

Remedial Investigation Report

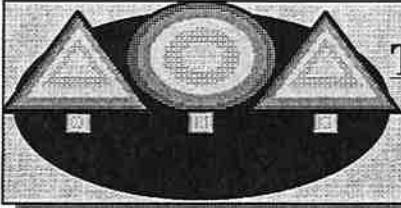
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

Prepared For

Mr. David Gierke

Project Number BDXX-98-211E
March 3, 1999

Braun Intertec Corporation



Tanks and Emergency Response Section
Minnesota Pollution Control Agency

Remedial Investigation Report Form

Fact Sheet #3.24

April 1996

This form must be completed for all sites in which a remedial investigation (RI) is conducted--this includes either a *Limited Site Investigation (LSI)* or a *full RI*. Completing this form will provide the MPCA with the minimum amount of information necessary for a *full RI*. Additional information should be included if deemed important for making a site cleanup decision. If the consultant has concluded that a *Limited Site Investigation* is applicable to this site, Section 6 and Section 7 may be deleted from this report.

Refer to MPCA fact sheet #3.3 "Leaking Underground Storage Tank Investigation and Cleanup Policy" for guidance for the overall objectives of an RI and other MPCA fact sheets regarding investigations.

When a tank has been excavated, refer to fact sheets #3.6 "Excavation of Petroleum Contaminated Soil" and #3.7 "Excavation Report Worksheet for Petroleum Release Sites" for reporting requirements.

If free product is discovered the initial reporting should be done in accordance with fact sheet #3.3 "Free Product: Evaluation and Recovery" and factsheet #3.4 "Free Product Recovery Report Worksheet."

Leak Number: **LEAK00011211**

Date: **March 3, 1999**

Responsible Party: **David W. Gierke**

R.P. phone #: **(320) 743-2155**

Facility Name: **Briggs Lake General Store**

Facility Address: **4258 105th Avenue**

City: **Clear Lake**

County: **Sherburne**

Zip Code: **55319**

Location of site: LAT: **45° 30' 27"** LONG: **93° 56' 38"** Circle one: UTM/State

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Section 1: Emergency and High Priority Sites

1. Is an existing drinking water well impacted? *YES* *NO*
2. Are there existing vapor impacts? *YES* *NO*
3. Is there an existing surface water impact as indicated by 1) a product sheen on the surface water or 2) a product sheen or volatile organic compounds in the part per million range in ground water in a well located close to the surface water. *YES* *NO*
4. Has the release occurred in the last 30 days? *YES* *NO*
5. Has free product been detected at the site? *YES* *NO*
6. Is sand or gravel aquifer impacted which is tapped by water wells within or potentially within 500 feet from the edge of the plume or does impacted soil overlie a karsted limestone or fractured bedrock?
If yes, explain: *YES* *NO*

All residences and businesses within 500 feet of the edge of the plume rely on private wells for their water supply. No construction information was available for Site Well #2 (well "A" in Table 13). This well is connected to a shallow well pump ("jet pump") located in the basement of the site-building. It is therefore possible that this well may be screened in the impacted water table aquifer.

A review of the available driller's logs for water wells completed in the area of the site suggests that most wells in the area are screened in sand and gravel units at depths 50 feet to 70 feet below the surface. Without exception, the available driller's logs indicate a "sandy clay" layer (also described as "clay", "clay & gravel", "clay & sand mixed" and "hardpan") which likely acts as an aquitard (if not aquiclude) between the water table aquifer impacted by the release and the sand unit(s) screened by the wells. The drilled thicknesses of this probable confining layer was reported to be 13 feet to 34 feet.

If you answered *YES* to any of questions 1 through 6 above describe below the actions taken to date to reduce or eliminate the risk posed by the release.

Both of the site wells and the domestic wells at the two nearest private residences located downgradient of the suspected point of release have been sampled.

Section 2: Site and Release Information

2.1 Describe the land use and pertinent geographic features within 1000 feet of the site.

The site consists of an approximately 36,000 square-foot lot which is currently occupied by a convenience store and gasoline filling station. The site has reportedly been occupied by a gasoline filling station since the 1940s.

The site is located in Palmer Township in what is locally referred to as the town of Palmer (unincorporated). Land use in the area of the site is primarily residential; however, several nearby residents run small businesses from their respective properties. These businesses include a towing company and automobile salvage yard on adjacent property north and west of the site. The property immediately south of the site is residential. 105th Avenue (County Road 6) forms the eastern site boundary with residential property beyond. Briggs Lake lies approximately ¼-mile east of the site at an elevation approximately 40 feet lower than that of the site. Approximately 70 single-family residences lie between the site and Briggs Lake.

Table 1.

Provide the following for all tanks that have been at the site:

Tank #	UST or AST	Capacity	Contents	Age	Status*	Condition
001 ¹	UST	4,000	Gasoline	±15	Removed 1/1/89	unknown
002 ¹	UST	3,000	Gasoline	±15	Removed 1/1/89	unknown
003 ¹	UST	1,000	Diesel Fuel	±15	Removed 1/1/89	unknown
004	UST	8,000	Gasoline	Installed 7/1/89	Currently Used	
005	UST	6,000	Gasoline	Installed 7/1/89	Currently Used	
006	UST	2,000	Diesel Fuel	Installed 7/1/89	Currently Used	
1001	AST	500	Fuel Oil	Installed 7/1/89	Currently Used	
1002	AST	500	Kerosene	Installed 7/1/89	Currently Used	

*Indicate: *removed (date), abandoned in place (date), or currently used*

Notes: 1 - USTs 001, 002 and 003 were reportedly installed in about 1975 as replacements for two or three small capacity tanks presumably installed in the 1940s.

2.2 Describe the status of the other components of the tank system(s), (i.e., piping and dispensers) for those tanks listed above.

The heating oil and kerosene dispensers are located within a concrete secondary containment device surrounding the ASTs. The motor-fuel USTs are connected to a common dispenser island located on the east side of the site building (please refer to Figure 2a). All components of the AST/UST systems are currently in use.

2.3 Identify and describe the source or suspected source(s) of the release.

The existing USTs are sti-P₃® tanks and passed tightness tests in November 1995 and August 1998. Although the actual source of the release is unknown, leaks from one or more of the components of the UST systems formerly occupying the site are suspected.

2.4 What was the volume of the release? (if known): **Unknown**

2.5 When did the release occur? (if known): **Unknown**

Section 3: Excavated Soil Information

3.1 Was soil excavated for off-site treatment? YES NO

If *YES* then complete the fact sheet #3.7 "Excavation Report Worksheet for Petroleum Release Sites" and include it as an appendix.

Date excavated:

Volume removed:

3.2 Indicate soil treatment type:

land treatment
 thermal treatment
 composting/biopiling
 other (_____)

Name and location of treatment facility:

Section 4: Extent and Magnitude of Soil Contamination

- 4.1 Were soil borings conducted in or immediately adjacent to all likely source areas (e.g., UST basins, AST areas, piping, dispensers, remote fill pipes, known spill areas)? YES NO
- 4.2 To adequately define the vertical extent of contamination soil borings should be completed at least five feet below the water table or ten feet below the deepest measurable (field screening and visual observation) contamination, whichever is deeper. Were all soil borings completed to the required depth? YES NO
- 4.3 To adequately evaluate site stratigraphy at least one boring should be completed 20 feet below the water table, unless a confining layer is present. Was this done? YES NO

If you answered *NO* to any of the three previous questions, explain why the borings were not conducted in the required locations or to the required depths (see fact sheet #3.19 "Soil and Ground Water Investigations Performed During Remedial Investigations" regarding exceptions and MPCA approval for depth of drilling):

- 4.4 Indicate the drilling method: hollow-stem auger
 sonic drilling
 push probes
 other (_____).

Note: contact MPCA staff hydro before use of flight augers)

Table 2.

Complete the following table indicating jar headspace results (in ppm) for soil samples from soil borings.

ASTM soil classification	Depth (feet)	Soil Boring							
		ST-1	ST-2	ST-3	ST-4	ST-5	ST-6	ST-7	ST-8
Please refer to the soil boring logs in Appendix D	0-2	ND	ND	ND	ND	ND	ND	ND	ND
	2-4	ND	ND	ND	ND	ND	ND	ND	ND
	4½-6½	ND	ND	ND	ND	ND	ND	ND	ND
	7-9	ND	ND	ND	ND	ND	ND	ND	ND
	9½-11½	ND	ND	ND	ND	ND	ND	ND	ND
	12-14	ND	ND	ND	ND	ND	ND	ND	ND
	14½-16½	ND	ND	ND	ND	ND	ND	ND	ND
	17-19	ND	ND	ND	ND	ND	ND	ND	ND
	19½-21½	ND	ND	ND	1324*	ND	ND	ND	ND
	22-24	ND	ND	ND	123*	ND	ND	ND	ND
	24½-26½	ND	ND	ND	--	ND	ND	ND	ND
	27-29	ND	--	--	--	ND	126	ND	ND
	29½-31½	ND	--	--	--	ND	165	ND	ND
	32-34	--	--	--	--	ND	5	--	13
	34½-36½	--	--	--	--	ND	80	--	ND
	37-39	--	--	--	--	ND	ND	--	ND
	39½-41½	--	--	--	--	ND	ND	--	ND
42-44	--	--	--	--	--	ND	--	ND	
44½-46½	--	--	--	--	--	ND	--	--	

Notes: Borings ST-1 through ST-4 were completed during an environmental soils assessment of the site on April 22, 1998.

* Soil samples from borings ST-1 through ST-4 were screened with a Photovac MicroTIP™ model HL-200 equipped with a 10.6 eV lamp. Soil samples from borings ST-5 through ST-8 and MW-1 through MW-4 were screened with a HNU Systems model DL-101 PID equipped with a 10.2 eV lamp. Therefore, the soil sample screening results from borings ST-1 through ST-4 and should not be directly compared to the other PID readings taken at the site.

ND Not detected

-- No sample collected, boring terminated

Table 2. (cont.)

Complete the following table indicating jar headspace results (in ppm) for soil samples from soil borings.

ASTM soil classification	Depth (feet)	Soil Boring			
		MW-1	MW-2	MW-3	MW-4
Please refer to the soil boring logs in Appendix D	0-2	ND	ND	ND	ND
	2-4	ND	ND	ND	ND
	4½-6½	ND	ND	ND	ND
	7-9	ND	ND	ND	ND
	9½-11½	ND	ND	ND	ND
	12-14	ND	ND	ND	ND
	14½-16½	ND	ND	ND	ND
	17-19	7	ND	ND	ND
	19½-21½	161	ND	ND	ND
	22-24	10	ND	ND	ND
	24½-26½	9	ND	ND	ND
	27-29	4	ND	ND	ND
	29½-31½	3	ND	145	ND
	32-34	ND	--	6	ND
	34½-36½	--	--	ND	ND
37-39	--	--	--	ND	

Notes: Borings ST-1 through ST-4 were completed during an environmental soils assessment of the site on April 22, 1998.

* Soil samples from borings ST-1 through ST-4 were screened with a Photovac MicroTIP™ model HL-200 equipped with a 10.6 eV lamp. Soil samples from borings ST-5 through ST-8 and MW-1 through MW-4 were screened with a HNU Systems model DL-101 PID equipped with a 10.2 eV lamp. Therefore, the soil sample screening results from borings ST-1 through ST-4 and should not be directly compared to the other PID readings taken at the site.

ND Not detected

-- No sample collected, boring terminated

Table 3.

Indicate the laboratory analytical results for soil samples in mg/kg.

Well/Boring, Depth (ft)	Date Analyzed	Benzene	Toluene	Ethyl Benzene	Xylene	GRO	DRO
ST-1 (22-24)	4-25-98	<0.05	<0.05	<0.05	<0.05	<10 ¹	<10 ¹
ST-2 (22-24)	4-25-98	<0.05	<0.05	<0.05	<0.05	<10 ¹	<10 ¹
ST-3 (22-24)	4-25-98	<0.05	<0.05	<0.05	<0.05	<10 ¹	<10 ¹
ST-4 (19½-21½)	4-25-98	15	92	92	670	10,000 ^{1,2}	<10 ^{1,3}
ST-5 (22-24)	7-17-98	<0.05	<0.05	<0.05	<0.05	<10	<10
ST-6 (29½-31½)	7-17-98	3.5	<0.5 ⁴	3.3	37	1,900 ⁵	300 ⁶
ST-6 (44½-46½)	7-17-98	<0.05	<0.05	<0.05	<0.05	<10	<10 ⁶
ST-7 (24½-26½)	7-17-98	<0.05	<0.05	<0.05	<0.05	<10	<10
MW-2 (22-24)	7-17-98	<0.05	<0.05	<0.05	<0.05	<10	<10
MW-3 (29½-31½)	7-17-98	1.8	2.3	2.7	15.9	2,800 ⁵	3,100
ST-8 (27-29)	9-19-98	<0.05	<0.05	<0.05	<0.05	<10	<10
ST-8 (32-34)	9-19-98	<0.05	<0.05	0.05	<0.05	<10	<10

Notes: The less than symbols indicate that the parameter was not detected at a concentration above the detection limit listed.

- 1 Borings ST-1 through ST-4 were completed during an environmental soils assessment of the site on April 22, 1998. Samples collected from these borings were analyzed for TPH as fuel oil or gasoline.
- 2 The chromatogram appears to indicate a mixture of gasoline, fuel oil, or other petroleum product.
- 3 The chromatogram was compared to both gasoline and fuel oil standard chromatograms. It more closely matches the gasoline chromatogram and therefore was quantified as such.
- 4 The reporting limit was raised. A dilution of the sample was necessary due to high analyte levels
- 5 The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a GRO chromatogram
- 6 The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a DRO chromatogram

Table 4.

Indicate other notable contaminants (either petroleum or non-petroleum derived) detected in soil samples. Indicate contaminant and list in reported units mg/kg.

Well/Boring, Depth (ft)	Date Analyzed	MTBE					
ST-6 (29½-31½)	7/17/98	1.7					

Notes:

4.5 If any non-petroleum compounds were detected list them below and identify possible sources of these compounds.

4.6 Describe the vertical and horizontal extent and magnitude of soil contamination.

The results of the soil sample screening and laboratory chemical analyses indicate that the horizontal extent of petroleum contaminated soil at the site is as shown on Figure 2c. It appears that the majority of the impacted soil remaining at the site is concentrated in what is likely the water table fluctuation zone at depths greater than 19 feet below grade. The maximum GRO concentration of 10,000 ppm was detected in a soil sample collected from a boring near the existing dispenser island at a depth of 19½ to 21½ feet. Essentially no indications of petroleum contamination were noted in the soil samples collected from depths above the water table in any of the twelve borings conducted at and near the site.

Section 5: Aquifer Characteristics/Ground Water Contamination Assessment

5.1 Hydraulic conductivity is used to evaluate risk to present or potential ground water receptors. The level of potential risk determines the level of confidence required of the hydraulic conductivity values. Indicate average hydraulic conductivity and methods used for measurement and estimation.

Measurement

Methods of measuring aquifer parameters are *aquifer* and *permeameter* tests. Aquifer tests such as pumping and slug tests are necessary to evaluate parameters of the actual undisturbed aquifer material. Pumping tests evaluate the largest volume of aquifer material, providing the best measurement of *in situ* aquifer parameters. Slug tests provide *in situ* parameters representing a smaller portion of the aquifer. Permeameter tests are laboratory methods used for the evaluation of discrete samples collected from the aquifer. Permeameter tests require an adequate number of representative field samples, and, inherent sampling and analysis technique limitations must be considered when evaluating results.

Estimation

Methods of estimating hydraulic conductivity may involve grain size analysis or correlating a field description with a reference range of values. As with laboratory measurements, estimation methods require an adequate number of representative field samples. Use the most conservative value of a range when using estimates. If there is any question that sediments may be permeable enough to comprise a resource aquifer, confirm by conducting test(s).

Provide hydraulic conductivity values that support the level of investigation based on risk and remediation potential. Be sure to have tests and estimations performed and analyzed by personnel trained and/or experienced in hydrogeologic investigations. Improperly performed or analyzed tests may be returned as incomplete. Attach all supporting information for the determination in the Methodologies appendix:

1.2×10^3 to 2.4×10^2 (see note below) cm/sec

Indicate the measurement or estimation used:

- Pumping test analysis by ___ method(s).
- Slug tests by _____ method(s).
- Permeability tests by _____ method(s).
- Grain-size distribution approximations by _____ method(s).
- *Reference from Bouwer, Herman. *Groundwater Hydrology*. McGraw-Hill Book Company, 1978; p. 38.

* provide author(s), year published, title, publisher, and page(s).

Note: The well screens are set partially in a surficial, fine- to medium-grained sand layer and partially in the underlying silty sand (please refer to Section 5.3 below). It appears that recharge to the monitoring wells is primarily from the base of the sand layer, but may also be partially from the silty sand. Based on the reference cited above, the conductivity of the silty sand is expected to be in the range of 1×10^{-4} to 1×10^{-6} cm/sec.

- 5.2 Indicate the thickness of the aquifer. If the investigation does not provide enough information to determine the aquifer thickness, assume the aquifer is greater than 20 feet thick:
- less than 10 feet
 - between 10 and 20 feet
 - 20 feet or greater

- 5.3 Describe in detail the geology underlying the site including confining layers, bedrock formations and the lateral extent of these formations:

Soil boring logs with descriptions of the various soil strata encountered during the soil boring operations, penetration resistances, water level information and organic vapor headspace readings are contained in Appendix D. The depths shown as changes between the soil types are approximate. The strata changes were inferred from the test samples recovered with the split tube sampler and penetration resistance. It should be noted that the actual changes may be transitional and the depths of the transitions likely vary horizontally. A fence diagram presenting the general shallow cross-sectional geology of the site is included as Figure 6.

In general, the soil types encountered in the borings conducted for the project consisted of 1 foot to 8½ feet of topsoil and/or granular fill material underlain by stratified glaciofluvial sand and silt. A surficial sand layer was encountered beneath the top soil and/or fill material in each of the borings. This sand layer extended vertically to a depth of approximately 16 feet in the area of the UST basin, and to a maximum depth of 33½ at the location of monitoring well MW-3. Generally, the surficial sand layer was underlain by 3 feet to 10 feet of interbedded sand, silt and silty sand layers, which graded to silty sand.

According to published geologic and hydrologic information, the site lies in a transition zone between upper terrace deposits of the Mississippi River and glacial outwash deposits associated with the Des Moines Lobe glacial advance. Both the outwash and terrace deposits consist primarily of sand and gravel. Locally, the terrace and outwash deposits are likely to be underlain by glacial till and/or outwash deposits associated with the Superior Lobe advance. The uppermost bedrock unit in the area of the site is the Reformatory Granite of early Proterozoic age. Depth to bedrock in vicinity of the site is likely to be approximately 100 feet.

The terrace deposits are laterally continuous over a large area and extend to the Mississippi River west and southwest of the site. The outwash deposits extend several miles to the east and northeast of the site.

According to published geologic and hydrologic information, the general groundwater flow direction in the vicinity of the site is south-southeastward, toward Briggs Lake and the Briggs Creek flowage.

References:

Helgesen, J.O., D.W. Erickson, and G.F. Lindholm, 1975, Water Resources of the Mississippi and Sauk Rivers Watershed, Central Minnesota, U.S.G.S. Hydrologic Investigations Atlas HA-534.

Meyer, G.N. and J. Falteisek, 1993, Regional Hydrogeologic Assessment - Anoka Sand Plain, Anoka, Chisago, Isanti, and Sherburne Counties, Minnesota, Minnesota Department of Natural Resources Assessment RHA-1.

Meyer, G.N. and H. Hobbs, 1993, Quaternary Geologic Map of Sherburne County, Minnesota: Minnesota Geological Survey, Miscellaneous Map Series Map M-77, scale 1:100,000.

Morey, G.B., B.M. Olsen, and D.L. Southwick, 1981, Geologic Map of Minnesota-East Central Minnesota-Bedrock Geology: Minnesota Geological Survey, University of Minnesota, scale 1:250,000.

The impacted aquifer or the aquifer that is likely to be impacted at the site is considered a resource aquifer if one of the following situations exist:

- The aquifer is a current water supply source.
- The water bearing unit has a hydraulic conductivity greater than 1×10^{-2} cm/sec and a minimum thickness of 10 feet.
- The water bearing unit has a hydraulic conductivity between 1×10^{-4} cm/sec and 1×10^{-2} cm/sec and a minimum thickness of 20 feet.
- The water bearing unit has a hydraulic conductivity less than 1×10^{-4} cm/sec and no other viable source of water supply is available. (*Bedrock may be considered a resource aquifer if it is the only water supply available.*)

5.4 Based on the aquifer characteristics and water supply availability, is the YES *NO* aquifer at the site a resource aquifer?

5.5 If other water supplies are available, explain.

A municipal water supply is not available in the area of the site.

Based on the review of available driller's logs for water wells completed in the area of the site, it appears that most of the water wells in the area are screened in buried sand and gravel units at depths between 50 feet and 70 feet below grade. It appears that these sand and gravel units may be hydraulically isolated from the water table aquifer impacted by the release.

It is possible that there are additional sand and gravel units buried at yet unexplored depths greater than 70 feet.

5.6 Are there any other reasons the impacted aquifer should not be considered a resource aquifer?

Table 5.

Indicate the water level measured in all of the soil borings.

	Soil Boring											
	ST-1	ST-2	ST-3	ST-4	ST-5	ST-6	ST-7	ST-8	MW-1	MW-2	MW-3	MW-4
Water level depth, ft	22	22	23	21½	22	27	26	28½	19½	22	30	26

Notes:

5.7 Is contaminated soil in contact with ground water? YES NO

If YES or if ground water contamination appears likely then complete tables 6 and 7 below.

Table 6.

Indicate the laboratory analytical results for water samples collected from the borings, temporary wells or push probes.

Well/Boring	Date	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	GRO	DRO

Notes:

Table 7.

Indicate other notable contaminants (either petroleum or non-petroleum derived) detected in water samples collected from the borings, temporary wells or push probes. Indicate contaminant and report in units of ug/l (ppb).

Well/Boring Number	Date Analyzed						

Notes:

- 5.8 If any non-petroleum compounds were detected list them below and indicate whether they exceed the HRLs. Also, identify possible sources of these compounds.
- 5.9 If contaminated soil is not in contact with ground water, what is the distance separating the deepest contamination from the surface of the water table? Was this distance measured during site activities, referenced from geologic information, or estimated based on professional opinion during a site visit? NA feet
- 5.10 Describe observations of any evidence of a fluctuating water table and a seasonal high water table (e.g., mottling). Also, from other sources of information describe the range of natural water table fluctuations in the area.

Groundwater levels in the monitoring wells varied by less than 0.5 feet during the period of July to November, 1998.

- 5.11 In your judgment, is there a sufficient distance separating the petroleum contaminated soil (or an impacted non-resource aquifer) from the underlying resource aquifer to prevent petroleum contamination of the resource aquifer? Please explain in detail. In your explanation consider the data and information of this section as well as the nature of the petroleum release (i.e., volume, when it occurred, petroleum product). YES NO

As discussed in Section 1 of this report, the available driller's logs for water wells completed in the area of the site indicate that most wells in the area are screened in sand and gravel units at depths 50 feet to 70 feet below the surface. The available driller's logs indicate the presence of a possible confining layer above the screened sand unit(s). Several of the water well drillers described this layer as "sandy clay" but others described it as "clay", "clay & gravel", "clay & sand mixed" and one described it as "hardpan". The drillers reported this possible confining unit in a zone 23 feet to 70 feet below grade. The reported thicknesses ranged from a maximum of 34 feet in a well approximately 500 feet northeast of the site (520357), to a minimum of 13 feet at Site Well #1 (well 402066). Each of the unique well records reviewed for wells within 500 feet of the contaminant plume appear to indicate the presence of this layer.

While it appears that this layer is present beneath the entire area of the site, the actual extent, continuity, homogeneity and hydraulic characteristics of this possible confining unit can not be determined from the available information. Although reasonably good construction information is available for 11 of the wells located within the 500-foot search radius, there are 12 wells (including one at the site and one within the areal extent of the contaminant plume) for which little or no construction information was available. It is possible that one or more of these wells is not adequately isolated from the water table aquifer impacted by the release.

Additional Ground Water Investigation

Complete **Section 6 and Section 7** only if: 1) a resource aquifer has been impacted at or above Minnesota Department of Health Risk Limits (HRLs), 2) a resource aquifer has been impacted below the HRLs, but the levels are likely to reach the HRLs, or 3) there is an insufficient distance separating the petroleum contaminated soil (or an impacted non-resource aquifer) from the underlying resource aquifer. Regardless of whether you are submitting a Limited Site Investigation or a full RI, all sections following Section 7 must be completed.

Section 6. Extent and Magnitude of Groundwater Contamination

Table 8.

Monitoring well construction.

Well Number	Unique Well Number	Date Installed	Relative Surface Elevation	Riser Height Above Grade (feet)	Bottom of Well (Elevation)	Screen Interval (Elev. - Elev.)
MW-1	599627	07-13-98	99.8	1.7	71.9	81.9 - 71.9
MW-2	599628	07-10-98	99.5	0.1	69.2	79.2 - 69.2
MW-3	599629	07-13-98	100.5	1.0	64.8	74.8 - 64.8
MW-4	599641	09-11-98	97.4	1.3	59.9	69.9 - 59.9

Notes: The surface and monitoring well riser pipe elevations were referenced to the top of the concrete floor slab at the main (east) entrance to the store. The local benchmark was assigned an arbitrary elevation of 100.00 feet.

Table 9.

Water table summary.

Well Number	Date	Depth of Water from Top of Casing	Product Thickness	Depth of Water Below Grade	Relative Groundwater Elevation
MW-1	07-23-98	21.74	None	20.0	79.84
	11-02-98	21.65	None	20.0	79.93
MW-2	07-23-98	21.23	None	21.2	78.32
	11-02-98	21.23	None	21.2	78.32
MW-3	07-23-98	30.77	None	29.8	70.71
	11-02-98	31.21	None	30.2	70.27
MW-4	09-15-98	27.68	None	26.4	71.01
	11-02-98	27.78	None	26.5	70.91

Notes:

6.1 Were any deep monitoring wells completed at the site? YES NO
If YES, which are deep wells?

Before a deep well is installed contact the MPCA project hydrologist for guidance on its necessity and placement. A deep monitoring well may be necessary if
1)contamination exist more than 10 feet below the water table or 2) the impacted aquifer is a resource aquifer or is hydraulically connected to a resource aquifer presently utilized by a water supply well located within 500 feet of the site.

Provide estimates of the following additional aquifer parameters:

Horizontal Gradient (dh/dl): 0.077 to 0.083
Vertical Gradient (dv/dl): Not Measured
Porosity: 0.30 (estimate from reference)
Flow direction: southeast
Hydraulic Conductivity (K) 2.4×10^{-4} to 1.2×10^{-5} m/s
Pore velocity: 97 to 2,094 meters/year

Table 10.

All ground water monitoring data should be collected from a minimum of *two quarterly sampling events*.

Well #	Date	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	GRO	DRO
MW-1	07-23-98	4.2	130	4.4	970	<1.0	2,700 ¹	<100
	11-02-98	<1.0	30	15	247	<1.0	500 ¹	<100
MW-2	07-23-98	<0.5	<1.0	<1.0	<1.0	<1.0	170 ¹	<100
	11-02-98	1.5	<1.0	<1.0	1.0	2.2	700 ¹	<100
MW-3	07-23-98	66	42	200	1,090	<1.0	6,400 ¹	7,100 ²
	11-13-98	32	21	110	400	<1.0	3,000 ¹	6,400 ²
MW-4	09-15-98	<0.5	<1.0	<1.0	<1.0	<1.0	<100	<100
	11-02-98	<1.0	<1.0	1.7	2.3	<1.0	<100	<100

- Notes:
- All results presented as $\mu\text{g}/\text{l}$ (ppb)
 - 1 The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range (GRO) chromatogram.
 - 2 The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range (DRO) chromatogram.
 - < Compound not present at a concentration equal to or greater than detection limit shown.

Table 11.

Indicate other notable contaminants (either petroleum or non-petroleum derived) detected in water samples.

	Well #	MW-1	MW-2	MW-3	MW-4	HRL
	Date Analyzed*	07/26/98	07/26/98	07/27/98	09/22/98	
n-Butylbenzene		47	8.6	170	<1.0	--
sec-Butylbenzene		<1.0	2.2	12	<1.0	--
1,2-Dichloroethane (EDC)		<0.2	<0.2	11	<1.0	4
Ethyl Ether		2.5	<1.0	<1.0	<1.0	1,000
Isopropylbenzene		<1.0	1.7	20	<1.0	--
Isopropyltoluene		1.7	1.4	10	<1.0	--
Methyl Ethyl Ketone (MEK)		<5.0	<5.0	67	<10	4,000
Methyl Isobutyl Ketone (MIBK)		<5.0	<5.0	6.5	<5.0	300
Naphthalene		36	<1.0	120	<1.0	300
n-Propylbenzene		<1.0	3.1	52	<1.0	--
1,2,4-Trimethylbenzene		130	8.5	550	<1.0	--
1,3,5-Trimethylbenzene		39	5.5	140	<1.0	--
Dissolved Lead (7-29-98)		8	<1.0	5	<1.0	--
Dissolved Lead (11-4-98)		2.5	0.7	3.3	<0.3	--

- Notes:
- All results presented as $\mu\text{g}/\text{l}$ (ppb)
 - * Lead analyses performed on the dates indicated
 - HRL not established
 - < Compound not present at a concentration equal to or greater than the detection limit shown

6.2 If any non-petroleum compounds were detected list them below and indicate whether they exceed the HRLs. Also, identify possible sources of these compounds.

Dissolved lead - Detected in monitoring wells MW-1 through MW-3 at concentrations of 0.7 $\mu\text{g}/\text{l}$ to 8.0 $\mu\text{g}/\text{l}$. There is currently no HRL for lead. Lead (tetraethyl lead) was an additive to leaded gasoline. At the low concentrations detected, it may be naturally occurring due to the presence of lead in soils.

1,2-Dichloroethane (EDC) - Detected in monitoring well MW-3 at a concentration of 11 $\mu\text{g}/\text{l}$, and during the initial sampling of Site Well #1 at a concentration of 0.4 $\mu\text{g}/\text{l}$ (please refer to Section 8.3 of this report). The HRL for EDC is 4 $\mu\text{g}/\text{l}$. EDC is a combustion chamber lead scavenger in leaded gasoline.

ethyl ether - Detected in monitoring well MW-1 at a concentration well below the HRL. Ethyl Ether is a highly volatile gas which is only slightly soluble in water. It is used as solvent, a primer for gasoline engines, and as a reagent in organic syntheses.

methyl ethyl ketone (MEK) - Detected in monitoring well MW-3 at a concentration below the HRL. MEK is a solvent used in the surface-coating industry.

methyl isobutyl ketone (MIBK) - Detected in monitoring well MW-3 at concentration a below the HRL. MIBK is a solvent for gums, resins, nitrocellulose, etc.

6.3 Is there a clean or nearly clean (below HRLs) downgradient monitoring well located along the longitudinal axis of the contaminant plume? (approximately 20 degrees plus or minus the axis) YES NO

6.4 Is there a worst case well completed through the source area of the release? YES NO

If you have answered *NO* to any of the above three questions, please explain why a well was not completed in the required location.

6.5 Provide an estimate of the longitudinal length of the dissolved contaminant plume: +280 feet

6.6 Describe the extent and magnitude of the ground water contamination:

The areal extent of petroleum contaminated groundwater inferred from the data collected at the site to date is shown on Figure 2d. Benzene concentrations in the water samples collected from MW-3 have consistently been above the HRL for benzene. EDC was also detected in MW-3 at a concentration above its HRL during the first sampling round. No VOCs have been detected in monitoring wells MW-1, MW-2 or MW-4 at concentrations above their respective HRLs (where HRLs have been established).

GRO concentrations as high 2,700 $\mu\text{g}/\ell$ have been detected in monitoring well MW-1, which was installed in the suspected source area. GRO concentrations as high as 6,400 $\mu\text{g}/\ell$ have been measured in the water samples collected from MW-3, which was completed approximately 125 feet downgradient of MW-1. DRO has been present in the water samples collected from MW-3 at concentrations as high as 7,100 $\mu\text{g}/\ell$; however, DRO has not been detected in any of the water samples collected from MW-1, MW-2 or MW-4 to date. The laboratory reports that both the DRO and GRO chromatograms are atypical and indicate the presence of hydrocarbons outside of their respective quantification ranges. Given the results of the GRO/DRO analyses and the relatively low BETX concentrations, it appears that the product released was gasoline which is now weathered. The presence of EDC and relative absence of MTBE also suggests an older release.

Section 7: Evaluation of Natural Attenuation

Table 12.

Complete the bioactivity data in the table below. Data should be from two quarterly rounds of sampling. Refer to the fact sheet #3.21 "Assessment of Natural Biodegradation at Petroleum Tank Release Sites" for acceptable methodologies and indicate the chosen method in the Methodologies appendix.

Monitoring Well	Temp. °C	pH	Dissolved oxygen (mg/l)	NO ₃ ⁻ (mg/l)	Fe ⁺² (mg/l)	SO ₄ ⁻² (mg/l)
MW-1 (07-23-98)	15.0	6.4	6.3	0.07	1.1	<15
MW-1 (11-02-98)	11.0	7.0	5.9	0.06 ¹	3.7	23
MW-2 (07-23-98)	15.1	6.6	7.1	0.5	0.27	<15
MW-2 (11-02-98)	12.2	6.9	5.3	0.24 ¹	1.7	<15
MW-3 (07-23-98)	14.3	6.7	3.9	0.02	8.7	30
MW-3 (11-02-98)	9.8	6.9	4.0	<0.02 ¹	13	29
MW-4 (09-15-98)	13.9	7.5	5.8	0.1	<0.02	58
MW-4 (11-02-98)	10.8	7.3	8.5	<0.02 ¹	<0.02	52

Notes: ¹ The samples were received by the laboratory on November 3, 1998, but were not analyzed until November 12. Therefore the nitrate analyses were performed outside the EPA recommended holding time.

- 7.1 Discuss the results of the bioactivity evaluation. Specifically, compare the concentrations of the inorganic parameters inside and outside the plume.

A comparative analysis of the bioactivity data suggests that an inverse relationship exists between GRO/BETX concentrations and the concentrations of DO and NO₃⁻. A similar relationship between GRO/BETX concentrations and the concentrations of SO₄⁻² is not apparent. A positive correlation appears to exist between the concentrations of GRO/BETX and Fe²⁺.

- 7.2 In your judgment, is natural biodegradation occurring at this site? YES NO
Please Explain.

The primary line of evidence supporting the occurrence of natural biodegradation at the site is the attenuation of BETX downgradient of the suspected source area. Furthermore, since the contaminant appears to lack significant concentrations of the more volatile BETX constituents, some product weathering must have already taken place.

A secondary line of evidence supporting the occurrence of natural bio-attenuation is the decrease in terminal electron receptor concentrations (DO and NO₃) and the increase in electron-acceptor reduction products (Fe²⁺) in a direct (but not necessarily proportional) relationship to BETX concentrations.

Section 8: Well Receptor Information/Assessment

Include in the appendices of this report: 1) a list of addresses within 500 feet from the edge of the plume and confirmation of status of water supply from the city utility billing department; 2) well logs; and 3) map showing ½ mile radius, 500 foot radius, water supply wells, other potential petroleum sources, and addresses for properties within 500 feet.

Table 13.

Complete the following table for all water supply wells located within 500 feet of the edge of the plume and any municipal or industrial wells found within ½ mile.

Unique Well #	Ground Elevation	Total Depth (ft) ¹	Base of Casing (ft) ¹	Static Elevation ¹	Aquifer	Use	Owner	Distance (feet) & Direction from site
402066	±1,005	64	60	25	QBAA	PS	Briggs Lake Store	0
A	±1,005	NR	NR	NR	NR	PS	Briggs Lake Store	0
473541	±1,000	61	57	31	QBAA	DO	Bud Hays	±100 SW
457303	±1,010	76	72	42	QBAA	PS	Palmer Township	±350 N
B	±1,000	±65	NR	NR	NR	DO	Raymond Larson	200 ESE
C	±1,005	61	NR	35	NR	DO	Richard Larson	150 NE
D	±1,005	±67	NR	NR	NR	PS	Palmer House	450 NNE
E	±995	±60	NR	NR	NR	DO	Kevin Olson	±300 SSE
F	±1,005	70	66	22	NR	DO	Henry Larson	±100 N
152229	±1,000	56	52	27	QBAA	DO	Ron Mix	±500 NE
520357	±995	64	60	25	QBAA	DO	Roy Wipper	±700 NE
164518	±1,000	58	54	21	QBAA	DO	NR	±550 ESE
164519	±995	66	62	21	QBAA	DO	NR	±550 SE
164516	±1,000	55	51	24	QBAA	DO	Strande	±650 ESE
164517	±1,000	55	51	22	QBAA	DO	NR	±650 SE
160592	±995	56	52	24	QBAA	DO	Statz	±600 SE
159838	±1,000	71	67	38	QBAA	DO	Konser	±700 SE
160590	±1,000	54	50	24	QBAA	DO	Konser?	±700 SE
160591	±1,000	65	61	25	QBAA	DO	Anderson	±800 SE

Notes: 1 Measured in feet below grade or ground level
NR No Record
QBAA Quaternary Buried Artesian Aquifer

DO Domestic
PS Public Supply

- 8.1 Is municipal water available in the area? YES NO
- 8.2 Were all property owners within 500 feet of the nearest edge of the contaminant plume successfully contacted to determine if water wells are present? If No, please explain. YES NO

Municipal water is not available to the site or properties in the area of the site; therefore, each of the 24 addressees within 500 feet of the contaminant plume (please refer to Figure 4a) rely on wells for their water supply.

Six addressees near the periphery of the search radius were not contacted about their wells either because of their positions relative to the site or their respective distances from the edge of the contaminant plume.

- 8.3 Discuss the results of the ground water receptor survey and any analytical results from sampling conducted at nearby water wells. Comment on the risks to water supply wells identified within 500 feet from the edge of the plume as well as the risk posed by or to any municipal or industrial wells found within ½ mile. Specifically indicate whether water supply wells identified utilize the impacted aquifer. (Note: an impacted aquifer separated from another aquifer by a clay lens is not considered a separate aquifer.)

No municipal or industrial wells were identified within a ½ mile of the edge of the contaminant plume.

A total of 23 water wells were identified within the 500-foot search radius. MDH Unique Well Records for 11 of these wells were obtained from the County Well Index (CWI) and/or local well drillers and are included in Appendix F. The logs of two additional wells located just outside the 500-foot radius are also included for reference. Limited information about 5 additional wells was also obtained through interviews of the 6 property owners nearest to the site. Additional information about 2 of these 5 wells was obtained by contacting the well contractor who drilled them. Construction information taken from the MDH well records and obtained through interviews is included in Table 13. No construction information was available for Site Well #2 (well "A" on Figure 4a and in Table 13).

The results of our interviews indicate that water wells are shared between 4300 and 4302, 105th Avenue; 4207 and 4237, 105th Avenue; and, 4226 and 4228, 105th Avenue (please refer to Figure 4a).

Where well records are available, well depths ranged from 54 feet to 76 feet. As discussed in Sections 1 and 5.11 of this report, each of the available MDH Unique Well Records indicate that wells are screened below what is likely to be a low permeability layer 13 feet to 34 feet thick. Given the reported depths of wells B

through F and their proximity to other better documented wells, it appears likely that each of these five wells are also screened below this previously discussed "sandy clay" layer.

Groundwater samples were collected from the two site wells (402066 and "A") and from the Raymond Larson well (well "B") during both groundwater sampling rounds. In addition, a water sample was collected from the Richard Larson well (well "C") during the second sampling round. Water samples collected from these wells were analyzed for the presence a concentration of VOCs (MDH method 465E). The results of these analyses are included with the laboratory reports in Appendix B. 1,2-dichloroethane (EDC) was detected during the initial sampling of Site Well #1 (402066) at a concentration of 0.4 $\mu\text{g}/\text{l}$. EDC was not detected in this well during the second sampling round and no other VOCs have been detected in any of the samples collected from the drinking water wells.

Based on the results of the groundwater receptor survey, it appears that the release poses only a slight risk to water wells in the area. The available records suggest that most of the wells in the area are screened below what is likely an aquitard. Given the probable age of the release and the relatively low levels of hydrocarbon contamination remaining, it does not appear that the release would pose a significant risk to properly constructed wells which are screened below the "sandy clay" described in the available driller's logs. Unfortunately, no construction information was available for Site Well #2. This well is used in a food-service area of the site building.

Site Well #1 is used for the restrooms and bait tanks at the site building. EDC was detected in this well at a concentration below its HRL during the initial sampling event, but not in the subsequent sampling round. The presence of EDC in this well may be due to the presence of hydrocarbon contamination in soil and groundwater at the site (please refer to Section 6.2 of this report). This well is screened at 60 feet to 64 feet below grade and the driller's log indicates that it was installed by a cable tool method. Although the well casing was not grouted, this method creates little or no annular space around the casing. The previously discussed "sandy clay" layer is reportedly only 13 feet thick at the location of this well.

- 8.4 Are there any plans for groundwater development in the impacted aquifer within one half mile of the site, or one mile down gradient of the site if the aquifer is fractured? Please give the name, title and phone number of the person that was contacted for this information. YES NO

There is undeveloped land north and west of the site and there are a few undeveloped lots in a housing subdivision to the east (Briar Oaks Addition). These undeveloped properties are generally located more than 500 feet from the site.

According to Minnesota Rules Ch. 4725, water supply wells constructed without 50 feet of watertight casing are subject to increased isolation distances from contamination sources (eg. septic systems). The necessity to maintain increased (doubled) isolation distances decreases the desirability of development of the impacted water table aquifer for drinking water supplies. Given the likelihood that any new well (or replacement well) drilled in the area of the site would be greater than 50 feet in depth, development of the impacted shallow aquifer as a drinking water source appears unlikely.

Section 9: Surface Water Risk Assessment

9.1 Are there any surface waters or wetlands located within ¼ mile of the site? YES NO

If YES, indicate its name: _____

9.2 If surface water is present downgradient of the site, is there a clean down gradient soil boring or monitoring well located between the site and the surface water? YES
NO

N/A

If NO, we assume that contamination discharges to surface water. Therefore, complete the following information:

Name of receiving water: _____

Plume width, (W): _____ feet

Plume thickness, (H): _____ feet

Hydraulic conductivity, (K): _____ gal/day/ft²

Horizontal gradient, (dh/dl): _____ (unitless)

Discharge, (Q) = H*W*K*(dh/dl)/1440 _____ gal/min

If YES, identify them and indicate the distance to these features and discuss the contamination risk potential.

Section 10: Vapor Risk Assessment/Survey

10.1 Is there a history of vapor impacts in the vicinity of the site ? YES NO

If YES, describe:

10.2 Is there any indication that free product or highly contaminated groundwater may be traveling offsite within the utility corridors? If YES, have they been investigated with borings or push probes? YES NO

10.3 Discuss the potential for vapor migration/accumulation near the site. In your discussion consider: soil types, product type, presence and distribution of free product or high concentrations of dissolved product. Also, compare the depth of contamination with the location of underground utility lines, location and depth of storm and sanitary sewers and location of nearby basements.

Given the apparent lack of extensive hydrocarbon contamination in the soils above the water table depth of 19 feet, the depth of a typical basement (8-10 feet), and the absence of susceptible underground utilities in the area, there appears to be little or no threat of organic vapor accumulation.

If the vapor risk assessment indicated a risk of vapor impacts to buildings or utilities, complete the following table with vapor monitoring data collected. Location numbers should be mapped on an accompanying figure of the surveyed area.

Table 14.

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

Notes:

10.4 Describe and interpret the results of the vapor survey.

Section 11: Discussion

11.1 Discuss the risks associated with the remaining soil contamination?

The remaining petroleum contaminated soil may serve as a continued source of groundwater contamination. However, most (if not all) of the petroleum-contaminated soil identified in association with the release appears to already be at or below the water table elevation.

Since the petroleum contaminated soil at the site appears to occur at a depth well below that of adjacent basements and utility lines, the potential for vapor impacts associated with the remaining contaminated soil appears negligible.

11.2 Discuss the risks associated with the impacted ground water?

The water table aquifer beneath the site has been impacted by benzene and EDC at concentrations above their respective HRLS. Although no wells which utilize the impacted water table aquifer have been identified within 500 feet of the site, no construction information was available for one of the site wells. It is difficult to evaluate the risk the release poses to this well without knowing its depth and screened interval. While this well is located less than 50 feet from the edge of the contaminant plume, it does not appear to be located downgradient of the suspected source area. This well has been sampled twice and no hydrocarbon contamination has been detected to date.

It appears that most (if not all) of the 23 private water wells identified within a 500-foot radius of the contaminant plume are screened beneath a low permeability layer at least 10 feet thick. While it not known if these buried sand and gravel unit(s) are hydrogeologically isolated from the water table aquifer impacted by the release, it is likely that this low permeability layer would provide some protection from downward migration of the contaminants of concern. Furthermore, most of the identified water wells are either not located downgradient of the site or are at distances greater than 350 feet from the edge of the contaminant plume. Given the geology beneath the site and the spatial distribution of the dissolved contaminant plume with respect to the locations of most of the identified water wells, it does not appear that the release poses a significant risk to the water supplies in the area.

The most significant potential risk associated with the release appears to be to the two water wells within the dissolved contaminant plume. Although it is likely that both of these wells are screened below an aquitard, an additional risk would be posed to these wells if they were not properly constructed and grouted. Site Well #1 (402066) was installed by a method which creates no annular space around the casing; however, no construction information was available for the

Raymond Larson well (well "B" on Figure 4a and in Table 13). Both of these wells have been sampled twice. EDC was detected in Site Well #1 during the first sampling but has not been detected since. No VOC contamination has been detected in the Raymond Larson well to date.

The laboratory analytical results suggest that the release is relatively old. The results of the bioactivity analyses indicate conditions favorable to the occurrence of natural biodegradation. While plume stability can not be demonstrated by two rounds of groundwater sampling, it seems likely that natural attenuation mechanisms will limit significant additional migration contaminant plume.

Surface water is not present with a ¼-mile radius of the site, and the results of the surface water risk assessment suggest that the hydrocarbon release poses no threat to surface water.

11.3 Discuss other concerns not mentioned above:

Section 12: Conclusions and Recommendations

Recommendation for site: site closure
 additional vapor monitoring
 additional ground water monitoring
 active cleanup

The recommendation above should be based on fact sheet #3.1 "Leaking Underground Storage Tank Investigation and Cleanup Policy." Describe below how you applied the policy to support your recommendation.

The impacted water table aquifer has the physical characteristics of a "resource aquifer". No water wells utilizing the impacted aquifer were identified; however, it is possible that one of the two site wells is shallow. It is also possible that wells within the contaminant plume are not adequately protected from downward migration of contaminants.

Contaminant concentrations within the plume have consistently been above the HRLs. The contaminant plume is comparatively long (roughly 280 feet) and appears to be stable. Nevertheless, plume stability has not been conclusively demonstrated.

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

Given the results of the investigation and site monitoring to date, we recommend that groundwater monitoring be performed at the site for an additional year. We recommend that groundwater samples be collected from the existing monitoring well network on a quarterly basis. Groundwater samples collected from the monitoring wells should be analyzed for the presence and concentrations of BETX. The bioactivity evaluation conducted as part of this assessment appears adequate. Additional analysis of groundwater samples for the bioactivity indicator parameters does not appear necessary unless a calculation of the contaminant reduction rate is required.

We recommend semi-annual sampling of the two site water wells and the Raymond Larson well. Since EDC was detected in one of the site wells, we recommend that groundwater samples collected from the drinking water wells be analyzed for VOCs.

At the completion of the proposed monitoring period, trends in contaminant concentrations and the need for additional monitoring would be assessed.

If active cleanup is proposed then MPCA staff will review this remedial investigation report at a higher than normal priority to determine if active cleanup is required. We will respond with either a request for proposal for additional monitoring or a corrective action design report. Please indicate below what cleanup technology you are considering at this time.

Section 13: Required Figures

Indicate attached figures:

- Figure 1, 1a:* Site location map (*approximate scale is not acceptable*) and a large scale site map show all potential receptors within 300 feet of the site. The large scale site map should show those properties with basements and wells.
- Figure 2, 2a, 2b, etc.:* One or more site map showing: structures; all past and present petroleum storage tanks, piping, and dispensers; extent of soil excavation; boring and well locations (including any drinking water wells on site); horizontal extent of soil contamination; horizontal extent of ground water contamination; and location of end points for all geologic cross sections.
- Figure 3, 3a:* Ground water gradient contour maps (for sites with monitoring wells).
- Figure 4* Well receptor survey map showing 1/2 mile radius, 500 foot radius, water supply wells, other potential sources of contamination.
- Figure 5:* Vapor survey map showing utilities and buildings with basements and monitoring locations (if a survey was required).
- Figure 6:* Geologic cross sections.

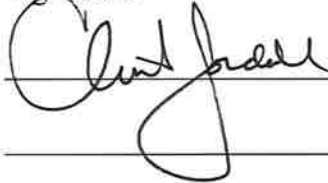
Section 14: Appendices

Indicate attached appendices.

- Appendix A* Excavation Report Worksheet for Petroleum Release Sites.
- Appendix B* Laboratory analytical reports for soil and ground water.
- Appendix C* Methodologies and procedures, including field screening of soil, other field analyses, soil boring, soil sampling, well installation, and water sampling.
- Appendix D* Geologic logs for each well or boring using attached template.
- Appendix E* Well construction diagrams and copies of the Minnesota Department of Health Well Record using attached template.
- Appendix F* Copies of water supply well logs with legible unique numbers.
- Appendix G* A list of addresses within 500 feet from the edge of the plume and confirmation of status of water supply from the city utility billing department.

Section 15: Consultant (or other) information

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

Name and Title:	Signature:	Date signed:
Clinton D. Jordahl, Project Manager		3 / 3 / 99
_____	_____	____/____/____
_____	_____	____/____/____
_____	_____	____/____/____

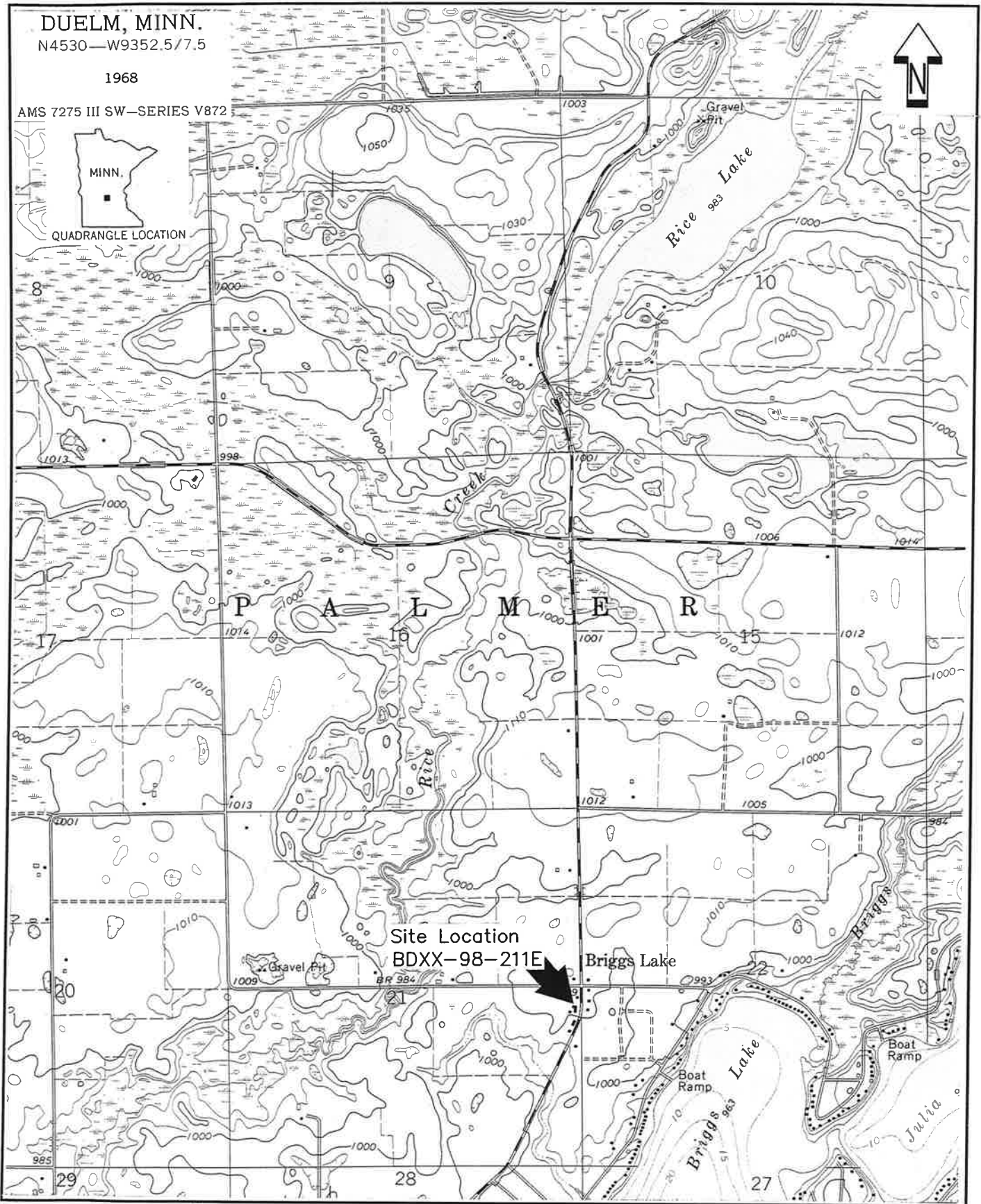
Company and mailing address:	Braun Intertec Corporation 1520 24th Avenue North, P.O. Box 189 St. Cloud, MN 56302-0189
Phone:	(320) 253-9940
Fax:	(320) 253-3054

Figures

DUELM, MINN.
N4530—W9352.5/7.5

1968

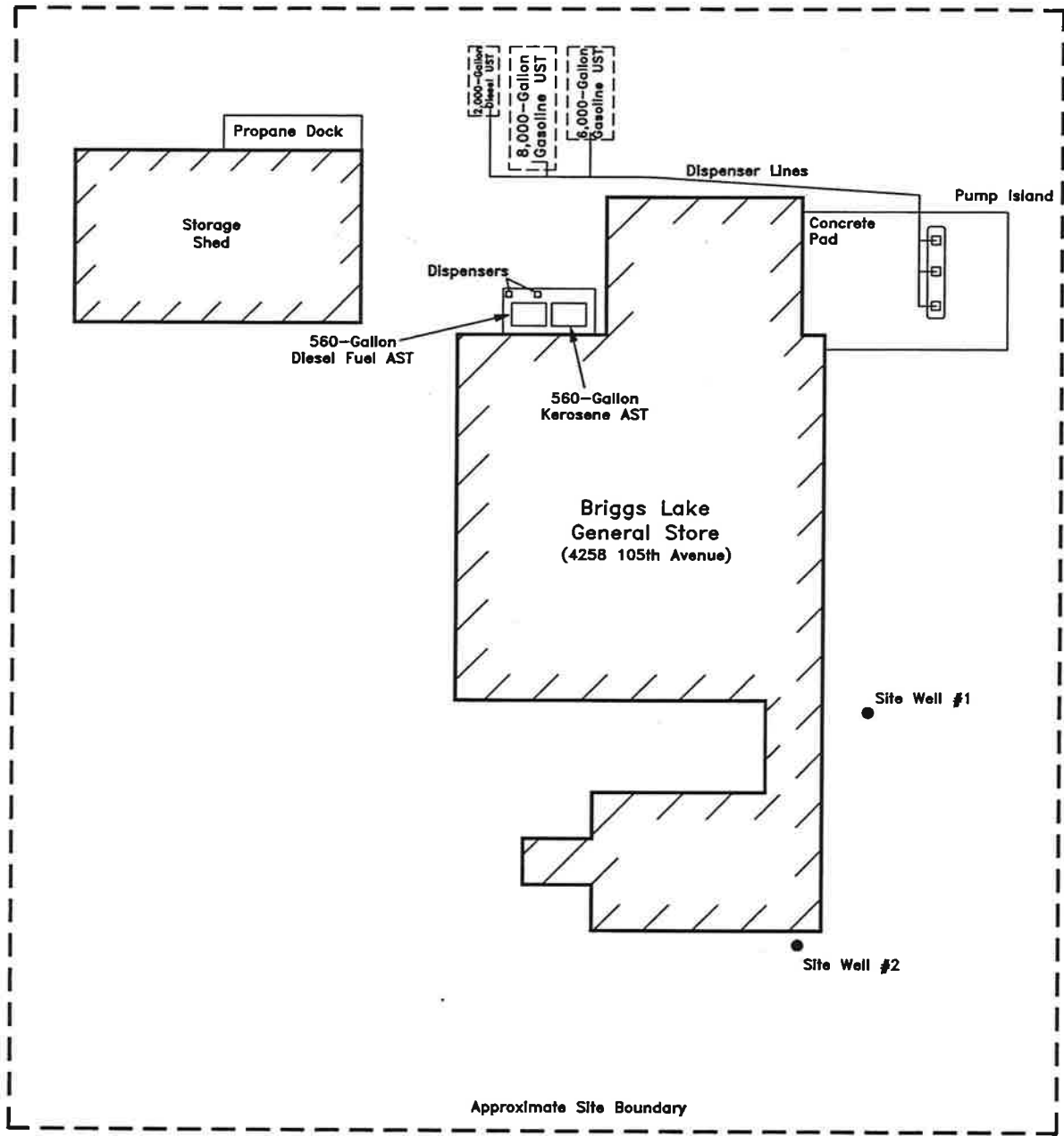
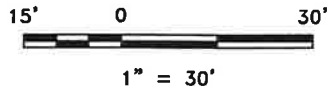
AMS 7275 III SW—SERIES V872



BRAUN
INTERTEC

Site Location Map
Remedial Investigation
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

INT	DATE	SHEET
DRAWN BY: TJT	10/30/98	1
APP'D BY: CDJ		OF
JOB NO. BDXX-98-211E		1
DWG. NO.	FIGURE NO.	
SCALE 1" = 2000'		1a



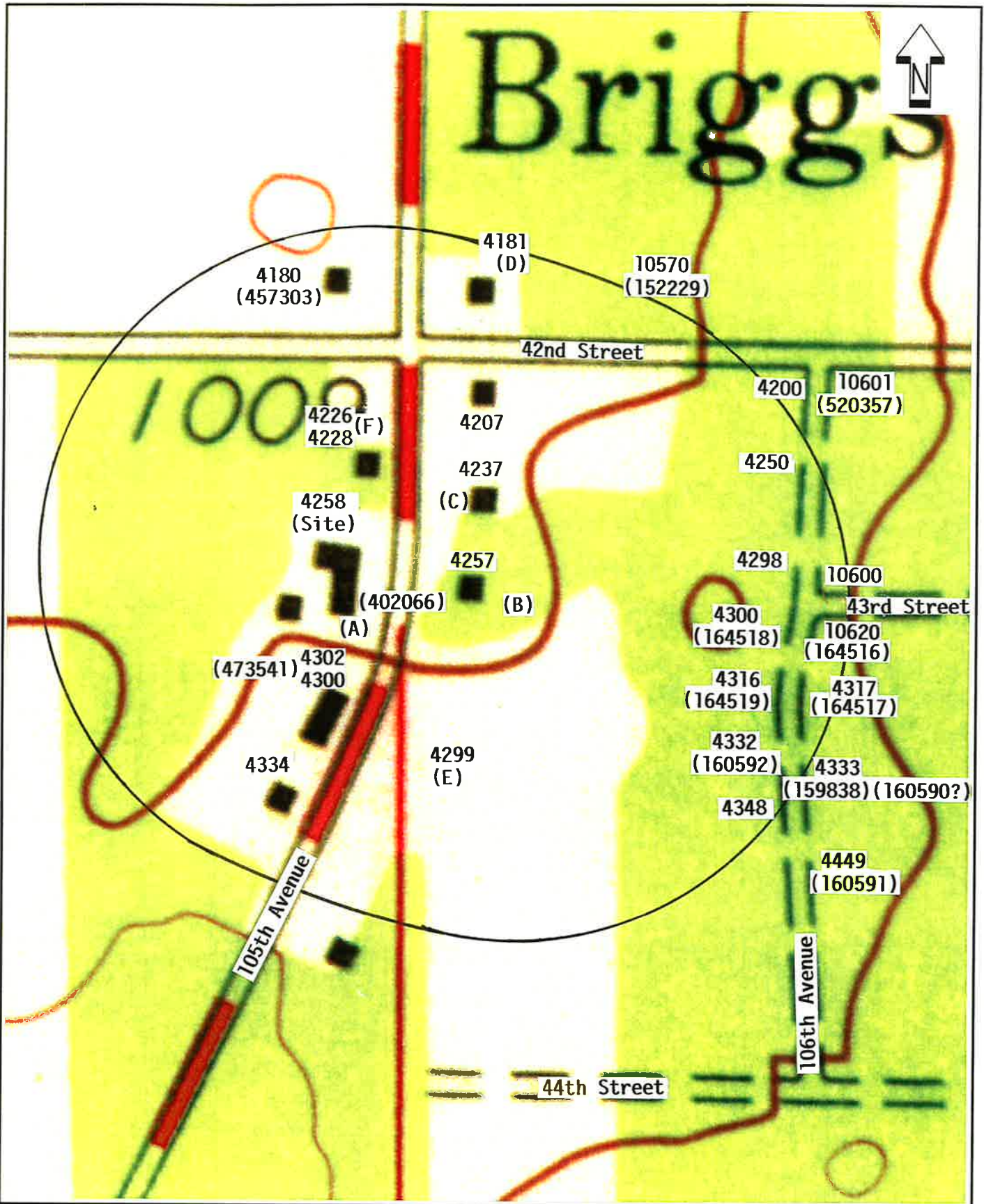
County Road 6

BRAUN
INTERTEC

Site Map
Remedial Investigation
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

INT	DATE	SHEET
DRAWN BY: TJT	11/2/98	1
APP'D BY: CDJ		OF
JOB NO. BDX-98-211E		1
DWG. NO. BRIGGS/2a	FIGURE NO.	
SCALE 1" = 30'		2a

Briggs

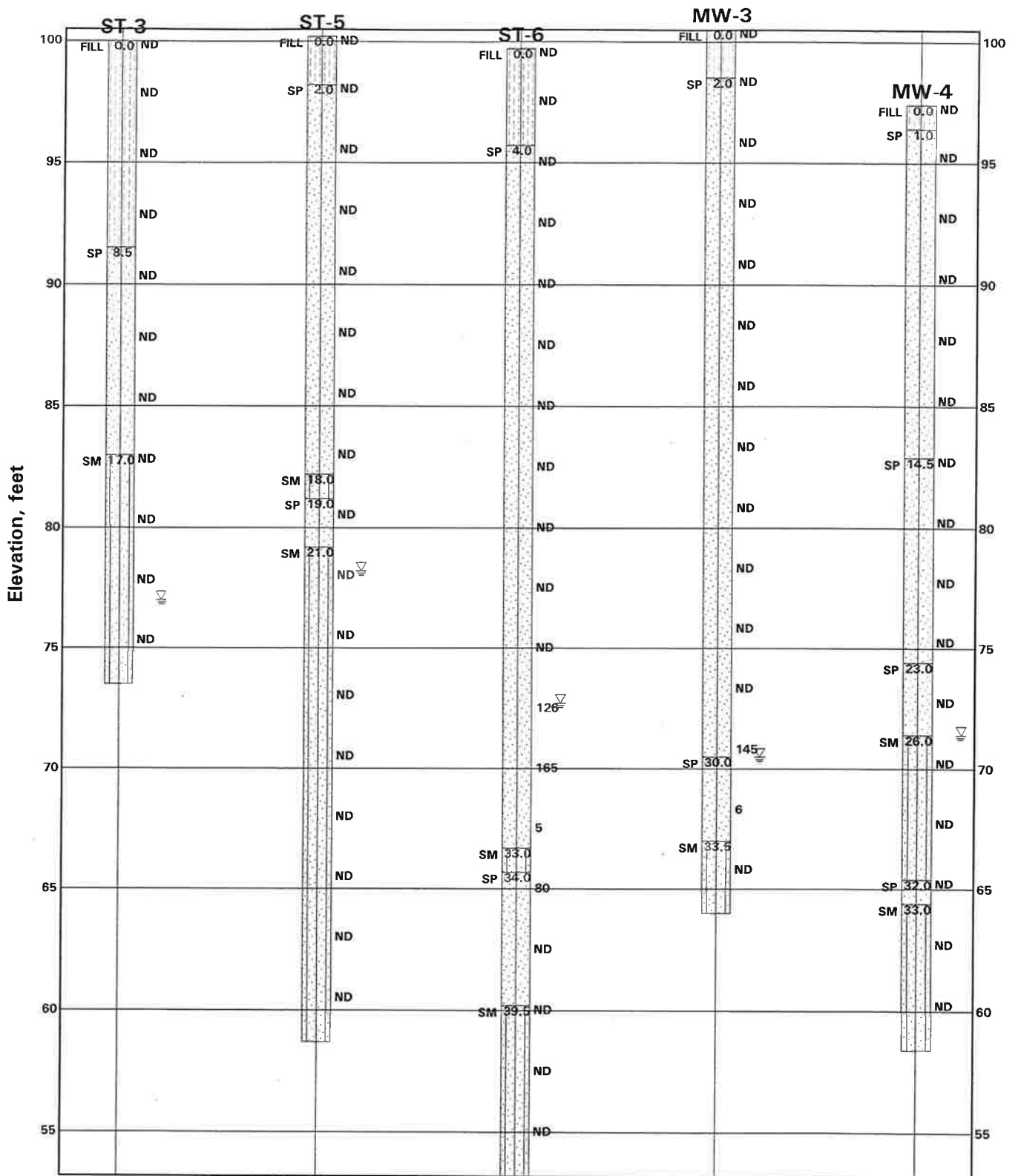


BRAUN
INTERTEC

Well Receptor Survey Map (500-foot radius)

Remedial Investigation
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

INT	DATE	SHEET
DRAWN BY: USGS	1/13/99	1
APP'D BY: CDJ		OF
JOB NO. BDXX-98-211E		1
DWG. NO.		FIGURE NO.
SCALE 1" = 200'		4a



Fence Diagram: Point to Point
 (Horizontal distances not to scale)

Appendix B

Laboratory Analytical Reports

BRAUNSM
INTERTEC

Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

*Engineers and Scientists Serving
the Built and Natural Environments®*

November 12, 1998

Report 98-9482
Task 4.34
Project BDXX-98-211E

Mr. Clint Jordahl/St. Cloud
Braun Intertec Corporation

Re: Briggs Lake General Store

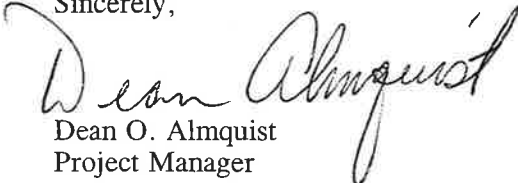
Braun Intertec Corporation received your analytical request on November 3, 1998. Analytical results are summarized on the following laboratory report.

Routine Braun Intertec Corporation QA/QC was followed. Quality control data have been reviewed.

When possible these samples will be held by the laboratory for 14 days from the date of this report. The process of disposing or returning the samples will occur at that time. Arrangements can be made for extended sample storage by contacting us at this time.

We appreciate the opportunity to meet your analytical needs. If you have any questions or would like additional information, please call Dean Almquist at 612-942-4936.

Sincerely,


Dean O. Almquist
Project Manager

Attachments
Chain of Custody
Laboratory Results

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-01

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: MW-1

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	15	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	30	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	20	1.0	20	180	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	67	ug/l
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.									
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	11/04/98	WI DRO	11/04/98	1.0	27	100	<100	ug/l
Gasoline Range Organics	SW-846 5030	11/06/98	WI GRO	11/06/98	1.0	100	100	500	ug/l
Inorganic									
Sulfate	-	-	EPA 375.2	11/12/98	1.0	5.0	15	23	mg/l
Nutrient									
Nitrogen, Nitrate	-	-	EPA 353.2	11/12/98	1.0	0.01	0.02	0.06	mg/l
Metal, Mass Spectrometry									
Lead, Dissolved	-	-	EPA 200.8	11/04/98	1.0	0.097	0.30	2.5	ug/l
Metal									
Iron, Dissolved	-	-	EPA 200.7	11/06/98	1.0	6.4	20	3700	ug/l

gk The sample was analyzed past the EPA recommended holding time.

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-02

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 11/02/98
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: MW-2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	1.5	ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	2.2	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	1.0	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	11/04/98	WI DRO	11/04/98	1.0	27	100	<100	ug/l
Gasoline Range Organics	SW-846 5030	11/06/98	WI GRO	11/06/98	1.0	100	100	700	ug/l
Inorganic									
Sulfate	-	-	EPA 375.2	11/12/98	1.0	5.0	15	<15	mg/l
Nutrient									
Nitrogen, Nitrate	-	-	EPA 353.2	11/12/98	1.0	0.01	0.02	0.24	mg/l
Metal, Mass Spectrometry									
Lead, Dissolved	-	-	EPA 200.8	11/04/98	1.0	0.097	0.30	0.70	ug/l
Metal									
Iron, Dissolved	-	-	EPA 200.7	11/06/98	1.0	6.4	20	1700	ug/l

gk The sample was analyzed past the EPA recommended holding time.

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-03

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/512-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 11/02/98
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: MW-3

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result		
Volatile Organic Compounds										
Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	32	ug/l	
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	110	ug/l	
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	< 10	ug/l	
Toluene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	21	ug/l	
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	290	ug/l	
o-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	10	1.0	10	110	ug/l	
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.										
Petroleum Hydrocarbons										
Diesel Range Organics	WI DRO	11/04/98	WI DRO	11/04/98	1.0	27	100	6400	ug/l	hn
Gasoline Range Organics	SW-846 5030	11/06/98	WI GRO	11/06/98	10	100	1000	3000	ug/l	hj
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.										
Inorganic										
Sulfate	-	-	EPA 375.2	11/12/98	1.0	5.0	15	29	mg/l	
Nutrient										
Nitrogen, Nitrate	-	-	EPA 353.2	11/12/98	1.0	0.01	0.02	<0.02	mg/l	gk
Metal, Mass Spectrometry										
Lead, Dissolved	-	-	EPA 200.8	11/04/98	1.0	0.097	0.30	3.3	ug/l	
Metal										
Iron, Dissolved	-	-	EPA 200.7	11/06/98	1.0	6.4	20	13000	ug/l	

gk The sample was analyzed past the EPA recommended holding time.

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

hn The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range organic (DRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-04

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: MW-4

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	1.7	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	2.3	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0	ug/l
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	11/04/98	WI DRO	11/04/98	1.0	27	100	<100	ug/l
Gasoline Range Organics	SW-846 5030	11/06/98	WI GRO	11/06/98	1.0	100	100	<100	ug/l
Inorganic									
Sulfate	-	-	EPA 375.2	11/12/98	1.0	5.0	15	52	mg/l
Nutrient									
Nitrogen, Nitrate	-	-	EPA 353.2	11/12/98	1.0	0.01	0.02	<0.02	mg/l gk
Metal, Mass Spectrometry									
Lead, Dissolved	-	-	EPA 200.8	11/04/98	1.0	0.097	0.30	<0.30	ug/l
Metal									
Iron, Dissolved	-	-	EPA 200.7	11/06/98	1.0	6.4	20	<20	ug/l

gk The sample was analyzed past the EPA recommended holding time.

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-05

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Site Well #1

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Gas Chromatography/Mass Spectrometry								
Acetone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	5.4	20	<20 ug/l
Allyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.067	1.0	<1.0 ug/l
Bromobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.09	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.061	1.0	<1.0 ug/l
Bromoform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	5.0	<5.0 ug/l
Bromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
n-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
sec-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.085	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.044	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0 ug/l
Chloroform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
2-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.08	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0 ug/l
Dibromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Dibromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.069	1.0	<1.0 ug/l
1,3-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
1,1-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.081	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.057	1.0	<1.0 ug/l
1,1-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
cis-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
trans-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Dichlorodifluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
Dichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.088	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
1,1-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
cis-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.068	1.0	<1.0 ug/l
trans-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.055	1.0	<1.0 ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.17	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-05

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 11/02/98
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: Site Well #1

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	100	% rec
Toluene-d8	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	99	% rec
4-Bromofluorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	100	% rec
Dibromofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	96	% rec

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-06

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 11/02/98
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: Site Well #2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Gas Chromatography/Mass Spectrometry								
Acetone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	5.5	20	<20 ug/l
Allyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.067	1.0	<1.0 ug/l
Bromobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.09	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.061	1.0	<1.0 ug/l
Bromoform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	5.0	<5.0 ug/l
Bromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
n-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
sec-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.085	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.044	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0 ug/l
Chloroform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
2-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.08	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0 ug/l
Dibromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Dibromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.069	1.0	<1.0 ug/l
1,3-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
1,1-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.081	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.057	1.0	<1.0 ug/l
1,1-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
cis-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
trans-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Dichlorodifluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
Dichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.088	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
1,1-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
cis-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.068	1.0	<1.0 ug/l
trans-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.055	1.0	<1.0 ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.17	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-06

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 11/02/98
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: Site Well #2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Isopropylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.097	1.0	<1.0 ug/l
p-Isopropyltoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.078	1.0	<1.0 ug/l
Methyl Ethyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	2.4	10	<10 ug/l
Methyl Isobutyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.062	5.0	<5.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0 ug/l
Methylene Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.45	5.0	<5.0 ug/l
Naphthalene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0 ug/l
n-Propylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0 ug/l
Styrene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.092	1.0	<1.0 ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
Tetrachloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	2.0	<2.0 ug/l
Tetrahydrofuran	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.20	5.0	<5.0 ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.079	1.0	<1.0 ug/l
1,2,3-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,2,4-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,1,1-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,1,2-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0 ug/l
Trichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
Trichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.22	1.0	<1.0 ug/l
1,2,3-Trichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Trichlorotrifluoroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
1,2,4-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.056	1.0	<1.0 ug/l
1,3,5-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.066	1.0	<1.0 ug/l
Vinyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.28	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.25	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
*** Volatile Organic Surrogates ***								
1,2-Dichloroethane-d4	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	101 % rec
Toluene-d8	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	98 % rec
4-Bromofluorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	101 % rec
Dibromofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	96 % rec

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-07

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Raymond Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Gas Chromatography/Mass Spectrometry									
Acetone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	5.5	20	<20	ug/l
Allyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0	ug/l
Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.067	1.0	<1.0	ug/l
Bromobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.09	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.061	1.0	<1.0	ug/l
Bromoform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	5.0	<5.0	ug/l
Bromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
n-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.085	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.044	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Chloroform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
2-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.08	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Dibromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0	ug/l
Dibromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,2-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.069	1.0	<1.0	ug/l
1,3-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
1,1-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.081	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.057	1.0	<1.0	ug/l
1,1-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
cis-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
trans-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Dichlorodifluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
Dichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.088	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0	ug/l
1,1-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
cis-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.068	1.0	<1.0	ug/l
trans-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.055	1.0	<1.0	ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.17	1.0	<1.0	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-07

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Raymond Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	101	% rec
Toluene-d8	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	100	% rec
4-Bromofluorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	102	% rec
Dibromofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	96	% rec

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-08

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Richard Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Gas Chromatography/Mass Spectrometry									
Acetone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	5.5	20	<20	ug/l
Allyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0	ug/l
Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.067	1.0	<1.0	ug/l
Bromobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.09	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.061	1.0	<1.0	ug/l
Bromoform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	5.0	<5.0	ug/l
Bromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
n-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.085	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.044	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Chloroform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
2-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.08	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Dibromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0	ug/l
Dibromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.069	1.0	<1.0	ug/l
1,3-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
1,1-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.081	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.057	1.0	<1.0	ug/l
1,1-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
cis-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
trans-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Dichlorodifluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
Dichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.088	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0	ug/l
1,1-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
cis-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.068	1.0	<1.0	ug/l
trans-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.055	1.0	<1.0	ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.17	1.0	<1.0	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-08

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Richard Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	102	% rec
Toluene-d8	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	98	% rec
4-Bromofluorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	101	% rec
Dibromofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	96	% rec

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-09

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Field Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8020	11/06/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-10

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D: Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 11/02/98
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Trip Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
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NO ANALYSIS PERFORMED ON THIS SAMPLE

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-9482
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-9482-11

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled:
Date Received: 11/03/98
Date Reported: 11/12/98

Client Sample ID/Description: Method Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Gas Chromatography/Mass Spectrometry								
Acetone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	5.4	20	<20 ug/l
Allyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.067	1.0	<1.0 ug/l
Bromobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.09	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.061	1.0	<1.0 ug/l
Bromoform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	5.0	<5.0 ug/l
Bromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
n-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
sec-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.085	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.044	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0 ug/l
Chloroform	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
2-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.08	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0 ug/l
Dibromomethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.083	1.0	<1.0 ug/l
Dibromochloromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.069	1.0	<1.0 ug/l
1,3-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.075	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
1,1-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.081	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.057	1.0	<1.0 ug/l
1,1-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
cis-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
trans-1,2-Dichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
Dichlorodifluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0 ug/l
Dichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0 ug/l
1,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.088	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.16	1.0	<1.0 ug/l
1,1-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0 ug/l
cis-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.068	1.0	<1.0 ug/l
trans-1,3-Dichloropropene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.055	1.0	<1.0 ug/l
Ethyl Benzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.074	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.17	1.0	2.4 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-9482
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-9482-11

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled:
 Date Received: 11/03/98
 Date Reported: 11/12/98

Client Sample ID/Description: Method Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	1.4	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	100	% rec
Toluene-d8	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	97	% rec
4-Bromofluorobenzene	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	94	% rec
Dibromofluoromethane	SW-846 5030	11/06/98	SW-846 8260	11/07/98	1.0	-	-	95	% rec

(End of Report)



Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

*Engineers and Scientists Serving
the Built and Natural Environments®*

October 2, 1998

Report 98-7974
Task 3.25
Project BDXX-98-211E

Mr. Clint Jordahl/St. Cloud
Braun Intertec Corporation

Re: Briggs Lake General Store

Braun Intertec Corporation received your analytical request on September 17, 1998. Analytical results are summarized on the following laboratory report.

Routine Braun Intertec Corporation QA/QC was followed. Quality control data have been reviewed.

When possible these samples will be held by the laboratory for 14 days from the date of this report. The process of disposing or returning the samples will occur at that time. Arrangements can be made for extended sample storage by contacting us at this time.

We appreciate the opportunity to meet your analytical needs. If you have any questions or would like additional information, please call Dean Almquist at 612-942-4936.

Sincerely,

A handwritten signature in cursive script that reads "Dean Almquist".

Dean O. Almquist
Project Manager

Attachments
Chain of Custody
Laboratory Results

Client: Briggs Lake General Store
Log-in: 98-7974
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-7974-01

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 17%
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 09/11/98
Date Received: 09/17/98
Date Reported: 10/02/98

Client Sample ID/Description: ST-8(27-29')

Page: 1

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05	mg/kg
Ethyl Benzene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05	mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.10	0.10	<0.10	mg/kg
Toluene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05	mg/kg
m,p-Xylene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05	mg/kg
o-Xylene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05	mg/kg
Petroleum Hydrocarbons									
Diesel Range Organics (dry weight)	WI DRO	09/18/98	WI DRO	09/21/98	1.0	0.89	10	<10	mg/kg
Gasoline Range Organics (dry weight)	SW-846 5030	09/19/98	WI GRO	09/19/98	1.0	10	10	<10	mg/kg
Inorganic									
Solids, Total			EPA 160.3	09/15/98	1.0	-	-	83	%

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-7974
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-7974-02

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 14 %
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 09/11/98
Date Received: 09/17/98
Date Reported: 10/02/98

Client Sample ID/Description: ST-8(32-34')

Page: 2

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Benzene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05 mg/kg
Ethyl Benzene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	0.05 mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.10	0.10	<0.10 mg/kg
Toluene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05 mg/kg
m,p-Xylene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05 mg/kg
o-Xylene	SW-846 5030	09/19/98	SW-846 8020	09/19/98	1.0	0.05	0.05	<0.05 mg/kg
Petroleum Hydrocarbons								
Diesel Range Organics (dry weight)	WI DRO	09/18/98	WI DRO	09/21/98	1.0	0.89	10	<10 mg/kg
Gasoline Range Organics (dry weight)	SW-846 5030	09/19/98	WI GRO	09/19/98	1.0	10	10	<10 mg/kg
Inorganic								
Solids, Total			EPA 160.3	09/15/98	1.0			86 %

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-7974
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-7974-03

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 09/15/98
 Date Received: 09/17/98
 Date Reported: 10/02/98

Client Sample ID/Description: MW-4

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	09/17/98	WI DRO	09/18/98	1.0	27	100	<100	ug/l
Gasoline Range Organics	SW-846 5030	09/24/98	WI GRO	09/24/98	1.0	100	100	<100	ug/l
Gas Chromatography/Mass Spectrometry									
Acetone	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	5.4	20	<20	ug/l
Allyl Chloride	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.16	1.0	<1.0	ug/l
Benzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.067	1.0	<1.0	ug/l
Bromobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.09	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.061	1.0	<1.0	ug/l
Bromoform	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.27	5.0	<5.0	ug/l
Bromomethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
n-Butylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.075	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.085	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.044	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.083	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.13	1.0	<1.0	ug/l
Chloroform	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.089	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
2-Chlorotoluene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.096	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.08	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.071	1.0	<1.0	ug/l
Dibromomethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.083	1.0	<1.0	ug/l
Dibromochloromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,2-Dichlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.069	1.0	<1.0	ug/l
1,3-Dichlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.075	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
1,1-Dichloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.081	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.057	1.0	<1.0	ug/l
1,1-Dichloroethene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
cis-1,2-Dichloroethene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
trans-1,2-Dichloroethene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Dichlorodifluoromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
Dichlorofluoromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
1,2-Dichloropropane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.088	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.16	1.0	<1.0	ug/l
1,1-Dichloropropene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
cis-1,3-Dichloropropene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.068	1.0	<1.0	ug/l
trans-1,3-Dichloropropene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.055	1.0	<1.0	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-7974
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-7974-03

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 09/15/98
 Date Received: 09/17/98
 Date Reported: 10/02/98

Client Sample ID/Description: MW-4

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Ethyl Benzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.17	1.0	<1.0	ug/l
Isopropylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	-	-	97	% rec
Toluene-d8	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	-	-	98	% rec
4-Bromofluorobenzene	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	-	-	94	% rec
Dibromofluoromethane	SW-846 5030	09/22/98	SW-846 8260	09/22/98	1.0	-	-	95	% rec
Inorganic									
Sulfate	-	-	EPA 375.2	09/18/98	1.0	5.0	15	58	mg/l
Nutrient									
Nitrogen, Nitrate	-	-	EPA 353.2	09/18/98	1.0	0.01	0.02	0.10	mg/l
Metal									

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-7974
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-7974-03

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 09/15/98
Date Received: 09/17/98
Date Reported: 10/02/98

Client Sample ID/Description: MW-4

Page: 5

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Iron, Dissolved	-	-	EPA 200.7	09/17/98	1.0	2.8	20	<20 ug/l
Lead, Dissolved	-	-	EPA 239.2	09/17/98	1.0	0.3	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-7974
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-7974-04

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 09/15/98
Date Received: 09/17/98
Date Reported: 10/02/98

Client Sample ID/Description: Field Blank

Page: 6

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
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NO ANALYSIS PERFORMED ON THIS SAMPLE

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-7974
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-7974-05

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 09/15/98
Date Received: 09/17/98
Date Reported: 10/02/98

Client Sample ID/Description: Trip Blank

Page: 7

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
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NO ANALYSIS PERFORMED ON THIS SAMPLE

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-7974
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-7974-06

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled:
 Date Received: 09/17/98
 Date Reported: 10/02/98

Client Sample ID/Description: Method Blank

Page: 8

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Gas Chromatography/Mass Spectrometry									
Acetone	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	5.4	20	<20	ug/l
Allyl Chloride	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.16	1.0	<1.0	ug/l
Benzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.067	1.0	<1.0	ug/l
Bromobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.09	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.061	1.0	<1.0	ug/l
Bromoform	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.27	5.0	<5.0	ug/l
Bromomethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
n-Butylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.075	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.085	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.044	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.083	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.13	1.0	<1.0	ug/l
Chloroform	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.089	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
2-Chlorotoluene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.096	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.08	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.071	1.0	<1.0	ug/l
Dibromomethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.083	1.0	<1.0	ug/l
Dibromochloromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,2-Dichlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.069	1.0	<1.0	ug/l
1,3-Dichlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.075	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
1,1-Dichloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.081	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.057	1.0	<1.0	ug/l
1,1-Dichloroethene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
cis-1,2-Dichloroethene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
trans-1,2-Dichloroethene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Dichlorodifluoromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
Dichlorofluoromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
1,2-Dichloropropane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.088	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.16	1.0	<1.0	ug/l
1,1-Dichloropropene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
cis-1,3-Dichloropropene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.068	1.0	<1.0	ug/l
trans-1,3-Dichloropropene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.055	1.0	<1.0	ug/l
Ethyl Benzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.074	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.17	1.0	1.6	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-7974
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-7974-06

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled:
 Date Received: 09/17/98
 Date Reported: 10/02/98

Client Sample ID/Description: Method Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.097	1.0	<1.0	ug/l
p-Isopropyltoluene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.078	1.0	<1.0	ug/l
Methyl Ethyl Ketone	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	2.4	10	<10	ug/l
Methyl Isobutyl Ketone	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.062	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.071	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.45	5.0	<5.0	ug/l
Naphthalene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.096	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.13	1.0	<1.0	ug/l
Styrene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.092	1.0	<1.0	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.10	1.0	<1.0	ug/l
Tetrachloroethene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.27	2.0	<2.0	ug/l
Tetrahydrofuran	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.20	5.0	<5.0	ug/l
Toluene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.079	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.12	1.0	1.6	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.12	1.0	<1.0	ug/l
1,1,2-Trichloroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.089	1.0	<1.0	ug/l
Trichloroethene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.087	1.0	<1.0	ug/l
Trichlorofluoromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.22	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.14	1.0	<1.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.056	1.0	<1.0	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.066	1.0	<1.0	ug/l
Vinyl Chloride	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.28	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.25	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	0.11	1.0	<1.0	ug/l
*** Volatile Organic Surrogates ***									
1,2-Dichloroethane-d4	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	-	-	105	% rec
Toluene-d8	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	-	-	101	% rec
4-Bromofluorobenzene	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	-	-	95	% rec
Dibromofluoromethane	SW-846 5030	09/21/98	SW-846 8260	09/22/98	1.0	-	-	100	% rec

(End of Report)



Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

*Engineers and Scientists Serving
the Built and Natural Environments®*

August 17, 1998

Report 98-6305
Task 2.29
Project BDXX-98-211E

Mr. Clint Jordahl/St. Cloud
Braun Intertec Corporation

Re: Briggs Lake General Store

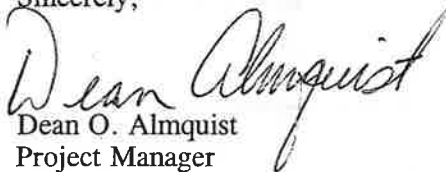
Braun Intertec Corporation received your analytical request on July 24, 1998. Analytical results are summarized on the following laboratory report.

Routine Braun Intertec Corporation QA/QC was followed. Quality control data have been reviewed.

When possible these samples will be held by the laboratory for 14 days from the date of this report. The process of disposing or returning the samples will occur at that time. Arrangements can be made for extended sample storage by contacting us at this time.

We appreciate the opportunity to meet your analytical needs. If you have any questions or would like additional information, please call Dean Almquist at 612-942-4936.

Sincerely,


Dean O. Almquist
Project Manager

Attachments
Chain of Custody
Laboratory Results

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-01

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: MW-1

Page: 1

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Acetone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	20	20	<20 ug/l
Allyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	4.2 ug/l
Bromobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3 ug/l
Bromoform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Bromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
n-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	47 ug/l
sec-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorodibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
2-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,3-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,1-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3 ug/l
1,1-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
cis-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.3	<0.3 ug/l
trans-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dichlorodifluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
Dichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Ethyl Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	4.4 ug/l
Ethyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	2.5 ug/l
Hexachlorobutadiene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-01

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: MW-1

Page: 2

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Isopropyltoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	1.7	ug/l
Methyl Ethyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.0	2.0	<2.0	ug/l
Naphthalene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	36	ug/l
n-Propylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Styrene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Tetrachloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Tetrahydrofuran	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Toluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	40	1.0	40	130	ug/l gb
1,2,3-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Trichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	40	1.0	40	130	ug/l gb
1,3,5-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	39	ug/l
Vinyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	40	1.0	40	620	ug/l gb
o-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	40	1.0	40	350	ug/l gb
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	07/28/98	WI DRO	07/28/98	1.0	27	100	2700	ug/l hn
Gasoline Range Organics	SW-846 5030	07/29/98	WI GRO	07/29/98	10	100	1000	2700	ug/l hj

Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.

Inorganic

Sulfate - - EPA 375.2 07/29/98 1.0 5.0 15 <15 mg/l

Nutrient

Nitrogen, Nitrate - - EPA 353.2 07/30/98 1.0 0.01 0.02 0.07 mg/l

Metal

Iron, Dissolved - - EPA 200.7 08/14/98 1.0 2.8 20 1100 ug/l
 Lead, Dissolved - - EPA 239.2 07/29/98 1.0 0.3 1.0 8 ug/l

gb The reporting limit (RL) was raised. A dilution of the sample was necessary due to high concentrations of this analyte.
 hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.
 hn The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range organic (DRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-02

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: MW-2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Acetone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	20	20	<20 ug/l
Allyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Bromobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3 ug/l
Bromoform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Bromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
n-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	8.6 ug/l
sec-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	2.2 ug/l
tert-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorodibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
2-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,3-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,1-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3 ug/l
1,1-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
cis-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.3	<0.3 ug/l
trans-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dichlorodifluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
Dichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Ethyl Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-02

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: MW-2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	1.7	ug/l
Isopropyltoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	1.4	ug/l
Methyl Ethyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.0	2.0	<2.0	ug/l
Naphthalene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
n-Propylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	3.1	ug/l
Styrene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Tetrachloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Tetrahydrofuran	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
Toluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Trichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	8.5	ug/l
1,3,5-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	5.5	ug/l
Vinyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
o-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	07/28/98	WI DRO	07/28/98	1.0	27	100	<100	ug/l
Gasoline Range Organics	SW-846 5030	07/24/98	WI GRO	07/24/98	1.0	100	100	170	ug/l
Inorganic									
Sulfate	-	-	EPA 375.2	07/29/98	1.0	5.0	15	<15	mg/l
Nutrient									
Nitrogen, Nitrate	-	-	EPA 353.2	07/30/98	1.0	0.01	0.02	0.50	mg/l
Metal									
Iron, Dissolved	-	-	EPA 200.7	08/14/98	1.0	2.8	20	270	ug/l
Lead, Dissolved	-	-	EPA 239.2	07/29/98	1.0	0.3	1.0	<1.0	ug/l

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-03

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: MW-3

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Acetone	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	20	20	<20 ug/l	
Allyl Chloride	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Benzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	66 ug/l	
Bromobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Bromochloromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Bromodichloromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.3	0.3	<0.3 ug/l	
Bromoform	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5 ug/l	
Bromomethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	2.5	2.5	<2.5 ug/l	
n-Butylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	170 ug/l	gb
sec-Butylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	12 ug/l	
tert-Butylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Carbon Tetrachloride	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Chlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Chlorodibromomethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Chloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Chloroform	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Chloromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	2.5	2.5	<2.5 ug/l	
2-Chlorotoluene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
4-Chlorotoluene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,2-Dibromoethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.2	0.2	<0.2 ug/l	
Dibromomethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,2-Dichlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.2	0.2	<0.2 ug/l	
1,3-Dichlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,4-Dichlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.2	0.2	<0.2 ug/l	
1,1-Dichloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,2-Dichloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.3	0.3	11 ug/l	
1,1-Dichloroethylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
cis-1,2-Dichloroethylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.2	0.3	<0.3 ug/l	
trans-1,2-Dichloroethylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.2	0.2	<0.2 ug/l	
Dichlorodifluoromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	2.5	2.5	<2.5 ug/l	
Dichlorofluoromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5 ug/l	
1,2-Dichloropropane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,3-Dichloropropane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
2,2-Dichloropropane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
1,1-Dichloro-1-propylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5 ug/l	
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5 ug/l	
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5 ug/l	
Ethyl Benzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	200 ug/l	gb
Ethyl Ether	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	
Hexachlorobutadiene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0 ug/l	

gb The reporting limit (RL) was raised. A dilution of the sample was necessary due to high concentrations of this analyte.

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-03

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: MW-3

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Isopropylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	20	ug/l
Isopropyltoluene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	10	ug/l
Methyl Ethyl Ketone	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	5.0	5.0	67	ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	5.0	5.0	6.5	ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
Methylene Chloride	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	2.0	2.0	<2.0	ug/l
Naphthalene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	120	ug/l gb
n-Propylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	52	ug/l
Styrene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5	ug/l
Tetrachloroethylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
Tetrahydrofuran	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	5.0	5.0	<5.0	ug/l
Toluene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	42	ug/l
1,2,3-Trichlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
1,1,1-Trichloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5	ug/l
1,1,2-Trichloroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	0.5	0.5	<0.5	ug/l
Trichlorofluoromethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
1,2,3-Trichloropropane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
Trichlorotrifluoroethane	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	5.0	5.0	<5.0	ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	550	ug/l gb
1,3,5-Trimethylbenzene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	140	ug/l gb
Vinyl Chloride	SW-846 5030	07/27/98	MDH 465E	07/27/98	1.0	1.0	1.0	<1.0	ug/l
m,p-Xylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	710	ug/l gb
o-Xylene	SW-846 5030	07/27/98	MDH 465E	07/27/98	40	1.0	40	380	ug/l gb
Petroleum Hydrocarbons									
Diesel Range Organics	WI DRO	07/28/98	WI DRO	07/28/98	1.0	27	100	7100	ug/l hn
Gasoline Range Organics	SW-846 5030	07/25/98	WI GRO	07/25/98	10	100	1000	6400	ug/l hj

Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.

Inorganic

Sulfate - - EPA 375.2 07/29/98 1.0 5.0 15 30 mg/l

Nutrient

Nitrogen, Nitrate - - EPA 353.2 07/30/98 1.0 0.01 0.02 0.02 mg/l

Metal

Iron, Dissolved - - EPA 200.7 08/14/98 1.0 2.8 20 8700 ug/l

Lead, Dissolved - - EPA 239.2 07/29/98 1.0 0.3 1.0 5 ug/l

gb The reporting limit (RL) was raised. A dilution of the sample was necessary due to high concentrations of this analyte.

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

hn The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range organic (DRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-04

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: Site Well #1

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Acetone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	20	20	<20 ug/l
Allyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Bromobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3 ug/l
Bromoform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Bromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
n-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
sec-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chlorodibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloroform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
2-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,3-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
1,1-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	0.4 ug/l
1,1-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
cis-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.3	<0.3 ug/l
trans-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2 ug/l
Dichlorodifluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5 ug/l
Dichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Ethyl Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-04

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: Site Well #1

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Isopropylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Isopropyltoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methyl Ethyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methylene Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.0	2.0	<2.0 ug/l
Naphthalene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
n-Propylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Styrene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Tetrachloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Tetrahydrofuran	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Toluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Trichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Trichlorotrifluoroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3,5-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Vinyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-05

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: Site Well #2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Acetone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	20	20	<20	ug/l
Allyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Bromobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3	ug/l
Bromoform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Bromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
n-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chlorodibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloroform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
2-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
Dibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
1,3-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
1,1-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3	ug/l
1,1-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
cis-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.3	<0.3	ug/l
trans-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
Dichlorodifluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
Dichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Ethyl Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-05

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: Site Well #2

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Isopropylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Isopropyltoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methyl Ethyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methylene Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.0	2.0	<2.0 ug/l
Naphthalene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
n-Propylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Styrene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Tetrachloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Tetrahydrofuran	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Toluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Trichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Trichlorotrifluoroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3,5-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Vinyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-6305
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Liquid
 Lab Sample ID: 98-6305-06

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almqvist/612-942-4936
 Sampler: Braun Intertec
 % Moisture: Not Applicable
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/23/98
 Date Received: 07/24/98
 Date Reported: 08/17/98

Client Sample ID/Description: Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Acetone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	20	20	<20	ug/l
Allyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Bromobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Bromochloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Bromodichloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3	ug/l
Bromoform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Bromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
n-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
sec-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
tert-Butylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Carbon Tetrachloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chlorodibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloroform	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Chloromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
2-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
4-Chlorotoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dibromoethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
Dibromomethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
1,3-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,4-Dichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
1,1-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,2-Dichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.3	0.3	<0.3	ug/l
1,1-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
cis-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.3	<0.3	ug/l
trans-1,2-Dichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.2	0.2	<0.2	ug/l
Dichlorodifluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.5	2.5	<2.5	ug/l
Dichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
1,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,3-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
2,2-Dichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
1,1-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5	ug/l
Ethyl Benzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Ethyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l
Hexachlorobutadiene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0	ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-06

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: Larson Well

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Isopropylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Isopropyltoluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methyl Ethyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Isobutyl Ketone	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Methylene Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	2.0	2.0	<2.0 ug/l
Naphthalene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
n-Propylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Styrene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Tetrachloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Tetrahydrofuran	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
Toluene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,4-Trichlorobenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2-Trichloroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,1,2-Trichloroethylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	0.5	0.5	<0.5 ug/l
Trichlorofluoromethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichloropropane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Trichlorotrifluoroethane	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	5.0	5.0	<5.0 ug/l
1,2,4-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
1,3,5-Trimethylbenzene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
Vinyl Chloride	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	07/26/98	MDH 465E	07/26/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-07

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: Trip Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Volatile Organic Compounds								
Acetone	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	20	20	<20 ug/l
Allyl Chloride	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Benzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
Bromobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Bromochloromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Bromodichloromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.3	0.3	<0.3 ug/l
Bromoform	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
Bromomethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	2.5	2.5	<2.5 ug/l
n-Butylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
sec-Butylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
tert-Butylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Carbon Tetrachloride	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Chlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Chlorodibromomethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Chloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Chloroform	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Chloromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	2.5	2.5	<2.5 ug/l
2-Chlorotoluene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
4-Chlorotoluene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromo-3-Chloropropane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dibromoethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.2	0.2	<0.2 ug/l
Dibromomethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.2	0.2	<0.2 ug/l
1,3-Dichlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,4-Dichlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.2	0.2	<0.2 ug/l
1,1-Dichloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2-Dichloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.3	0.3	<0.3 ug/l
1,1-Dichloroethylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
cis-1,2-Dichloroethylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.2	0.3	<0.3 ug/l
trans-1,2-Dichloroethylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.2	0.2	<0.2 ug/l
Dichlorodifluoromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	2.5	2.5	<2.5 ug/l
Dichlorofluoromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
1,2-Dichloropropane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,3-Dichloropropane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
2,2-Dichloropropane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,1-Dichloro-1-propylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
cis-1,3-Dichloro-1-propylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
trans-1,3-Dichloro-1-propylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
Ethyl Benzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Ethyl Ether	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Hexachlorobutadiene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-6305
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Liquid
Lab Sample ID: 98-6305-07

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: Not Applicable
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/23/98
Date Received: 07/24/98
Date Reported: 08/17/98

Client Sample ID/Description: Trip Blank

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result
Isopropylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Isopropyltoluene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Methyl Ethyl Ketone	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Isobutyl Ketone	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	5.0	5.0	<5.0 ug/l
Methyl Tertiary Butyl Ether	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Methylene Chloride	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	2.0	2.0	<2.0 ug/l
Naphthalene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
n-Propylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Styrene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1,2-Tetrachloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2,2-Tetrachloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
Tetrachloroethylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Tetrahydrofuran	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	5.0	5.0	<5.0 ug/l
Toluene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2,4-Trichlorobenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,1,1-Trichloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
1,1,2-Trichloroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,1,2-Trichloroethylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	0.5	0.5	<0.5 ug/l
Trichlorofluoromethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,2,3-Trichloropropane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Trichlorotrifluoroethane	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	5.0	5.0	<5.0 ug/l
1,2,4-Trimethylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
1,3,5-Trimethylbenzene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
Vinyl Chloride	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
m,p-Xylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l
o-Xylene	SW-846 5030	08/05/98	MDH 465E	08/05/98	1.0	1.0	1.0	<1.0 ug/l

(End of Report)

Site Identification		Client Identification				Project #		Task #		Bottle type and number		Project Manager							
Brygg Lake Shore 4258 105th Ave Clear Lake, MN		BOXX-98-211E				229		2		Clinton Sorbahl		Clinton Sorbahl							
Sample No. (Lab Use Only)	Sample Identification	Date	Time	Collection	Sample Matrix Code	VOA 40ml 60 ml.	Metals (Filtered)	Metals (Unfiltered)	General 50ml	Nutrient	IL HCl	IL Generals	Tubes/OVM	Other					
															Metals (Filtered)	Metals (Unfiltered)	General 50ml	Nutrient	IL HCl	IL Generals	Tubes/OVM	Other
-1	MW-1	7-23-98	11:15		b 3 1				1	2									
-2	MW-2		10:50		b 3 1				1	2									
-3	MW-3		10:00		b 3 1				1	2									
-4	Site well #1		9:01		2														
-5	Site well #2		9:13		1														
-6	Larson well		10:10		3														
-7	Trip Blank		7:15		3														
Evidence Tape Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA WILUST Project <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are samples in compliance with soil movement regulations <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA Analysis/Remarks: <u>VOC (Y65E), DRO, GRO, SOY, NO₃ (Pb + Fe Dissolved)</u> <u>VOC (Y65E)</u> <u>HLR</u>																			
Relinquished By: <u>[Signature]</u>		Date: <u>7/23/98</u>		Time: <u>4:30</u>		Received By:		Date: <u>7/24/98</u>		Time: <u>10:00</u>		Relinquished By:		Date: <u>7/24/98</u>		Time: <u>10:00</u>		Received By:	
Relinquished By: <u>[Signature]</u>		Date: <u>7/23/98</u>		Time: <u>4:30</u>		Received for Laboratory By: <u>[Signature]</u>		Date: <u>7/24/98</u>		Time: <u>10:00</u>		Comments:							



Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

*Engineers and Scientists Serving
the Built and Natural Environments®*

August 20, 1998

Report 98-5946 (Revised)
Task 2.29
Project BDXX-98-211E

Mr. Clint Jordahl/St. Cloud
Braun Intertec Corporation

Re: Briggs Lake General Store

Braun Intertec Corporation received your analytical request on July 15, 1998. Analytical results are summarized on the following laboratory report.

This report has been revised. The samples for IDs ST-6 (1/2-31 1/2) and ST-6 (44 1/2-46 1/2) were incorrectly labeled upon receipt. The samples were located to confirm incorrect labelling and the data had been updated.

Routine Braun Intertec Corporation QA/QC was followed. Quality control data have been reviewed.

When possible these samples will be held by the laboratory for 14 days from the date of this report. The process of disposing or returning the samples will occur at that time. Arrangements can be made for extended sample storage by contacting us at this time.

We appreciate the opportunity to meet your analytical needs. If you have any questions or would like additional information, please call Dean Almquist at 612-942-4936.

Sincerely,

Dean O. Almquist
Project Manager

Attachments
Chain of Custody
Laboratory Results

Client: Briggs Lake General Store
Log-in: 98-5946
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-5946-01

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 14%
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/09/98
Date Received: 07/15/98
Date Reported: 08/20/98

Client Sample ID/Description: ST-5 (22-24)

Page: 1

Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	< 0.05	mg/kg
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	< 0.05	mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.10	0.10	< 0.10	mg/kg
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	< 0.05	mg/kg
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	< 0.05	mg/kg
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	< 0.05	mg/kg
Petroleum Hydrocarbons									
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	1.0	0.89	10	< 10	mg/kg
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	1.0	10	10	< 10	mg/kg
Inorganic									
Solids, Total	-	-	EPA 160.3	07/14/98	1.0	-	-	86	%

(Report continued on next page)

Client: Briggs Lake General Store
 Log-in: 98-5946
 Project Number: BDXX-98-211E
 PO Number:
 Client Reference:
 Matrix: Solid
 Lab Sample ID: 98-5946-02

Laboratory: Braun Intertec Corporation
 Lab Contact/Phone: D. Almquist/6: 2-942-4936
 Sampler: Braun Intertec
 % Moisture: 11 %
 MDL: Method Detection Limit
 RL: Reporting Limit

Date Sampled: 07/10/98
 Date Received: 07/15/98
 Date Reported: 08/20/98

Client Sample ID/Description: ST-6 (29 1/2-31 1/2)

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result		
Volatile Organic Compounds										
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	3.5	mg/kg	
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	3.3	mg/kg	
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.10	1.0	1.7	mg/kg	
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	<0.50	mg/kg	
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	26	mg/kg	
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	11	mg/kg	
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.										
Petroleum Hydrocarbons										
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	1.0	0.89	10	300	mg/kg	hn
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	100	10	1000	1900	mg/kg	hj
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.										
Inorganic										
Solids, Total			EPA 160.3	07/14/98	1.0			89	%	

hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.
 hn The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range organic (DRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-5946
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-5946-03

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 17%
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/10/98
Date Received: 07/15/98
Date Reported: 08/20/98

Client Sample ID/Description: ST-6 (44 1/2-46 1/2)

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result		
Volatile Organic Compounds										
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg	
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg	
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.10	0.10	<0.10	mg/kg	
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg	
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg	
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg	
Petroleum Hydrocarbons										
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	1.0	0.89	10	<10	mg/kg	hn
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	1.0	10	10	<10	mg/kg	
Inorganic										
Solids, Total			EPA 160.3	07/14/98	1.0			83	%	

hn The sample chromatogram indicates the presence of lower boiling hydrocarbons than is expected in a diesel range organic (DRO) chromatogram.

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-5946
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-5946-04

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 12%
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/13/98
Date Received: 07/15/98
Date Reported: 08/20/98

Client Sample ID/Description: ST-7 (24 1/2-26 1/2)

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.10	0.10	<0.10	mg/kg
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Petroleum Hydrocarbons									
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	1.0	0.89	10	<10	mg/kg
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	1.0	10	10	<10	mg/kg
Inorganic									
Solids, Total			EPA 160.3	07/14/98	1.0			88	%

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-5946
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-5946-05

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 15%
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/09/98
Date Received: 07/15/98
Date Reported: 08/20/98

Client Sample ID/Description: MW-2 (22-24)

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.10	0.10	<0.10	mg/kg
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	1.0	0.05	0.05	<0.05	mg/kg
Petroleum Hydrocarbons									
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	1.0	0.89	10	<10	mg/kg
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	1.0	10	10	<10	mg/kg
Inorganic									
Solids, Total			EPA 160.3	07/14/98	1.0			85	%

(Report continued on next page)

Client: Briggs Lake General Store
Log-in: 98-5946
Project Number: BDXX-98-211E
PO Number:
Client Reference:
Matrix: Solid
Lab Sample ID: 98-5946-06

Laboratory: Braun Intertec Corporation
Lab Contact/Phone: D. Almquist/612-942-4936
Sampler: Braun Intertec
% Moisture: 13 %
MDL: Method Detection Limit
RL: Reporting Limit

Date Sampled: 07/13/98
Date Received: 07/15/98
Date Reported: 08/20/98

Client Sample ID/Description: MW-3 (29 1/2-31 1/2)

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Compound	Extract Method	Extract Date	Analysis Method	Analysis Date	Dilution Factor	MDL	RL	Sample Result	
Volatile Organic Compounds									
Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	1.8	mg/kg
Ethyl Benzene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	2.7	mg/kg
Methyl Tertiary Butyl Ether	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.10	1.0	<1.0	mg/kg
Toluene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	2.3	mg/kg
m,p-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	13	mg/kg
o-Xylene	SW-846 5030	07/17/98	SW-846 8020	07/17/98	10	0.05	0.50	2.9	mg/kg
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.									
Petroleum Hydrocarbons									
Diesel Range Organics (dry weight)	WI DRO	07/16/98	WI DRO	07/17/98	10	0.89	100	3100	mg/kg gb
Gasoline Range Organics (dry weight)	SW-846 5030	07/17/98	WI GRO	07/17/98	100	10	1000	2800	mg/kg hj
Remarks: The reporting limit (RL) was raised for one or more analytes. A dilution of the sample was necessary due to high analyte levels.									
Inorganic									
Solids, Total	-	-	EPA 160.3	07/14/98	1.0	-	-	87	%

gb The reporting limit (RL) was raised. A dilution of the sample was necessary due to high concentrations of this analyte.
 hj The sample chromatogram indicates the presence of higher boiling hydrocarbons than is expected in a gasoline range organic (GRO) chromatogram.

(End of Report)

Appendix C
Methodologies and Procedures

Field and Laboratory Methods

Soil Boring Procedures

The soil borings were performed with a truck-mounted core and auger drill. All down-hole equipment was steam cleaned prior to use, and clean auger was used for each borehole. Sampling of the borings was conducted in accordance with ASTM D 1586 "Penetration Test and Split-Barrel Sampling of Soils." Using this method, the bore hole was advanced with the hollow-stem auger to the desired test depth. Then, a 140-pound hammer falling 30 inches drove a standard, 2-inch OD, split-barrel sampler a total penetration of 24 inches below the tip of the lead flight of the hollow-stem auger. The blows for the middle foot of penetration were recorded and are used as an index of soil strength characteristics and for stratigraphic correlation. Samples were taken at 2½-foot vertical intervals to the termination depth of the borings.

Contamination Reduction

The split-barrel sampler was cleaned between samples to minimize cross contamination. The cleaning procedure consisted of a soap (Alconox® Detergent) and water wash and tapwater rinse. The soap solution and rinse water were changed regularly during the sampling.

Soils Classification

As the samples were obtained in the field, they were visually and manually classified by an environmental scientist in accordance with ASTM:D2488-93 "Description and Identification of Soils (Visual-Manual Procedure)". Representative portions of the samples were then returned to the laboratory for further examination and for verification of the field classification by an environmental geologist.

Organic Vapor Screening

As the soil samples were retrieved from the split-barrel sampler, they were examined visually by an environmental scientist for staining and other apparent signs of contamination. In addition, the soil samples were screened for the presence and concentrations of organic vapors with a photoionization detector (PID) using a polyethylene-bag headspace procedure recommend by the Minnesota Pollution Control Agency (MPCA). The PID was equipped with a 10.2 electron-volt lamp and calibrated to an isobutylene standard to provide direct readings of relative organic vapor concentrations in parts per million.

The polyethylene-bag headspace analytical procedure was used to field-screen organic vapor levels in soils. The procedure consisted of half-filling a new one-quart "zip-lock" bag with a soil sample. The bag was quickly sealed and headspace was allowed to development for at least 10 minutes. The bag was shaken vigorously for 15 seconds, both at the beginning and the end of the headspace development period. After headspace development, the PID probe was pierced through the top of the bag to one-half the headspace depth. The highest reading observed on the PID was then recorded.

Soil Sampling for Chemical Analysis

Soil samples collected from the borings for chemical analysis were collected directly from the split-barrel sampler immediately after opening.

The samples were placed in laboratory-cleaned, glass, 60 ml, chemical-sample jars with Teflon®-lined lids. The soil samples collected for GRO, BETX and MTBE analysis were preserved in the field with methanol in accordance with Wisconsin Department of Natural Resources Modified GRO analytical procedures. The jars were labeled and transported to the laboratory under refrigerated conditions using chain-of-custody procedures.

Monitoring Well Installation

The monitoring wells were installed in accordance with the Minnesota Department of Health (MDH) Water Well Construction Code. The wells were constructed of 2-inch I.D. PVC well riser and a 10-foot long, 2-inch I.D., 0.010-inch slot PVC well screen installed to intersect the water table. A natural sand filter pack was placed around, and extending to approximately 2 feet above, the screen. An approximately 1-foot thick bentonite well seal was placed above the filter pack. The remaining annular space was grouted to the ground surface with high-solids bentonite grout introduced through a tremie pipe. The monitoring wells were completed at-grade or above-grade in accordance with the MDH well code. Monitoring well construction and installation details are provided on the monitoring well specification sheets included in Appendix E.

Well Purging and Development Procedures

The monitoring wells were developed by removing groundwater from the well using a Waterra Hydrolift II inertial lift pump. Groundwater was purged from the wells until relatively clear, sediment-free water was produced or minimum of 10 well volumes were removed.

To ensure that the samples collected from each well were representative of the ambient groundwater, at least five well volumes were evacuated from each of the wells prior to sampling.

Groundwater Sampling Procedures

Groundwater samples for laboratory chemical analysis were collected using dedicated, bottom-loading, laboratory-cleaned, Teflon® bailers and new nylon rope. Samples for volatile analyses were placed in laboratory-supplied, glass, purge-and-trap vials with Teflon®-lined caps and containing hydrochloric acid (HCl) as a preservative. Samples for DRO analysis were collected in 1-liter amber-glass jars and preserved with 5 ml of HCl. The samples collected for the bioactivity analyses were filtered in the field through a 0.45 μ m disposable filter. Samples for dissolved iron analysis were then placed in high-density polyethylene (HDPE) bottles and preserved with HNO₃. All sample containers were labeled in the field immediately after collection, and transported to the laboratory under refrigerated conditions using chain-of-custody procedures.

Measurement of Field Parameters

Following the purging of each well and prior to sampling, the specific conductance, temperature, pH, and dissolved oxygen concentration were measured in the field.

Specific conductance was measured using a Cole-Parmer Instrument Company (Cole-Parmer) model 1500-30 conductivity meter equipped with an internal thermistor for automatic temperature compensation. The meter was calibrated each day of use in accordance with the manufacturer's recommendations using a 1,000 $\mu\text{mhos/cm}$ standard.

Temperature and pH were measured using a Cole-Parmer model 5985-80 Digi-Sense[®] temperature compensating pH meter. Each day of use, a two-point calibration was performed in accordance with the methods outlined in the instrument's instruction manual. The temperature probe is calibrated monthly against a mercurial thermometer in a water bath.

Dissolved oxygen (DO) concentrations were measured using a Cole-Parmer model 5946-75 temperature compensating DO meter equipped with a polarographic membrane electrode. Following the collection of the samples for laboratory analyses, a full bailer was extracted from the well. The electrode was then submerged in the bailer to take the DO measurement. Before taking measurements at each new sampling point, the meter was calibrated in atmospheric oxygen following the procedures described in the manufacturer's instruction manual.

Chemical Analysis

All analyses are performed using EPA or other recognized standard procedures. Data were reviewed prior to release and all quality control guidelines were met. Specific information on standard operating procedures, detection limits, and quality control measures is available upon request.

Appendix D
Soil Boring Logs

LOG OF BORING

PROJECT: BDXX-98-065E Environmental Soils Assessment Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-1 LOCATION: See attached location map.
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DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 4/22/98	SCALE: 1" = 5'
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Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
150.0	0.0	FILL	FILL: Poorly Graded Sand with Silt, dark brown to brown, moist.				The surface elevations at the boring locations were referenced to the concrete floor slab at the north entrance door of the existing site building. This local benchmark was assigned an arbitrary elevation of 150 feet.
				6		ND	
				4		ND	
142.0	8.0			5		ND	
		SP	POORLY GRADED SAND, fine- to medium-grained, brown to light brown, moist, loose to medium dense. (Glacial Outwash)	8		ND	
				6		ND	
134.0	16.0			13		ND	
		SM	SILTY SAND, fine- to medium-grained, a trace of Gravel, brown to reddish brown, moist to waterbearing, medium dense to loose. (Glacial Outwash)	8		ND	
				15		ND	
125.5	24.5			4	▽	ND	
124.0	26.0	ML	SILT, gray, waterbearing, very stiff. (Glacial Outwash)	20		ND	The triangle in the WL column indicates the highest level at which groundwater was observed while drilling. Groundwater levels fluctuate.
		SM	SILTY SAND, fine- to medium-grained, a trace of Gravel, reddish brown, waterbearing, medium dense. (Glacial Outwash)	15		ND	
118.5	31.5			7		ND	
			END OF BORING				ND=No organic vapors detected.
			Water observed at 22 ft. while drilling.				
			Water down 29 ft. immediately after withdrawal of auger.				
			Water down 22 ft. when rechecked 30 minutes later.				
			Boring then backfilled with bentonite grout.				

(See Report and Standard Plates for evaluation and descriptive terminology.)

LOG OF BORING

PROJECT: BDXX-98-065E Environmental Soils Assessment Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-2 LOCATION: See attached location map.
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DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 4/22/98	SCALE: 1" = 5'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
150.4	0.0	FILL	FILL: Poorly Graded Sand with Silt, dark brown to brown, moist.				
				4			
				2			
142.4	8.0			WH			
		SP	POORLY GRADED SAND, fine- to medium-grained, brown to light brown, moist, loose to medium dense. (Glacial Outwash)	9			
				17			
134.9	15.5			20			
		ML	SILT, reddish brown to gray, moist to waterbearing, stiff to very stiff. (Glacial Outwash)	14			
				16			
			-with iron stains between 17 and 24 feet.	16	▽		
123.9	26.5			14			
			END OF BORING				
			Water observed at 22 ft. while drilling.				
			Boring immediately backfilled.				

ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-065E Environmental Soils Assessment Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-3 LOCATION: See attached location map.
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DRILLER: B. Ruchti	METHOD: 3 1/4" HSA. Autohmr.	DATE: 4/22/98	SCALE: 1" = 5'
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Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
150.0	0.0	FILL	FILL: Poorly Graded Sand with Silt, dark brown to brown, moist.			ND	
				6		ND	
				3		ND	
141.5	8.5			2		ND	
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, very loose to medium dense. (Glacial Outwash)			ND	
				5		ND	
				8		ND	
133.0	17.0			13		ND	
		SM	SILTY SAND, fine- to medium-grained, a trace of Gravel, brown, moist to waterbearing, very loose. (Glacial Outwash)			ND	
				4		ND	
				15		ND	
			-Seams of Silt at 22 feet.	21	▽	ND	
123.5	26.5			14		ND	
			END OF BORING				
			Water observed at 23 ft. while drilling.				
			Water observed at 26 ft. immediately after withdrawal of auger.				
			Boring then backfilled.				

ND=No organic vapors detected.

(See Report and Standard Plates for evaluation and descriptive terminology.)

LOG OF BORING

PROJECT: BDXX-98-065E Environmental Soils Assessment Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-4 LOCATION: See attached location map.
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DRILLER: B. Ruchti	METHOD: 3 1/4" HSA, Autohmr.	DATE: 4/22/98	SCALE: 1" = 5'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
149.7	0.0						
148.2	1.5	FILL	FILL: 2" of Bituminous over Silty Sand, fine- to medium-grained, with a trace of Gravel, dark brown, moist.				ND
		SP	POORLY GRADED SAND, fine- to medium-grained, dark brown to brown, moist, loose to medium dense. (Glacial Outwash)	7			ND
				5			ND
				4			ND
				5			ND
				7			ND
				10			ND
				19			ND
129.2	20.5			14			1342
		SM	SILTY SAND, a trace of Gravel, gray, waterbearing, medium dense, strong petroleum odor. (Glacial Outwash)	5	▽		123
125.7	24.0		END OF BORING				
			Water observed at 21.5 ft. while drilling.				
			Boring immediately backfilled with bentonite grout.				
							ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-5 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/9/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
100.2	0.0						
98.2	2.0	FILL	FILL: 2" of Bituminous over Poorly Graded Sand, fine- to medium-grained, with Silt, brown, with a trace of Gravel, brown.			ND	The surface elevations at the boring and monitoring well locations were referenced to the concrete floor slab at the north entrance door of the existing site building. Assumed elevation of local benchmark 100.0.
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, loose to medium dense. (Glacial Outwash)	9		ND	
				8		ND	
				7		ND	
				28		ND	
				9		ND	
				15		ND	
82.2	18.0			13		ND	
81.2	19.0	SM	SILTY SAND, fine- to medium-grained, brown, wet, medium dense. (Glacial Outwash)			ND	
		SP	POORLY GRADED SAND, fine- to medium-grained, a trace of Gravel, brown, moist, medium dense. (Glacial Outwash)			ND	
79.2	21.0	SM	SILTY SAND, fine- to medium-grained, with a trace of Gravel, brown to reddish brown, wet to waterbearing, loose to medium dense. (Glacial Outwash)		▽	ND	
				6		ND	The triangle in the WL column indicates the highest level at which groundwater was observed while drilling. Groundwater levels fluctuate.
				10		ND	
				10		ND	
				11		ND	

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-5 (cont.) LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/9/98	SCALE: 1" = 4'
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Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
58.7	41.5			7		ND	ND=No organic vapors detected.
				12		ND	
				25		ND	
				28		ND	
			END OF BORING Water observed at 22 feet while drilling. Boring then backfilled with high solids bentonite.				

(See Report and Standard Plates for evaluation and descriptive terminology.)

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-6 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/10/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
99.7	0.0	FILL	FILL: 9" of Topsoil over Poorly Graded Sand, fine- to medium-grained, dark brown, dry.			ND	
95.7	4.0	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist to waterbearing, loose to medium dense. (Glacial Outwash)	10		ND	
				8		ND	
				8		ND	
				6		ND	
				5		ND	
				14		ND	
				19		ND	
				15		ND	
				18		ND	
				16		ND	
				10	▽	126	
				15		165	

LOG OF BORING

PROJECT: BDXX-98-211E
Remedial Investigation
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

BORING: ST-6 (cont.)

LOCATION:
 See attached boring and monitoring well location map.

DRILLER: A. Kostreba **METHOD:** 3 1/4" HSA, Autohmr. **DATE:** 7/10/98 **SCALE:** 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
66.7	33.0			14		5	
65.7	34.0	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, medium dense. (Glacial Outwash)				
		SP	POORLY GRADED SAND, fine- to medium-grained, gray, waterbearing, medium dense. (Glacial Outwash)	11		80	
				14		ND	
60.2	39.5	SM	SILTY SAND, fine- to medium-grained, brown, waterbearing, loose to dense. (Glacial Outwash)	10		ND	
				41		ND	
				18		ND	
53.2	46.5		END OF BORING				
			Water observed at 27 feet while drilling.				
			Boring then backfilled with high solids bentonite.				

ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-7 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/13/98	SCALE: 1" = 5'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
99.2	0.0	FILL	FILL: 8" of Topsoil over Poorly Graded Sand, fine- to medium-grained, dark brown, dry.			ND	
95.2	4.0	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist to waterbearing, loose to medium dense. (Glacial Outwash)	11		ND	
				9		ND	
				2		ND	
				4		ND	
				14		ND	
				19		ND	
				19		ND	
				19		ND	
				19		ND	
				21	▽	ND	
73.2	26.0	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, loose. (Glacial Outwash)	7		ND	
67.7	31.5			7		ND	
			END OF BORING Water observed at 26 feet while drilling. Boring then backfilled with high solids bentonite.				ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-8 LOCATION: See attached boring and monitoring well location map.
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DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 9/11/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
99.4	0.0						
98.7	0.7	FILL	FILL: Topsoil, black, dry.				ND
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, dry to waterbearing, loose to medium dense. (Glacial Outwash)				
				11			ND
				7			ND
				7			ND
				8			ND
				3			ND
				8			ND
				18			ND
				21			ND
				16			ND
				20			ND
				10			ND
				6	▽		ND

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: ST-8 (cont.) LOCATION: See attached boring and monitoring well location map.
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DRILLER: B. Knapek	METHOD: 3 1/4" HSA, Autohmr.	DATE: 9/11/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
66.4	33.0			10		13	
64.9	34.5	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, loose.				
		SP	(Glacial Outwash)	4		ND	
			POORLY GRADED SAND, fine- to medium-grained, a trace of Gravel, gray, waterbearing, loose. (Glacial Outwash)	7		ND	
60.4	39.0	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, loose to medium dense. (Glacial Outwash)	13		ND	
55.4	44.0			18		ND	
			END OF BORING				
			Water observed at 28.5 feet while drilling.				
			Boring then backfilled with high solids bentonite.				

ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: MW-1 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/13/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
99.9	0.0	FILL	FILL: 4" of concrete over Poorly Graded Sand, fine- to medium-grained, with Silt, brown, moist.	5		ND	
93.4	6.5	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist to waterbearing, loose to medium dense. (Glacial Outwash)	3		ND	
79.9	20.0	SM	SILTY SAND, fine- to medium-grained, a trace of Gravel, gray, waterbearing, loose to medium dense. (Glacial Outwash)	8	▽	161	
65.9	34.0		END OF BORING	23		ND	
			Water observed at 19.5 feet while drilling.				
			Set well at 28 feet.				

ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: MW-2 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/9/98	SCALE: 1" = 5'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
99.5	0.0						
98.5	1.0	FILL	FILL: 2" of Bituminous over Silty Sand, fine- to medium-grained, dark brown, moist.				ND
		FILL	FILL: Poorly Graded Sand, fine- to medium-grained, dark brown.	3			ND
95.5	4.0	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist to waterbearing, medium dense. (Glacial Outwash)	11			ND
				13			ND
				10			ND
				7			ND
				12			ND
				17			ND
				32			ND
77.5	22.0	SM	SILTY SAND, fine- to medium-grained, brown to gray, waterbearing, loose. (Glacial Outwash)	7	▽		ND
				8			ND
72.5	27.0	SP	POORLY GRADED SAND, fine- to medium-grained, with a trace of Gravel, brown, waterbearing, loose. (Glacial Outwash)	6			ND
71.5	28.0	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, loose. (Glacial Outwash)	6			ND
68.0	31.5		END OF BORING				
			Water observed at 22 feet while drilling.				
			Set well at 30 feet.				

ND=No organic vapors detected.

LOG OF BORING

PROJECT: BDXX-98-211E
Remedial Investigation
Briggs Lake General Store
4258 105th Avenue
Clear Lake, Minnesota

BORING: MW-3
LOCATION:
See attached boring and monitoring
well location map.

DRILLER: A. Kostreba **METHOD:** 3 1/4" HSA, Autohmr. **DATE:** 7/13/98 **SCALE:** 1" = 4'

(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
100.5	0.0						
98.5	2.0	FILL	FILL: 1' of Topsoil over Poorly Graded Sand, fine- to medium-grained, with Silt, dark brown, moist.				ND
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, loose to medium dense. (Glacial Outwash)	12			ND
				7			ND
				2			ND
				5			ND
				13			ND
				13			ND
				12			ND
				14			ND
				17			ND
				18			ND
				24			ND
70.5	30.0	SP	POORLY GRADED SAND, fine- to medium-grained, with GRAVEL, black, waterbearing, medium dense. (Glacial Outwash)	19	▽		145

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: MW-3 (cont.) LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 7/13/98	SCALE: 1" = 4'
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Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
67.0	33.5			21		6	
64.0	36.5	SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, medium dense. (Glacial Outwash)	24		ND	
			END OF BORING Water observed at 30 feet while drilling. Set well at 36 feet.				ND=No organic vapors detected.

(See Report and Standard Plates for evaluation and descriptive terminology.)

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: MW-4 LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 9/11/98	SCALE: 1" = 4'
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(See Report and Standard Plates for evaluation and descriptive terminology.)

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
97.4	0.0						
96.4	1.0	FILL	FILL: Topsoil, black, dry.				ND
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, dry, loose. (Glacial Outwash)	6			ND
				6			ND
				4			ND
				10			ND
				8			ND
82.9	14.5	SP	POORLY GRADED SAND, fine- to medium-grained, with GRAVEL, brown, dry, medium dense. (Glacial Outwash)	17			ND
				12			ND
				20			ND
74.4	23.0	SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, medium dense. (Glacial Outwash)	11			ND
		SP	POORLY GRADED SAND, fine- to medium-grained, brown, moist, medium dense. (Glacial Outwash)	12			ND
71.4	26.0	SM	SILTY SAND, fine- to medium-grained, gray, moist, medium dense. (Glacial Outwash)	12	▽		ND
				9			ND
65.4	32.0						

LOG OF BORING

PROJECT: BDXX-98-211E Remedial Investigation Briggs Lake General Store 4258 105th Avenue Clear Lake, Minnesota	BORING: MW-4 (cont.) LOCATION: See attached boring and monitoring well location map.
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DRILLER: A. Kostreba	METHOD: 3 1/4" HSA, Autohmr.	DATE: 9/11/98	SCALE: 1" = 4'
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Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	OV ppm	Tests or Notes
64.4	33.0	SP	POORLY GRADED SAND, fine- to medium-grained, gray, waterbearing, medium dense. (Glacial Outwash)	28		ND	ND=No organic vapors detected.
		SM	SILTY SAND, fine- to medium-grained, gray, waterbearing, medium dense. (Glacial Outwash)	14		ND	
				26		ND	
58.4	39.0		END OF BORING Set well at 38.5 feet. Water level at 26 feet 4 days after installation.				

(See Report and Standard Plates for evaluation and descriptive terminology.)

Appendix E

Well Construction Diagrams and MDH Well Records

Monitoring Well Field Data Sheet

Client Dave Gierke Project Number BDXX-98-211E City/State Palmer, Minnesota
Well Number MW-1 Well Location See Soil Boring and Monitoring Well Location Sketch Date of Installation 7/13/98
B.M. Location and Elevation ($\pm 0.01'$) Concrete slab at store entryway door. Elevation = 100.00.

Crew AK\RH Geologist TJT

Stick up ($\pm 0.1'$) 1.7
Top of Riser Pipe elevation ($\pm 0.01'$ w/o cap) 101.58

Ground Surface Elevation ($\pm 0.1'$) 99.8

Approximate depth to water before installation 19.5'

Approximate depth to first water encountered in drilling 19.5'

Depth to Top of Seal 14'

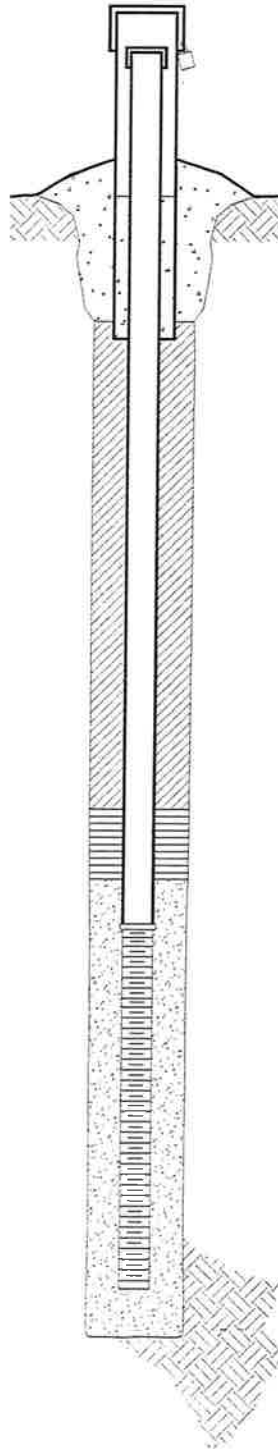
Depth to Bottom of Seal 15'

Depth to Top of Screen 17.9'

Depth to Bottom of Screen 27.9'

Depth to Bottom of Boring 34'

Method of advance:
HSA X I.D. 4 1/4"
Casing I.D.
Tricone O.D.



Protective Cover:
Type: 6" steel pro-top
Length: 6'
Lock No. 2106

Concrete Surface Seal:
Yes X No

Grout Above Seal:
Neat Cement Grout
Bentonite Seal X
Other

Riser Pipe:
Type PVC
Diameter 2"
Total Length 19.6'
Sections used two
Couplings none
Cap Yes X No

Seal Material:
Type Bentonite Chips
Amount used (lb) 50

Filter Material:
Type Silica sand
Amount used (lb) 375

Screen:
Type PVC
Slot Size .01
Length 10'
Diameter 2"

Remarks: _____

Completed by: TJT

Monitoring Well Field Data Sheet

(Below Grade)

Client Dave Gierke Project Number BDXX-98-211E City/State Palmer, Minnesota

Well Number MW-2 Well Location See Soil Boring and Monitoring Well Location Sketch Date of Installation 7/10/98

B.M. Location and Elevation ($\pm 0.01'$) Concrete slab at store entryway door. Elevation = 100.00.

Crew AK\RH Geologist TJT

Ground surface elevation ($\pm 0.1'$) 99.5

Top of riser pipe elevation ($\pm 0.01'$)(w/o cap) 99.55

Approximate depth to water before installation 22'

Approximate depth to first water encountered in drilling 22'

Depth to top of seal 17'

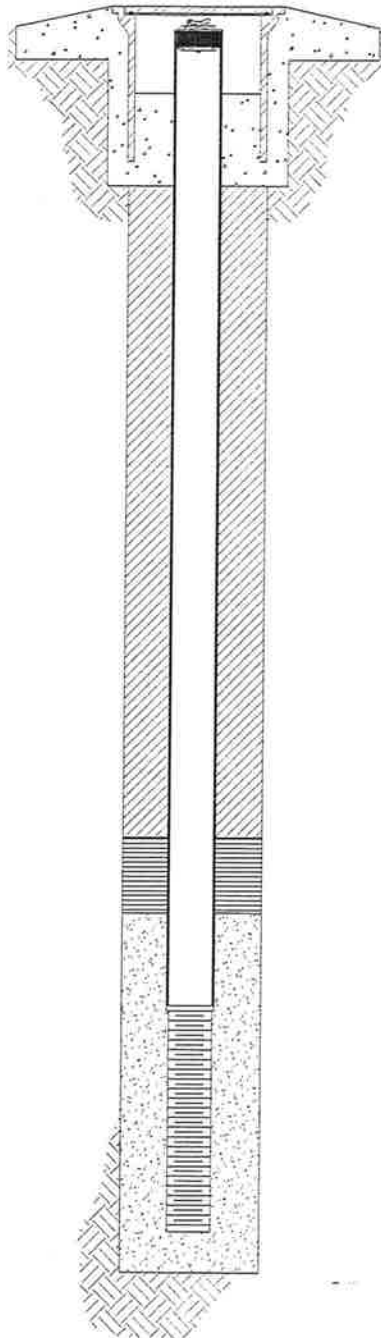
Depth to bottom of seal 18'

Depth to top of screen 20.3'

Depth to bottom of screen 30.3'

Depth to bottom of boring 31.5'

Method of Advance:
HSA I.D. 4 1/4"
Casing I.D.
Tricone O.D.



Protective Vault:

Manufacturer Griffin
Model No. JT-7091
Diameter 8"
Hex wrench access 3/4"
Watertight Seal Yes

Grout Above Seal:

Neat Cement Grout
Bentonite Grout
Other

Riser Pipe:

Type PVC
Diameter 2"
Total Length 20.3'
Sections used two
Couplings none
Caps Yes No
Lock No. 2106

Seal Material:

Type Bentonite Chips
Amount used (lb) 50

Filter Material:

Type Silica Sand
Amount used (lb) 275

Screen:

Type PVC
Slot Size .01
Length 10'
Diameter 2"

Remarks: _____

Completed by: TJT

BRAUNSM
INTERTEC

Monitoring Well Field Data Sheet

Client Dave Gierke Project Number BDXX-98-211E City/State Palmer, Minnesota
Well Number MW-3 Well Location See Soil Boring and Monitoring Well Location Sketch Date of Installation 7/13/98
B.M. Location and Elevation (+ 0.01') Concrete slab at store entryway door. Elevation = 100.00.

Crew AK\RH Geologist TJT

Stick up (+ 0.1') 1.0
Top of Riser Pipe elevation (+ 0.01' w/o cap) 101.48
Ground Surface Elevation (+ 0.1') 100.5

Approximate depth to water before installation 30'

Approximate depth to first water encountered in drilling 30'

Depth to Top of Seal 23'

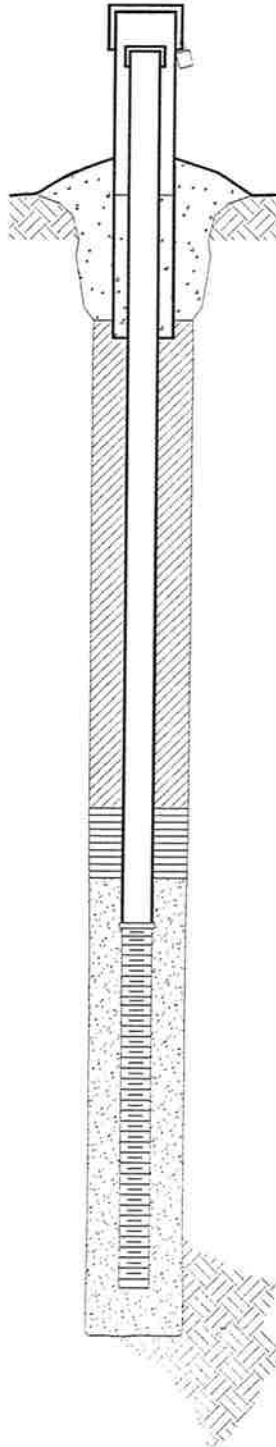
Depth to Bottom of Seal 24'

Depth to Top of Screen 25.7'

Depth to Bottom of Screen 35.7'

Depth to Bottom of Boring 36.5'

Method of advance:
HSA X I.D. 4 1/4"
Casing I.D.
Tricone O.D.



Protective Cover:
Type: 6" steel pro-top
Length: 6'
Lock No. 2106

Concrete Surface Seal:
Yes X No

Grout Above Seal:
Neat Cement Grout
Bentonite Seal X
Other

Riser Pipe:
Type PVC
Diameter 2"
Total Length 26.7'
Sections used three
Couplings none
Cap Yes X No

Seal Material:
Type Bentonite Chips
Amount used (lb) 50

Filter Material:
Type Silica sand
Amount used (lb) 300

Screen:
Type PVC
Slot Size .01
Length 10'
Diameter 2"

Remarks: _____

Completed by: TJT

BRAUNSM
INTERTEC

Monitoring Well Field Data Sheet

Client Dave Gierke Project Number BDXX-98-211E City/State Palmer, Minnesota
 Well Number MW-4 Well Location See Soil Boring and Monitoring Well Location Sketch Date of Installation 9/11/98
 B.M. Location and Elevation (+ 0.01') Concrete slab at store entryway door. Elevation = 100.00.

Crew BK\AP Geologist TJT

Stick up (+ 0.1') 1.3
 Top of Riser Pipe elevation (+ 0.01' w/o cap) 98.69
 Ground Surface Elevation (+ 0.1') 97.4

Approximate depth to water before installation 32'

Approximate depth to first water encountered in drilling 32'

Depth to Top of Seal 23'

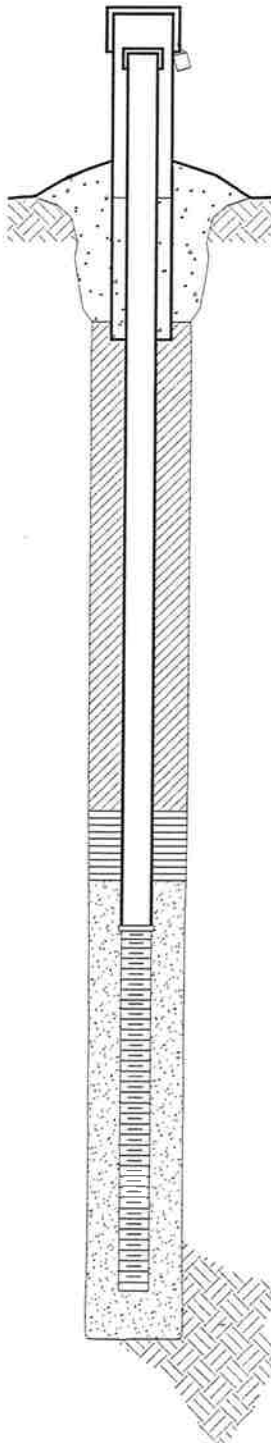
Depth to Bottom of Seal 24'

Depth to Top of Screen 27.5'

Depth to Bottom of Screen 37.5'

Depth to Bottom of Boring 39'

Method of advance:
 HSA X I.D. 4 1/4"
 Casing I.D.
 Tricone O.D.



Protective Cover:
 Type: 6" steel pro-top
 Length: 6'
 Lock No. 2106

Concrete Surface Seal:
 Yes X No

Grout Above Seal:
 Neat Cement Grout
 Bentonite Seal X
 Other

Riser Pipe:
 Type PVC
 Diameter 2"
 Total Length 29.8'
 Sections used three
 Couplings none
 Cap Yes X No

Seal Material:
 Type Bentonite Chips
 Amount used (lb) 50

Filter Material:
 Type Silica sand
 Amount used (lb) 350

Screen:
 Type PVC
 Slot Size .01
 Length 10'
 Diameter 2"

Remarks: _____

Completed by: TJT

BRAUNSM
INTERTEC

WELL LOCATION

County Name

Sherburne

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
Minnesota Statutes Chapter 1031

MINNESOTA UNIQUE WELL NO.

599627

Township Name Palmer Township No. 35N Range No. 29W Section No. 21 Fraction NE 1/4, NE 1/4, SE 1/4

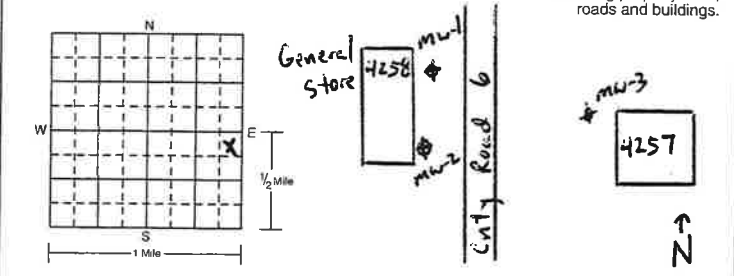
WELL DEPTH (completed) 29.6 ft. Date Work Completed 7/13/98

House Number, Street Name, City, and Zip Code of Well Location 4258 105th Ave., Clear Lake, 55319

DRILLING METHOD: Auger (checked), Cable Tool, Dug, Rotary, Jetted

Show exact location of well in section grid with "X". Sketch map of well location. Showing property lines, roads and buildings.

DRILLING FLUID NA WELL HYDROFRACTURED? NO



USE: Monitoring (checked), Domestic, Irrigation, Test Well, Heating/Cooling, Community PWS, Noncommunity PWS, Dewatering, Industry/Commercial, Remedial

PROPERTY OWNER'S NAME Briggs Lake General Store

CASING: Plastic (checked), Drive Shoe? No (checked), Steel, Threaded, Welded

Property owner's mailing address if different than well location address indicated above.

CASING DIAMETER 2 in. to 17.9 ft. WEIGHT 8 in. to 34 ft.

WELL OWNER'S NAME Briggs Lake General Store

SCREEN: Johnson (checked), Make, Type pvc, Slot/Gauze 01, Set between 17.9 ft. and 27.9 ft. FITTINGS: None

Well owner's mailing address if different than property owner's address indicated above.

STATIC WATER LEVEL 20.0 ft. below (checked) Date measured 7/23/98

Table with 5 columns: GEOLOGICAL MATERIALS, COLOR, HARDNESS OF MATERIAL, FROM, TO. Rows include Concrete, Poorly Graded Sand, Silty Sand.

PUMPING LEVEL (below land surface) NA ft. after hrs. pumping g.p.m.

WELL HEAD COMPLETION: Casing Protection 6" steel pro-top (checked), At-grade (Environmental Wells and Borings ONLY)

GROUTING INFORMATION: Well grouted? Yes (checked), Grout Material Bentonite (checked), from 0 to 14 ft.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

NEAREST KNOWN SOURCE OF CONTAMINATION 0 feet direction Petroleum type

Braun Intertec Project BDX-98-211E MW-1

PUMP: Not installed (checked), Manufacturer's name, Model number, Length of drop pipe, Capacity, Type: Submersible, L.S. Turbine, Reciprocating, Jet

ABANDONED WELLS: Does property have any not in use and not sealed well(s)? No (checked)

VARIANCE: Was a variance granted from the MDH for this well? No (checked)

WELL CONTRACTOR CERTIFICATION

This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Braun Intertec Corporation M0130 Licensee Business Name Lic. or Reg. No. Signature: Robert M. DeBruin Date: 9/15/98

Andy Kostreba 7/13/98 Name of Driller Date

MINN. DEPT. OF HEALTH COPY 599627

WELL LOCATION

County Name
Sherburne

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

MINNESOTA UNIQUE WELL NO.

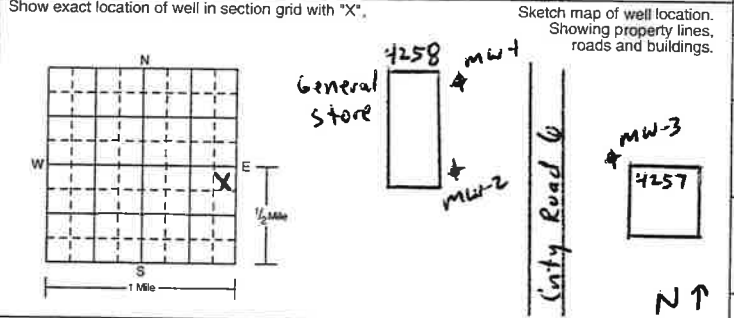
599628

Township Name: **Palmer** Township No.: **35N** Range No.: **29W** Section No.: **21** Fraction: **NE 1/4 NE 1/4 SE 1/4**

WELL DEPTH (completed): **30.3** ft. Date Work Completed: **7/10/98**

House Number, Street Name, City, and Zip Code of Well Location
4258 105th Avenue, Clear Lake, 55319

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted



DRILLING FLUID: **NA** WELL HYDROFRACTURED? YES NO
FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Test Well Noncommunity PWS Remedial
 Dewatering _____

CASING Drive Shoe? Yes No
 Steel Threaded Welded
 Plastic _____

CASING DIAMETER WEIGHT HOLE DIAM.
2" in. to **20.3** ft. _____ lbs./ft. **8** in. to **31.5** ft.
 _____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.
 _____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.

PROPERTY OWNER'S NAME
Briggs Lake General Store

Property owner's mailing address if different than well location address indicated above.

SCREEN Make: **Johnson** OPEN HOLE from: **NA** ft. to _____ ft.
 Type: **PVC** Diam.: **2"**
 Slot/Gauze: **0.1** Length: **10'**
 Set between: **20.3** ft. and **30.3** ft. FITTINGS: **None**

WELL OWNER'S NAME
Briggs Lake General Store

Well owner's mailing address if different than property owner's address indicated above.

STATIC WATER LEVEL **21.2** ft. below above land surface Date measured: **7/23/98**

PUMPING LEVEL (below land surface) **NA** ft. after _____ hrs. pumping _____ g.p.m.

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection _____ 12 in. above grade
 At-grade (Environmental Wells and Borings ONLY)

GROUTING INFORMATION
 Well grouted? Yes No
 Grout Material Neat cement Bentonite Concrete High Solids Bentonite
 from **0** to **17** ft. **2** yds. bags
 from _____ to _____ ft. _____ yds. bags
 from _____ to _____ ft. _____ yds. bags

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Bituminous	--	--	0	0.2'
Poorly Graded Sand		loose to med. dense	0.2'	22'
Silty Sand	gray	dense	22	31.5'

NEAREST KNOWN SOURCE OF CONTAMINATION
60 feet **North** direction **Petroleum** type
 Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____
 Manufacturer's name _____
 Model number _____ HP _____ Volts _____
 Length of drop pipe _____ ft. Capacity _____ g.p.m.
 Type: Submersible L.S. Turbine Reciprocating Jet _____

ABANDONED WELLS
 Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
 Was a variance granted from the MDH for this well? Yes No

WELL CONTRACTOR CERTIFICATION
 This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

Braun Intertec Project BDX-98-211E
MW-2

Braun Intertec Corporation M0130
 Licensee Business Name Lic. or Reg. No.
Andrew Kostreba **9/15/98**
 Authorized Representative Signature Date
Andy Kostreba **7/10/98**
 Name of Driller Date

MINN. DEPT. OF HEALTH COPY **599628**

WELL LOCATION
County Name
Sherburne

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
Minnesota Statutes Chapter 1031

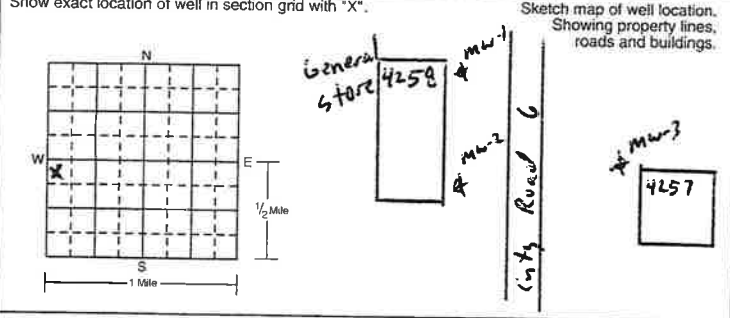
MINNESOTA UNIQUE WELL NO.
599629

Township Name **Palmer** Township No. **35N** Range No. **29W** Section No. **22** Fraction **NW 1/4 SW 1/4**

WELL DEPTH (completed) **36.7** ft. Date Work Completed **7/13/98**

House Number, Street Name, City, and Zip Code of Well Location
4257 105th Ave., Clear Lake, 55319

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted



DRILLING FLUID **NA** WELL HYDROFRACTURED? YES NO
FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Test Well Noncommunity PWS Remedial
 Dewatering

CASING Drive Shoe? Yes No
 Steel Threaded Welded
 Plastic

CASING DIAMETER WEIGHT
2" in. to **25.7** ft. _____ lbs./ft. **8** in. to **36.5** ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.

PROPERTY OWNER'S NAME
Raymond Larson

SCREEN Make **Johnson** OPEN HOLE from **NA** ft. to _____ ft.
Type **PVC** Diam. **2"**
Slot/Gauze **.01** Length **10'**
Set between **25.7** ft. and **35.7** ft. FITTINGS: **None**

Property owner's mailing address if different than well location address indicated above.

WELL OWNER'S NAME
Briggs Lake General Store

STATIC WATER LEVEL **29.8** ft. below above land surface Date measured **7/23/98**

Well owner's mailing address if different than property owner's address indicated above.
**4258 105th Avenue
Clear Lake, MN 55319**

PUMPING LEVEL (below land surface)
NA ft. after _____ hrs. pumping _____ g.p.m.

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Topsoil	black	--	0	1'
Poorly Graded Sand	brown	medium dense	1'	33'
Silty Sand	gray	dense	33'	36.5'

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection **6" Pro-top** 12 in. above grade
 At-grade (Environmental Wells and Borings ONLY)

GROUTING INFORMATION
Well grouted? Yes No
Grout Material Neat cement Bentonite Concrete High Solids Bentonite
from **0** to **23** ft. **2 1/2** yds. bags
from _____ to _____ ft. _____ yds. bags
from _____ to _____ ft. _____ yds. bags

REMARKS, ELEVATION, SOURCE OF DATA, etc.

NEAREST KNOWN SOURCE OF CONTAMINATION
130 feet **West** direction **Petroleum** type
Well disinfected upon completion? Yes No

**Braun Intertec Project BDX-98-211E
MW-3**

PUMP
 Not installed Date installed _____
Manufacturer's name _____
Model number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS
Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
Was a variance granted from the MDH for this well? Yes No

WELL CONTRACTOR CERTIFICATION
This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Braun Intertec Corporation M0130
Licensee Business Name Lic. or Reg. No.
Patricia Intertec **9/15/98**
Authorized Representative Signature Date
Andy Kostreba **7/13/98**
Name of Driller Date

MINN. DEPT. OF HEALTH COPY **599629**

WELL LOCATION
County Name
Sherburne

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
Minnesota Statutes Chapter 103I

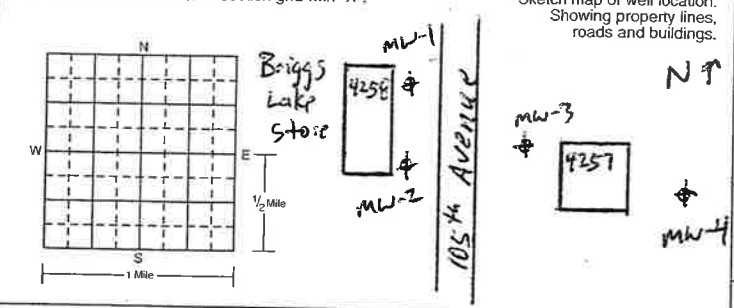
MINNESOTA UNIQUE WELL NO.
599641

Township Name **Palmer** Township No. **35N** Range No. **29W** Section No. **22** Fraction **NW 1/4 NW 1/4 SW 1/4**

WELL DEPTH (completed) **39.8** ft. Date Work Completed **9/11/98**

House Number, Street Name, City, and Zip Code of Well Location
4257 105th Ave., Clear Lake, MN 55319

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted



DRILLING FLUID **NA** WELL HYDROFRACTURED? YES NO
FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Test Well Noncommunity PWS Remedial
 Dewatering

CASING Drive Shoe? Yes No HOLE DIAM.
 Steel Threaded Welded
 Plastic

PROPERTY OWNER'S NAME
Raymond Larson

CASING DIAMETER **2"** in. to **38.5** ft. WEIGHT **8** in. to **39** ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft. _____ lbs./ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft. _____ lbs./ft.

Property owner's mailing address if different than well location address indicated above.

SCREEN OPEN HOLE
Make **Johnson** from **NA** ft. to _____ ft.
Type **PVC** Diam. **2"**
Slot/Gauze **.01** Length **10'**
Set between **28.5** ft. and **38.5** ft. FITTINGS: **None**

WELL OWNER'S NAME
Briggs Lake General Store

STATIC WATER LEVEL **28** ft. below above land surface Date measured **9/15/98**

Well owner's mailing address if different than property owner's address indicated above.
**4258 105th Avenue
Clear Lake, MN 55319**

PUMPING LEVEL (below land surface)
NA ft. after _____ hrs. pumping _____ g.p.m.

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
Topsoil	black	--	0	1
Poorly Graded Sand	brown	medium dense	1	26
Silty Sand	gray	dense	26	32
Poorly Graded Sand	brown	medium dense	32	33
Silty Sand	gray	dense	33	39

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection **6" Pro-top** 12 in. above grade
 At-grade (Environmental Wells and Borings ONLY)

GROUTING INFORMATION
Well grouted? Yes No
Grout Material Neat cement Bentonite Concrete High Solids Bentonite
from **0** to **23** ft. **2 1/2** yds. bags
from _____ to _____ ft. _____ yds. bags
from _____ to _____ ft. _____ yds. bags

REMARKS, ELEVATION, SOURCE OF DATA, etc.
**Braun Intertec Project BDXX-98-211E
MW-4**

NEAREST KNOWN SOURCE OF CONTAMINATION
250 feet **West** direction **Petroleum** type
Well disinfected upon completion? Yes No

PUMP
 Not installed Date installed _____
Manufacturer's name _____
Model number _____ HP _____ Volts _____
Length of drop pipe _____ ft. Capacity _____ g.p.m.
Type: Submersible L.S. Turbine Reciprocating Jet

ABANDONED WELLS
Does property have any not in use and not sealed well(s)? Yes No

VARIANCE
Was a variance granted from the MDH for this well? Yes No

WELL CONTRACTOR CERTIFICATION
This well was drilled under my supervision and in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.
Braun Intertec Corporation MDH# **10130**
Licensee Business Name Lic. or Reg. No.
Greg Scallan 11-10-98
Authorized Representative Signature Date
Brian Knapke 9/11/98
Name of Driller Date

MINN. DEPT. OF HEALTH COPY **599641**



MINNESOTA DEPARTMENT OF HEALTH
MONITORING WELL PERMIT APPLICATION

Make check or money order payable to the Minnesota Department of Health.
Mail completed application and fee to the Minnesota Department of Health (MDH), Well Management Unit, P.O. Box 59040, Minneapolis, Minnesota 55459-0040, ATTN: Cashier.

MDH USE ONLY	
Amount Received	20060-0001867 4060-0001871
Date Received	7-24-98
So. Codes: Well (20) Site (21)	
Deposit No.	017
Not Approved	
Date Approved	7-24-98-2771
Site Permit No.	

CHECK ALL THAT APPLY

- Motor fuel retail outlet or petroleum bulk storage site
 - Site permit exists, Permit No. _____
 - Well owned by State or local government
 - All other monitoring wells
 - Reconstruction requiring a permit
- FEE \$100/site
None
None
\$100/well
\$100/well (None for site permit or government)

Acet 2229

1. A. LEGAL DESCRIPTION OF WELL LOCATION COUNTY Sherburne

Township Name	Township	Range	Section	Street	Quarter	Legal	Unique Well No.	Depth	At-grade	
Palmer	35 N	29 W	21	SE	NE	NE	SE	599629	30	No
	N	W		X	X	X	X			
	N	W		X	X	X	X			
	N	W		X	X	X	X			
	N	W		X	X	X	X			



g. Well site address 4257 105th Ave Clear Lake MN 55319
Street City State Zip Code

Sketch (attach map identifying well location by unique well number and include distance from nearest road intersection)

- Check this box for wells constructed through a CONFINING LAYER or INTO BEDROCK. submit the following information: well diameter, grout material, drilling method, grouting method, casing materials, cross-sectional diagram of well, and cross-section of anticipated geologic formations.
- Check this box for AT-GRADE WELLS. submit the following information: an explanation of why the well casing cannot terminate 12 inches above ground, a map showing the location of the proposed well referenced to a permanent landmark or property boundaries, and cross-sectional diagram of the well cap and vault.
- WELL CONTRACTOR: Name Braun Intertec Corporation Reg. or Lic. No. M0143-130
Contact person Greg Scallon Patricia Terhaar Phone No. (612) 942-1768 833-4777
- CONSULTANT: Name Braun Intertec, Clint Jordahl Phone No. (320) 253-9940
- WELL OWNER: Name Briggs Lake General Store Contact person Dave Gierke
Well owner mailing address 4258 105th Avenue Clear Lake MN 55319 (320) 743-2791
Street City State Zip Code Phone No.
- PROPERTY OWNER: Name Raymond G Larson Contact person Raymond Larson
Property owner address 4257 105th Avenue Clear Lake MN 55319 (320) 743-2927
Street City State Zip Code Phone No.

8. If the well owner is not the property owner, Minnesota Statutes, section 103L205, requires that "A person may not construct a monitoring well on the property of another until the owner of the property on which the well is to be located and the well owner sign a written agreement that identifies which party will be responsible for obtaining maintenance permits and for sealing the monitoring well. If the property owner refuses to sign the agreement, the well owner only, in lieu of a written agreement, state in writing that the well owner will be responsible for obtaining maintenance permits and sealing the well."

As owner of the well(s) listed in 1.A. above, I agree that I will be responsible for obtaining maintenance permits and for sealing the well(s) in accordance with Minnesota Statutes, Chapter 103L205, and Minnesota Rules, Chapter 4725.

Property Owner's or Agent Signature Raymond G Larson Well Owner's Signature Dave Gierke

I certify that all the information provided in this application is true and complete. I understand that misstatement of facts may result in forfeiture of all rights to license/registration as a well contractor/monitoring well contractor in accordance with Minnesota Statutes, Chapter 103L.

Licensed or Registered Contractor Signature Robert M. Tolson Date 7/18/98

Failure to submit permit application and fee and receive permit approval prior to the beginning of monitoring well construction is a violation of Minnesota Statutes, Chapter 103L, and may result in the assessment of an administrative penalty.



MINNESOTA DEPARTMENT OF HEALTH
MONITORING WELL PERMIT APPLICATION

Make check or money order payable to the Minnesota Department of Health.
Mail completed application and fee to the Minnesota Department of Health (MDH), Well Management Unit, P.O. Box 59040, Minneapolis, Minnesota 55459-0040, ATTN: Cashier.

MDH USE ONLY	200Co-000/367
Amount Received	40 Co - 032876
Date Received	7-24-98
So. Codes: Well (20) Site (21)	
Deposit No.	017
Not Approved	
Date Approved	7-24-98 JH
Site Permit No.	4392

CHECK ALL THAT APPLY

- Motor fuel retail outlet or petroleum bulk storage site
 - Site permit exists, Permit No. _____
 - Well owned by State or local government
 - All other monitoring wells
 - Reconstruction requiring a permit
- FEE
\$100/site
None
None
\$100/well
\$100/well (None for site permit or government)

Aced 2209

1. A. LEGAL DESCRIPTION OF WELL LOCATION COUNTY Sherburne

Township Name	Township	Range	Section	Smallest	Quarter	Largest	Unique Well No.	Depth	At-grade	
Palmer	35 N	29 W	21	SE 1/4	NE 1/4	NE 1/4	SE 1/4	599627	30	No
Palmer	35 N	29 W	21	SE 1/4	NE 1/4	NE 1/4	SE 1/4	599628	30	yes
Palmer	35 N	29 W	21	SE 1/4	NE 1/4	NE 1/4	SE 1/4			
	N	W		1/4	1/4	1/4	1/4			
	N	W		1/4	1/4	1/4	1/4			

B. Well site address 4258 105th Avenue Clear Lake 55319
Street City Zip Code

C. Sketch (attach map identifying well location by unique well number and include distance from nearest road intersection)

- 2. Check this box for wells constructed through a CONFINING LAYER or INTO BEDROCK, submit the following information: well diameter, grout material, drilling method, grouting method, casing materials, cross-sectional diagram of well, and cross-section of anticipated geologic formations.
- 3. Check this box for AT-GRADE WELLS, submit the following information: an explanation of why the well casing cannot terminate 12 inches above ground, a map showing the location of the proposed well referenced to a permanent landmark or property boundaries, and cross-sectional diagram of the well cap and vault. *599628 approved from [unclear] 7/21*

4. WELL CONTRACTOR: Name Braun Intertec Corporation Reg. or Lic. No. MO143 130
Contact person Greg Scallon Patricia Terhaar Phone No. (612) 942-1768 833-4777

5. CONSULTANT: Name Braun Intertec, Clint Jordahl Phone No. (320) 253-9940

6. WELL OWNER: Name Briggs Lake General Store Contact person Dave Gierke
Well owner mailing address 4258 105th Avenue Clear Lake MN 55319 (320) 743-2791
Street City State Zip Code Phone No.

7. PROPERTY OWNER: Name (same as above) Contact person _____
Property owner address _____
Street City State Zip Code Phone No.

8. If the well owner is not the property owner, Minnesota Statutes, section 103L.205, requires that "A person may not construct a monitoring well on the property of another until the owner of the property on which the well is to be located and the well owner sign a written agreement that identifies which party will be responsible for obtaining maintenance permits and for sealing the monitoring well. If the property owner refuses to sign the agreement, the well owner may, in lieu of a written agreement, state in writing that the well owner will be responsible for obtaining maintenance permits and sealing the well."



As owner of the well(s) listed in 1.A. above, I agree that I will be responsible for obtaining maintenance permits and for sealing the well(s) in accordance with Minnesota Statutes, Chapter 103L.205, and Minnesota Rules, Chapter 4725.

Property Owner's or Agent Signature [Signature] Well Owner's Signature _____

I certify that all the information provided in this application is true and complete. I understand that misstatement of facts may result in forfeiture of all rights to licensure/registration as a well contractor/monitoring well contractor in accordance with Minnesota Statutes, Chapter 103L.

Licensed or Registered Contractor Signature [Signature] Date 7/2/98

Failure to submit permit application and fee and receive permit approval prior to the beginning of monitoring well construction is a violation of Minnesota Statutes, Chapter 103L, and may result in the assessment of an administrative penalty.

Appendix F

Groundwater Receptor Survey Data

MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 402066/71 ENTERED: 1990/12/01
NAME : BRIGGS LAKE STORE UPDATED: 1991/08/19

COUNTY : SHERBURNE USE : DOMESTIC DRILLED: 1983/05/30
T/R/SEC. : 35/29/21DAADAA DEPTH : 69 FT. DEPTH D: 69 FT.
ELEVATION: 1000 FT.(TOPO) CASED : 60 FT. GROUT :
DIAM. : 4 IN. DRL/DS : 73542 :G & M DRILLING
LOC.METH.: LOC.BY : MGS COORDS.:
STATUS : ACTIVE WHPA : DNR PA#:

OPEN HOLE: QUAT. BURIED ARTES. AQUIFER
AQUIFER : QUAT. BURIED ARTES. AQUIFER

ADDRESS : , , MN
QUAD(7.5): DUELM CONTACT:
POTENTIAL POLLUTION SOURCE: 78 FT. DIR.: TYPE: SEPTIC/DFL
CWI/WL: YES CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1983/05/30				25	975	

 MINNESOTA COUNTY WELL INDEX/WELL LOG.
 UN.NO./CO. : 402066/71 NAME : BRIGGS LAKE STORE

WELL CONSTRUCTION.

	DIAM (IN)	FROM (FT)	TO (FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	60			

SCREEN.
 PRESENT?: YES

MAKE :	JOHNSON	TYPE:	STAINLESS	DIAM:	4 IN.
SCREEN :	SLT/GZE	LENGTH (FT)	SETTING		
SCREEN 1:	12	4	TOP: 60 FT.	BOTTOM:	64 FT.

PUMP.

INSTLLD?:	YES	DATE :	/ /		
MAKE :	A.Y. MCDONALD	MODEL:	18050K3		
SIZE :	0.5 H.P.	VOLTS:	230	CAPACITY:	12 GPM
TYPE :	SUBMERSIBLE	DROP PIPE:	42 FT.	MATERIAL:	

PUMPAGE TEST(S).

	STATIC WATER LEVEL: LEVEL (FT)	25 FT. HOURS	GPM	DATE: 1983/05/ DRAWDOWN (FT)
TEST 1:	40	1	20	15.0

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	COLOR [CODE]	HARDNESS [STRATIGRAPHIC UNIT(S)	[AGE]
0 47	SAND	BROWN	SOFT	
[1000]	[SAND	]	[QFUB] [SAND, BROWN	] [QUA]
47 60	CLAY + SAND	GRAY	MED-SFT	
[953]	[CLAY, SAND	]	[QUUG] [GRAY	] [QUA]
60 69	SAND	BROWN	SOFT	
[940]	[SAND	]	[QFUB] [SAND, BROWN	] [QUA]

 MINNESOTA COUNTY WELL INDEX/WELL LOG.
 UN.NO./CO. : 457303/71 NAME : PALMER TOWN HALL

 WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	74			

SCREEN.

PRESENT?: YES
 MAKE : HOWARD SMITH TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1: 10 4 TOP: 74 FT. BOTTOM: 76 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : JACUZZI MODEL: 5BS4108-S2
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 10 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 50 FT. MATERIAL:

 PUMPAGE TEST(S).

	STATIC WATER LEVEL: LEVEL (FT)	HOURS	GPM	DATE: 1989/05/ DRAWDOWN (FT)
TEST 1:	42	1	15	.0

 DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	COLOR [CODE]	HARDNESS [STRATIGRAPHIC UNIT(S)	[AGE]
0 50	SAND	BROWN	SOFT	
[1009]	[SAND	] [QFUB]	[SAND, BROWN	] [QUA]
50 70	CLAY + SAND MIXED	BROWN	HARD	
[959]	[CLAY, SAND	] [QUUB]	[BROWN	] [QUA]
70 74	SAND	GRAY	SOFT	
[939]	[SAND	] [QFUG]	[SAND, GRAY	] [QUA]
74 76	GRAVEL + WATER			
[935]	[GRAVEL	] [QFUU]	[SAND	] [QUA]

MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 152229/71 ENTERED: 1988/04/17
 NAME : RON MIX UPDATED: 1991/08/19

COUNTY : SHERBURNE USE : DOMESTIC DRILLED: 1978/06/20
 T/R/SEC. : 35/29/22BCCDBC DEPTH : 56 FT. DEPTH D: 56 FT.
 ELEVATION: 1002 FT. (TOPO) CASED : 56 FT. GROUT :
 DIAM. : 4 IN. DRL/DS : 73157 : TRAUT WELL
 LOC.METH.: INFO.NGHBR LOC.BY : MGS COORDS.:
 STATUS : ACTIVE WHPA : DNR PA#:

DPTH BDRK: -999 FT. BEDROCK: NOT APPLICABLE
 OPEN HOLE: QUAT. BURIED ARTES. AQUIFER
 AQUIFER : QUAT. BURIED ARTES. AQUIFER

ADDRESS : , , MN
 QUAD (7.5): DUELM CONTACT:
 CWI/WL: YES CWI/WC: NO CORE/CTTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1978/06/20				27	975	

MINNESOTA COUNTY WELL INDEX/WELL LOG.

UN.NO./CO. : 152229/71 NAME : RON MIX

WELL CONSTRUCTION.

	DIAM (IN)	FROM (FT)	TO (FT)	[GROUT-----]		
				MATERIAL	AMNT	UNITS
CASING 1 :	4	0	56			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH (FT) SETTING

SCREEN 1: 20 4.66 TOP: 52 FT. BOTTOM: 56 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : AERMOTOR MODEL: SD12
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: GPM
 TYPE : SUBMERSIBLE DROP PIPE: 31 FT. MATERIAL:

PUMPAGE TEST(S).

	STATIC WATER LEVEL:	27 FT.	DATE: 1978/06/
	LEVEL (FT)	HOURS	GPM
			DRAWDOWN (FT)
TEST 1:	35	1	20 8.0

DRILLER S/GEOLOGIC LOG

DEPTH	INTERVAL	DRILLER S DESCRIPTION	COLOR	HARDNESS
	[EL.TOP]	[INTERPRETED LITHOLOGY	] [CODE]	[STRATIGRAPHIC UNIT(S)] [AGE]
0 25		SAND, LOOSE	BROWN	
[1002]		[SAND	] [QFUB] [SAND, BROWN	] [QUA]
25 51		CLAY	BROWN HARD	
[977]		[CLAY	] [QTUB] [TILL, BROWN	] [QUA]
51 56		SAND, LOOSE	BROWN	
[951]		[SAND	] [QFUB] [SAND, BROWN	] [QUA]

UN.NO./CO. : 164518/71
NAME :

ENTERED: 1988/04/17
UPDATED: 1991/08/19

COUNTY : SHERBURNE USE : DOMESTIC DRILLED: 1979/08/07
T/R/SEC. : 35/29/22CBBDBAB DEPTH : 58 FT. DEPTH D: 58 FT.
ELEVATION: 1000 FT. (TOPO) CASED : 54 FT. GROUT :
DIAM. : 4 IN. DRL/DS : 27194 : STEVENS WELL CO.
LOC.METH.: LOT-BLOCK LOC.BY : MGS COORDS.:
STATUS : ACTIVE WHPA : DNR PA#:

DPTH BDRK: -999 FT. BEDROCK: NOT APPLICABLE
OPEN HOLE: QUAT. BURIED ARTES. AQUIFER
AQUIFER : QUAT. BURIED ARTES. AQUIFER

ADDRESS : , , MN
QUAD(7.5): DUELM CONTACT:
CWI/WL: YES CWI/WC: NO CORE/CTNGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1979/08/07				21	979	

COMMENTS: BRI-OAK BLK 1 LOT 4

MINNESOTA COUNTY WELL INDEX/WELL LOG.

UN.NO./CO. : 164518/71 NAME :

WELL CONSTRUCTION.

	DIAM (IN)	FROM (FT)	TO (FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	54			

SCREEN.

PRESENT?: YES
MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
SCREEN : SLT/GZE LENGTH (FT) SETTING
SCREEN 1: 15 4 TOP: 54 FT. BOTTOM: 58 FT.

PUMP.

INSTLLD?: YES DATE : / /
MAKE : DEMPSTER MODEL: MF3-50-S2
SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 15 GPM
TYPE : SUBMERSIBLE DROP PIPE: 36 FT. MATERIAL:

PUMPAGE TEST(S).

STATIC WATER LEVEL:	21 FT.	DATE: 1979/08/	
LEVEL (FT)	HOURS	GPM	DRAWDOWN (FT)
TEST 1:		50	

DRILLER S/GEOLOGIC LOG

DEPTH	INTERVAL	DRILLER S DESCRIPTION	COLOR	HARDNESS	[AGE]
	[EL.TOP]	[INTERPRETED LITHOLOGY	] [CODE]	[STRATIGRAPHIC UNIT(S)	
0	25	GRAVEL			
[	1000]	[GRAVEL	] [QFUU]	[SAND	] [QUA]
25	33	SANDY-CLAY	BLUE		
[	975]	[CLAY, SAND	] [QTUG]	[TILL, GRAY	] [QUA]
33	50	SANDY-CLAY	BROWN		
[	967]	[CLAY, SAND	] [QTUB]	[TILL, BROWN	] [QUA]
50	58	SAND	ORG-BRN		
[	950]	[CLAY	] [QFUB]	[SAND, BROWN	] [QUA]

 MINNESOTA COUNTY WELL INDEX/WELL LOG.
 UN.NO./CO. : 164519/71 NAME :

 WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	62			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1:	15	4	TOP: 62 FT.	BOTTOM: 66 FT.
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PUMP.

INSTLLD?: YES DATE : / /
 MAKE : DEMPSTER MODEL: MF3-50-S2
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 15 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 36 FT. MATERIAL:

 PUMPAGE TEST(S).

STATIC WATER LEVEL:	21 FT.	DATE: 1979/08/	
LEVEL(FT)	HOURS	GPM	DRAWDOWN(FT)
TEST 1:		30	

 DRILLER S/GEOLOGIC LOG

DEPTH	DRILLER S DESCRIPTION	COLOR	HARDNESS
[EL.TOP]	[INTERPRETED LITHOLOGY	] [CODE] [STRATIGRAPHIC UNIT(S)	] [AGE]
0 28	SAND		
[1001]	[SAND	] [QFUU] [SAND	] [QUA]
28 43	SANDY CLAY	BROWN	
[973]	[CLAY, SAND	] [QTUB] [TILL, BROWN	] [QUA]
43 55	GRAVEL		
[958]	[GRAVEL	] [QFUU] [SAND	] [QUA]
55 66	SAND	ORANGE	
[946]	[SAND	] [QFUU] [SAND	] [QUA]

MINNESOTA COUNTY WELL INDEX/WELL LOG.

UN.NO./CO. : 164516/71 NAME :

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	51			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1:	15	4	TOP: 51 FT.	BOTTOM: 55 FT.
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PUMP.

INSTLLD?: YES DATE : / /
 MAKE : DEMPSTER MODEL: MF3-50-S2
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 15 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 36 FT. MATERIAL:

PUMPAGE TEST(S).

STATIC WATER LEVEL:	24 FT.	DATE: 1979/08/	
LEVEL(FT)	HOURS	GPM	DRAWDOWN(FT)
TEST 1:		25	

DRILLER S/GEOLOGIC LOG

DEPTH	DRILLER S DESCRIPTION	COLOR	HARDNESS
[EL.TOP]	[INTERPRETED LITHOLOGY	] [CODE] [STRATIGRAPHIC UNIT(S)	] [AGE]
0 26	GRAVEL		
[1000]	[GRAVEL	] [QFUU] [SAND	] [QUA]
26 42	SANDY CLAY	BLUE	
[974]	[CLAY, SAND	] [QTUG] [TILL, GRAY	] [QUA]
42 50	SANDY CLAY	BROWN	
[958]	[CLAY, SAND	] [QTUB] [TILL, BROWN	] [QUA]
50 55	SAND	BROWN	
[950]	[SAND	] [QFUB] [SAND, BROWN	] [QUA]

 MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 164517/71
 NAME :

ENTERED: 1988/04/17
 UPDATED: 1991/08/19

COUNTY : SHERBURNE USE : DOMESTIC DRILLED: 1979/08/07
 T/R/SEC. : 35/29/22CBACCB DEPTH : 55 FT. DEPTH D: 55 FT.
 ELEVATION: 1001 FT. (TOPO) CASED : 51 FT. GROUT :
 DIAM. : 4 IN. DRL/DS : 27194 : STEVENS WELL CO.
 LOC.METH.: LOT-BLOCK LOC.BY : MGS COORDS.:
 STATUS : ACTIVE WHPA : DNR PA#:

DPTH BDRK: -999 FT. BEDROCK: NOT APPLICABLE
 OPEN HOLE: QUAT. BURIED ARTES. AQUIFER
 AQUIFER : QUAT. BURIED ARTES. AQUIFER

ADDRESS : , , MN CONTACT:
 QUAD (7.5): DUELM
 CWI/WL: YES CWI/WC: NO CORE/CTINGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1979/08/07				22	979	

COMMENTS: BRI-OAK BLK 2 LOT 2.

MINNESOTA COUNTY WELL INDEX/WELL LOG.

UN.NO./CO. : 164517/71 NAME :

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	51			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1: 15 4 TOP: 51 FT. BOTTOM: 55 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : DEMPSTER MODEL: MF3-50-S2
 SIZE : 0.2 H.P. VOLTS: 230 CAPACITY: 15 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 36 FT. MATERIAL:

PUMPAGE TEST(S).

STATIC WATER LEVEL: 22 FT. DATE: 1979/08/

	LEVEL(FT)	HOURS	GPM	DRAWDOWN(FT)
TEST 1:			40	

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL [EL.TOP]	DRILLER S DESCRIPTION [INTERPRETED LITHOLOGY	COLOR [CODE]	HARDNESS [STRATIGRAPHIC UNIT(S)	[AGE]
0 25	GRAVEL			
[1001]	[GRAVEL	][QFUU]	[SAND	] [QUA]
25 41	SANDY CLAY	BLUE		
[976]	[CLAY, SAND	][QTUG]	[TILL, GRAY	] [QUA]
41 49	SANDY CLAY	BROWN		
[960]	[CLAY, SAND	][QTUB]	[TILL, BROWN	] [QUA]
49 55	SAND	BROWN		
[952]	[CLAY	][QFUB]	[SAND, BROWN	] [QUA]

 MINNESOTA COUNTY WELL INDEX.

UN.NO./CO. : 160592/71 ENTERED: 1990/12/01

NAME : MERICKEL CONST UPDATED: 1991/08/19

COUNTY : SHERBURNE USE : DOMESTIC DRILLED: 1979/05/01
 T/R/SEC. : 35/29/22CBBDDB DEPTH : 56 FT. DEPTH D: 56 FT.
 ELEVATION: 998 FT. (TOPO) CASED : 52 FT. GROUT :
 DIAM. : 4 IN. DRL/DS : 73135 : FISCHER WELL CO.
 LOC.METH.: LOC.BY : MGS COORDS.:
 STATUS : ACTIVE WHPA : DNR PA#:

OPEN HOLE: QUAT. BURIED ARTES. AQUIFER
 AQUIFER : QUAT. BURIED ARTES. AQUIFER

ADDRESS : , , MN
 QUAD(7.5): DUELM CONTACT:
 POTENTIAL POLLUTION SOURCE: 100 FT. DIR.: TYPE: SEPTIC/DEL
 CWI/WL: YES CWI/WC: NO CORE/CTINGS/GP.:

DATE	NITRATE	BACTERIA	SOURCE	SWL	ELEV	SOURCE
1978/12/13				24	974	

COMMENTS: BRI OAKS ADD, BLOCK 1, LOT 6
 BRI OAKS ADD. BLK 1 LOT 6. SECT. MAP.

MINNESOTA COUNTY WELL INDEX/WELL LOG.

UN.NO./CO. : 160592/71

NAME : MERICKEL CONST

WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----]		
				MATERIAL	AMNT	UNITS
CASING 1 :	4	0	52			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

 SCREEN 1: 12 4 TOP: 52 FT. BOTTOM: 56 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : AERMOTOR MODEL: SD-8
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 8 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 35 FT. MATERIAL:

PUMPAGE TEST(S).

	STATIC WATER LEVEL: LEVEL(FT)	24 FT. HOURS	GPM	DATE: 1978/12/ DRAWDOWN(FT)
TEST 1:	30	1	15	6.0

DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL	DRILLER S DESCRIPTION [EL.TOP] [INTERPRETED LITHOLOGY	COLOR] [CODE] [STRATIGRAPHIC UNIT(S)	HARDNESS] [AGE]
0 1	SAND	BLACK	
[998]	[SAND	] [QFUK] [SAND, BLACK	] [QUA]
1 15	SAND + CLAY	BROWN	
[997]	[SAND, CLAY	] [QUUB] [BROWN	] [QUA]
15 35	SAND + GRAVEL	BROWN	
[983]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]
35 49	CLAY + GRAVEL	GRAY	
[963]	[CLAY, GRAVEL	] [QUUG] [GRAY	] [QUA]
49 56	SAND + GRAVEL	BROWN	
[949]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]

County Name Sheep Lake

Township Name PALMER Township Number 35 Range Number 29 Section No. 22 Fraction SW 1/4

Distance and Direction from Road Intersections or Street Address and City of Well Location

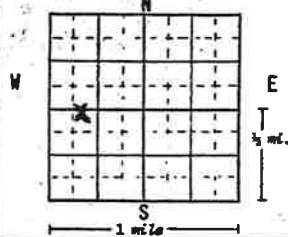
3. PROPERTY OWNER'S NAME

Address

MERILEE CONST.
777 WELLSVILLE AVE
ST. CLOUD
(KONSER WELL) PRI. DWS.

Show exact location of well in section grid with "X."

Sketch map of well location.



Addition Name
Block Number
Lot Number

4. WELL DEPTH (completed)

Date of Completion

71 ft. 6-2-80

- 1 Cable tool 4 Reverse 7 Driven 10 Dug
- 2 Hollow rod 5 Air 8 Bored 11
- 3 Rotary 6 Jetted 9 Power Auger

6. USE

- 1 Domestic 4 Public Supply 7 Industry
- 2 Irrigation 5 Municipal 8 Commercial
- 3 Test Well 6 Air Conditioning 9

7. CASING

- 1 Black 4 Threaded HEIGHT: Above/Below
- 2 Galv. 5 Welded Surface 2 ft.
- 3 4 in. to 107 ft. Weight _____ lbs./ft. 4 in. to 71 ft.

8. SCREEN

- Make JOHNSON Or open hole from _____ ft. to _____ ft.
- Type 304 SS Dia. 4"
- Slot/Gauze 30 Length 4'
- Set between 67 ft. and 71 ft. FITTINGS: Std

9. STATIC WATER LEVEL

38 ft. below land surface above Date Measured 6-2-80

10. PUMPING LEVEL (below land surface)

45 ft. after 1 hrs. pumping 14 g.p.m.
_____ ft. after _____ hrs. pumping _____ g.p.m.

11. WELL HEAD COMPLETION

- 1 Pitless adapter 2 Basement offset 3 At least 12" above grade

12. Well grouted?

- Yes No Cu. Yds. _____
- 1 Neat Cement 2 Bentonite 3
- Depth: from _____ ft. to _____ ft.

13. Nearest sources of possible contamination

100 feet N direction septic type
Well disinfected upon completion? Yes No

14. PUMP

Date installed 5-31-80
 Not installed
Manufacturer's Name AER MOTOR
Model Number SD-1-50 HP 1/2 Volts 230
Length of drop pipe 42 ft. capacity 10 g.p.m.
Material of drop pipe 1" galv.
Type: 1 Submersible 3 L. S. Turbine 5 Reciprocating
2 Jet 4 Centrifugal 6

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

FISCHER WELL DR. 73135
License Business Name License No.

Address BOX 1101 ST. CLOUD

Signed Kenneth Strubanu Date 1-13-81
Authorized Representative

DAN DONABAUER Date 1-13-81
Name of Driller

2. FORMATION LOG

FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
<u>TOPSOIL</u>	<u>BL</u>	<u>M</u>	<u>0</u>	<u>1</u>
<u>GRAVEL SAND</u>	<u>BR</u>	<u>M</u>	<u>1</u>	<u>8</u>
<u>FINE SAND GRAVEL</u>	<u>PR</u>	<u>M</u>	<u>18</u>	<u>35</u>
<u>CLA</u>	<u>BR</u>	<u>M</u>	<u>35</u>	<u>54</u>
<u>HARD PAN</u>	<u>BR GR</u>	<u>H</u>	<u>54</u>	<u>65</u>
<u>SAND GRAVEL</u>	<u>BR</u>	<u>M</u>	<u>65</u>	<u>71</u>

35-29-22
elev
155.0

check w/ Block 2
lot 3
a Konser
lives
here

LOCATED BY

- 1 Address Verification
- 2 Name on Mailbox
- 3 Lot Book
- 4 Plat Book
- 5 Info. from Owner
- 6 Info. from Neighb.
- 7 Other
- Can't locate

need more info

Use a second sheet, if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

5227

 MINNESOTA COUNTY WELL INDEX/WELL LOG.
 UN.NO./CO. : 160590/71 NAME : MERICKEL CONST

 WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----] MATERIAL	AMNT	UNITS
CASING 1 :	4	0	50			

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1: 18 4 TOP: 50 FT. BOTTOM: 54 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : AERMOTOR MODEL: SD-8
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 8 GPM

 TYPE : SUBMERSIBLE DROP PIPE: 32 FT. MATERIAL:

PUMPAGE TEST(S).

	STATIC WATER LEVEL: LEVEL(FT)	24 FT. HOURS	GPM	DATE: 1978/12/ DRAWDOWN(FT)
TEST 1:	28	1	16	4.0

 DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL	DRILLER S DESCRIPTION [EL.TOP] [INTERPRETED LITHOLOGY	COLOR] [CODE] [STRATIGRAPHIC UNIT(S)	HARDNESS] [AGE]
0 1	SAND	BLACK	
[1001]	[SAND	] [QFUK] [SAND, BLACK	] [QUA]
1 15	SAND + CLAY	BROWN	
[1000]	[SAND, CLAY	] [QUUB] [BROWN	] [QUA]
15 35	SAND + GRAVEL	BROWN	
[986]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]
35 48	CLAY + GRAVEL	GRAY	
[966]	[CLAY, GRAVEL	] [QUUG] [GRAY	] [QUA]
48 54	SAND + GRAVEL	BROWN	
[953]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]

 MINNESOTA COUNTY WELL INDEX/WELL LOG.
 UN.NO./CO. : 160591/71 NAME : MERICKEL CONST

 WELL CONSTRUCTION.

	DIAM(IN)	FROM(FT)	TO(FT)	[GROUT-----]	MATERIAL	AMNT	UNITS
CASING 1 :	4	0	61				

SCREEN.

PRESENT?: YES
 MAKE : JOHNSON TYPE: STAINLESS DIAM: 4 IN.
 SCREEN : SLT/GZE LENGTH(FT) SETTING

SCREEN 1: 10 4 TOP: 61 FT. BOTTOM: 65 FT.

PUMP.

INSTLLD?: YES DATE : / /
 MAKE : AERMOTOR MODEL: SD-8
 SIZE : 0.5 H.P. VOLTS: 230 CAPACITY: 8 GPM
 TYPE : SUBMERSIBLE DROP PIPE: 37 FT. MATERIAL:

 PUMPAGE TEST(S).

	STATIC WATER LEVEL: LEVEL (FT)	25 FT. HOURS	GPM	DATE: 1978/12/ DRAWDOWN (FT)
TEST 1:	35	1	15	10.0

 DRILLER S/GEOLOGIC LOG

DEPTH INTERVAL	DRILLER S DESCRIPTION [EL.TOP] [INTERPRETED LITHOLOGY	COLOR] [CODE] [STRATIGRAPHIC UNIT(S)	HARDNESS] [AGE]
0 1	SAND	BLACK	
[1000]	[SAND	] [QFUK] [SAND, BLACK	] [QUA]
1 17	SAND + CLAY	BROWN	
[999]	[SAND, CLAY	] [QUUB] [BROWN	] [QUA]
17 38	SAND + GRAVEL	BROWN	
[983]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]
38 53	CLAY + GRAVEL	GRAY	
[962]	[CLAY, GRAVEL	] [QUUG] [GRAY	] [QUA]
53 65	SAND + GRAVEL	BROWN	
[947]	[SAND, GRAVEL	] [QFUB] [SAND, BROWN	] [QUA]
