Bromobenzene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Bromodichloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Bromoform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Bromomethane	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Carbon Tetrachloride	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Chlorobenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloroethane	ND	ug/L	0.70	2.30	1		05/03/12	MPM
Chloroform	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Chloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,2-Dichloroethylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
cis-1,3-Dichloropropylene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Dibromochloromethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dibromomethane	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Dichlorodifluoromethane	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Ethylbenzene	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Hexachlorobutadiene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Isopropylbenzene (Cumene)	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Methylene Chloride	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Methyl-tert-Butyl Ether	ND	ug/L	0.50	2.00	1		05/03/12	MPM

SIEMENS

Carlson McCain, Inc.
1011 East Central Entrance, STE 100
Duluth, MN 55811

PROJECT NO. : Moose Junction Lounge #2490-00
REPORT NO. : 1205013
DATE REC'D: 05/01/12 15:32
REPORT DATE : 05/09/12 13:05
PREPARED BY : BMS

Attn: Hillary McGown

Sample ID: **Trip Blank** Matrix: **Water** Sample Date/Time: **04/27/12 0:00** Lab No. : **1205013-07**

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 524.2 Continued								
Naphthalene	ND	ug/L	1.00	3.30	1		05/03/12	MPM
Styrene	ND	ug/L	0.10	1.00	1		05/03/12	MPM
Tetrachloroethene	ND	ug/L	0.30	1.00	1		05/03/12	MPM
Toluene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
trans-1,2-Dichloroethylene	ND	ug/L	0.50	1.70	1		05/03/12	MPM
trans-1,3-Dichloropropylene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Trichloroethene	ND	ug/L	0.40	1.30	1		05/03/12	MPM
Vinyl chloride	ND	ug/L	0.20	1.00	1		05/03/12	MPM
Xylenes, (Total)	ND	ug/L	1.00	1.00	1		05/03/12	MPM

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Qualifier Descriptions

J	Estimated concentration below laboratory quantitation level.

Definitions

LOD = Limit of Detection (Dilution Corrected)
LOQ = Limit of Quantitation (Dilution Corrected)
Reporting Limit = LOQ (Dilution Corrected)
ND = Not Detected
COMP = Complete
SUBCON = Subcontracted analysis
mv = millivolts
pci/L = picocuries per Liter
mL/L = milliliters per Liter
mg = milligram

When the word "dry" follows the units on the result page the sample results are dry weight corrected.

LODs and LOQs are dry weight corrected for all soils except WI GRO and EPA 8021methanol and WI DNR methylene chloride preserved soils.

(WNC) = The required Wisconsin DNR program certification is not held for this analyte.

ug/l = Micrograms per Liter = parts per billion (ppb)
ug/kg = Micrograms per kilogram = parts per billion (ppb)
mg/l = Milligrams per liter = parts per million (ppm)
mg/kg = Milligrams per kilogram = parts per million (ppm)
NOT PRES = Not Present
ppth = Parts per thousand
* = Result outside established limits.
mg/m3 = Milligrams per meter cubed
ng/L = Nanograms per Liter = Parts per trillion(ppt)
> = Greater Than

Methanol Soils for WI GRO and EPA 8021 are reported to the LOQ.

SIEMENS

Company Name: Carlson McCain, Inc.	Project: Moose Junction Lounge (# 2490-00)
Report Mailing Address: 1011 E Central Entrance, Suite 100, Duluth, MN 55811	Contact Name, Phone, Fax, Email: Hillary McGowan (218) 625-7004, hmcgowan@carlsonmccain.com
Invoice Address: Lino Lakes Address, Attn: Stephanie Symoniak	Purchase Order #: — / Invoice Contact and Phone No.: SAA

Matrix: Drinking Water (Groundwater) Wastewater Soil/Solid Other: _____

Wis. PECFA Project subject to U&C? (Yes) No

For Compliance Monitoring? (Yes) No (If Yes, please specify Agency or Regulation) State: WI Agency/Reg.: WDNR

Turnaround Request: (Normal (10 Bus. Days) [ ] Rush (Must be pre-approved by Lab and is subject to surcharges) Date Needed: _____

WO No. 1205013

Analyses Requested: PVOC + N; VOC EPA 524.2

Lab Use Only — Delivered by: Walk-in (Courier) Fedex; Ship. Cont. OK? (Y) N NA; Samples Leaking? Y (N) NA; Seals OK? (Y) N NA; Rec'd on Ice? (Y) N NA

Sample Receiving Comments: Rec'd w/ custody seal intact; 4°

Lab Use Only	Sample Date	Sample Time	No. of Containers Comp	No. of Containers Grab	Sample ID	PVOC + N	VOC EPA 524.2	Comments
-1	4/27/12	1:50		3	MW-2	X		3 vials HCl
-2	"	1:05		3	MW-4	X		"
-3		12:00		3	MW-5R	X		"
-4		—		2	Trip Blank	X		2 vials HCl 04-27-12 TB169
-5		2:10		3	Site Well		X	3 vials HCl
-6		11:10		3	Swenson well		X	"
-7	↓	—		2	Trip Blank		X	2 vials HCl 04-27-12 TB169

Chain of Custody Record

Relinquished By:	Date	Time	Received By:
[signature]	4/30/12	2:00	
	05-01-12	1532	[signature]

ESC
L·A·B S·C·I·E·N·C·E·S
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Est. 1970

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

Report Summary

Thursday January 10, 2013

Report Number: L599690
Samples Received: 10/09/12
Client Project: 2490.00

Description: Moose Junction Lonny

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-01

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : MW-2

Project # : 2490.00

Collected By : Jeff Neisse
Collection Date : 10/05/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
PVOCGRO						
Benzene	5600	50.	ug/l	8021	10/09/12	100
Toluene	13000	500	ug/l	8021	10/09/12	100
Ethylbenzene	1900	50.	ug/l	8021	10/09/12	100
m&p-Xylene	8400	100	ug/l	8021	10/09/12	100
o-Xylene	4000	50.	ug/l	8021	10/09/12	100
Methyl tert-butyl ether	280	100	ug/l	8021	10/09/12	100
Naphthalene	580	500	ug/l	8021	10/09/12	100
1,3,5-Trimethylbenzene	420	100	ug/l	8021	10/09/12	100
1,2,4-Trimethylbenzene	1500	100	ug/l	8021	10/09/12	100
Gasoline (C6-C10)	55000	10000	ug/l	8015	10/09/12	100
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	10/09/12	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-02

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : MW-4

Project # : 2490.00

Collected By : Jeff Neisse
Collection Date : 10/05/12 14:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
PVOCGRO						
Benzene	110	0.50	ug/l	8021	10/09/12	1
Toluene	BDL	5.0	ug/l	8021	10/09/12	1
Ethylbenzene	BDL	0.50	ug/l	8021	10/09/12	1
m&p-Xylene	2.1	1.0	ug/l	8021	10/09/12	1
o-Xylene	0.65	0.50	ug/l	8021	10/09/12	1
Methyl tert-butyl ether	4.9	1.0	ug/l	8021	10/09/12	1
Naphthalene	BDL	5.0	ug/l	8021	10/09/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8021	10/09/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8021	10/09/12	1
Gasoline (C6-C10)	140	100	ug/l	8015	10/09/12	1
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	98.3		% Rec.	8021	10/09/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-03

Site ID :

Project # : 2490.00

Date Received : October 09, 2012
Description : Moose Junction Lonny

Sample ID : MW-5R

Collected By : Jeff Neisse
Collection Date : 10/05/12 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
PVOCGRO						
Benzene	BDL	0.50	ug/l	8021	10/09/12	1
Toluene	BDL	5.0	ug/l	8021	10/09/12	1
Ethylbenzene	BDL	0.50	ug/l	8021	10/09/12	1
m&p-Xylene	BDL	1.0	ug/l	8021	10/09/12	1
o-Xylene	BDL	0.50	ug/l	8021	10/09/12	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8021	10/09/12	1
Naphthalene	BDL	5.0	ug/l	8021	10/09/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8021	10/09/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8021	10/09/12	1
Gasoline (C6-C10)	BDL	100	ug/l	8015	10/09/12	1
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	10/09/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-06

Date Received : October 09, 2012
Description : Moose Junction-Lonny

Site ID :

Sample ID : TRIPBLANK

Project # : 2490.00

Collected By : Jeff Neisse
Collection Date : 10/05/12 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	98.5		% Rec.	524.2	10/10/12	1
1,2-Dichlorobenzene-d4	96.1		% Rec.	524.2	10/10/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-06

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : TRIPBLANK

Project # : 2490.00

Collected By : Jeff Neisse
Collection Date : 10/05/12 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Benzene	BDL	0.50	ug/l	524.2	10/10/12	1
Carbon tetrachloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,4-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Trichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Vinyl chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,4-Trichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
cis-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Xylenes, Total	BDL	0.50	ug/l	524.2	10/10/12	1
Methylene chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
trans-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Tetrachloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Toluene	0.70	0.50	ug/l	524.2	10/10/12	1
Ethylbenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Styrene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromodichloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
Bromoform	BDL	0.50	ug/l	524.2	10/10/12	1
Bromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorodibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroform	BDL	0.50	ug/l	524.2	10/10/12	1
Chloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
2-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
4-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
Dibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Methyl tert-butyl ether	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
2,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,3-Trichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
Surrogate Recovery						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-05

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : SWONSON WELL

Project # : 2490.00

Collected By : Jeff Neisse
Collection Date : 10/05/12 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Benzene	8.6	0.50	ug/l	524.2	10/10/12	1
Carbon tetrachloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,4-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Trichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Vinyl chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,4-Trichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
cis-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Xylenes, Total	3.3	0.50	ug/l	524.2	10/10/12	1
Methylene chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
trans-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Tetrachloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Toluene	BDL	0.50	ug/l	524.2	10/10/12	1
Ethylbenzene	2.6	0.50	ug/l	524.2	10/10/12	1
Styrene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromodichloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
Bromoform	BDL	0.50	ug/l	524.2	10/10/12	1
Bromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorodibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroform	BDL	0.50	ug/l	524.2	10/10/12	1
Chloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
2-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
4-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
Dibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Methyl tert-butyl ether	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
2,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,3-Trichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
Surrogate Recovery						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-05

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : SWONSON WELL

Project # : 2490.00

Collected By :
Collection Date : 10/05/12 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	102.		% Rec.	524.2	10/10/12	1
1,2-Dichlorobenzene-d4	100.		% Rec.	524.2	10/10/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-04

Date Received : October 09, 2012
Description : Moose Junction Lonny

Site ID :

Sample ID : SITE WELL

Project # : 2490.00

Collected By :
Collection Date : 10/05/12 12:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	103.		% Rec.	524.2	10/10/12	1
1,2-Dichlorobenzene-d4	103.		% Rec.	524.2	10/10/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/12/12 14:06 Revised: 01/10/13 08:46

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REPORT OF ANALYSIS

Jeff Neisse
Carlson McCain
248 Apollo Drive, Suite 100
Lino Lakes, MN 55014

January 10,2013

ESC Sample # : L599690-04

Site ID :

Project # : 2490.00

Date Received : October 09, 2012
Description : Moose Junction Lonny

Sample ID : SITE WELL

Collected By : Jeff Neisse
Collection Date : 10/05/12 12:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Benzene	BDL	0.50	ug/l	524.2	10/10/12	1
Carbon tetrachloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,4-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Trichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Vinyl chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,4-Trichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
cis-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Xylenes, Total	BDL	0.50	ug/l	524.2	10/10/12	1
Methylene chloride	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
trans-1,2-Dichloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
1,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2-Trichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Tetrachloroethene	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Toluene	BDL	0.50	ug/l	524.2	10/10/12	1
Ethylbenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Styrene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
Bromodichloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
Bromoform	BDL	0.50	ug/l	524.2	10/10/12	1
Bromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chlorodibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
Chloroform	BDL	0.50	ug/l	524.2	10/10/12	1
Chloromethane	BDL	0.50	ug/l	524.2	10/10/12	1
2-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
4-Chlorotoluene	BDL	0.50	ug/l	524.2	10/10/12	1
Dibromomethane	BDL	0.50	ug/l	524.2	10/10/12	1
Methyl tert-butyl ether	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichlorobenzene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
2,2-Dichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,3-Dichloropropene	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,1,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,1,2,2-Tetrachloroethane	BDL	0.50	ug/l	524.2	10/10/12	1
1,2,3-Trichloropropane	BDL	0.50	ug/l	524.2	10/10/12	1
Surrogate Recovery						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

A184

Chain of Custody Page ___ of ___

Company Name/Address:
Carlson McCain
248 Apollo Drive
Lino Lakes 55014

Alternate billing information:
SAME

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
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Report to: Jeff Neisse
Email to: jneisse@carlsonmccain.com

Project Description: Moose Junction Lounge
City/State Collected: Dairyland, WI

Phone: (763) 487-7908
FAX:

Client Project #: 2490.00
ESC Key:

Collected by: JeffNeisse
Site/Facility ID#:
P.O.#:

Collected by (signature):
Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day.....200%
___ Next Day.....100%
___ Two Day.....50%
Three Day.....25%

Date Results Needed:
Email? __No X Yes
FAX? X No __Yes

CoCode: (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Analysis/Container/Preservativ: PVOC + N	VOC (EPA 524.2)	Remarks/Contaminant	Sample # (lab only)
MW-2	G	GW		10/5/12	1300	3	X			L599690-01
MW-4	G				1400	3	X			02
MW-5R	G				1115	3	X			03
Site Well	G				1225	3		X		04
Swenson well	G	↓		↓	1100	3		XX		05
Trip Blank	G	GW		10/5/12	—	1	XX	X		06

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

Remarks:

5040 0635 4/4/60

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐	Condition: (lab use only)
	10-8-12	13:00			OK JD
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C / Bottles Received: 16	CoC Seals Intact ___ Y ___ N ✓ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/9/12 / Time: 0900	pH Checked: / NCF:

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WATER LEVEL LOG SHEET

Project Name/Location: Moose Jct. Lounge / Moose Jct. Project No.: #2490-00

Well Number	Depth to Water	Depth to Bottom	Elevation of Top of Pipe	Water Elevation	Comments
MW-1	5.20	—			
MW-2	5.83	14.75			
MW-3	3.33	—			
MW-4	3.99	14.72			
MW-SR	4.35	13.40			

Comments: MW-1 well PVC piping has heaved above standpipe - no lock.
MW-3 well PVC piping has heaved above standpipe - no lock or well cap.
MW-4 well PVC piping has heaved above standpipe - no lock
MW-2 is not locked & needs a better well cap.

Signature: TRM Date: 4/27/12

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Well Purging and Sample Collection

Well No. MW-2

Project Name/Location: Moose Jct. Lounge / Moose Jct. Project No.: 2490

Date: 4/27/12 Weather: cloudy & ~50°

Purging Method ☐ Pumped ☒ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) 5.83 Depth to Bottom (D.T.B.) 14.75

Volume Calculation: (14.75 - 5.83) * .163 * 3 = 4.36

Gals./Well Volume: [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1:25	0.25							Y strong	clear
	1.0								
	2.0								
	3.0								
	4.0								
1:47	4.50								

Sample No.: MW-2 Time: 1:50

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: 3 40 mL vials Analysis: PVOC + N

Analysis:

Analysis:

Signature: Date: 4 / 27 / 12

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

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Well Purging and Sample Collection

Well No. MW-4

Project Name/Location: Moose Jct. Lounge / Moose Jct. Project No.: 2490

Date: 4/27/12 Weather: cloudy & ~50°

Purging Method ☐ Pumped ☒ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) 3.99 Depth to Bottom (D.T.B.) 14.72

Volume Calculation: (14.72-3.99)*.163*3= 5.24

Gals./Well Volume: [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
12:35	0.25							Y slight	clear w/ tanish tint
	1.0								
	2.0								
	3.0								
	4.0								
	5.0								
1:00	5.50								

Sample No.: MW-4 Time: 1:05

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: 3 40 mL vials Analysis: PVOC+N

Analysis:

Analysis:

Signature: HRM Date: 4 / 27 / 12

Inside Well Diameter	~~gal./ft.~~
2"	0.163
4"	0.653
6"	1.469
8"	2.611

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Well Purging and Sample Collection

Well No. MW-5R

Project Name/Location: Moose Jct. Lounge / Moose Jct. Project No.: #2490

Date: 4/27/12 Weather: cloudy & ~50°

Purging Method ☐ Pumped ☒ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) 4.35 Depth to Bottom (D.T.B.) 13.40

Volume Calculation: (13.40-4.35) *.163*3= 4.42

Gals./Well Volume: [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
11:30	0.25							Y slight	clear
	1.0								clear
	2.0								clear
	3.0								clear
11:57	4.0							Y slight	clear w/ brown turbid tint
	-Bailed well dry @ ~4.0 gallons-								

Sample No.: MW-5R Time: 12:00

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: 3 40 mL vials Analysis: PVOC+N

Analysis:

Analysis:

Signature: ARM Date: 4/27/12

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

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DAILY PROJECT LOG

Client: Trent Sprague	Contractor: —
Site Address: 13195 S.H. 35	Supervisor's Name:
Job Location: Moose Junction Bar	Date: 4/27/12
Carlson Project No.: 2490	Workers:
On-Site Technician: Hillary McBrown	

TIME	NOTES
9:45	load equipment.
10:00	Leave for Site.
11:00	I am on-site. Prep to sample Swenson well. Sample well at 11:10. She had been flushing her well before I arrived. I collect the sample from her basement laundry room.
11:20	I prep decon & rinse water. I collect D.T.W. measurements for MW-1 and MW-3.
11:25	Locate MW-5R. Sample at 12:00.
12:05	I talk with Trent - I will sample his well when I am done
12:15	At MW-4. Sample at 1:05.
1:10	At MW-2. Sample at 1:50.
1:55	I go talk with Trent. He hooks up a hose to flush well. I sample his well at 2:10.
2:15	I am off-site.
3:10	Back at office..

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WATER LEVEL LOG SHEET

Project Name/Location: Moose Junction Homes Project No.: 2490-00

Well Number	Depth to Water	Depth to Bottom	Elevation of Top of Pipe	Water Elevation	Comments
MW-1	7.82	12.15			
MW-2	8.25	14.75			
MW-3	5.92	12.94			
MW-4	5.82	14.72			
MW-5R	6.28	13.40			

Comments:

Signature: [signature] Date: 10/5/12

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Well Purging and Sample Collection

Well No. MW-2

Project Name/Location: Rose Junction Lounge Project No.: 2490

Date: 10/5/12 Weather: overcast, cool

Purging Method ☐ Pumped ☒ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) 8.25 Depth to Bottom (D.T.B.) 14.75

Volume Calculation: (14.75 - 8.25) 0.163 → 6.5 x .163 → 1.05

Gals./Well Volume: [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1242	0.25							Y	Clear
1244	1.0							Y	Clear
1246	2.0							Y	Clear
1252	3.0							Y	Clear
1256	4.0							Y	Clear

Sample No.: 10/5/12 MW-2 Time: 1300

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: 3-40ml Analysis:

Analysis:

Analysis:

Signature: Date: 10 / 5 / 12

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

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Well Purging and Sample Collection

Well No. MW-5R

Project Name/Location: Moose Junction Lounge Project No.: 2490

Date: 10/5/12 Weather: Overcast

Purging Method ☐ Pumped ☑ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) Depth to Bottom (D.T.B.) 13.40

Volume Calculation: 13.40 - 6.28 (7.12) 0.163 -> 1.16

Gals./Well Volume: [(D.T.B. - D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1045	~~6.25~~							N	Cldybrn
1048	1.0							N	Cldybrn
1052	2.0							N	Lt Cldybrn
1110	3.0							N	Lt Cldy brn
1115	4.0							N	Lt cldy brn

Sample No.: MW-5R Time: 1115

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: Analysis:

Analysis:

Analysis:

Signature: Date: 10 / 5 / 12

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

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WELL PURGING AND SAMPLE COLLECTION

Well No. MW-4

Project Name/Location: Moose Junction Lounge Project No.: 1490-00

Date: 10/5/12 Weather: OVERCAST

Purging Method ☐ Pumped ☒ Bailed Other

Pump Type: Bailer Type: HDPE

Depth to Water (D.T.W.) 5.82 Depth to Bottom (D.T.B.) 14.72

Volume Calculation: (8.9)0.163 -> 1.45

Gals./Well Volume: [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	pH	Cond. (uS/cm)	Temp. (°C)	ORP (mv)	DO (ppm)	Turbidity (ntu)	Odor Y/N	Color
1340	0.25							Y	Clr
1346	1.5							Y	Clr
1352	3.0							Y	Clr
1358	4.5							Y	Clr

Sample No.: MW-4 Time: 1401

Field Blank ☐ Time: Sample No.:

Well Duplicate ☐ Time: Sample No.:

Containers: Analysis:

Analysis:

Analysis:

Signature: Date: 10 / 5 / 12

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611