

GME CONSULTANTS, INC.

CONSULTING ENGINEERS

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March 25, 2003

Ms. Sandra Miller-Moren
Minnesota Pollution Control Agency
Tanks and Emergency Response Section
1800 College Drive
Baxter, Minnesota 56425

GME Project No. C-8214-B

RE: Remedial Investigation (RI) Report submittal for the Former Wigwam Inn site near Garrison, Minnesota (MPCA Leaksite #12624)

Dear Ms. Miller-Moren:

On behalf of the Mille Lacs Band of Ojibwe, enclosed is a copy of the above referenced document. We are recommending one year of quarterly groundwater monitoring.

Please review this report as soon as possible and contact us with any questions.

Sincerely,

GME CONSULTANTS, INC.

Mark D. Millsop, P.G.
Principal Hydrogeologist
Env. Division Manager

c: Mr. Ryan Rupp
Mille Lacs Band of Ojibwe
43408 Oodena Drive
Onamia, Minnesota 56359-9530

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Baxter, MN

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MARK D. MILLSOP, P.G.
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THOMAS P. VENEMA, P.E.
WILLIAM E. BLOEMENDAL, P.E.

**REMEDIAL INVESTIGATION REPORT
FORMER WIGWAM INN
GARRISON, MINNESOTA**

**GME PROJECT NO. C-8214-B
MARCH 25, 2003**

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Mr. Ryan Rupp
Mille Lacs Band of Ojibwe
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Onamia, Minnesota 56359-9530

GME Project No. C-8214-B

RE: Remedial Investigation (RI) Report for the Former Wigwam Inn site near Garrison,
Minnesota (Leaksite #12624)

Dear Mr. Rupp:

In accordance with your authorization of our proposal, we have completed our services for this phase of the project. The purposes of this report are to evaluate the results of the field and laboratory work, and to recommend subsequent actions. Based on the results of this RI, we are recommending continued quarterly groundwater monitoring for one year.

We appreciate this opportunity to be of service to you. If you have any questions, please call me at 218-546-6371.

Sincerely,

GME CONSULTANTS, INC.

Mark D. Millsop, P.G.
Principal Hydrogeologist
Environmental Division Manager

MDM:jlm

A:7608A.rpt

Section 1: Emergency and High Priority Sites

1. Is an existing drinking water well impacted or likely to be impacted within a two-year travel time? 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 (ppm) 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? If YES, attach fact sheet 3.4 Free Product Recovery Report Worksheet. YES NO

6. Is a sand or gravel aquifer impacted which is tapped by water wells within or potentially within 500 feet from the release source or does impacted soil overlie a geologically sensitive area? If YES, explain: YES NO

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,

Section 2: Site and Release Information

- 2.1 Attach Table 1 - Tank Information. Describe the status of the other components of the tank system(s), (i.e., piping and dispensers). *All three USTs and the piping were removed in May 1999.*
- 2.2a Describe the land use and pertinent geographic features within 1,000 feet of the site.

The site is located at the intersection of County Road 25 and Highway 169, just west of Mille Lacs Lake. The site is now vacant and there are vacant lots adjoining the site to the north, east and west.
- 2.2b List other potential leak sources within 500 feet of the site.

None known
- 2.3 Identify and describe the source or suspected source(s) of the release.

The suspected source of the release appeared to be from overfills or spills.
- 2.4 What was the volume of the release? (if known): *Unknown* gallons
- 2.5 When did the release occur? (if known): *Unknown*

Section 3: Excavated Soil Information

3.1 Include the Fact Sheet 3.7 Excavation Report Worksheet in Appendix A

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

Date excavated:

Volume removed: cubic yards

3.3 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, sources including:

dispensers,	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> Not Present
aboveground storage tank basins,	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> Not Present
underground storage tank basins,	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> Not Present
pipings,	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> Not Present
remote fill pipes,	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> Not Present
and known spill areas	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> Not Present

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. If a confining layer is present, drill the boring in an uncontaminated area. 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): *Several of the push probes were completed to about 1 foot short of the MPCA's general desired depths, but were adequately deep for this site, in our opinion.*

- 4.4 Indicate the drilling method: hollow-stem auger
 sonic drilling
 push probes
 other

Note: MPCA staff hydrologist approval is required before use of flight augers

- 4.5 Discuss soil borings drilled and provide rationale for their locations. Attach boring logs in Appendix D.

Borings were placed in the four primary compass directions around the former UST basin and one was placed through the former UST basin to assess whether impacts have migrated.

- 4.6 Attach Table 2 - Results of Soil Headspace Screening, In Appendix C, discuss soil headspace screening method and describe any deviation from recommended and/or required methods and procedures.
- 4.7 Attach Table 3 - Analytical Results of Soil Samples. Provide analytical results in Appendix B. In Appendix C, discuss soil sampling and analytical methods used and describe any deviation from recommended and/or required methods and procedures.

- 4.8 Describe the vertical and horizontal extent and magnitude of soil contamination. Provide a plan-view map and two cross-sections that illustrate both soil head space and laboratory analytical results.

The organic vapor measurements and chemistry results for soil samples collected from the probes and borings indicated that the petroleum impacts primarily are limited to near the groundwater table in the area of the former UST basin.

- 4.9 Attach Table 4 - Other Contaminants Detected in Soils (Petroleum or Non-petroleum Derived). Discuss the possible sources of these compounds.

Soil samples were collected for laboratory analyses of BTEX, GRO and DRO only.

- 4.10 Is contaminated soil in contact with ground water? YES NO

If YES or if ground water contamination appears likely, then complete Section 5.

If NO (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?

- 4.11 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.

Obvious evidence of mottling was not noted in any of the samples.

- 4.12 In your judgment, is there a sufficient distance separating the petroleum contaminated soil (or an impacted non-aquifer) from the underlying aquifer to prevent petroleum contamination of the 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

If YES, a ground water contamination assessment is not necessary as part of the LSI.

If NO, a ground water contamination assessment is necessary. Complete Section 5.

Section 5: Aquifer Characteristics/Ground Water Contamination Assessment

Complete Section 5 if groundwater has been contaminated or may become contaminated. Aquifer determination is made during the LSI. It is based upon the stratigraphy and a hydraulic conductivity measurement calculated from grain size distribution analysis. The site stratigraphy gives the context within which the hydraulic conductivity measurement can be interpreted. Please refer to Fact Sheet 3.19, Soil and Ground Water Investigations Performed During Remedial Investigations for methods and requirements.

- 5.1 Provide an average hydraulic conductivity value (K) measured:

$K = 42.51$ ft/day Range 28.34 (P-1) - 56.68 (P-5) ft/day

Indicate the method of measurement (i.e., Hazen, Masch and Denny, Kozeny-Carmen, etc.): *Grain-size distribution approximations by ASTM D: 422 method(s).*

Indicate the locations and depths of soil samples submitted for grain size analyses. Provide the results of grain size analyses and other information used for the determination of K-values in Appendix E.

Probe P-1, 4 to 8 feet, and Probe P-5, 0 to 4 feet.

- 5.2 Calculate a range for aquifer transmissivity (T) using the equation $T = Kb$, where b is the thickness of the aquifer: (*b=20 feet minimum (P-5) and likely more*)

$$\begin{aligned} T_{High} &= 1133.6 \text{ ft}^2/\text{day} \\ T_{Low} &= 566.8 \text{ ft}^2/\text{day} \\ T_{Avg} &= 850.2 \text{ ft}^2/\text{day} \end{aligned}$$

Determine the aquifer thickness (b) from geologic logs of soil borings, water well logs, and available published information. Attach water well logs in Appendix D. If the transmissivity of a contaminated hydrogeologic unit is greater than 50 ft²/day, it is considered an aquifer (for the purpose of the LUST program), and monitoring wells will be necessary.

- 5.3 Discuss in detail the site geology and stratigraphy, including a discussion of local and regional hydrogeology, using soil boring data and cross sections, geologic logs of nearby water wells, and available published information.

Area Geology

According to USGS Atlas HA-509, the area is underlain by undifferentiated glacial drift with an estimated thickness of 100 to 150 feet. The underlying bedrock consists of granite gneiss. The atlas indicates that the regional groundwater flow beneath the site is generally toward Lake Mille Lacs. Local variations in groundwater flow due to geologic conditions are common.

Site Geology

The site is underlain by fine to medium sand to at least 20 feet below grade; a thin peat layer was encountered in some of the probes.

Groundwater was encountered at depths ranging from 1.5 feet in P-5 to 8 feet below grade in several probes.

- 5.4 Attach Table 5- Water Level Measurements and Depths of Water Samples Collected from Borings. Indicate the method used to measure the water levels in borings, and the depth water samples were collected from borings. Allow water levels in borings to equilibrate to static conditions, and the adjust the effective screened intervals in borings to intercept the static water table prior to water sample collection. Discuss groundwater flow direction.

Groundwater levels are approximate based on the depth to saturated soil in all of the borings. The water levels from the borings were not used for the groundwater flow maps. Based on three monitoring wells at the site, shallow groundwater generally appears to be flowing southerly, which is surprising; based on the lake's location, an easterly flow direction initially was anticipated and there was the possibility of a westerly contaminant migration pattern based on the previous petroleum detections to the west. We recommend that the well elevations be re-surveyed during the next groundwater sampling event, along with the lake elevation.

- 5.5 Attach Table 6 - Analytical Results of Water Samples Collected from Borings. Summarize the analytical results of groundwater samples collected as part of an LSI. Discuss the extent and magnitude of groundwater contamination. Also provide a discussion on QA/QC, including information on the samples collected and laboratory analyses performed.

The highest concentrations of petroleum parameters in the groundwater samples were from probe P-1, located through the former UST basin. In this probe, DRO was detected at 72,000 ppb and GRO was detected at 11,000 ppb. Of the remaining probes, the only concentrations of petroleum parameters detected in the groundwater were from probes P-3 and P-5, to the west and east of the former UST basin. All of the groundwater samples collected from the probes were analyzed at a fixed laboratory for VOCs, GRO and DRO. A trip blank accompanied the samples submitted to the fixed laboratory.

- 5.6 Attach Table 7 - Other Contaminants Detected in Water Samples Collected from Borings (Petroleum or Non-petroleum Derived). Discuss the possible sources of these contaminants and provide a discussion of QA/QC information.

The only other parameters detected were in P-1, and likely were petroleum related.

- 5.7 Laboratory certification number: *EnChem Laboratory, Inc.*
MDH Lab I.D. 055-999-334

Additional Ground Water Investigation

Complete Section 6 only if: 1) an aquifer has been impacted at or above Minnesota Department of Health HRLs, 2) an 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- aquifer) from the underlying aquifer. Complete Section 7 only if remediation is anticipated. Regardless of whether you are submitting a LSI or a full RI, all sections following Section 7 must be completed.

Section 6: Extent and Magnitude of Ground Water Contamination

- 6.1 Discuss drilling and installation of wells, including the rationale for their locations. Attach boring logs in Appendix D.

Monitoring well MW-1 was installed through the former UST basin in accordance with MPCA guidance documents. Monitoring wells MW-2 and MW-3 were installed as potentially downgradient wells, based on the previous petroleum detections in P-3.

- 6.2 Attach Table 8 - Monitoring Well Completion Information.
- 6.3 Attach Table 9 - Summary of Water Levels Measured in Wells.
- 6.4 Attach Table 10 - Analytical Results of Water Samples Collected from Wells.
- 6.5 Attach Table 11 - Other Contaminants Detected in Water Samples Collected from Wells (Petroleum or Non-Petroleum Derived).

- 6.6 Describe the extent and magnitude of the ground water contamination. Discuss the presence of non-petroleum compounds, if detected, and identify possible sources of these compounds. Also provide a discussion on QA/QC, including information on the samples collected and laboratory analyses performed.

The groundwater impacts primarily appear to be near the former UST basin. Impacted groundwater also has been detected to the east and west of the release source. Dedicated, disposable sampling equipment was used to collect groundwater from the monitoring wells and borings. Downhole meters were washed with Alconox soap solution and rinsed with distilled water prior to use in each well. A trip blank and field duplicate were analyzed for each sampling event.

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

The groundwater apparently is flowing southerly.

- 6.8 Is there a worst case well completed through the source area(s) of the release? YES NO

Monitoring well MW-1.

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

- 6.9 Provide an estimate of the longitudinal length of the dissolved contaminant plume: ~ 80 to 160 FEET

- 6.10 Calculate groundwater flow velocity (based on Darcy's Law) using the average K-value, average horizontal hydraulic gradient, and effective porosity. Provide documentation in Appendix F.

Hydraulic Conductivity (K) = *42.51 feet/day*

Method: *ASTM D422*

Porosity (n) = *0.3*

method/reference: *Estimated from Freeze and Cherry, page 37*

Average horizontal gradient (dh/dl) = *average 0.005*

Calculated GW velocity (v) = *0.7 ft/day*

- 6.11 Using the calculated groundwater flow velocity (above), is there a receptor within a five-year travel time? YES NO

If YES, provide the unique well number and identify the location of the receptor(s).

Well numbers are not available. There are residences along Highway 169 that have their own drinking water wells (Figure 10). The nearest residence is that of Ms. Neva Williams.

- 6.12 Were any deep monitoring wells completed at the site? YES NO

If YES, list them and indicate their depths:

Contact the MPCA project hydrologist before installing a deep monitoring well. A deep monitoring well may be necessary if: 1) Contamination exists more than 10 feet below the water table or 2) the impacted aquifer is a drinking water aquifer or is hydraulically connected to the aquifer(s) presently utilized by a water supply well located within 500 feet of the release source.

If contamination is present at depth in the aquifer or in deeper aquifers, additional deep wells may be required. Provide the following information if deep wells are installed:

Vertical Gradient (dv/dl)

Inferred GW Flow Direction

Provide the following information for the deep aquifer unit if it appears to be hydrogeologically distinct from the upper unit.

Porosity (n):
Hydraulic Conductivity (K): *ft/day*

Indicate the locations and depths of soil samples submitted for grain size analyses.

Submit this RI report after completing a minimum of two quarterly sampling events. Groundwater monitoring should continue until MPCA response is received.

Section 7: Evaluation of Natural Attenuation

Refer to the fact sheet #3.21 Assessment of Natural Attenuation at Petroleum Release Sites.
Note: Evaluation of natural attenuation is not required unless requested by MPCA staff.

7.1 Attach Table 12 - Natural Attenuation Parameters. Discuss the results. Specifically, compare the concentrations of the inorganic parameters inside and outside the plume.

7.2 In your judgment, is natural biodegradation occurring at this site? Please Explain.

YES NO

If active remediation is anticipated, discuss reasons why natural attenuation (including biodegradation) can not adequately remediate the contaminants to acceptable risk levels.

Section 8: Well Receptor Information/Assessment

Include in Appendix E, copies of the water supply well logs obtained from MGS, MDH, drillers, and where applicable, from County well management authorities.

- 8.1 Attach Table 13 - Properties Located Within 500 Feet of the Release Source. Provide a map identifying the features listed in Table 13.
- 8.2 Were all property owners within 500 feet of the release source successfully contacted to determine if water wells are present? If NO, please explain. YES NO
- 8.3 Attach Table 14 - Water Supply Wells Located within 500 Feet of the Release Source and Municipal or Industrial Wells Within 1/2 Mile.
- 8.4 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 release source as well as the risk posed by or to any municipal or industrial wells found within 1/2 mile. Specifically indicate whether water supply wells identified utilize the impacted aquifer. (Note: an impacted aquifer separated from another aquifer by a clay lens may not be considered a separate aquifer).
- We identified one domestic well located approximately 400 feet south of the site and the on-site well. No documentation was available for the well, however Neva Williams reports that her well is 84 feet deep.*
- 8.5 Is municipal water available in the area? YES NO

8.6 Are there any plans for ground water development in the impacted aquifer within 1/2 mile of the site, or one mile down-gradient of the site if the aquifer is fractured?

YES NO

Please give the name, title and telephone number of the person that was contacted for this information (below).

Unknown for this rural area.

Section 9: Surface Water Risk Assessment

9.1 Are there any surface waters or wetlands located within 1/4 mile of the site?
 YES NO

If YES, list them: Mille Lacs Lake is within 200' of the former UST basin.

9.2 If surface water is present down-gradient of the site, is there a clean down-gradient monitoring well (temporary or permanent) located between the site and the surface water?
 YES NO

9.3 If you answered NO to question 9.2, we assume that contamination discharges to surface water. Therefore, complete the following information:

Name of receiving water:

Receiving water classification

ORVW?

YES NO

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

Applicable chronic standard (7050 or 7052)
Applicable max. standard (7050 or 7052)
Applicable FAV (7050 or 7052)
Contaminant concentration in ground water

- 9.4 If you answered YES to question 9.2, identify the clean down-gradient boring or monitoring well, the distance to the surface water feature, and discuss the contamination risk potential.

P-5 is near the lake and only 190 ppb DRO was detected.

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 contaminated ground water may be traveling off-site within the utility corridors? YES NO

If YES, utility backfill investigation is required (refer to Fact Sheet 3.19). Discuss the investigation rationale and results.

- 10.3 Discuss the potential for vapor migration/accumulation near the site. Your discussion should consider: Soil types, product type, presence and distribution of free product or high concentrations of dissolved product. Also, using cross-sections to illustrate the relationship, 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 and sumps.

The Wigwam Inn has been demolished and the site is vacant. The sandy soils and lack of VOC detections likely reduces the potential for future migration of any vapor impacts. However, if any construction is planned for the former UST basin area it should take into account the potential for vapor migration.

- 10.4 Conduct a vapor survey if the vapor risk assessment indicated a risk of vapor impacts to buildings or utilities. Ask occupants of nearby buildings if they have smelled petroleum odors. See fact sheet 3.20 Potential Receptor Surveys and Risk Evaluation Procedures at Petroleum Release Sites. Describe and interpret the results of the vapor survey. Identify the vapor monitoring location on an attached site map.

There are no apparent petroleum vapor impacts to the site or to adjoining properties at this time.

- 10.5 Attach Table 15 - Results of Vapor Monitoring.

Section 11: Discussion

- 11.1 Discuss the risks associated with the remaining soil contamination:

Based on the magnitude and extent of the remaining soil impacts as defined by this study, it appears that there is not a large amount of petroleum impacted soil present and it appears to be primarily limited to the area near the former UST basin. (Note that if future construction activities happen to encounter these impacts, proper safety procedures should be followed and the MPCA and an environmental consultant should be notified immediately.)

- 11.2 Discuss the risks associated with the impacted ground water:

The results show that the impacts primarily remain near the former UST basin. Also, the on-site well was sampled and there were no detections. (Note that if future construction activities happen to encounter these impacts, proper safety procedures should be followed and the MPCA and an environmental consultant should be notified immediately.)

- 11.3 Discuss other concerns not mentioned above:

None.

Section 12: Conclusions and Recommendations

- 12.1 Recommendation for site: site closure
 additional vapor monitoring
 additional ground water monitoring
 active remediation

- 12.2 Base the recommendation above on fact sheet #3.1 Leaking Underground Storage Tank Program. Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.

In summary, the DRO and GRO groundwater concentrations in the source area are well above the MPCA action level of 1000 ppb. Therefore, we recommend continued groundwater monitoring to confirm groundwater flow directions and the plume stability.

- 12.3 If additional monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the MPCA responds to this report.

The proposed additional groundwater monitoring includes 4 quarterly events over the next year for GRO, DRO and BTEX, and a re-survey of the monitoring well elevations.

- 12.4 If active remediation is proposed, then recommend a conceptual approach by listing the remedial technologies or combination of technologies that are likely feasible. MPCA staff will review this RI report at a higher than normal priority to determine if active remediation is required. We will respond with either a request for proposal for additional monitoring or a Corrective Action Design report.

Section 13: Figures

Attach the following figures in order of discussion in the text:

Site location map using a U.S. Geological Survey 7.5 minute quadrangle map.

One or more site map showing:

- * Structures
- * Locations and depths of on-site buried utilities
- * 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
- * Location of end points for all geologic cross sections.

Distinguish sequential elements of investigations by dates, symbols, etc. in the key.

Ground water gradient contour maps (for sites with monitoring wells) for each gauging event.

Well receptor survey map showing 1/2 mile radius, 500 foot radius, water supply wells, other potential sources of contamination, using a U.S. Geological Survey 7.5 minute quadrangle.

Vapor survey map showing utilities and buildings with basements and monitoring locations (if a survey was required).

Provide at least two (2) geologic cross sections, including utilities.

Section 14: Tables

**Table 1
 Tank Information**

Tank #	UST or AST	Capacity (Gallons)	Contents	Year Installed	Status*	Condition
1	UST	1000	Gasoline	Unknown	Removed 05-06-99	The tank appeared to be in fair condition with corrosion pits observed on the tank shell.
2	UST	500	Diesel Fuel Oil	Unknown	Removed 05-06-99	The tank appeared to be in fair condition with corrosion pits observed on the tank shell.
3	UST	700	Gasoline	Unknown	Removed 05-06-99	The tank appeared to be in poor condition with corrosion pits observed on the tank shell.

**Table 2
 Results of Soil Headspace Screening**

Boring Number	Sample Depth (Feet)	Headspace Measurement (ppm)	ASTM Soil Classification
P-1	0 - 4	1.4	SP
	4 - 8	180	SP
	8 - 12	60*	SP
	12 - 16	0.8*	Pt-SP
P-2	0 - 4	2.2	SP
	4 - 8	2.4	SP
	8 - 12	2.3*	Pt-SP
P-3	0 - 4	1.4	SP
	4 - 8	3.2	SP
	8 - 12	0.4*	Pt-SP

ppm = parts per million

SP = Sand Pt = Peat

*Sample collected below the observed water table

PID used - HNU Model PI-101 (HNU) with 10.2 eV lamp

MPCA headspace technique used - polyethylene bag

Table 2 (Continued)
Results of Soil Headspace Screening

Boring Number	Sample Depth (Feet)	Headspace Measurement (ppm)	ASTM Soil Classification
P-4	0 - 4	2.2	SP
	4 - 8	4.5	SP
	8 - 12	3.5*	Pt-SP
P-5	0 - 4	3.2*	SP
	4 - 8	2.8*	SP-Pt
	8 - 12	2.4*	SP
	12 - 16	1.3*	SP
	16 - 20	1.4*	SP
B-1/MW-1	4 - 6	0.2	SP
	8 - 10	4.1	SP
	14 - 16	18.6	SP
B-2	4 - 6	0.2	SP
	8 - 10	0.1*	SP
B-3/MW-2	4 - 6	1.2	SP
	8 - 10	0.3*	SP
	14 - 16	0.1*	SP
B-4/MW-3	4 - 6	0.3	SP
	8 - 10	0.3*	SP
	14 - 16	0.2*	SP

ppm = parts per million

SP = Sand Pt = Peat

*Sample collected below the observed water table

PID used - HNU Model PI-101 (HNU) with 10.2 eV lamp

MPCA headspace technique used - polyethylene bag

WTR @ 2.6 ppm

Table 3
Analytical Results of Soil Samples

Well/Boring, Depth (Ft)	Date Sampled	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	GRO (ppm)	DRO (ppm)	Lab Type
P-1 (8-9)	09-06-00	<1.0	<1.0	16	108	2900	1100	Fixed
P-1 (15-16)	09-06-00	<0.025	<0.025	<0.025	<0.025	<3.1	<3.5	Fixed
P-2 (8-9)	09-06-00	<0.025	<0.025	<0.025	<0.025	<3.10	<4.4	Fixed
P-3 (8-9)	09-06-00	<0.025	<0.025	<0.025	<0.025	<3.1	<4.4	Fixed
P-4 (8-9)	09-06-00	<0.025	<0.025	<0.025	<0.025	<3.1	<4.6	Fixed
P-5 (1.5-2.5)	09-06-00	<0.025	<0.025	<0.025	<0.025	<2.9	35	Fixed
B-1 (14-16)	06-20-02	<0.032	<0.032	<0.032	0.105	5.0	<3.9	Fixed
B-2 (9-11)	06-20-02	<0.032	<0.032	<0.032	<0.032	<3.2	<4.4	Fixed
B-3 (14-16)	06-20-02	<0.032	<0.032	<0.032	<0.032	<3.2	<3.8	Fixed
B-4 (14-16)	06-20-02	<0.032	<0.032	<0.032	<0.032	<3.2	<4.0	Fixed

ppm = parts per million
 GRO = gasoline range organics
 DRO = diesel range organics

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

Boring # Depth (Ft)	Date Sampled				

Report results in mg/kg. Indicate other contaminants (either petroleum or non-petroleum derived) detected in soil collected from borings.

Table 5
Water Level Measurements and Depths of Water Samples Collected from Borings

	Soil Boring #								
	P-1	P-2	P-3	P-4	P-5	B-1	B-2	B-3	B-4
Static Water Level Depth (Ft)	8	8	8	8	1.5	6	6	6	6
Sampled Depth (Ft)	8-10	8-10	8-10	8-10	1.5-3.5	-	6-8	-	-

Describe in Appendix C, the methods and procedures used to measure water levels in borings.

Table 6
Analytical Results of Water Samples Collected From Borings

Boring #	Date Sampled	Sampled Depth (Feet)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	GRO (ppb)	DRO (ppb)	Lab Type
P-1	09-06-00	8-10	<10	<50	83	710	<10	11000	72000	Fixed
P-2	09-06-00	8-10	<1.0	<5.0	<1.0	<2.0	<1.0	<50	<120	Fixed
P-3	09-06-00	8-10	<1.0	11	<1.0	<2.0	<1.0	<50	800	Fixed
P-4	09-06-00	8-10	<1.0	<5.0	<1.0	<2.0	<1.0	<50	<100	Fixed
P-5	09-06-00	8-10	<1.0	<5.0	<1.0	<2.0	<1.0	<50	190	Fixed
B-2	09-06-00	6	<1.0	<1.0	<1.0	<2.0	<1.0	<50	260	Fixed
On-Site Well	09-06-00		<1.0	<5.0	<1.0	<2.0	<1.0	<50	NA	Fixed
Trip Blank	09-06-00		<1.0	<5.0	<1.0	<2.0	<1.0	<50	NA	Fixed
	06-02-02		<1.0	<1.0	<1.0	<2.0	<1.0	NA	NA	Fixed
Duplicate ()	09-06-00		<20	<100	150	1320	<20	14000	7200	Fixed
Lab Blank										
HRL			10	1000	700	10000				

Report results in ug/L. Use less than symbols to show detection limit. Indicate mobile or fixed based in the lab type column.

ppb = parts per billion
 NA = not analyzed

Table 7
Other Contaminant Detected in Water Samples
Collected From Borings (Petroleum or Non-petroleum Derived)

Parameter	Boring No. (Sample Date)		
	P-1 (09-06-00)	Duplicate P-1 (09-06-00)	B-2 (06-20-02)
s-Butylbenzene	33	39	
n-Butylbenzene	130	150	
Isopropylbenzene	64	89	
Naphthalene	87	140	
n-Propylbenzene	200	270	
1,2,4-Trimethylbenzene	1400	1900	1.3
1,3,5-Trimethylbenzene	620	760	

Note: Results in parts per billion (ppb)

Table 8
Monitoring Well Construction

Well #	Unique Well #	Date Installed	Surface Elevation	Top of Riser Elevation	Bottom of Well (Elevation)	Screen Interval (Elev.-Elev.)
MW-1	674275	06-20-02	1253.40	1256.14	1237.40	1237.40 - 1247.40
MW-2	674276	06-20-02	1253.63	1256.31	1237.63	1237.63 - 1247.63
MW-3	674277	06-20-02	1254.27	1257.26	1238.26	1238.26 - 1248.26

Note: Elevations referenced to Geodetic Marker Elevation of 1258.00

Table 9
Water Level Measurements in Wells

Well #	Date Sampled	Depth of Water From Top of Riser	Product Thickness	Depth of Water Below Grade	Relative Groundwater Elevation	Water Level Above Screen (Y/N)
MW-1	06-25-02	7.52	0	5.38	1245.88	N
	09-11-02	7.01	0	4.87	1246.39	N
MW-2	06-25-02	7.22	0	5.53	1246.41	N
	09-11-02	6.69	0	5.00	1246.94	N
MW-3	06-25-02	7.75	0	8.01	1245.52	N
	09-11-02	8.15	0	7.41	1246.12	N

Table 10
Analytical Results of Water Samples Collected From Wells

Well #	Date Sampled	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	GRO (ppb)	DRO (ppb)	Lab Type
MW-1	06-25-02	<10	<10	72	450	11000	3400	Fixed
	09-11-02	<5.0	<5.0	38	243	5300	4200	Fixed
MW-2	06-25-02	<1.0	<1.0	<1.0	<2.0	<50	<100	Fixed
	09-11-02	<1.0	<1.0	<1.0	<2.0	<50	<100	Fixed
MW-3	06-25-02	<1.0	<1.0	<1.0	<2.0	<50	<100	Fixed
	09-11-02	<1.0	<1.0	<1.0	<2.0	<50	110	Fixed
Trip Blank	06-25-02	<1.0	<1.0	<1.0	<2.0	<50	NA	Fixed

Note: NA = Not Analyzed

Table 11
Other Contaminants Detected in Water Samples
Collected From Wells (Petroleum or Non-petroleum Derived)

Well Number	Date Sampled	n-Butylbenzene	Isopropylbenzene	p-Isopropylbenzene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
MW-1	06-25-02	120	89	21	97	270	1600	440
	09-11-02	83	40		40	110	630	250

Results in parts per billion (ppb)

Table 12
Natural Attenuation Parameters

Monitoring Well	Sampling Date	Conductivity	Temperature °C	pH (Units)	DO (mg/L)	Nitrate (mg/L)	Fe II (mg/L)
MW-1	06-25-02	1650	12.0	8.45	1.25	NS	NS
	09-11-02	870	15.8	6.84	0.66	NS	NS
MW-2	06-25-02	250	8.8	8.05	2.18	NS	NS
	09-11-02	130	14.7	6.20	0.73	NS	NS
MW-3	06-25-02	610	7.7	7.77	1.20	NS	NS
	09-11-02	500	12.4	6.35	2.72	NS	NS

NS = not sampled

Table 13
Properties Located Within 500 Feet of the Release Source

# From Map	Property Address	Water Well (Y or N)	How Determined*	Well Use**	Public Water Supply (Y or N)	Confirmed By City (Y or N)	Basement or Sumps (Y or N)	Possible Petroleum Sources (Y or N)	Comments (including property use)
	Neva Williams	Y	Questionnaire	Potable	N	NA	Y	N	

Table 14
Water Supply Wells Located Within 500 Feet of the
Release Source and Municipal or Industrial Wells Within 1/2 Mile

Unique Well #	Ground Elevation	Total Depth (ft)	Base of Casing (ft)	Static Elevation	Aquifer	Use	Owner	Distance & Direction From Source
Unk	Unk	Unk	Unk	Unk	Sand	Inactive	MLB	On-site
Unk	Unk	84'	Unk	Unk	Sand	Domestic	Williams	400, S

Band

Notes:

Unk = Unknown

Table 15
Results of Vapor Monitoring

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

Section 15: Appendices

Attach the following appendices.

- Appendix A Excavation Report Worksheet for Petroleum Release Sites.
- Appendix B Laboratory Analytical Reports for Soil and Ground Water. Include laboratory QA/QC data and laboratory certification number.
- 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 of Soil Borings, Including Construction Diagrams of Temporary and Permanent Wells, and Copies of the Minnesota Department of Health Well Record.
- Appendix E Copies of Water Supply Well Logs With Legible Unique Numbers.
- Appendix F Copies of Grain Size Analyses Worksheets.
- Appendix G GME General Qualifications.

Section 16: Consultant 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 leak site. 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 leak site 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. § 115.076 (1994 or Minn. R. 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

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

Mark D. Millsop, Principal Hydrogeologist
Preparer Name and Title **Date**

Mark D. Millsop
Preparer Signature

3/25/03

Company and mailing address:

**GME Consultants, Inc.
P.O. Box 250, Lakeshore Drive
Crosby, Minnesota 56441
218-546-6371
218-546-8196 (Fax)
gmecrosb@emily.net (email)**

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FIGURES

FIGURE 1: Regional Location Map

FIGURE 2: Approximate Site Diagram

FIGURE 3: Soil Chemistry Results

FIGURE 4: Groundwater Chemistry Results

FIGURE 5: Geologic Cross-Section Index

FIGURE 6: Geologic Cross-Section A-A'

FIGURE 7: Geologic Cross-Section B-B'

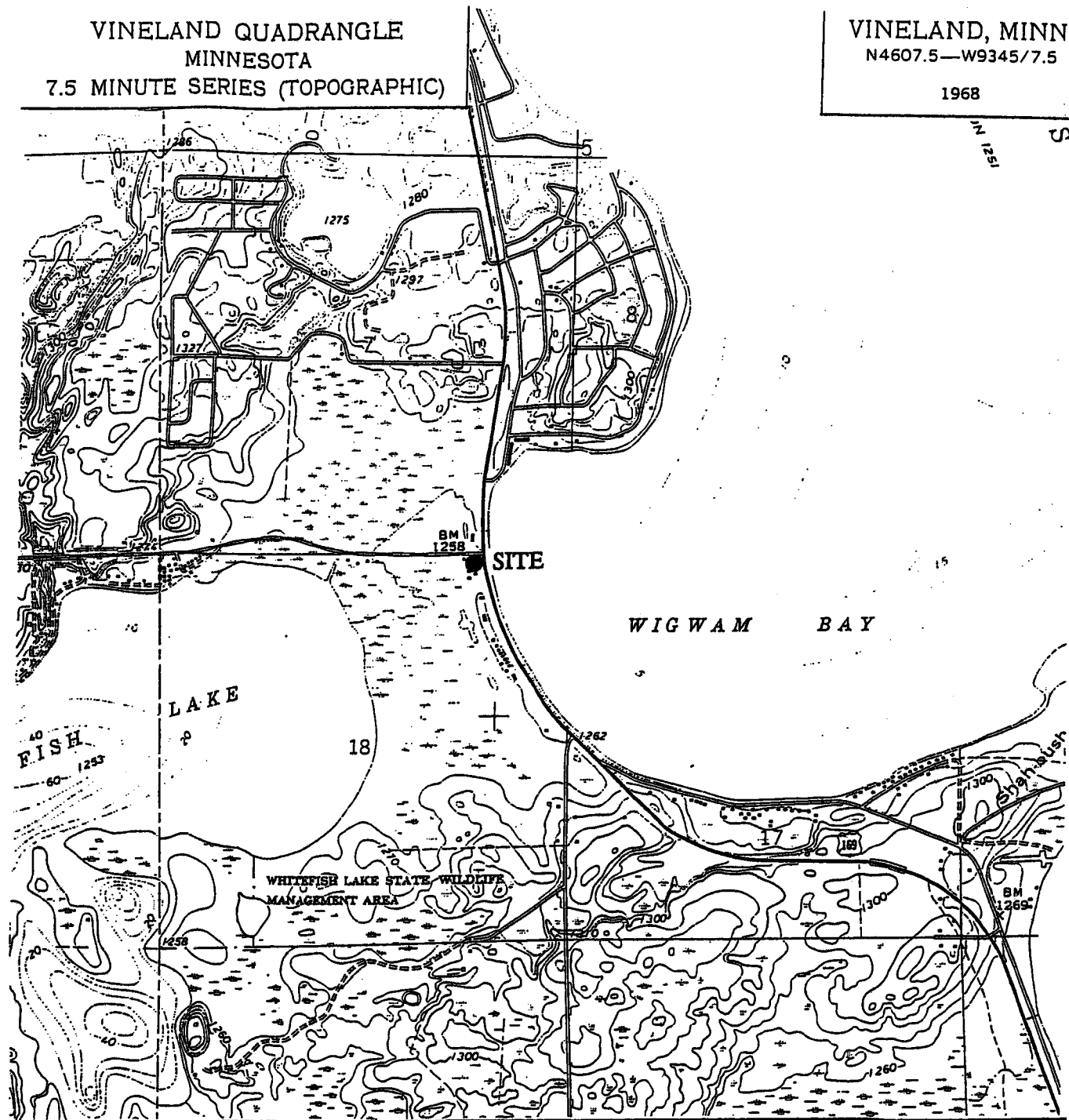
FIGURE 8: Shallow Groundwater Contour Map (06-25-02)

FIGURE 9: Shallow Groundwater Contour Map (09-11-02)

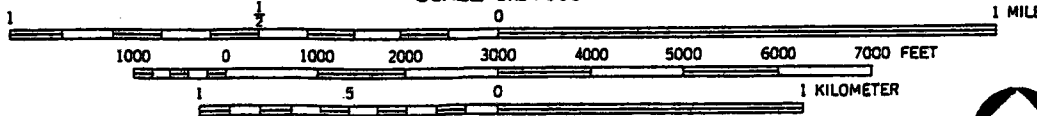
FIGURE 10: Nearby Well Locations

VINELAND QUADRANGLE
MINNESOTA
7.5 MINUTE SERIES (TOPOGRAPHIC)

VINELAND, MINN.
N4607.5—W9345/7.5
1968



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL



QUADRANGLE LOCATION

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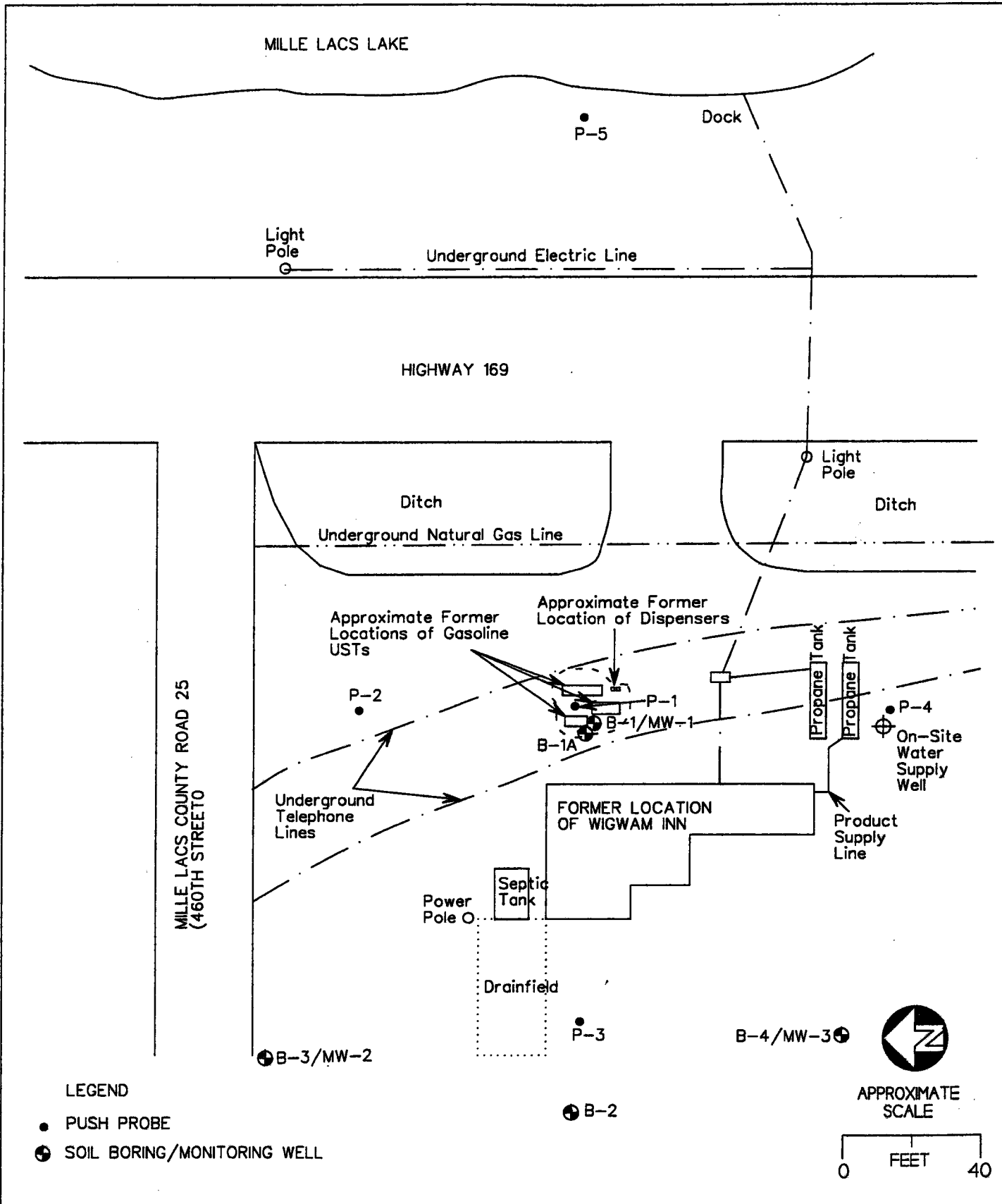
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FIGURE 1: REGIONAL LOCATION MAP

WIGWAM INN
GARRISON, MINNESOTA

JLM	MDM	02-03	GME Project No. C-8214-B
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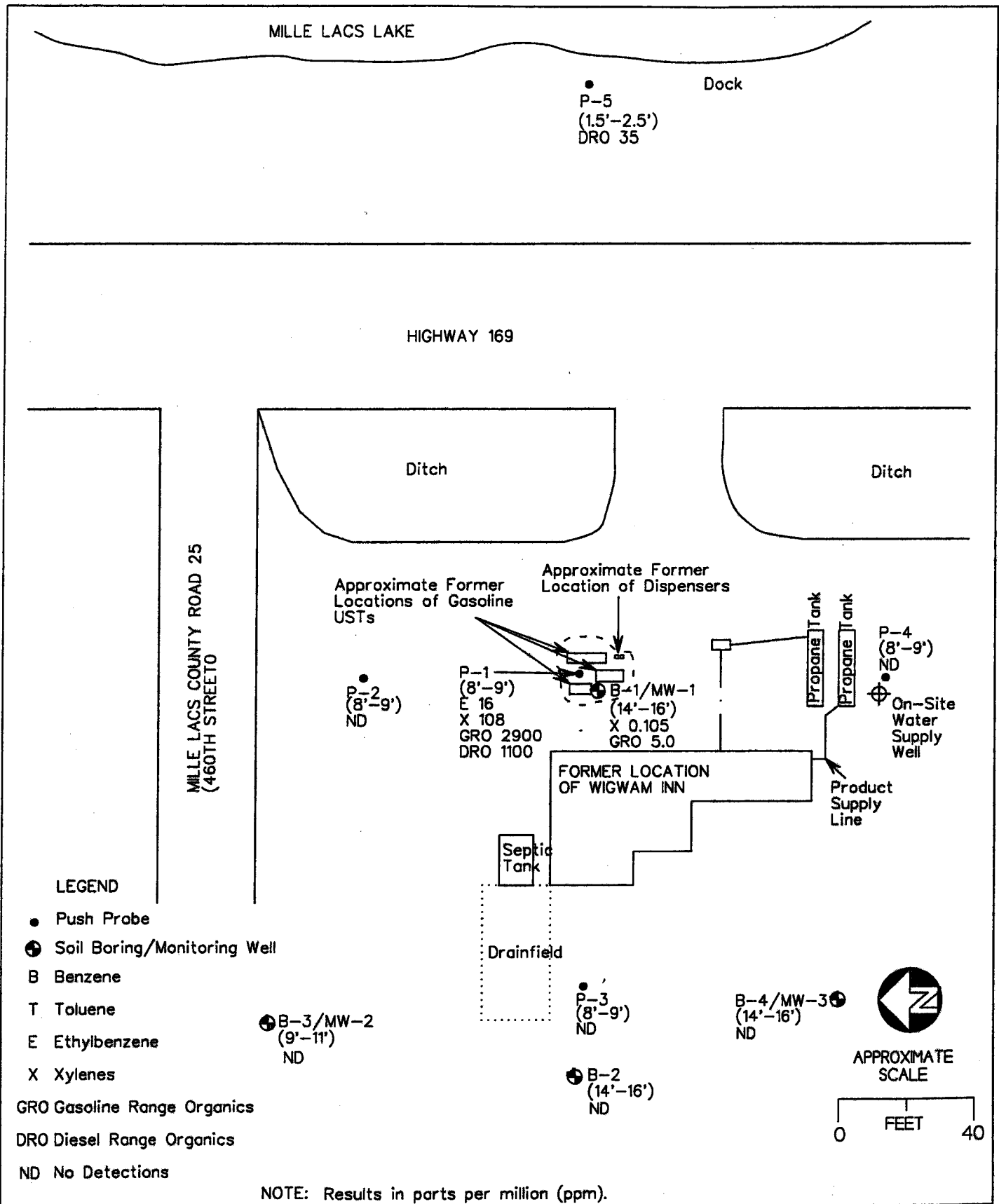
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FIGURE 2: APPROXIMATE SITE DIAGRAM

WIGWAM INN
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JLM	MDM	02-03	GME Project No. C-8214-B
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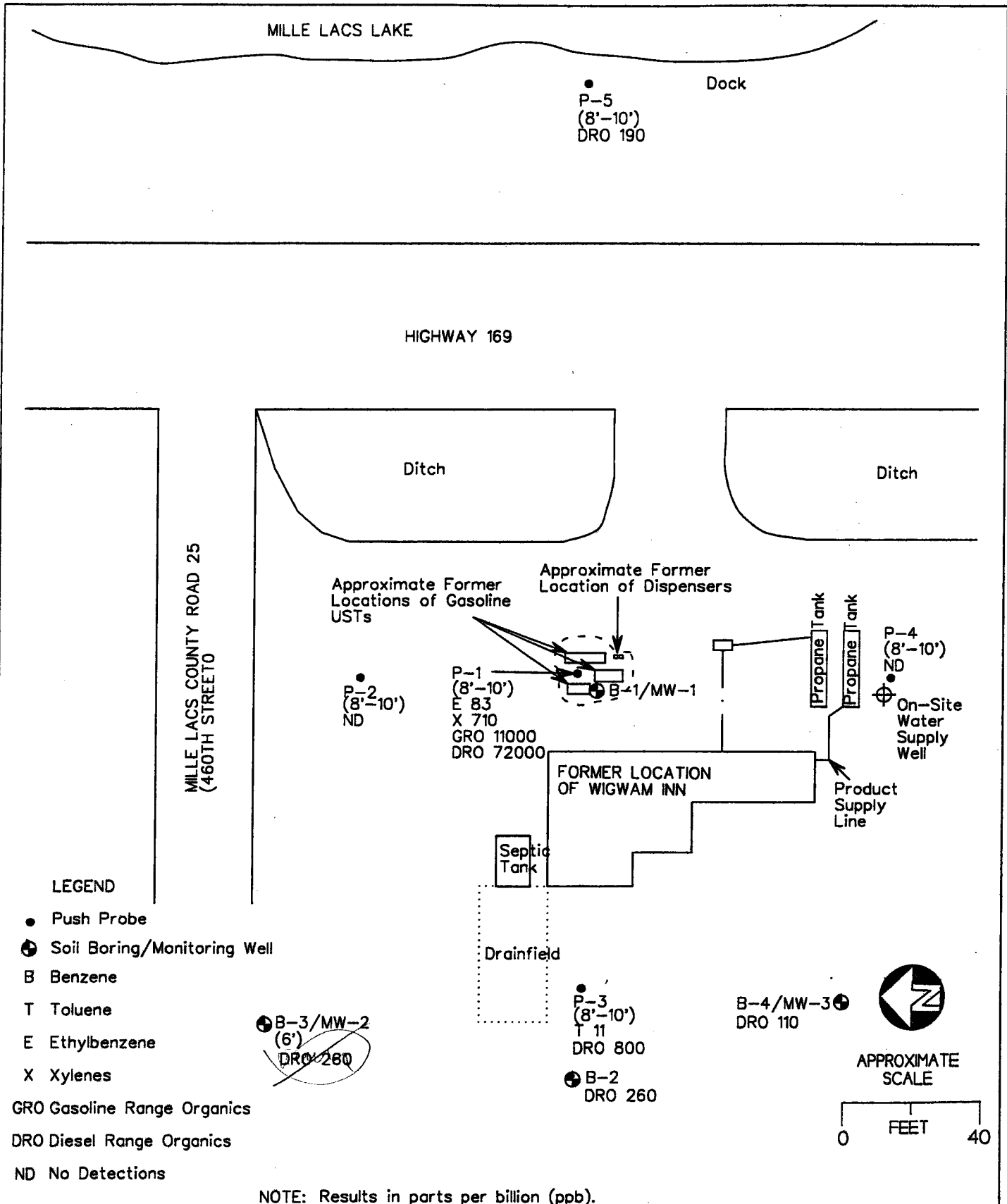
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FIGURE 3: SOIL CHEMISTRY RESULTS

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JLM	MDM	02-03	GME Project No. C-8214-B
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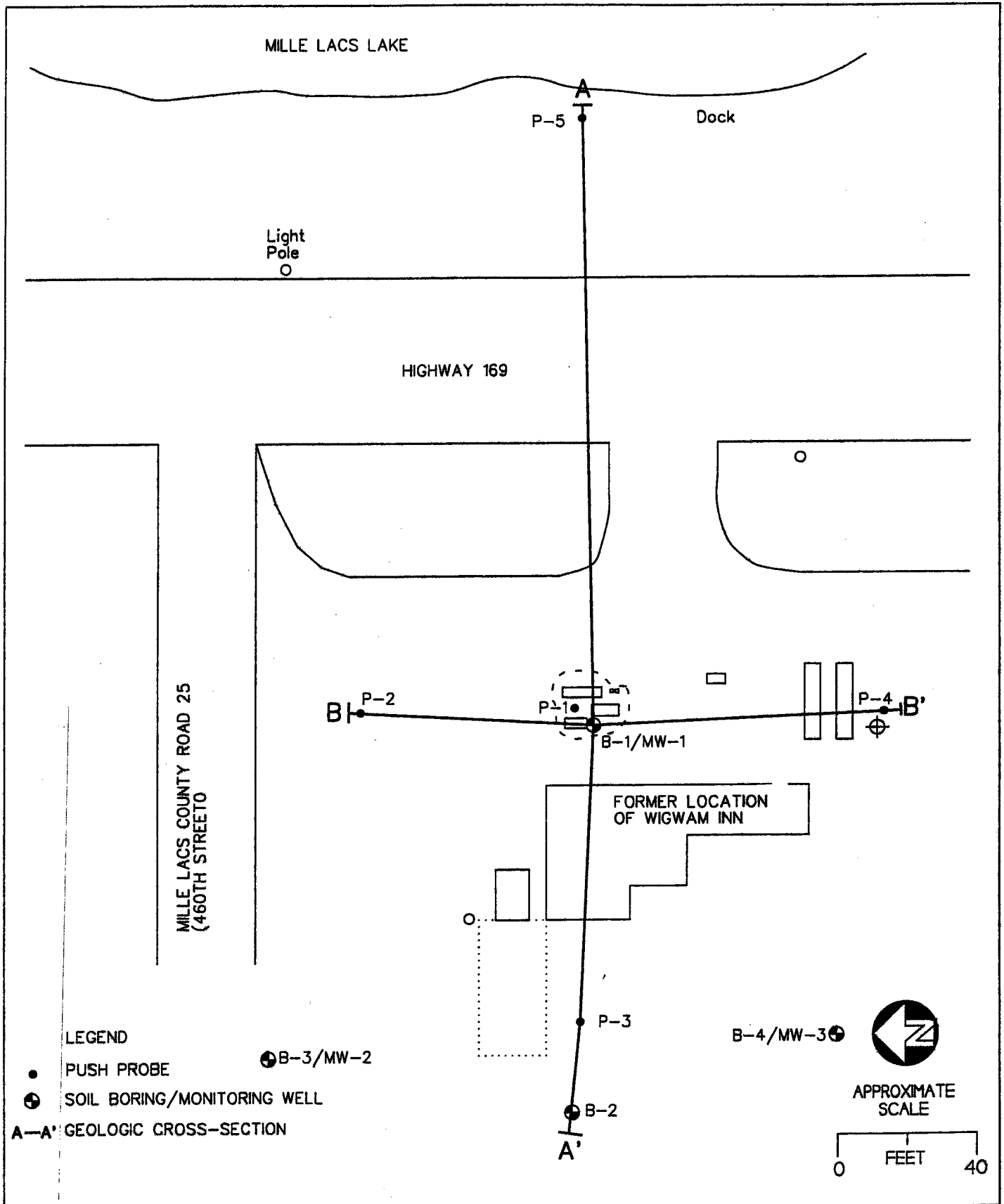
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FIGURE 4: GROUNDWATER CHEMISTRY RESULTS

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FIGURE 5: GEOLOGIC CROSS-SECTION INDEX

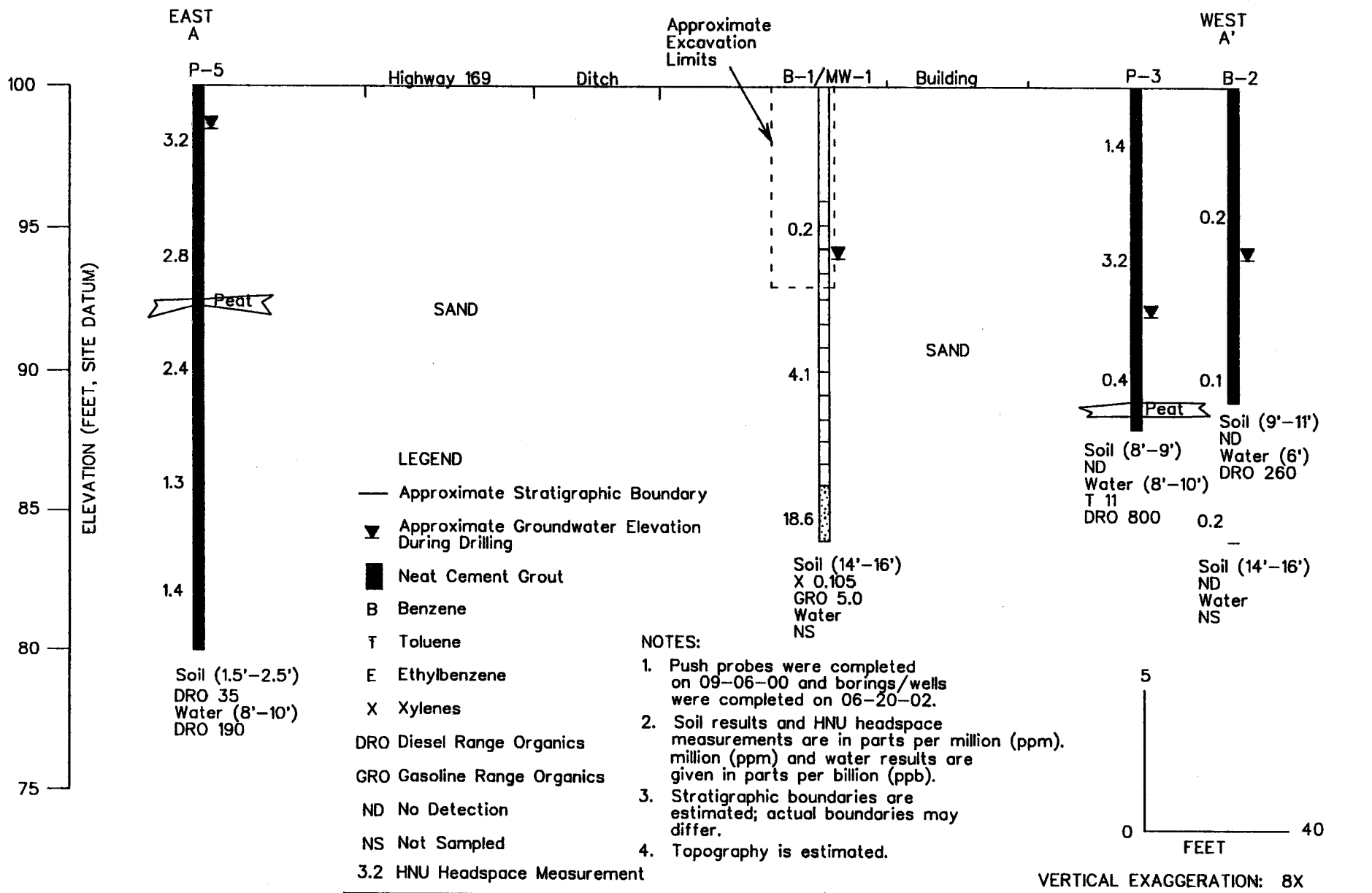
WIGWAM INN
 GARRISON, MINNESOTA

JLM

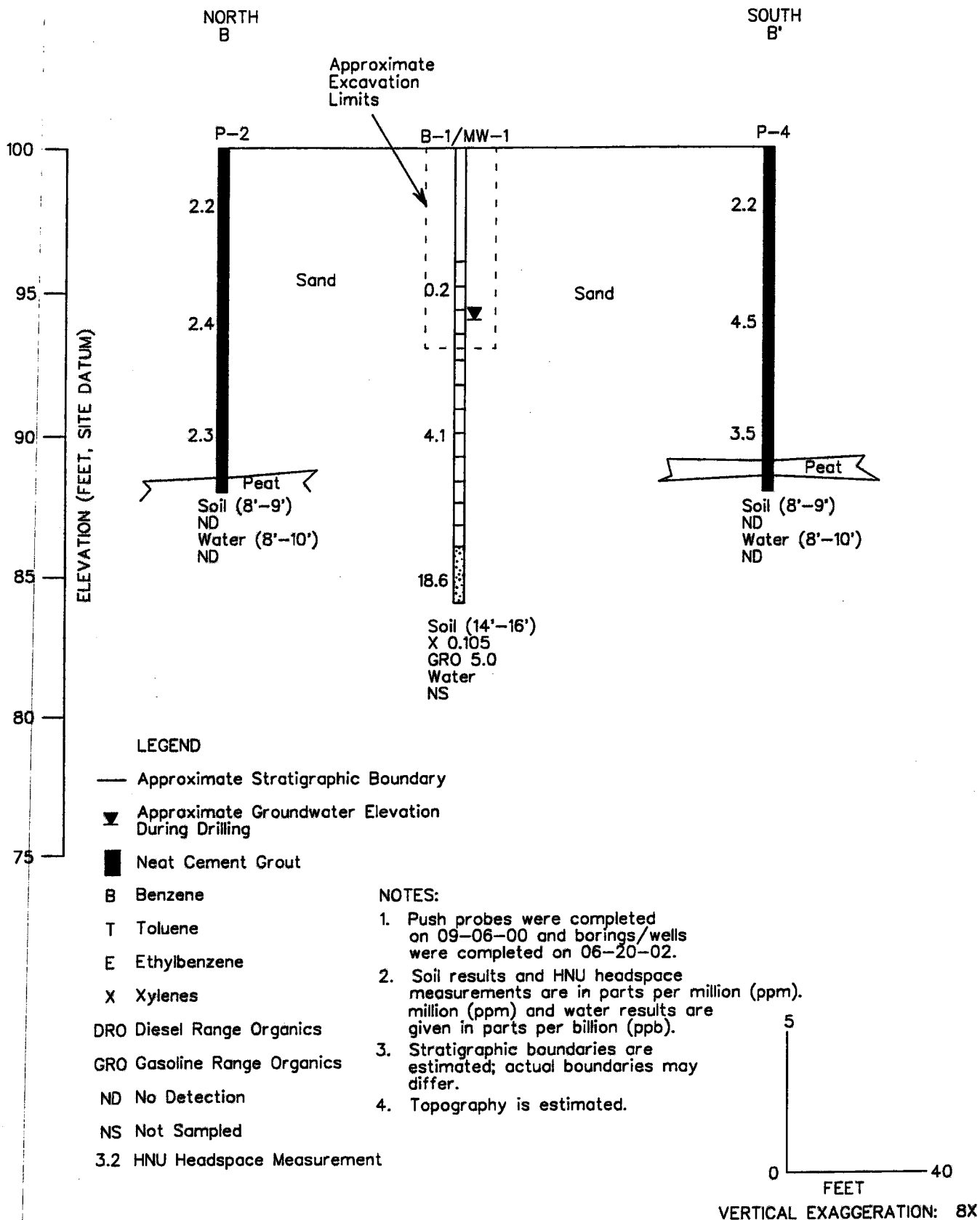
MDM

02-03

GME Project No. C-8214-B



<p>GME CONSULTANTS, INC.</p> <p>Geotechnical • Materials • Environmental</p> <p>P.O. Box 250, Lakeshore Drive Crosby, Minnesota 56441 (218) 546-6371</p>				<p>FIGURE 6: GEOLOGIC CROSS-SECTION A-A'</p> <p>WIGWAM INN GARRISON, MINNESOTA</p>	
JLM	MDM	02-03	GME Project No. C-8214-B		



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FIGURE 7: GEOLOGIC CROSS-SECTION B-B'

WIGWAM INN
 GARRISON, MINNESOTA

JLM

MDM

02-03

GME Project No. C-8214-B

MILLE LACS LAKE

LEGEND

- ⊕ MONITORING WELL
- APPROXIMATE GROUNDWATER CONTOUR
- 1245.88 GROUNDWATER ELEVATION
- ➔ APPROXIMATE GROUNDWATER FLOW DIRECTION

HIGHWAY 169

MILLE LACS COUNTY ROAD 25
(460TH STREET)

MW-1
1245.88

FORMER LOCATION
OF WIGWAM INN

MW-2
1246.41

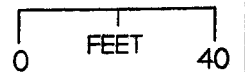
1246.25

1246.00

MW-3
1245.52

1245.75

APPROXIMATE
SCALE



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FIGURE 8: SHALLOW GROUNDWATER CONTOUR
 MAP (06-25-02)
 WIGWAM INN
 GARRISON, MINNESOTA

JLM	MDM	02-03	GME Project No. C-8214-B
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MILLE LACS LAKE

LEGEND

- MONITORING WELL
- APPROXIMATE GROUNDWATER CONTOUR
- 1246.39 GROUNDWATER ELEVATION
- APPROXIMATE GROUNDWATER FLOW DIRECTION

HIGHWAY 169

MILLE LACS COUNTY ROAD 25
(460TH STREET)

P-1
MW-1
1246.39

FORMER LOCATION
OF WIGWAM INN

MW-2
1246.94

1246.75

1246.50

MW-3
1246.12

1246.25



APPROXIMATE
SCALE



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FIGURE 9: SHALLOW GROUNDWATER CONTOUR
MAP (09-11-02)
WIGWAM INN
GARRISON, MINNESOTA

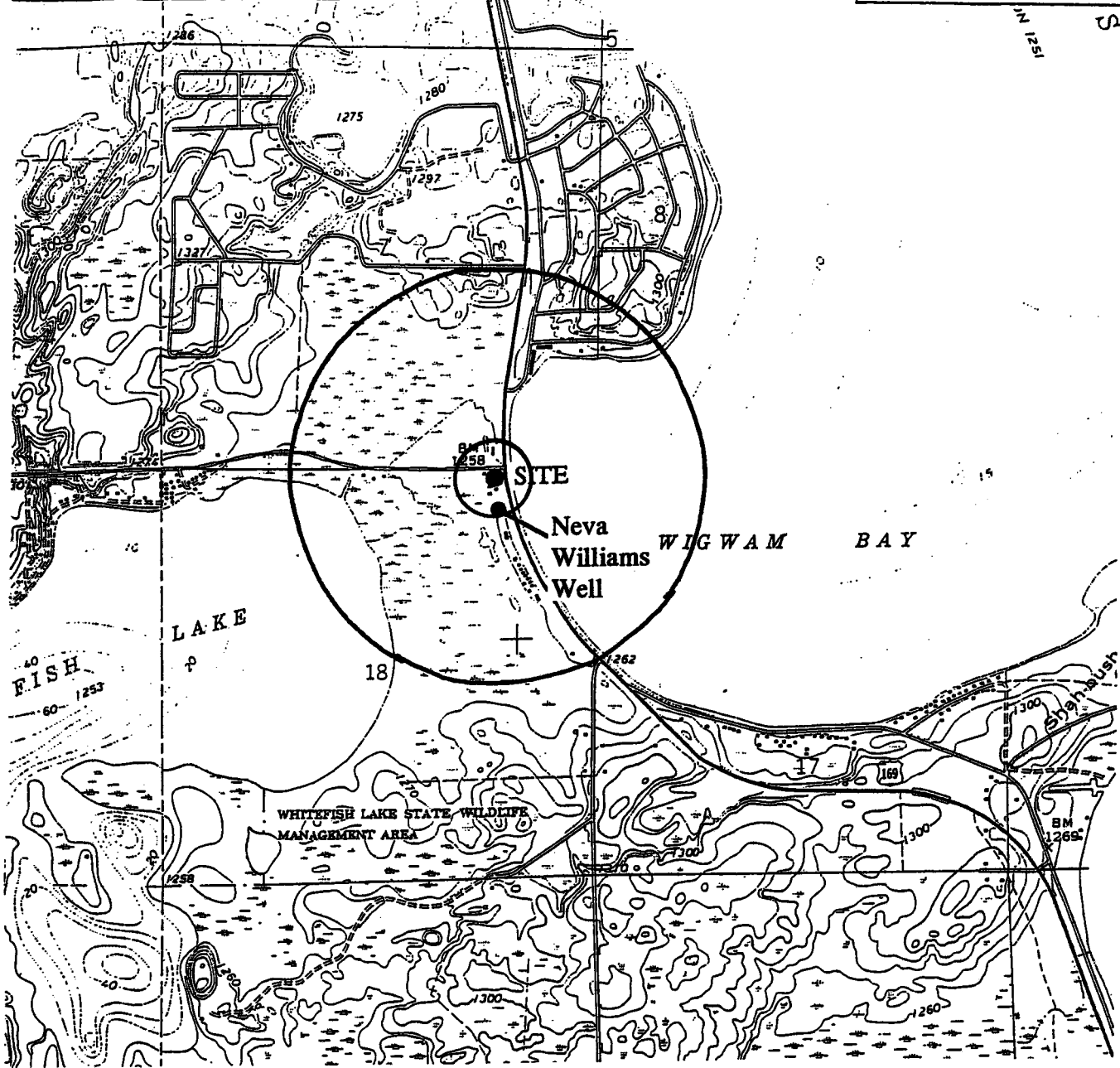
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VINELAND QUADRANGLE
MINNESOTA
7.5 MINUTE SERIES (TOPOGRAPHIC)

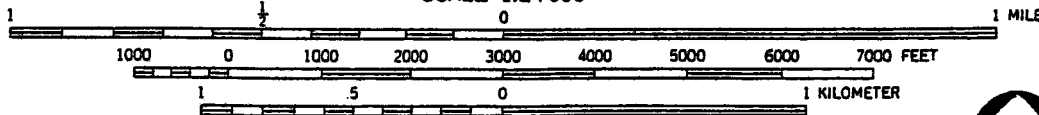
VINELAND, MINN.

N4607.5—W9345/7.5

1968



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL



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FIGURE 10: NEARBY WELL LOCATIONS

WIGWAM INN
GARRISON, MINNESOTA

JLM	MDM	02-03	GME Project No. C-8214-B
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APPENDIX A
EXCAVATION REPORT

**UNDERGROUND STORAGE TANK
EXCAVATION REPORT
WIGWAM INN
GARRISON, MINNESOTA**

**GME PROJECT NO. C-8214
JUNE 3, 1999**

June 3, 1999

Mr. Ryan Rupp
Mille Lacs Band of Ojibwe
Department of Natural Resources
HCR 67, Box 194
Onamia, Minnesota 56359

GME Project No. C-8214

RE: Underground Storage Tank (UST) Excavation Report for the Wigwam Inn site near Garrison, Minnesota (MPCA Leaksite #12624)

Dear Mr. Rupp:

In accordance with your authorization, we have completed our services for this UST Closure project. The purposes of this report are to evaluate the results of the field and laboratory work, and to recommend subsequent actions.

Based on the field and laboratory results and the MPCA guidance document entitled "Excavation of Petroleum Contaminated Soil", it is our opinion that additional environmental assessment work should be conducted at the above referenced site.

We appreciate this opportunity to be of service to you. If you have any questions, please contact us.

Sincerely,

GME CONSULTANTS, INC.

Conrad C. Kragness
Senior Environmental Scientist
Project Manager

Mark D. Millsop
Principal Hydrogeologist
Corporate Environmental Division Manager

CCK:MDM:jlm

**EXCAVATION REPORT WORKSHEET
FOR PETROLEUM RELEASE SITES**

**WIGWAM INN
GARRISON, MINNESOTA
GME Project No. C-8214
June 3, 1999**

TABLE OF CONTENTS

PART I:	BACKGROUND	1
PART II:	DATES	2
PART III:	SITE AND RELEASE INFORMATION	2
PART IV:	EXCAVATION INFORMATION	3
PART V:	SAMPLING INFORMATION	4
PART VI:	FIGURES	6
PART VII:	SUMMARY	7
PART VIII:	SOIL TREATMENT INFORMATION	7
PART IX:	CONSULTANT PREPARING THIS REPORT	8

FIGURES

- Figure 1 Regional Location Map**
- Figure 2 Approximate Site Diagram**
- Figure 3 Sample Location Diagram**

APPENDIX

- Midwest Analytical Laboratory Report**
- MPCA Guidance Document**
- GME General Qualifications**



**Tanks and Emergency Response Section
Minnesota Pollution Control Agency**

**EXCAVATION REPORT WORKSHEET
FOR PETROLEUM RELEASE SITES**

GME Project No. C-8214

June 3, 1999

Complete the information below and submit to the Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section to document excavation and treatment of petroleum contaminated soil. Conduct excavations in accordance with "Excavation of Petroleum Contaminated Soil" (fact sheet #3.6). Please attach any available preliminary site investigation reports to this excavation report.

Attach additional pages if necessary. Please type or print clearly.

The excavation reporting deadline is 10 months from the date of receipt of the standard letter. A shorter deadline may be established by MPCA staff for high priority sites.

PART I: BACKGROUND

A. Site: *Wigwam Inn*

Street: *18271 460th Street*
City, Zip: *Garrison, 56450*
County: *Mille Lacs*

MPCA Site ID#: *LEAK12624*

C. Excavating Contractor: *Independent
Petroleum Services*

Contact: *Jim Finch*
Telephone: *218-829-2745*
Tank Contractor Certification Number: *102*

B. Tank Owner/Operator:
Mille Lacs Band of Ojibwe

Mailing Address:
Street/Box: *HCR 67, Box 194*
City, Zip: *Onamia, 56359*
Telephone: *320-532-7442*

D. Consultant: *GME Consultants, Inc.*

Contact: *Conrad C. Kragness*
Street/Box: *P.O. Box 250, Lakeshore Drive*
City, Zip: *Crosby, 56441*
Telephone: *218-546-6371*

E. Others on-site during site work (e.g., fire marshal, local officials, MPCA staff, etc.):
Mr. Ryan Rupp, Mille Lacs Band of Ojibwe/Department of Natural Resources

Note: If person other than tank owner and/or operator is conducting the cleanup, provide name, address, and relationship to site on a separate attached sheet.

PART II: DATES

A. Date release reported to MPCA: May 6, 1999 @ 3:35 p.m.

B. Dates site work performed (tanks removed, soil excavation, soil borings, etc.):

Work Performed

Date

Three underground storage tanks (USTs) were removed

May 6, 1999

PART III: SITE AND RELEASE INFORMATION

A. Describe the land use and pertinent geographic features within 1000 feet of the site.
(i.e. residential property, industrial, wetlands, etc.)

The site is located in a rural commercial area on State Highway 169 south of Garrison (Figure 1). Mille Lacs Lake is located approximately 200 feet east of the site.

Table 1.

B. Provide the following information for all tanks at the site at the time of the release:

Tank #	UST or AGST	Capacity (Gallons)	Contents (product type)	Age	Status*	Condition of Tank
1	UST	1000	Gasoline	Unknown	Removed 5-6-989	The tank appeared to be in fair condition with corrosion pits observed on the tank shell.
2	UST	500	Diesel Fuel Oil	Unknown	Removed 5-6-989	The tank appeared to be in fair condition with corrosion pits observed on the tank shell.
3	UST	700	Gasoline	Unknown	Removed 5-6-989	The tank appeared to be in poor condition with corrosion pits observed on the tank shell.

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

Notes:

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

The former fuel dispenser locations are shown on Figure 2 and were removed by the contractor prior to GME arriving on-site.

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

The likely release sources appear to be overfilling and spillage.

- E. What was the volume of the release? (if known): Unknown gallons

- F. When did the release occur? (if known): Unknown

- G. Describe source of on-site drinking water.

Water is supplied by an on-site well.

PART IV: EXCAVATION INFORMATION

- A. Dimensions of excavation: *The dimensions of the excavation were approximately 17 feet by 23 feet with a maximum depth of 7 feet below grade.*

- B. Original tank backfill material (sand, gravel, etc.): *Sand*

- C. Native soil type (clay, sand, etc.): *Sand*

- D. Quantity of contaminated soil removed for treatment (cubic yards): *The soil was returned to the excavation according to MPCA guidelines.*

[Note: If more than 150 cubic yards removed, please attach copy of written approval from MPCA.]

- E. Were new tanks installed at the site? *NO* If yes, how much soil was excavated to accommodate the installation of the new tanks?

- F. Was ground water encountered or was there evidence of a seasonally high ground water table? *YES* At what depth? *Approximately 7 feet below grade.*

- G. If ground water was not encountered during the excavation, what is the expected depth of ground water?
- H. If a soil boring was required (see fact sheet #3.6 "Excavation of Petroleum Contaminated Soil," Part VI Additional Investigation) describe the soil screening and analytical results. Attach the boring logs and laboratory results to this report. *Soil borings have not been completed by GME.*
- I. If no soil boring was required, explain. *It is our opinion that additional investigation will be required to adequately define the vertical and horizontal extents of the petroleum impacts at the site.*
- J. If ground water was encountered or if a soil boring was conducted, was there evidence of ground water contamination? **YES** Describe this evidence of contamination, e.g., free product (specify thickness), product sheen, ground water in contact with petroleum contaminated soil, water analytical results, etc.

A groundwater sample was collected for laboratory analysis from the excavation (Figure 3). The groundwater sample was analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX). Analytical results indicate that ethylbenzene was detected at 1 part per billion (ppb). The EnChem laboratory report and chain-of-custody form are included in the Appendix.

[NOTE: If free product was observed, contact MPCA staff immediately as outlined in fact sheet #3.3 "Free Product: Evaluation and Recovery"].

- K. Was bedrock encountered in the excavation? **NO** At what depth?
- L. Were other unique conditions associated with this site? **YES** If so, explain. *Tank 3 was found during excavation; there was no prior knowledge by the current site owner that it existed.*

PART V: SAMPLING INFORMATION

- A. Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil:

The soils from and within the excavation were observed for the presence of unusual discolorations and petroleum odors. Headspace analyses of soil samples collected from the base and sidewalls of the excavation were conducted with an HNU Model PI-101 fitted with a 10.2 eV lamp. The HNU is a photoionization detector (PID) that detects certain organic vapors in the parts per million (ppm) range.

B. List all soil vapor headspace analysis results. Indicate all sampling locations using sample codes (with sampling depths in parentheses), e.g. R-1 (2 feet), R-2 (10 feet), etc. "R" stands for "removed." Samples collected at different depths at the same location should be labeled R-1A (2 feet), R-1B (4 feet), R-1C (6 feet), etc. If the sample was collected from the sidewall or bottom after excavation was complete, label it S-1 (for sidewall) or B-1 (for "bottom"). Be sure the sample codes correspond with the site map required in part VI, below. (See Figure 3)

Sample Code (Depth)	Soil Type	Reading (ppm)	Sample Code (Depth)	Soil Type	Reading (ppm)
R-1 (3')	Sand	0	R-2 (5')	Sand	24
R-3 (4')	Sand	60	R-4 (4')	Sand	1.6
S-1 (4')	Sand	0.2	S-2 (4')	Sand	0
S-3 (4')	Sand	0	S-4 (4')	Sand	1.4
S-5 (4')	Sand	0.6	S-6 (4')	Sand	0.4
B-1 (7')	Sand	90	B-2 (7')	Sand	14.8
B-3 (7')	Sand	170			

C. Briefly describe the soil analytical sampling and handling procedures used:

One soil sample was collected from below the former location of each UST. The sample containers were labeled, placed in a cooler with ice, and transported to EnChem, Inc. under established preservation and chain-of-custody procedures. Two of the soil samples were analyzed for gasoline range organics (GRO), methyl tertiary butyl ether (MTBE) and BTEX, and one of the soil samples was analyzed for diesel range organics (DRO), GRO, MTBE and BTEX. In addition, one methanol blank was collected and analyzed for BTEX. Copies of the laboratory reports and sample chain-of-custody form are included in the Appendix.

D. List below all soil sample analytical results from bottom and sidewall samples (i.e., soils left in place when excavation is complete). Code the samples with sampling depths in parentheses as follows: sidewall samples S-1 (8 feet), S-2 (4 feet), etc.; bottom samples B-1 (13 feet), B-2 (14 feet), etc. Be sure the sample codes correspond to the site map required in part VI. Do not include analyses from the stockpiled soils. (See Figure 3)

Sample Code (Depth)	GRO (ppm)	DRO (ppm)	MTBE (ppm)	Benzene (ppm)	Ethylbenzene (ppm)	Toluene (ppm)	Xylenes (ppm)
B-1 (7')	300	NA	<0.025	<0.025	0.43	<0.025	0.98
B-2 (7')	<3.3	6.8	<0.025	<0.025	<0.025	<0.025	<0.025
B-3 (7')	1600	NA	<0.63	<0.63	4.2	<0.63	7.5
Methanol Blank	NA	NA	NA	<0.025	<0.025	<0.025	<0.025

NA = Not Analyzed

NOTE: ATTACH COPIES OF LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS.

PART VI: FIGURES

Attach the following figures to this report:

1. Site location map.
2. Site map(s) drawn to scale illustrating the following:
 - a. Location (or former location) of all present and former tanks, lines, and dispensers;
 - b. Location of other structures (buildings, canopies, etc.);
 - c. Adjacent city, township, or county roadways;
 - d. Final extent and depth of excavation;
 - e. Location of soil screening samples (e.g. R-1), soil analytical samples (e.g., S-1 or B-1), (e.g. SB-1). Also, attach all boring logs.
 - f. North arrow, bar scale and map legend.
 - g. Provide location of any on-site water wells. If on-site water wells exist please provide well logs and/or construction diagrams.

PART VII: SUMMARY

Briefly summarize evidence indicating whether additional investigation is necessary at the site, as discussed in parts VI and VII of "Excavation of Petroleum Contaminated Soil" (fact sheet #3.6). If no further action is recommended, the MPCA staff will review this report following notification of soil treatment.

On May 6, 1999, we monitored the removal of three USTs at the Wigwam Inn site near Garrison, Minnesota. Also on May 6, 1999, we notified the Minnesota State Duty Officer of the petroleum release encountered in the on-site soils. The release source appears to be from overfills and spillage. Results of soil and groundwater sample analyses indicate that petroleum impacts remain above MPCA action levels as defined in the MPCA guidance document entitled "Excavation of Petroleum Contaminated Soil" (see Appendix).

It is our opinion that a limited site investigation (LSI) will be required. We recommend at least the following activities:

- 1. A potential receptor survey to determine if any nearby wells, utilities or structures have been or may be affected; and,*
- 2. Five push probes to define the vertical and lateral extents of the petroleum impacts.*

This report has been completed in general accordance with the MPCA guidance document entitled "Petroleum Tank Release Reports." We recommend that a copy of this report be submitted to the MPCA as part of a completed remedial investigation report.

PART VIII: SOIL TREATMENT INFORMATION

- A. Soil treatment method used (thermal, land application, composting, other). If you choose "other" specify treatment method: *Not applicable*
- B. Location of treatment site/facility: *Not applicable*
- C. Date MPCA approved soil treatment (if thermal treatment was used after May 1, 1991, indicate date that the MPCA permitted thermal treatment facility agreed to accept soil): *Not applicable*
- D. Identify the location of stockpiled contaminated soil: *Not applicable*

PART IX: CONSULTANT PREPARING THIS REPORT

Name and Title:

Signature:

Date signed:

Conrad C. Kragness, Sr. Environmental Scientist

Mark D. Millsop, Principal Hydrogeologist

Company and mailing address: *GME Consultants, Inc.
P.O. Box 250, Lakeshore Drive
Crosby, Minnesota 56441*

Phone: *218-546-6371*

Fax: *218-546-8196*

If additional investigation is not required at the site, please mail this form and all necessary attachments to:

(Project Manager)
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Emergency Response Section
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

If additional investigation is required at the site, include this form as an appendix to the "Remedial Investigation Report Form." Excavation reports indicating a limited site investigation (LSI) is necessary will not be reviewed by MPCA staff until the LSI has been completed.

Upon request, this document can be made available in other formats, including Braille, large print and audio tape. TTY users call 612/282-5332 or 1-800-657-3864 (voice/TTY).

Printed on recycled paper containing at least 10 percent fibers from paper recycled by consumers.

FIGURES

Figure 1 Regional Location Map

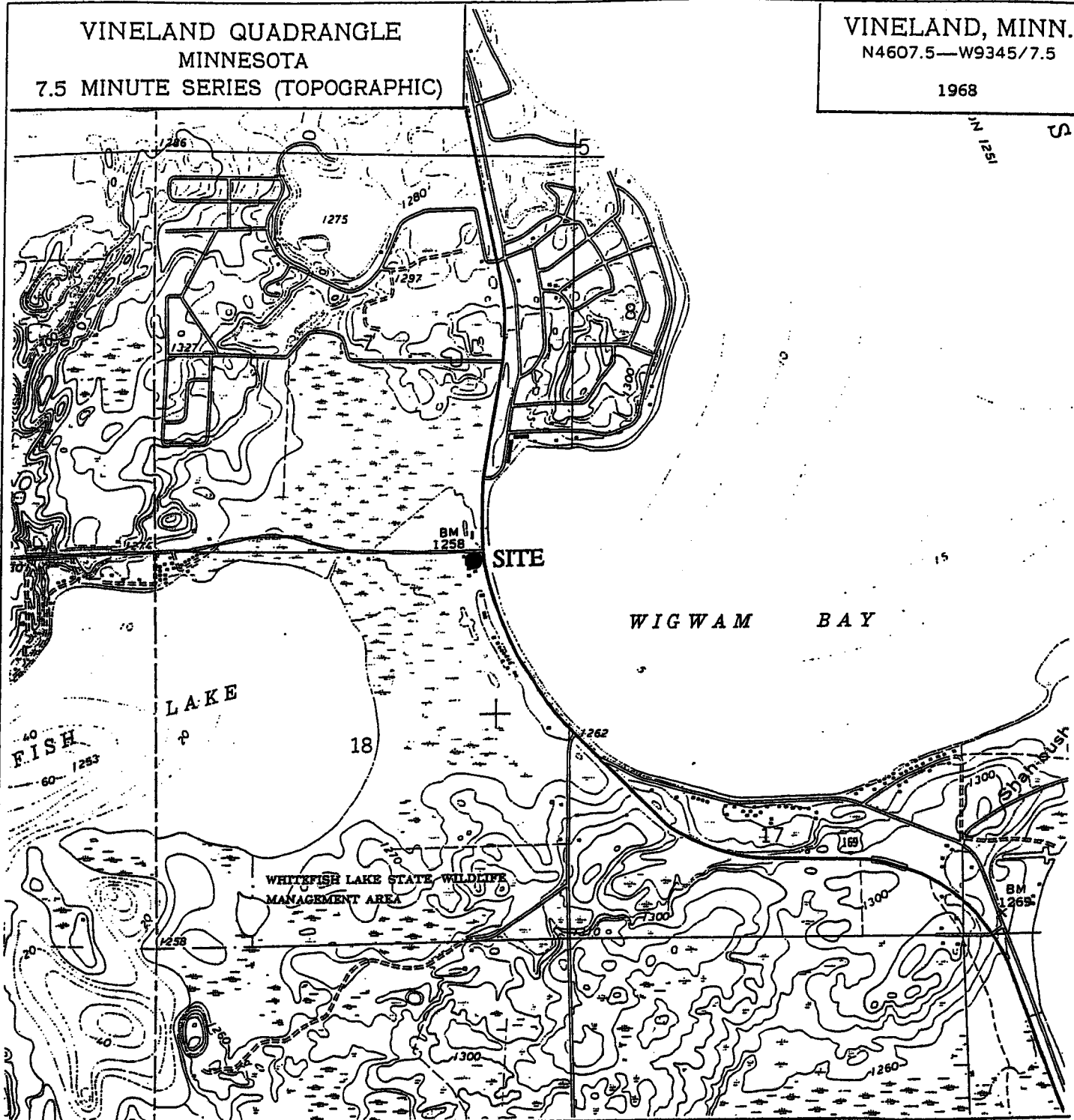
Figure 2 Approximate Site Diagram

Figure 3 Sample Location Diagram

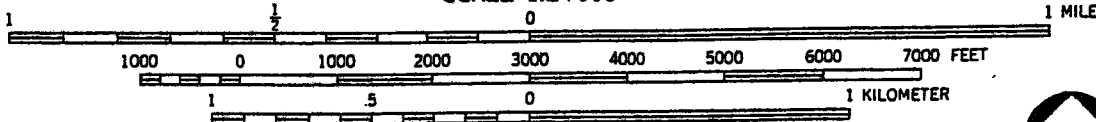
VINELAND QUADRANGLE
MINNESOTA
7.5 MINUTE SERIES (TOPOGRAPHIC)

VINELAND, MINN.
N4607.5—W9345/7.5

1968



SCALE 1:24000



CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL



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(218) 546-6371



FIGURE 1: REGIONAL LOCATION DIAGRAM

WIGWAM INN
GARRISON, MINNESOTA

JLM	CCK	5-99	GME Project No. C-8214
-----	-----	------	------------------------

MILLE LACS LAKE

HIGHWAY 169

Ditch

Ditch

Approximate Former Location of Dispensers

Approximate Former Locations of Gasoline USTs

Gravel

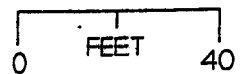
Approximate Excavation Limits

WIGWAM INN

MILLE LACS COUNTY ROAD 25
(460TH STREET)



APPROXIMATE SCALE



GME CONSULTANTS, INC.

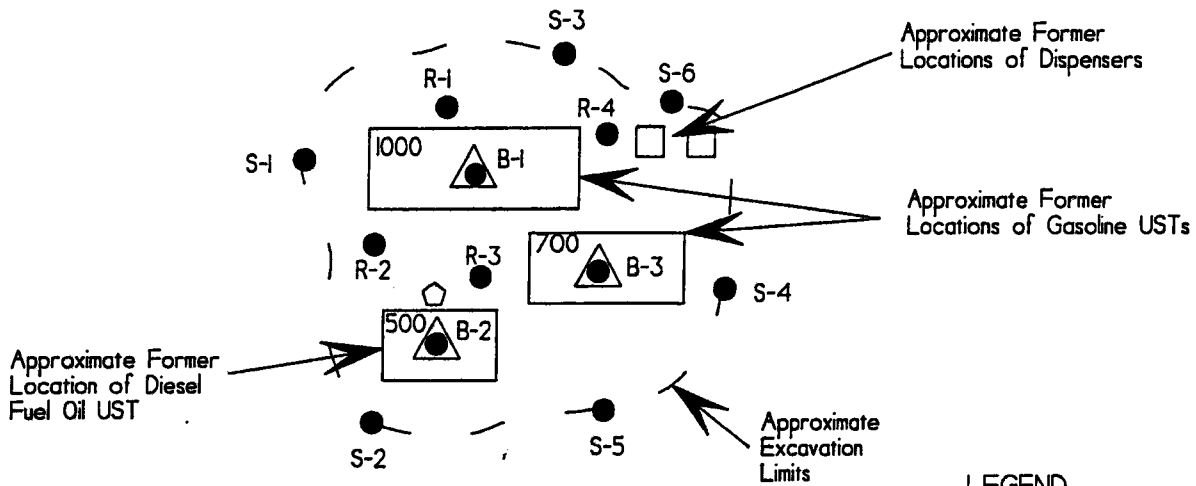
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Crosby, Minnesota 56441
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FIGURE 2: APPROXIMATE SITE DIAGRAM

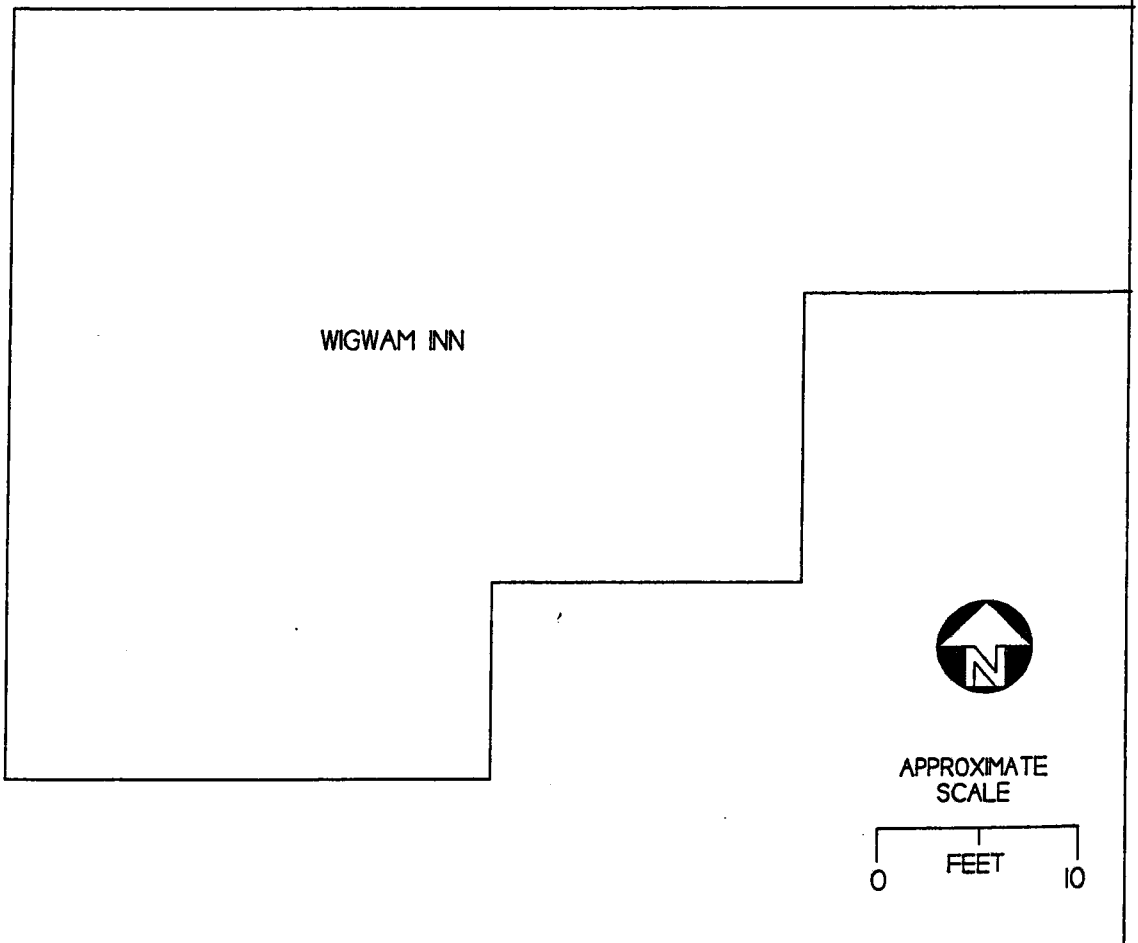
WIGWAM INN
GARRISON, MINNESOTA

JLM | CCK | 5-99 | GME Project No. C-8214



LEGEND

- Soil Sample Location
- △ Laboratory Soil Sample Location
- ◊ Laboratory Water Sample Location



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FIGURE 3: SAMPLE LOCATION DIAGRAM

WIGWAM INN
 GARRISON, MINNESOTA

JLM	CCK	5-99	GME Project No. C-8214
-----	-----	------	------------------------

ENCHEM LABORATORY REPORT

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Superior, WI 54880
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1-800-837-8238



Corporate Office & Laboratory
1795 Industrial Drive
Green Bay, WI 54302
920-469-2436 • Fax: 920-469-8827
1-800-7-ENCHEM

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

MN LAB ID : 055-999-334


Client: GME CONSULTANTS

Report Date : 5/13/99

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
790189-001	B-1 @ 7'	5/6/99			
790189-002	B-2 @ 7'	5/6/99			
790189-003	B-3 @ 7'	5/6/99			
790189-004	METHANOL BLANK	5/6/99			
790189-005	H2O	5/6/99			
790189-006	TRIP BLANK	5/6/99			

Soil VOC detects are corrected for the total solids, unless otherwise noted.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.


Approval Signature

5-13-99
Date

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Lab#:	TestGroupID:	Comment:
790189-001	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling diesel fuel or extremely weathered gasoline.
790189-002	DRO-S GRO-S-ME	Diesel peaks present in the chromatogram. Low level peaks present in chromatogram.
790189-003	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling diesel fuel or extremely weathered gasoline.
790189-005	BTEX-W	Sample exhibits hydrocarbon pattern resembling diesel fuel or extremely weathered gasoline.

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : B-1 @ 7'

Lab Sample Number : 790189-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/12/99

Collection Date : 5/6/99

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	78.1		%		5/10/99	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	101	—	%Recov		5/10/99	MOD 8021B
Benzene	< 25	25	ug/kg		5/10/99	MOD 8021B
Ethylbenzene	430	32	ug/kg		5/10/99	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		5/10/99	MOD 8021B
Toluene	< 25	25	ug/kg		5/10/99	MOD 8021B
Xylenes, -m, -p	250	32	ug/kg		5/10/99	MOD 8021B
Xylene, -o	730	32	ug/kg		5/10/99	MOD 8021B

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL

Prep Method: WI Mod GRO Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	300	13	mg/kg		5/10/99	WI Mod GRO
Blank Spike	104	—	%Recov		5/10/99	WI Mod GRO
Blank Spike Duplicate	105	—	%Recov		5/10/99	WI Mod GRO
Blank	< 2.5	2.5	mg/kg		5/10/99	WI Mod GRO

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : B-2 @ 7'

Lab Sample Number : 790189-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/13/99

Collection Date : 5/6/99

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	76.9		%		5/10/99	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103	—	%Recov		5/10/99	MOD 8021B
Benzene	< 25	25	ug/kg		5/10/99	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		5/10/99	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		5/10/99	MOD 8021B
Toluene	< 25	25	ug/kg		5/10/99	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		5/10/99	MOD 8021B
Xylene, -o	< 25	25	ug/kg		5/10/99	MOD 8021B

Organic Results

Preservation Date: 5/11/99

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI Mod DRO Prep Date: 5/11/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	6.8	4.1	mg/kg		5/12/99	WI Mod DRO
Blank spike	107	—	%Recov		5/12/99	WI Mod DRO
Blank spike duplicate	108	—	%Recov		5/12/99	WI Mod DRO
Blank	< 4.0	4.0	mg/kg		5/12/99	WI Mod DRO

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : B-2 @ 7

Lab Sample Number : 790189-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/13/99

Collection Date : 5/6/99

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi Mod GRO Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.3	3.3	mg/kg		5/10/99	WI Mod GRO
Blank Spike	104	—	%Recov		5/10/99	WI Mod GRO
Blank Spike Duplicate	105	—	%Recov		5/10/99	WI Mod GRO
Blank	< 2.5	2.5	mg/kg		5/10/99	WI Mod GRO

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : B-3 @ 7'

Lab Sample Number : 790189-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/12/99

Collection Date : 5/6/99

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	75.8		%		5/10/99	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	107	—	%Recov		5/10/99	MOD 8021B
Benzene	< 630	630	ug/kg		5/10/99	MOD 8021B
Ethylbenzene	4200	820	ug/kg		5/10/99	MOD 8021B
Methyl-tert-butyl-ether	< 630	630	ug/kg		5/10/99	MOD 8021B
Toluene	< 630	630	ug/kg		5/10/99	MOD 8021B
Xylenes, -m, -p	4700	820	ug/kg		5/10/99	MOD 8021B
Xylene, -o	2800	820	ug/kg		5/10/99	MOD 8021B

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL

Prep Method: WI Mod GRO Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	1600	82	mg/kg		5/10/99	WI Mod GRO
Blank Spike	104	—	%Recov		5/10/99	WI Mod GRO
Blank Spike Duplicate	105	—	%Recov		5/10/99	WI Mod GRO
Blank	< 2.5	2.5	mg/kg		5/10/99	WI Mod GRO

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : METHANOL BLANK

Lab Sample Number : 790189-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/12/99

Collection Date : 5/6/99

Matrix Type : METHANOL

Organic Results

BTEX - METHANOL

Prep Method: 5030B/5035 Prep Date: 5/10/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	105	—	%Recov		5/10/99	MOD 8021B
Benzene	< 25	25	ug/l		5/10/99	MOD 8021B
Ethylbenzene	< 25	25	ug/l		5/10/99	MOD 8021B
Toluene	< 25	25	ug/l		5/10/99	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/l		5/10/99	MOD 8021B
Xylene, -o	< 25	25	ug/l		5/10/99	MOD 8021B

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : H20

Lab Sample Number : 790189-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/13/99

Collection Date : 5/6/99

Matrix Type : WATER

Organic Results

BTEX - WATER

Prep Method: SW846 5030B Prep Date: 5/11/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	109	—	%Recov		5/12/99	MOD 8021B
Benzene	< 1.0	1.0	ug/l		5/12/99	MOD 8021B
Ethylbenzene	1.0	1.0	ug/l		5/12/99	MOD 8021B
Toluene	< 1.0	1.0	ug/l		5/12/99	MOD 8021B
Xylenes, -m, -p	< 2.0	2.0	ug/l		5/12/99	MOD 8021B
Xylene, -o	< 1.0	1.0	ug/l		5/12/99	MOD 8021B

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- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-300

Field ID : TRIP BLANK

Lab Sample Number : 790189-006

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 5/12/99

Collection Date : 5/6/99

Matrix Type : WATER

Organic Results

BTEX - WATER

Prep Method: SW846 5030B Prep Date: 5/11/99 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	105	—	%Recov		5/11/99	MOD 8021B
Benzene	< 1.0	1.0	ug/l		5/11/99	MOD 8021B
Ethylbenzene	< 1.0	1.0	ug/l		5/11/99	MOD 8021B
Toluene	< 1.0	1.0	ug/l		5/11/99	MOD 8021B
Xylenes, -m, -p	< 2.0	2.0	ug/l		5/11/99	MOD 8021B
Xylene, -o	< 1.0	1.0	ug/l		5/11/99	MOD 8021B

Company Name: GME
 Branch or Location: CROSBY
 Project Contact: CONRAD KRAGNESS
 Telephone: 218-546-6371
 Project Number: C-300
 Project Name: WIGWAM ~~BAR~~ INN
 Project State: MN.
 Sampled By (Print): CONRAD KRAGNESS
 Regulatory Program (circle): UST RCRA CLP SDWA
 NPDES/WPDES CAA NR _____
 Other _____
 NR720 Confirmation Analysis Required? (circle): Y N
 (En Chem will not confirm unless otherwise instructed.)



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 Green Bay, WI 54302
 920-468-2436 • 1-800-736-2436
 FAX 920-468-8827

525 Science Drive
 Madison, WI 53711
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 FAX 715-392-5843

CHAIN OF CUSTODY

34024

Page 1 of 1

P.O. # _____ Quote # _____

Mail Report To: CONRAD KRAGNESS

Company: GME

Address: P.O. Box 250

CROSBY, MN. 56441

Invoice To: _____

Company: SAME

Address: _____

Mail Invoice To: SAME

TOM
 5-7-99
 FILTERED? (YES/NO) N
 PRESERVATION (CODE)* EEFFAA
 ANALYSES REQUESTED BTBE GPO DRO DRY WT

FIELD ID	SAMPLE DESCRIPTION	COLLECTION		BT	TE	BE	GPO	DRO	DRY	WT	SHADED AREA FOR LABORATORY USE ONLY			
		DATE	TIME								FIELD SCREEN	MATRIX	GOOD COND.	TOTAL BOTTLES
1	B-1@7'	5/6	2:02pm	✓	✓	✓	✓	✓			Soil	1-202		-001
2	B-2@7'	5/6	2:15pm	✓	✓	✓	✓	✓			Soil	2-202		-002
3	B-3@7'	5/6	2:15pm	✓	✓	✓	✓	✓			Soil	1-502		-003
4	METHANOL BLANK	5/6		✓								1-202		-004
5	H2O	5/6	1:45pm	✓							WATER	3-40ml	1 w/ bubble	-005
6	TRIP BLANK			✓								1-40ml	1 w/ bubble	-006

*Preservation Code
 A=None B=HCL C=H2SO4
 D=HN03 E=EnCore F=Methanol**
 G=NaOH O=Other (Indicate)

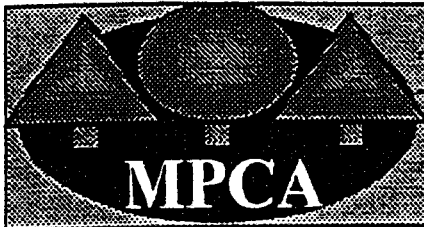
**If not using En Chem's methanol, indicate volume of methanol added and _____ the _____ ate _____.

Relinquished By: Conrad Kragness Date/Time: 5/6/99 4:55
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

En Chem Project No. 790189
 Sample Receipt Temp. 2.0°C
 Sample Receipt pH (Wet/Metals) _____
 Cu al _____

MPCA GUIDANCE DOCUMENT



EXCAVATION OF PETROLEUM CONTAMINATED SOIL

Fact Sheet #3.6

April 1996

Excavation is an appropriate type of corrective action at some petroleum release sites. This is one of several types of corrective actions that may take place at a petroleum tank release site. The purpose of soil excavation is to remove contaminated soil that actually or potentially acts as a source of ground water contamination, or poses other environmental and/or health threats.

This document addresses the following topics: planning ahead; excavation; field screening during excavation; soil analytical sampling; storage and treatment of contaminated soil; limited site investigation; and excavation reporting.

The excavation report deadline is 10 months from the date of receipt of the standard letter. A shorter deadline may be established by the Minnesota Pollution Control Agency (MPCA) staff for high priority sites.

PART I: PLANNING AHEAD

Tank removals must be done by an MPCA-certified contractor. It is in your best interest to obtain at least two bids on the work before you hire a contractor so that, if contaminated soil is encountered, you will have met the Petro Board requirement for bidding. Bid forms are available from the Department of Commerce (call 612/297-1119 or 612/297-4203).

Prior to excavation, soil borings may be useful for estimating the location, extent and magnitude of soil contamination. Pre-excavation soil borings can also determine whether soil remediation is necessary or whether to consider alternative methods.

Prior to tank removal, plan ahead for storage of contaminated soil during site work (section V), and treatment of contaminated soil (see fact sheets #3.8 "Land Treatment of Petroleum Contaminated Soil: Land Treatment Sites," #3.15, "Thermal Treatment of Petroleum Contaminated Soil," and #3.18 "Composting of Petroleum Contaminated Soil"). Remember that offsite storage of contaminated soil requires MPCA staff and local prior approval.

Arrange for an environmental consultant with a photoionization detector (PID), flame ionization detector (FID) or reasonable equivalent to screen soils and select samples for laboratory analysis during the excavation project (see fact sheet #3.22 "Soil Sample Collection and Analyses Procedures").

PART II: EXCAVATION

The following is a guide to be used during excavation. A flow chart is attached to help facilitate decision making in the field (Attachment A). Excavations should not endanger structures, including buildings, roads, utility lines, etc., and should be in compliance with OSHA standards.

Note: If there are vapor impacts, drinking water impacts, the release was a recent spill or there is a potential unstable condition, contact MPCA staff for site specific soil excavation criteria. (An unstable condition may be characterized as any situation where the consultant and/or tank removal contractor feels there is significant potential for the release to produce explosive or toxic vapors in structures or utilities, or impact a potable water supply. It is possible that removal of tanks and contaminated soil could increase the potential for vapor impacts. If you are in doubt, contact MPCA staff for guidance).

1. General excavation procedures. Begin the excavation as close as possible to the source. First remove the most heavily contaminated soil. This includes petroleum saturated soil, soil with obvious petroleum staining, and soil with strong odors. Many times this soil is adjacent to pump islands, distribution lines, or the underground storage tanks. Soil action levels are as follows:

TABLE 13.1

Fuel Type in Soil	Action Level
Gasoline and aviation gasoline	Field screening - 40 parts per million (ppm)
Diesel fuel, fuel oil, used or waste oils, jet fuel, kerosene	Any visual evidence of contamination, or field screening above 10 ppm.

Segregate excavated soil below the action levels from the more contaminated soil. Soils below the action levels may be used to backfill the excavation on this site only. Soil excavation is not necessary if contamination surrounding the tank system is below the action levels, however, soil samples must be collected (see Part IV, Soil Sampling, below).

2. Excavation when new tanks are being installed. Remove contaminated soil above the action levels up to a volume that will accommodate the new tank installation. This volume can be calculated from Tables 13.2A and 13.2B. If excavation removes all contamination above the action levels and ground water is not suspected to be impacted, complete an Excavation Report Worksheet and submit the worksheet to the MPCA project manager. If contamination remains after this excavation, proceed to item 3, below.

TABLE 13.2A		TABLE 13.2B	
NEW TANK SIZE (gal)	FOR EACH TANK TO BE INSTALLED ADD (yds)	OLD TANK SIZE (gal)	FOR EACH TANK TO BE REMOVED SUBTRACT (yds)
550	30	550	3
1,000	40	1,000	5
2,000	70	2,000	10
3,000	90	3,000	15
4,000	110	4,000	20
5,000	130	5,000	25
6,000	140	6,000	30
8,000	170	8,000	40
10,000	210	10,000	50
12,000	240	12,000	60
15,000	260	15,000	75
20,000	320	20,000	100
25,000	400	25,000	125

Note: For new pipe trenching allow one-third (0.33) cubic yard for every one (1) linear foot of contaminated trench.

EXAMPLE: Two 10,000 gallon tanks are to be installed in the old tank basin, where one 4,000 gallon tank and one 6,000 gallon tank will be removed.

$$(210 + 210) - (20 + 30) = 370$$

Up to 370 cubic yards of contaminated soil may be removed.

3. Additional excavation when new tanks are being installed. If test pits indicate the amount of contaminated soil remaining is less than 150 cubic yards, and ground water was not encountered, you may attempt to excavate contaminated soil above the action levels up to a total of an additional 150 cubic yards. If the excavation removed all contamination above the action levels, complete an Excavation Report Worksheet and submit to the MPCA project manager. If contamination remains above the action levels, a limited site investigation (LSI) will be required (see Part VII). Contaminated soil should NOT be returned when new tanks will be installed in the same basin.

4. Excavation of soil on sites where new tank installation is not occurring. Initiate test pits in the area of maximum contamination. If test pits indicate that more than 150 cubic yards of contaminated soil remains, or contamination is below the reach of the backhoe, or contamination is in contact with ground water, a LSI will be necessary. If the 150 cubic yard excavation removed all contamination above the action levels, complete an Excavation Report Worksheet and submit to the MPCA project manager.

5. Returning soil to excavation basin. When an LSI will be required, the contaminated soil removed during digging of the test pits and the additional 150 cubic yards should be returned to the excavation basin. **If excavated soil is considered to be petroleum saturated, contact MPCA staff prior to returning soil to the excavation.**

6. All projects excavating more than 150 cubic yards must have WRITTEN MPCA approval, except where new tanks are installed (if new tanks are installed, follow Tables 13.2A and 13.2B). MPCA approval for additional excavation is site specific and depends on such factors as the anticipated benefit, expected volume of additional soil, and potential risk to ground water.

Excavation costs may not be fully reimbursable through the Petroleum Tank Release Compensation Board (Petro Board) if excavation exceeds 150 cubic yards without MPCA written approval (or limits in Tables 13.2A and 13.2B when new tanks are installed), or if excavation is carried out beyond the action levels.

7. Treatment of petroleum contaminated soil. When excavation alone was able to address petroleum contamination, or when soil is removed to accommodate new tank installation, the removed soil must be treated in accordance with an MPCA approved treatment method.

PART III: FIELD SCREENING DURING EXCAVATION

Conduct field screening in accordance with fact sheet #3.22 "Soil Sample Collection and Analyses Procedures." Be sure the field instrument is properly calibrated.

During excavation, screen soils frequently enough to verify the need for soil removal (at least one soil vapor analysis for each 10 cubic yards of soil removed). Label these soil samples with the prefix "R", for "removed" (e.g., R-1, R-2, R-3, etc.). The field technician should carefully document successive soil vapor readings vertically below the source of release, indicating the depth and location of each sample.

After excavation is complete, screen soil samples from the bottom and sidewalls of the excavation to document remaining contamination. Soil analytical sampling is required at this stage (see items 1 and 2 in Part IV, below).

PART IV: SOIL ANALYTICAL SAMPLING FOLLOWING EXCAVATION

When excavation is complete, collect soil samples for laboratory analysis to document the contamination remaining in place and the contamination removed. Collect and analyze soil samples following procedures and methodologies described in fact sheet #3.22 "Soil Sample Collection and Analyses Procedures." Collect soil samples as follows:

1. When sampling excavation sidewalls or floors, remove at least one foot of exposed soil prior to collecting the sample. This will ensure the collection of a fresh sample.
2. Bottom samples. Collect the following samples from the bottom of the excavation when all excavation is complete. Label these samples with the prefix "B", for "Bottom" (e.g., B-1, B-2, B-3, etc.):

TABLE 13.3

One tank	two samples; one from directly below each end of the tank
More than one tank <10,000 gallons	one sample directly below the center of each tank
More than one tank 10,000 gallons or larger	two samples from below each tank; one from directly below each end of the tank
Leaking lines	one sample from below each suspected point of release
Dispensers	one sample from below each dispenser which is removed
Any additional samples needed to adequately characterize the excavation.	

3. Sidewall samples. If contaminated soil above the action levels remains in the sidewalls of the excavation, collect samples to characterize the remaining contaminated soil. Label these samples with the prefix "S" for "sidewall" (e.g., S-1, S-2, S-3, etc.).
4. Ground water in excavation. If ground water occurs in the excavation, collect a water sample; also collect soil samples near the soil/ground water interface to help characterize potential impacts to ground water from remaining contaminated soil. Limit the analytical parameters for this type of ground water sample to benzene, ethylbenzene, toluene, xylene (BETX), and total petroleum hydrocarbons (TPH) using gasoline range organics (GRO) and/or diesel range organics (DRO).

Do not collect a water sample if free product or a product sheen is present.

5. Sampling the contaminated soil stockpiles. Collect and analyze soil samples (grab samples) from representative portions of the excavated soil pile, using the methods described in fact sheet #3.22 "Soil Sample Collection and Analyses Procedures". Label these samples with the prefix "P" for "Pile" (e.g., P-1, P-2, etc.).

If less than 10 cubic yards of soil is contaminated, soil samples will normally not be required if the soil will be land treated (unless the soil could potentially be considered a hazardous waste).

PART V: STORAGE AND TREATMENT OF CONTAMINATED SOIL

Store excavated contaminated soils on an impermeable surface, covered with plastic. Anchor the plastic covering in place with clean soil or other suitable material. Off-site soil storage requires pre-approval by MPCA staff and local government officials. Storage at land treatment sites must be in accordance with Minn. R. ch. 7037. Improper storage of contaminated soils may result in additional releases to the environment, and a corresponding reduction in your reimbursement.

Petroleum contaminated soil must be properly treated. Refer to fact sheets #3.8 ("Land Treatment of Petroleum Contaminated Soil: Land Treatment Sites"), #3.15 ("Thermal Treatment of Petroleum Contaminated Soil") and #3.18 ("Composting of Petroleum Contaminated Soil") for treatment and approval procedures. Fact sheets and application forms for soil treatment are available from the MPCA Tanks and Emergency Response Section at 612/297-8565.

PART VI: ADDITIONAL INVESTIGATION

Additional investigation is required at sites with sandy or silty sand soil (ASTM/USC) and where the water table is within 25 feet of the ground surface. Advance a soil boring directly through the suspected source area (former UST basins, pump islands, and/or other source areas), in the following situations:

- laboratory analytical results for soils from the suspected source area excavation base are 1-50 mg/kg GRO/DRO; or
- visual or other evidence of contamination remains in the suspected source area.

Analyze soil samples in accordance with fact sheet #3.22. If the boring(s) encounters contaminated ground water, an LSI is necessary.

PART VII: LIMITED SITE INVESTIGATION (LSI)

An LSI is generally necessary at sites where contamination cannot be addressed by excavation alone, contaminated soil is in contact with ground water, or ground water is suspected to be impacted. An LSI will be required if any of the following situations exist:

1. Soil contamination above the action levels (Table 13.1) remains and/or if laboratory analytical results from soil samples taken from the base or sidewalls, or soil returned to the excavation, are greater than 50 ppm GRO/DRO in sands and gravels, or greater than 100 ppm GRO/DRO in silts and clays (see Table 13.5).

TABLE 13.5

Soil Type	LSI required if:
sand/gravel	a. soil above action level in Table 13.1 remains, or b. water table is within 25 feet and soil contamination is between 1 & 50 mg/kg GRO/DRO,* or c. soil contamination greater than 50 mg/kg GRO/DRO remains.
silt/clay	d. soil above action level in Table 13.1 remains; or e. soil contamination greater than 100 mg/kg GRO/DRO remains.

* If these conditions exists, then an additional boring should be advanced through the remaining contamination down to the water table prior to the start of an LSI.

2. Ground water is present in the excavation and has been in contact with either petroleum product or petroleum contaminated soil;
3. Contamination intercepts a seasonally high water table (indicated by mottling on the excavation sidewalls) or bedrock;
4. Other impacts are known or suspected (such as discharge of contaminated water to surface waters or utilities, vapor impacts to buildings or utilities, etc.).

MPCA staff may allow exceptions to these criteria on a site-specific basis.

PART VIII: EXCAVATION REPORT SUBMITTAL

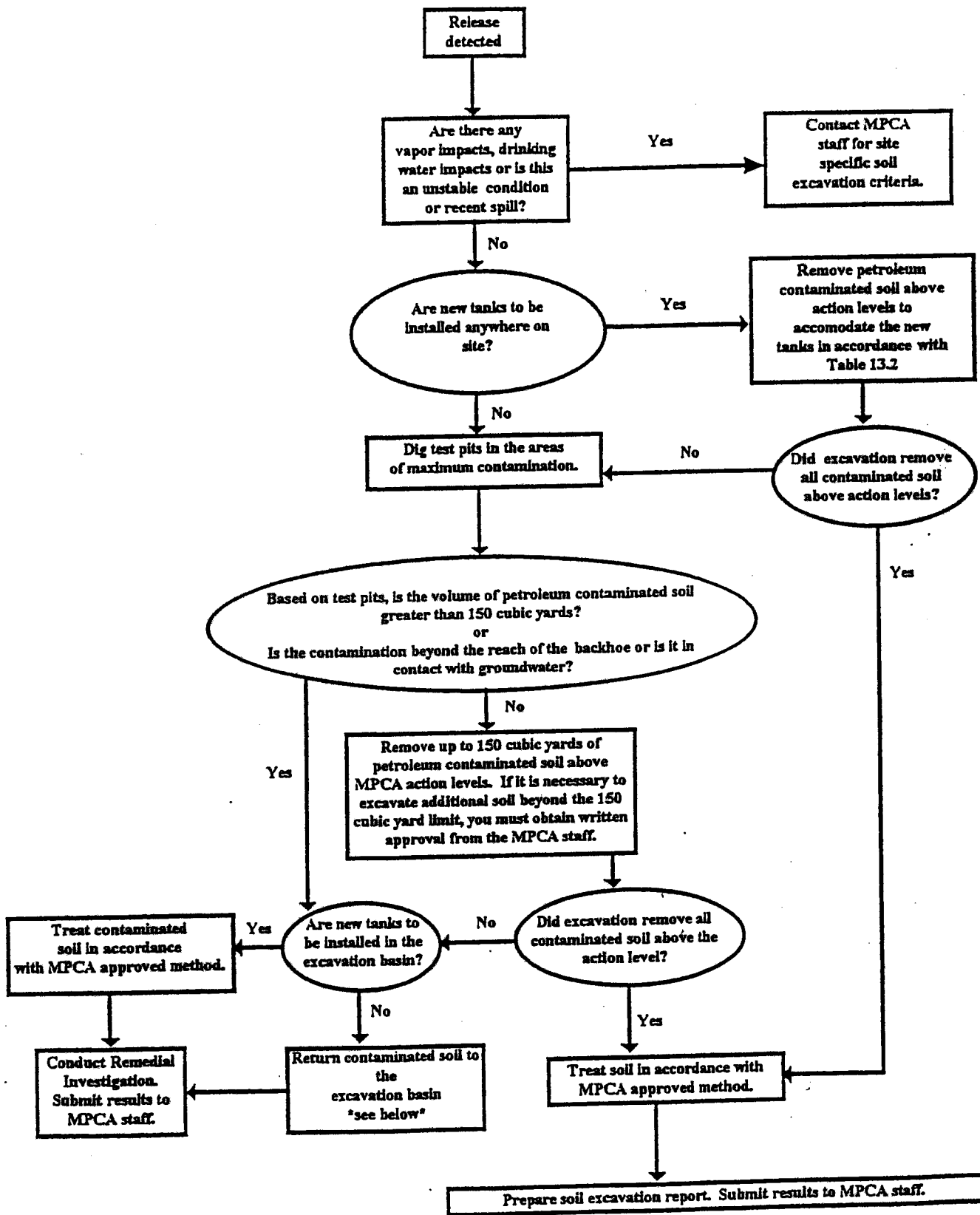
Complete the "Excavation Report Worksheet for Petroleum Release Sites" (fact sheet #3.7). If an LSI is not required, submit the Excavation Report Worksheet for MPCA review. Be sure to include all required data and figures. If an LSI is required, include the Excavation Report Worksheet as an appendix to the "Remedial Investigation Report Form" fact sheet #3.24. MPCA staff will not review Excavation Report Worksheets indicating an LSI is necessary, until the LSI has been completed. The Excavation Report Worksheet should also be included as an appendix to an "Remedial Investigation Report Form" if a full RI is conducted.

The excavation report deadline is 10 months from the date of receipt of the standard letter. A shorter deadline may be established by MPCA staff for high priority sites.

Upon request, this document and other MPCA documents can be made available in other formats, including Braille, large print and audio tape. TTY users call 612/292-5332 or 800/657-3864 (voice/TTY).

Printed on recycled paper containing at least 10 percent from paper recycled by consumers.

Excavation of Petroleum Contaminated Soil



* If you encounter soil that you consider petroleum saturated, call MPCA staff prior to returning soil to the excavation

GME GENERAL QUALIFICATIONS

GME GENERAL QUALIFICATIONS

The environmental assessment and recommendations submitted in this report are based on data we obtained during this study. The scope of this report is limited to the specific project and location described herein. We cannot account for any environmental variations that may occur on portions of the site that were not observed or explored. Conclusions concerning off-site characteristics or future degradation of soil, groundwater or surface water are estimated.

Samples were collected and analyzed under the conditions stated in this report. Analytical data have been reviewed and an interpretation made in the text of this report. We assume that all subcontract laboratory work has been completed correctly. Also, it must be noted that seasonal and annual fluctuations in hydrogeologic characteristics likely will occur.

Our description of this project represents our understanding of significant aspects relative to soil and groundwater conditions. Conclusions in this report represent our engineering judgment. This report has been prepared in accordance with the local standard of practice for our profession, using the normally available sources of information. No warranty, express or implied, is presented in this report with respect to the environmental conditions at this site.

APPENDIX B
LABORATORY REPORTS



1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Client: GME CONSULTANTS

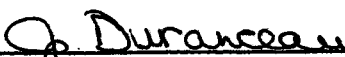
MDH LAB ID : 055-999-334

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
804270-001	TRIP BLANK	9/6/00			
804270-002	P-1 8' (WATER)	9/6/00			
804270-003	P-1 8' (SOIL)	9/6/00			
804270-004	P-1 15-16'	9/6/00			
804270-005	P-2 (WATER)	9/6/00			
804270-006	P-2 (SOIL)	9/6/00			
804270-007	P-3 (WATER)	9/6/00			
804270-008	P-3 (SOIL)	9/6/00			
804270-009	P-4 (WATER)	9/6/00			
804270-010	P-4 (SOIL)	9/6/00			
804270-011	P-5 (WATER)	9/6/00			
804270-012	P-5 (SOIL)	9/6/00			
804270-013	DUPLICATE	9/6/00			
804270-014	ON-SITE	9/6/00			

Please visit our Internet homepage at: www.enchem.com

Soil VOC detects are corrected for the total solids, unless otherwise noted.

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


Approval Signature


Date

Lab#:	TestGroupID:	Comment:
804270-002	DRO-W	Early peaks present outside of window of analysis.
P-1 8' (WATER)		
	GRO-W	Early and late peaks were present outside of window.
804270-003	GRO-S-ME	Early and late peaks were present outside of window.
P-1 8' (SOIL)		
	DRO-S	Early peaks present outside of window of analysis.
804270-007	DRO-W	Front peaks and late eluting hump present in the chromatogram.
P-3 (WATER)		
804270-011	DRO-W	Hump was present late in chromatogram.
P-5 (WATER)		
804270-012	DRO-S	Late eluting hump present along with diesel range peaks.
P-5 (SOIL)		
804270-013	DRO-W	Early peaks present outside of window of analysis.
DUPLICATE		
	GRO-W	Early and late peaks were present outside of window.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VLBK 853-12

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: MS109122000
 Matrix: (soil/water) WATER Lab Sample ID: VBLK 853-12
 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09120004
 Level: (low/med) LOW Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 09/12/00
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-83-9	DICHLORODIFLUOROMETHANE	1.00	U
74-87-3	CHLOROMETHANE	1.00	U
75-01-4	VINYL CHLORIDE	1.00	U
74-83-9	BROMOMETHANE	1.00	U
75-00-3	CHLOROETHANE	1.00	U
75-43-4	DICHLOROFLUOROMETHANE	1.00	U
75-69-4	TRICHLOROFLUOROMETHANE	1.00	U
60-29-7	DIETHYL ETHER	1.00	U
107-62-8	ACROLEIN	5.00	U
75-35-4	1 1-DICHLOROETHENE	1.00	U
76-13-1	1 1 2-TRICHLOROTRIFLUOROETHA	1.00	U
67-64-1	ACETONE	5.00	U
74-88-4	IODOMETHANE	1.00	U
75-15-0	CARBON DISULFIDE	1.00	U
107-05-1	ALLYL CHLORIDE	1.00	U
75-09-2	METHYLENE CHLORIDE	1.00	U
107-13-1	ACRYLONITRILE	5.00	U
156-60-5	TRANS-1 2-DICHLOROETHENE	1.00	U
1634-04-4	METHYL T-BUTYL ETHER	1.00	U
110-545-3	N-HEXANE	1.00	U
75-34-3	1 1-DICHLOROETHANE	1.00	U
108-05-4	VINYL ACETATE	1.00	U
108-20-3	DIISOPROPYL ETHER	1.00	U
590-20-7	2 2-DICHLOROPROPANE	1.00	U
156-59-2	CIS-1 2-DICHLOROETHENE	1.00	U
78-93-3	2-BUTANONE	5.00	U
74-97-5	BROMOCHLOROMETHANE	1.00	U
109-99-9	TETRAHYDROFURAN	5.00	U
67-66-3	CHLOROFORM	1.00	U
71-55-6	1 1 1-TRICHLOROETHANE	1.00	U
56-23-5	CARBON TETRACHLORIDE	1.00	U
563-58-6	1 1-DICHLOROPROPENE	1.00	U
71-43-2	BENZENE	1.00	U

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : TRIP BLANK

Lab Sample Number : 804270-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	---	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	---	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	13	5.0	ug/L		9/12/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
s-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : TRIP BLANK

Lab Sample Number : 804270-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

2-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Isopropylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : TRIP BLANK

Lab Sample Number : 804270-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/12/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Bromofluorobenzene	114	—	%Recov	9/12/00	SW846 8260B
Dibromofluoromethane	118	—	%Recov	9/12/00	SW846 8260B
Toluene-d8	126	—	%Recov	9/12/00	SW846 8260B

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 8' (WATER)

Lab Sample Number : 804270-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	72000	2000	ug/l		9/11/00	WI MOD DRO
Blank spike	78	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	87	—	%Recov		9/11/00	WI MOD DRO
Blank	< 50	50	ug/l		9/11/00	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	11000	500	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	—	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	—	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 50	50	ug/L		9/15/00	SW846 8260B
Allyl Chloride	< 50	50	ug/L		9/15/00	SW846 8260B
Benzene	< 10	10	ug/L		9/15/00	SW846 8260B
Bromochloromethane	< 10	10	ug/L		9/15/00	SW846 8260B
Bromodichloromethane	< 10	10	ug/L		9/15/00	SW846 8260B
Bromoform	< 10	10	ug/L		9/15/00	SW846 8260B
Bromobenzene	< 10	10	ug/L		9/15/00	SW846 8260B
Bromomethane	< 10	10	ug/L		9/15/00	SW846 8260B
2-Butanone	< 50	50	ug/L		9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 8' (WATER)

Lab Sample Number : 804270-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	33	10	ug/L	9/15/00	SW846 8260B
t-Butylbenzene	< 10	10	ug/L	9/15/00	SW846 8260B
n-Butylbenzene	130	10	ug/L	9/15/00	SW846 8260B
Carbon tetrachloride	< 10	10	ug/L	9/15/00	SW846 8260B
Chloroform	< 10	10	ug/L	9/15/00	SW846 8260B
Chlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
Chlorodibromomethane	< 50	50	ug/L	9/15/00	SW846 8260B
Chloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
Chloromethane	< 10	10	ug/L	9/15/00	SW846 8260B
2-Chlorotoluene	< 10	10	ug/L	9/15/00	SW846 8260B
4-Chlorotoluene	< 10	10	ug/L	9/15/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 10	10	ug/L	9/15/00	SW846 8260B
1,2-Dibromoethane	< 10	10	ug/L	9/15/00	SW846 8260B
Dibromomethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,3-Dichlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
1,4-Dichlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
1,2-Dichloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,2-Dichlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
1,1-Dichloroethene	< 10	10	ug/L	9/15/00	SW846 8260B
cis-1,2-Dichloroethene	< 10	10	ug/L	9/15/00	SW846 8260B
Dichlorodifluoromethane	< 10	10	ug/L	9/15/00	SW846 8260B
trans-1,2-Dichloroethene	< 10	10	ug/L	9/15/00	SW846 8260B
Dichlorofluoromethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,2-Dichloropropane	< 10	10	ug/L	9/15/00	SW846 8260B
1,1-Dichloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,3-Dichloropropane	< 50	50	ug/L	9/15/00	SW846 8260B
2,2-Dichloropropane	< 10	10	ug/L	9/15/00	SW846 8260B
1,1-Dichloropropene	< 10	10	ug/L	9/15/00	SW846 8260B
cis-1,3-Dichloropropene	< 10	10	ug/L	9/15/00	SW846 8260B
trans-1,3-Dichloropropene	< 10	10	ug/L	9/15/00	SW846 8260B
Ethylbenzene	83	10	ug/L	9/15/00	SW846 8260B
Diethyl ether	< 10	10	ug/L	9/15/00	SW846 8260B
Fluorotrichloromethane	< 10	10	ug/L	9/15/00	SW846 8260B
Hexachlorobutadiene	< 10	10	ug/L	9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 8' (WATER)

Lab Sample Number : 804270-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	64	10	ug/L	9/15/00	SW846 8260B
p-Isopropyltoluene	< 10	10	ug/L	9/15/00	SW846 8260B
Methylene chloride	< 10	10	ug/L	9/15/00	SW846 8260B
4-Methyl-2-pentanone	< 50	50	ug/L	9/15/00	SW846 8260B
Methyl-tert-butyl-ether	< 10	10	ug/L	9/15/00	SW846 8260B
Naphthalene	87	10	ug/L	9/15/00	SW846 8260B
n-Propylbenzene	200	10	ug/L	9/15/00	SW846 8260B
Styrene	< 10	10	ug/L	9/15/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
Tetrachloroethene	< 10	10	ug/L	9/15/00	SW846 8260B
Toluene	< 50	50	ug/L	9/15/00	SW846 8260B
1,2,3-Trichlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
1,2,4-Trichlorobenzene	< 10	10	ug/L	9/15/00	SW846 8260B
1,1,1-Trichloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,1,2-Trichloroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 10	10	ug/L	9/15/00	SW846 8260B
1,2,4-Trimethylbenzene	1400	10	ug/L	9/15/00	SW846 8260B
Trichloroethene	< 10	10	ug/L	9/15/00	SW846 8260B
1,2,3-Trichloropropane	< 10	10	ug/L	9/15/00	SW846 8260B
Tetrahydrofuran	< 50	50	ug/L	9/15/00	SW846 8260B
1,3,5-Trimethylbenzene	620	10	ug/L	9/15/00	SW846 8260B
Vinyl chloride	< 10	10	ug/L	9/15/00	SW846 8260B
Xylenes, -m, -p	460	20	ug/L	9/15/00	SW846 8260B
Xylene, -o	250	10	ug/L	9/15/00	SW846 8260B
4-Bromofluorobenzene	110	—	%Recov	9/15/00	SW846 8260B
Dibromofluoromethane	116	—	%Recov	9/15/00	SW846 8260B
Toluene-d8	119	—	%Recov	9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 8' (WATER)

Lab Sample Number : 804270-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 8' (SOIL)

Lab Sample Number : 804270-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	82.5		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	96	—	%Recov		9/11/00	MOD 8021B
Benzene	< 1000	1000	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	16000	1200	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	2600	1200	ug/kg		9/11/00	MOD 8021B
Toluene	< 1000	1000	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	71000	1200	ug/kg		9/11/00	MOD 8021B
Xylene, -o	37000	1200	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	1100	41	mg/kg		9/11/00	WI MOD DRO
Blank spike	79	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	81	—	%Recov		9/11/00	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -**Project Name : WIGWAM INN****Project Number : C-8214****Field ID : P-1 8' (SOIL)****Lab Sample Number : 804270-003****MDH LAB ID : 055-999-334****Client : GME CONSULTANTS****Report Date : 9/12/00****Collection Date : 9/6/00****Matrix Type : SOIL****Organic Results****GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: MSB**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	2900	120	mg/kg		9/11/00	WI MOD GRO
Blank Spike	114	—	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	110	—	%Recov		9/11/00	WI MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	WI MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 15-16'

Lab Sample Number : 804270-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	81.7		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	95	---	%Recov		9/11/00	MOD 8021B
Benzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		9/11/00	MOD 8021B
Toluene	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylene, -o	< 25	25	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: Wi MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 3.5	3.5	mg/kg		9/11/00	Wi MOD DRO
Blank spike	79	---	%Recov		9/11/00	Wi MOD DRO
Blank spike duplicate	81	---	%Recov		9/11/00	Wi MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	Wi MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-1 15-16'

Lab Sample Number : 804270-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1	3.1	mg/kg		9/11/00	Wi MOD GRO
Blank Spike	114	—	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	110	—	%Recov		9/11/00	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-2 (WATER)

Lab Sample Number : 804270-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 120	120	ug/l		9/8/00	WI MOD DRO
Blank spike	78	—	%Recov		9/8/00	WI MOD DRO
Blank spike duplicate	87	—	%Recov		9/8/00	WI MOD DRO
Blank	< 50	50	ug/l		9/8/00	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	—	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	—	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-2 (WATER)

Lab Sample Number : 804270-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Fluorotrchloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-2 (WATER)

Lab Sample Number : 804270-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/12/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Bromofluorobenzene	114	—	%Recov	9/12/00	SW846 8260B
Dibromofluoromethane	118	—	%Recov	9/12/00	SW846 8260B
Toluene-d8	125	—	%Recov	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-2 (WATER)

Lab Sample Number : 804270-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

VOC-BLK-W		Prep Method:		Prep Date:	Analyst:	
Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : P-2 (SOIL)
Lab Sample Number : 804270-006
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/12/00
Collection Date : 9/6/00
Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	80.9		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	96	—	%Recov		9/11/00	MOD 8021B
Benzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		9/11/00	MOD 8021B
Toluene	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylene, -o	< 25	25	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: Wi MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.4	4.4	mg/kg		9/11/00	Wi MOD DRO
Blank spike	79	—	%Recov		9/11/00	Wi MOD DRO
Blank spike duplicate	81	—	%Recov		9/11/00	Wi MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	Wi MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-2 (SOIL)

Lab Sample Number : 804270-006

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1	3.1	mg/kg		9/11/00	Wi MOD GRO
Blank Spike	114	—	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	110	—	%Recov		9/11/00	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-3 (WATER)

Lab Sample Number : 804270-007

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	800	100	ug/l		9/8/00	WI MOD DRO
Blank spike	78	---	%Recov		9/8/00	WI MOD DRO
Blank spike duplicate	87	---	%Recov		9/8/00	WI MOD DRO
Blank	< 50	50	ug/l		9/8/00	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	---	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	---	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-3 (WATER)

Lab Sample Number : 804270-007

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-3 (WATER)

Lab Sample Number : 804270-007

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Toluene	11	5.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/12/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Bromofluorobenzene	113	—	%Recov	9/12/00	SW846 8260B
Dibromofluoromethane	118	—	%Recov	9/12/00	SW846 8260B
Toluene-d8	125	—	%Recov	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-3 (WATER)

Lab Sample Number : 804270-007

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-3 (SOIL)

Lab Sample Number : 804270-008

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	80.6		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	96	—	%Recov		9/11/00	MOD 8021B
Benzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		9/11/00	MOD 8021B
Toluene	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylene, -o	< 25	25	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.4	4.4	mg/kg		9/11/00	WI MOD DRO
Blank spike	79	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	81	—	%Recov		9/11/00	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : P-3 (SOIL)
Lab Sample Number : 804270-008
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/12/00
Collection Date : 9/6/00
Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1	3.1	mg/kg		9/11/00	Wi MOD GRO
Blank Spike	114	—	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	110	—	%Recov		9/11/00	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-4 (WATER)

Lab Sample Number : 804270-009

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 100	100	ug/l		9/8/00	Wi MOD DRO
Blank spike	78	---	%Recov		9/8/00	Wi MOD DRO
Blank spike duplicate	87	---	%Recov		9/8/00	Wi MOD DRO
Blank	< 50	50	ug/l		9/8/00	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	Wi MOD GRO
Blank Spike	86	---	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	87	---	%Recov		9/11/00	Wi MOD GRO
Blank	< 50	50	ug/l		9/11/00	Wi MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-4 (WATER)

Lab Sample Number : 804270-009

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-4 (WATER)

Lab Sample Number : 804270-009

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/12/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Bromofluorobenzene	111	—	%Recov	9/12/00	SW846 8260B
Dibromofluoromethane	119	—	%Recov	9/12/00	SW846 8260B
Toluene-d8	124	—	%Recov	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-4 (WATER)

Lab Sample Number : 804270-009

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : P-4 (SOIL)
Lab Sample Number : 804270-010
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/12/00
Collection Date : 9/6/00
Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	80.3		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	96	—	%Recov		9/11/00	MOD 8021B
Benzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		9/11/00	MOD 8021B
Toluene	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylene, -o	< 25	25	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.6	4.6	mg/kg		9/11/00	WI MOD DRO
Blank spike	79	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	81	—	%Recov		9/11/00	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : P-4 (SOIL)
Lab Sample Number : 804270-010
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/12/00
Collection Date : 9/6/00
Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.1	3.1	mg/kg		9/11/00	Wi MOD GRO
Blank Spike	114	—	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	110	—	%Recov		9/11/00	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-5 (WATER)

Lab Sample Number : 804270-011

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	190	140	ug/l		9/8/00	WI MOD DRO
Blank spike	78	—	%Recov		9/8/00	WI MOD DRO
Blank spike duplicate	87	—	%Recov		9/8/00	WI MOD DRO
Blank	< 50	50	ug/l		9/8/00	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	—	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	—	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		9/13/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/13/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/13/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/13/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-5 (WATER)

Lab Sample Number : 804270-011

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L	9/13/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/13/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-5 (WATER)

Lab Sample Number : 804270-011

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/13/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/13/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/13/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/13/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/13/00	SW846 8260B
4-Bromofluorobenzene	110	—	%Recov	9/13/00	SW846 8260B
Dibromofluoromethane	118	—	%Recov	9/13/00	SW846 8260B
Toluene-d8	124	—	%Recov	9/13/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : P-5 (WATER)
Lab Sample Number : 804270-011
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/20/00
Collection Date : 9/6/00
Matrix Type : WATER

Organic Results

VOC-BLK-W		Prep Method:		Prep Date:	Analyst:	
Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-5 (SOIL)

Lab Sample Number : 804270-012

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	85.4		%		9/11/00	SM2540G	SM2540G

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	96	—	%Recov		9/11/00	MOD 8021B
Benzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Ethylbenzene	< 25	25	ug/kg		9/11/00	MOD 8021B
Methyl-tert-butyl-ether	< 25	25	ug/kg		9/11/00	MOD 8021B
Toluene	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylenes, -m, -p	< 25	25	ug/kg		9/11/00	MOD 8021B
Xylene, -o	< 25	25	ug/kg		9/11/00	MOD 8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 9/11/00 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	843-81					

Organic Results

Preservation Date: 9/8/00

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 9/11/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	35	4.1	mg/kg		9/11/00	WI MOD DRO
Blank spike	79	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	81	—	%Recov		9/11/00	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		9/11/00	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : P-5 (SOIL)

Lab Sample Number : 804270-012

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/12/00

Collection Date : 9/6/00

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 2.9	2.9	mg/kg		9/11/00	Wi MOD GRO
Blank Spike	114	---	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	110	---	%Recov		9/11/00	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		9/11/00	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : DUPLICATE

Lab Sample Number : 804270-013

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO Prep Date: 9/8/00 Analyst: DJB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	7200	250	ug/l		9/11/00	WI MOD DRO
Blank spike	78	—	%Recov		9/11/00	WI MOD DRO
Blank spike duplicate	87	—	%Recov		9/11/00	WI MOD DRO
Blank	< 50	50	ug/l		9/11/00	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	14000	1000	ug/l		9/11/00	WI MOD GRO
Blank Spike	86	—	%Recov		9/11/00	WI MOD GRO
Blank Spike Duplicate	87	—	%Recov		9/11/00	WI MOD GRO
Blank	< 50	50	ug/l		9/11/00	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 100	100	ug/L		9/15/00	SW846 8260B
Allyl Chloride	< 100	100	ug/L		9/15/00	SW846 8260B
Benzene	< 20	20	ug/L		9/15/00	SW846 8260B
Bromochloromethane	< 20	20	ug/L		9/15/00	SW846 8260B
Bromodichloromethane	< 20	20	ug/L		9/15/00	SW846 8260B
Bromoform	< 20	20	ug/L		9/15/00	SW846 8260B
Bromobenzene	< 20	20	ug/L		9/15/00	SW846 8260B
Bromomethane	< 20	20	ug/L		9/15/00	SW846 8260B
2-Butanone	< 100	100	ug/L		9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : DUPLICATE

Lab Sample Number : 804270-013

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

s-Butylbenzene	39	20	ug/L	9/15/00	SW846 8260B
t-Butylbenzene	< 20	20	ug/L	9/15/00	SW846 8260B
n-Butylbenzene	150	20	ug/L	9/15/00	SW846 8260B
Carbon tetrachloride	< 20	20	ug/L	9/15/00	SW846 8260B
Chloroform	< 20	20	ug/L	9/15/00	SW846 8260B
Chlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
Chlorodibromomethane	< 100	100	ug/L	9/15/00	SW846 8260B
Chloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
Chloromethane	< 20	20	ug/L	9/15/00	SW846 8260B
2-Chlorotoluene	< 20	20	ug/L	9/15/00	SW846 8260B
4-Chlorotoluene	< 20	20	ug/L	9/15/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 20	20	ug/L	9/15/00	SW846 8260B
1,2-Dibromoethane	< 20	20	ug/L	9/15/00	SW846 8260B
Dibromomethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,3-Dichlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
1,4-Dichlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
1,2-Dichloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,2-Dichlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
1,1-Dichloroethene	< 20	20	ug/L	9/15/00	SW846 8260B
cis-1,2-Dichloroethene	< 20	20	ug/L	9/15/00	SW846 8260B
Dichlorodifluoromethane	< 20	20	ug/L	9/15/00	SW846 8260B
trans-1,2-Dichloroethene	< 20	20	ug/L	9/15/00	SW846 8260B
Dichlorofluoromethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,2-Dichloropropane	< 20	20	ug/L	9/15/00	SW846 8260B
1,1-Dichloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,3-Dichloropropane	< 100	100	ug/L	9/15/00	SW846 8260B
2,2-Dichloropropane	< 20	20	ug/L	9/15/00	SW846 8260B
1,1-Dichloropropene	< 20	20	ug/L	9/15/00	SW846 8260B
cis-1,3-Dichloropropene	< 20	20	ug/L	9/15/00	SW846 8260B
trans-1,3-Dichloropropene	< 20	20	ug/L	9/15/00	SW846 8260B
Ethylbenzene	150	20	ug/L	9/15/00	SW846 8260B
Diethyl ether	< 20	20	ug/L	9/15/00	SW846 8260B
Fluorotrichloromethane	< 20	20	ug/L	9/15/00	SW846 8260B
Hexachlorobutadiene	< 20	20	ug/L	9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : DUPLICATE

Lab Sample Number : 804270-013

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Isopropylbenzene	89	20	ug/L	9/15/00	SW846 8260B
p-Isopropyltoluene	< 20	20	ug/L	9/15/00	SW846 8260B
Methylene chloride	< 20	20	ug/L	9/15/00	SW846 8260B
4-Methyl-2-pentanone	< 100	100	ug/L	9/15/00	SW846 8260B
Methyl-tert-butyl-ether	< 20	20	ug/L	9/15/00	SW846 8260B
Naphthalene	140	20	ug/L	9/15/00	SW846 8260B
n-Propylbenzene	270	20	ug/L	9/15/00	SW846 8260B
Styrene	< 20	20	ug/L	9/15/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,1,1,2-Tetrachloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
Tetrachloroethene	< 20	20	ug/L	9/15/00	SW846 8260B
Toluene	< 100	100	ug/L	9/15/00	SW846 8260B
1,2,3-Trichlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
1,2,4-Trichlorobenzene	< 20	20	ug/L	9/15/00	SW846 8260B
1,1,1-Trichloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,1,2-Trichloroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 20	20	ug/L	9/15/00	SW846 8260B
1,2,4-Trimethylbenzene	1900	20	ug/L	9/15/00	SW846 8260B
Trichloroethene	< 20	20	ug/L	9/15/00	SW846 8260B
1,2,3-Trichloropropane	< 20	20	ug/L	9/15/00	SW846 8260B
Tetrahydrofuran	< 100	100	ug/L	9/15/00	SW846 8260B
1,3,5-Trimethylbenzene	760	20	ug/L	9/15/00	SW846 8260B
Vinyl chloride	< 20	20	ug/L	9/15/00	SW846 8260B
Xylenes, -m, -p	850	40	ug/L	9/15/00	SW846 8260B
Xylene, -o	470	20	ug/L	9/15/00	SW846 8260B
4-Bromofluorobenzene	112	—	%Recov	9/15/00	SW846 8260B
Dibromofluoromethane	121	—	%Recov	9/15/00	SW846 8260B
Toluene-d8	118	—	%Recov	9/15/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214
Field ID : DUPLICATE
Lab Sample Number : 804270-013
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 9/20/00
Collection Date : 9/6/00
Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : ON-SITE

Lab Sample Number : 804270-014

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 9/11/00 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/11/00	Wi MOD GRO
Blank Spike	86	---	%Recov		9/11/00	Wi MOD GRO
Blank Spike Duplicate	87	---	%Recov		9/11/00	Wi MOD GRO
Blank	< 50	50	ug/l		9/11/00	Wi MOD GRO

Organic Results

MDH 466 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/11/00 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
s-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chloroform	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L		9/12/00	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L		9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : ON-SITE

Lab Sample Number : 804270-014

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

2-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Isopropylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Styrene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214

Field ID : ON-SITE

Lab Sample Number : 804270-014

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/20/00

Collection Date : 9/6/00

Matrix Type : WATER

1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	9/12/00	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	9/12/00	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	9/12/00	SW846 8260B
4-Bromofluorobenzene	113	—	%Recov	9/12/00	SW846 8260B
Dibromofluoromethane	117	—	%Recov	9/12/00	SW846 8260B
Toluene-d8	124	—	%Recov	9/12/00	SW846 8260B

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	853-12					

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK 853-12

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: MS109122000
 Matrix: (soil/water) WATER Lab Sample ID: VBLK 853-12
 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09120004
 Level: (low/med) LOW Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 09/12/00
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-06-2-----1	2-DICHLOROETHANE	1.00	U
462-95-3-----	DIETHOXYMETHANE	1.00	U
79-01-6-----	TRICHLOROETHENE	1.00	U
78-87-5-----1	2-DICHLOROPROPANE	1.00	U
74-95-3-----	DIBROMOMETHANE	1.00	U
75-27-4-----	BROMODICHLOROMETHANE	1.00	U
110-75-8-----2	CHLOROETHYL VINYL ETHER	1.00	U
10061-01-5-----	CIS-1 3-DICHLOROPROPENE	1.00	U
108-10-1-----4	METHYL-2-PENTANONE	5.00	U
108-88-3-----	TOLUENE	1.00	U
10061-02-6-----	TRANS-1 3-DICHLOROPROPENE	1.00	U
79-00-5-----1 1	2-TRICHLOROETHANE	1.00	U
127-18-4-----	TETRACHLOROETHENE	1.00	U
142-28-9-----1	3-DICHLOROPROPANE	1.00	U
591-78-6-----2	HEXANONE	5.00	U
124-48-1-----	DIBROMOCHLOROMETHANE	1.00	U
106-93-4-----1	2-DIBROMOETHANE	1.00	U
108-90-7-----	CHLOROBENZENE	1.00	U
630-26-6-----1 1 1	2-TETRACHLOROETHANE	1.00	U
100-41-4-----	ETHYL BENZENE	1.00	U
108-38-3-----	M- P-XYLENE	2.00	U
95-47-6-----	O-XYLENE	1.00	U
100-42-5-----	STYRENE	1.00	U
75-25-2-----	BROMOFORM	1.00	U
98-82-8-----	ISOPROPYLBENZENE	1.00	U
110-57-6-----	TRANS-1 4-DICHLORO-2-BUTENE	1.00	U
108-86-1-----	BROMOBENZENE	1.00	U
79-34-5-----1 1 2	2-TETRACHLOROETHANE	1.00	U
96-18-4-----1 2	3-TRICHLOROPROPANE	1.00	U
1476-11-5-----	CIS-1 4-DICHLORO-2-BUTENE	1.00	U
103-65-1-----	N-PROPYLBENZENE	1.00	U
95-49-8-----2	CHLOROTOLUENE	1.00	U
106-43-4-----4	CHLOROTOLUENE	1.00	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK 853-12

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: MS109122000
 Matrix: (soil/water) WATER Lab Sample ID: VBLK 853-12
 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09120004
 Level: (low/med) LOW Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 09/12/00
 GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-67-8-----1 3 5-	TRIMETHYLBENZENE	1.00	U
98-06-6-----	TERT-BUTYLBENZENE	1.00	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	1.00	U
135-98-8-----	SEC-BUTYLBENZENE	1.00	U
541-73-1-----1 3-	DICHLOROBENZENE	1.00	U
106-46-7-----1 4-	DICHLOROBENZENE	1.00	U
99-878-6-----P-	ISOPROPYLTOLUENE (CYMENE)	1.00	U
95-50-1-----1 2-	DICHLOROBENZENE	1.00	U
104-51-8-----N-	BUTYLBENZENE	1.00	U
67-72-1-----	HEXACHLOROETHANE	1.00	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	1.00	U
95-63-6-----1 2 4-	TRICHLOROBENZENE	1.00	U
87-68-3-----	HEXACHLOROBUTADIENE	1.00	U
91-20-3-----	NAPHTHALENE	1.00	U
96-18-4-----1 2 3-	TRICHLOROBENZENE	1.00	U
91-57-6-----2-	METHYLNAPHTHALENE	1.00	U
-----	TOTAL 1 2-DICHLOROETHENE	1.00	U
-----	TOTAL XYLENES	1.00	U

Form I
Extraction Blank

Anal by: MSB
Anal date: 9/11/00
Blank #: 843-81
LCS: NA
LCSD: NA

	LOD	LOQ	REPORTED RESULT	UNITS	Q ₁
Benzene	25	60	ND	ug/kg	
Toluene	25	60	ND	ug/kg	
Ethylbenzene	25	60	ND	ug/kg	
m/p-Xylene	25	60	ND	ug/kg	
o-Xylene	25	60	ND	ug/kg	
Methyl tert-butyl ether	25	60	ND	ug/kg	
a,a,a-Trifluorotoluene			96	% recov	

B Analyte present in blank. Value in sample(s)
may be suspect.
ND Not Detected

(Please Print Legibly)
 Company Name: GME CONSULTANTS
 Branch or Location: Crosby, MN
 Project Contact: Eric Wallin
 Telephone: 218-546-6371
 Project Number: C-0214
 Project Name: Highway Fan
 Project State: MN
 Sampled By (Print): Rick Eiden



1241 Bellevue St., Suite 9
 Green Bay, WI 54302
 920-488-2436 • 1-800-738-2436
 FAX 920-488-8827

525 Science Drive
 Madison, WI 53711
 608-232-3500 • 1-888-536-2436
 FAX: 608-233-0802

1423 N. 8th Street, Suite 122
 Superior, WI 54880
 715-392-5844 • 1-800-837-8238
 FAX 715-392-5843

CHAIN OF CUSTODY

53077

Page _____ of _____

P.O. # _____ Quote # _____

Mail Report To: Eric Wallin

Company: GME Inc.

Address: P.O. Box 250
 Crosby, MN 56441

Invoice To: Same

Company: _____

Address: _____

Mail Invoice To: _____

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=EnCore F=Methanol G=NaOH

FILTERED? (YES/NO) NO
 PRESERVATION (CODE)* A A F B B A

ANALYSES REQUESTED
 VOCs - 465 - water
 DRO - soil
 GRO - ATEX - METALS
 DRO - water
 GRO - water
 DRY weight

Data Package Options (please circle if requested)
 QC Summary Surchage Site-Specific QC Required?
 EnChem Level II Std. Delivery Yes No
 EnChem Level III 10% (min. \$50) (If yes, indicate QC sample and submit triplicate volume.)
 EnChem Level IV 25% (min. \$100)

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX	COMMENTS	TOTAL BOTTLES (Lab Use Only)
		DATE	TIME			
001	Trip Blank			WSP		2-40ml
002/003	P-1 8	9/7/00		WPS	water, soil, bub	1-L 6-40ml / 1-4oz 1-2oz 1-40ml
004	P-1 15-16'					1-4oz 1-2oz 1-40ml
005/006	P-2				3-water, soil, bub	1-L 6-40ml / 1-4oz 1-2oz 1-40ml
007/008	P-3				4-water, soil, bub	
009/010	P-4				5-water, soil, bub	
011/012	P-5					
013	Duplicate			W	1-water, soil, bub	1-L 6-40ml
014	On-site					3-40ml

Turnaround Time Requested (TAT)
 (circle): Std (10 Bus. Days) Rush
 (Rush TAT subject to approval/surchage)
 Quick Turn Number: _____
 Date Needed: _____
 Transmit Rush Results by (circle):
 Phone Fax
 Phone #: _____
 Fax #: _____
 Std. TAT Surchage
 1 day 3.0x
 2 day 2.0x
 3 day 1.5x
 4 day 1.4x
 5 day 1.3x
 Matrix Codes
 W-Water
 S-Soil
 A-Air
 C=Charcoal
 Bi=Bio
 Sh=Sh

Relinquished By: RJ Gidycz Date/Time: 9/7/00
 Relinquished By: _____ Date/Time: _____
 Relinquished By: UPS Date/Time: 9/8/00 10:30
 Relinquished By: _____ Date/Time: _____
 Relinquished By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____
 Received By: And-Sell Date/Time: 9/8/00 10:30
 Received By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

En Chem Project No. 804270
 Sample Receipt Temp. 10C
 Sample Receipt pH (Wet/Metals)
 Custody Seal

Samples on HOLD _____ act 1-
 al prepa and rt fileb

Corporate Office & Laboratory
1241 Bellevue Street
Green Bay, WI 54302
920-469-2436 • FAX: 920-469-8827
800-7-ENCHEM

EN CHEM INC.

Madison Office & Laboratory
525 Science Drive
Madison, WI 53711
608-232-3300 • FAX: 608-233-0502
888-5-ENCHEM

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Client: GME CONSULTANTS

MDH LAB ID : 055-999-334

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
823553-001	B-2 @ 6'	6/20/02			
823553-002	B-1 @ 14-16'	6/20/02			
823553-003	B-2 @ 9-11'	6/20/02			
823553-004	B-3 @ 14-16'	6/20/02			
823553-005	B-4 @ 14-16'	6/20/02			
823553-006	TRIP BLANK	6/20/02			
823553-007	TRIP BLANK (MEOH)	6/20/02			

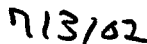
Please visit our Internet homepage at: www.enchem.com

Soil VOC detects are corrected for the total solids, unless otherwise noted.

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



Approval Signature



Date

Effective Date: 04/02/2001

Surrogates - 2001
En Chem - Green Bay

Surrogate - GC VOA	Aqueous		Low Level Solids		Methanol Solids	
	LCL	UCL	LCL	UCL	LCL	UCL
α,α,α -Trifluorotoluene	75	134	41	158	66	154

Surrogate - GCMS VOA	Aqueous		Low Level Solids		Methanol Solids	
	LCL	UCL	LCL	UCL	LCL	UCL
Dibromofluoromethane	51	131	58	129	49	138
Toluene-d ₈	60	135	63	139	45	147
4-Bromofluorobenzene	64	152	65	117	56	126

Surrogate - GCMS PAH	Aqueous		Solids	
	LCL	UCL	LCL	UCL
Nitrobenzene-d ₅	38	166	36	121
2-Fluorobiphenyl	35	119	35	103
Terphenyl-d ₁₄	51	139	32	123

Surrogate - GCMS BNA	Aqueous		Solids	
	LCL	UCL	LCL	UCL
2-Fluorophenol	10	84	29	111
Phenol-d ₅	13	50	43	106
2-Chlorophenol-d ₄	58	107	32	122
1,2-Dichlorobenzene-d ₄	48	113	32	108
Nitrobenzene-d ₅	51	117	36	109
2-Fluorobiphenyl	49	109	43	103
2,4,6-Tribromophenol	28	142	29	114
Terphenyl-d ₁₄	12	151	34	145

Surrogate - GC PCB	Aqueous		Solids	
	LCL	UCL	LCL	UCL
Decachlorobiphenyl	50	150	31	124

Organic Data Qualifiers

- B** Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
- C** Elevated detection limit.
- D** Analyte value from diluted analysis, or surrogate result not applicable due to sample dilution.
- E** Analyte concentration exceeds calibration range.
- F** Surrogate results outside control criteria.
- H** Extraction or analysis performed past holding time.
- J** Qualitative evidence of analyte present: concentration detected is greater than the method detection limit but less than the reporting limit.
- K** Detection limit may be elevated due to the presence of an unrequested analyte.
- N** Spiked sample recovery not within control limits.
- P** The relative percent difference between the two columns for detected concentrations was greater than 40%.
- Q** The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
- S** The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
- U** The analyte was not detected above the reporting limit.
- W** Sample received with headspace.
- X** See Sample Narrative.
- &** Laboratory Control Spike recovery not within control limits.
- *** Duplicate analyses not within control limits.
- SUB1** Assay was subcontracted to an approved lab.
- SUB2** Assay was subcontracted to En Chem Green Bay WI Cert. #405132750.

En Chem Inc.

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Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
Fax: 920-469-8827

Lab#:	TestGroupID:	Comment:
823553-001 B-1 @ 6'	DRO-W	Late eluting hump along with diesel range peaks were present in the chromatogram.
<i>02</i>	GRO-W	<u>Sample analyzed from a vial with headspace.</u>
823553-002 B-1 @ 14-16'	GRO-S-ME	Late eluting peaks were present outside the window of analysis.

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : B-2 @ 6'
Lab Sample Number : 823563-001
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/3/02
Collection Date : 6/20/02
Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: WI MOD DRO **Prep Date:** 6/25/02 **Analyst:** KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	260	130	ug/l		6/26/02	WI MOD DRO
Blank spike	100	—	%Recov		6/26/02	WI MOD DRO
Blank spike duplicate	84	—	%Recov		6/26/02	WI MOD DRO
Blank	< 50	50	ug/l		6/26/02	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO **Prep Date:** 6/25/02 **Analyst:** MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		6/26/02	WI MOD GRO
Blank Spike	100	—	%Recov		6/26/02	WI MOD GRO
Blank Spike Duplicate	88	—	%Recov		6/26/02	WI MOD GRO
Blank	< 50	50	ug/l		6/26/02	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B **Prep Date:** 6/26/02 **Analyst:** TLT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		6/27/02	SW846 8260B
Allyl Chloride	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		6/27/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		6/27/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-2 @ 6'

Lab Sample Number : 823553-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/3/02

Collection Date : 6/20/02

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-2 @ 6'

Lab Sample Number : 823553-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/3/02

Collection Date : 6/20/02

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	6/27/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2,4-Trimethylbenzene	1.3	1.0	ug/L	6/27/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	6/27/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	6/27/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	6/27/02	SW846 8260B
4-Bromofluorobenzene	73	---	%Recov	6/27/02	SW846 8260B
Dibromofluoromethane	84	---	%Recov	6/27/02	SW846 8260B
Toluene-d8	86	---	%Recov	6/27/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-2 @ 6'

Lab Sample Number : 823553-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/3/02

Collection Date : 6/20/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1070-22					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : B-1 @ 14-16'
Lab Sample Number : 823553-002
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/2/02
Collection Date : 6/20/02
Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	78.4		%		6/25/02	SM 2540G M	SM 2540G M

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103	—	%Recov		6/27/02	SW846 M8021B
Benzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Ethylbenzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Methyl-tert-butyl-ether	< 32	32	ug/kg		6/27/02	SW846 M8021B
Toluene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylenes, -m, -p	69	32	ug/kg		6/27/02	SW846 M8021B
Xylene, -o	36	32	ug/kg		6/27/02	SW846 M8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 6/26/02 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	1062-73					

Organic Results

Preservation Date: 6/25/02

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 6/27/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 3.9	3.9	mg/kg	*	6/28/02	WI MOD DRO
Blank spike	104	—	%Recov		6/28/02	WI MOD DRO
Blank spike duplicate	79	—	%Recov		6/28/02	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		6/28/02	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-1 @ 14-16'

Lab Sample Number : 823553-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: WI MOD GRO Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	5.0	3.2	mg/kg		6/27/02	WI MOD GRO
Blank Spike	86	--	%Recov		6/27/02	WI MOD GRO
Blank Spike Duplicate	91	--	%Recov		6/27/02	WI MOD GRO
Blank	< 2.5	2.5	mg/kg		6/27/02	WI MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-2 @ 9-11'

Lab Sample Number : 823553-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	77.4		%		6/25/02	SM 2540G M	SM 2540G M

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103	—	%Recov		6/27/02	SW846 M8021B
Benzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Ethylbenzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Methyl-tert-butyl-ether	< 32	32	ug/kg		6/27/02	SW846 M8021B
Toluene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylenes, -m, -p	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylene, -o	< 32	32	ug/kg		6/27/02	SW846 M8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 6/26/02 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	1062-73					

Organic Results

Preservation Date: 6/25/02

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 6/27/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.4	4.4	mg/kg	*	6/28/02	WI MOD DRO
Blank spike	104	—	%Recov		6/28/02	WI MOD DRO
Blank spike duplicate	79	—	%Recov		6/28/02	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		6/28/02	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-2 @ 9-11'

Lab Sample Number : 823553-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: Wi MOD GRO Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.2	3.2	mg/kg		6/27/02	Wi MOD GRO
Blank Spike	86	—	%Recov		6/27/02	Wi MOD GRO
Blank Spike Duplicate	91	—	%Recov		6/27/02	Wi MOD GRO
Blank	< 2.5	2.5	mg/kg		6/27/02	Wi MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-3 @ 14-16'

Lab Sample Number : 823553-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	78.5		%		6/25/02	SM 2540G M	SM 2540G M

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	102	—	%Recov		6/27/02	SW846 M8021B
Benzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Ethylbenzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Methyl-tert-butyl-ether	< 32	32	ug/kg		6/27/02	SW846 M8021B
Toluene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylenes, -m, -p	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylene, -o	< 32	32	ug/kg		6/27/02	SW846 M8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 6/26/02 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	1062-73					

Organic Results

Preservation Date: 6/25/02

DIESEL RANGE ORGANICS - SOIL

Prep Method: WI MOD DRO Prep Date: 6/27/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 3.8	3.8	mg/kg	*	6/28/02	WI MOD DRO
Blank spike	104	—	%Recov		6/28/02	WI MOD DRO
Blank spike duplicate	79	—	%Recov		6/28/02	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		6/28/02	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : B-3 @ 14-16'
Lab Sample Number : 823553-004
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/2/02
Collection Date : 6/20/02
Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL **Prep Method:** WI MOD GRO **Prep Date:** 6/26/02 **Analyst:** SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.2	3.2	mg/kg		6/27/02	WI MOD GRO
Blank Spike	86	—	%Recov		6/27/02	WI MOD GRO
Blank Spike Duplicate	91	—	%Recov		6/27/02	WI MOD GRO
Blank	< 2.5	2.5	mg/kg		6/27/02	WI MOD GRO

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : B-4 @ 14-16'
Lab Sample Number : 823553-005
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/2/02
Collection Date : 6/20/02
Matrix Type : SOIL

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Solids, percent	78.1		%		6/25/02	SM 2540G M	SM 2540G M

Organic Results

BTEX + MTBE - SOIL/METHANOL

Prep Method: 5030B/5035 Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103	—	%Recov		6/27/02	SW846 M8021B
Benzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Ethylbenzene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Methyl-tert-butyl-ether	< 32	32	ug/kg		6/27/02	SW846 M8021B
Toluene	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylenes, -m, -p	< 32	32	ug/kg		6/27/02	SW846 M8021B
Xylene, -o	< 32	32	ug/kg		6/27/02	SW846 M8021B

Organic Results

BTEX BLANK

Prep Method: Prep Date: 6/26/02 Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	1062-73					

Organic Results

DIESEL RANGE ORGANICS - SOIL

Preservation Date: 6/25/02

Prep Method: WI MOD DRO Prep Date: 6/27/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 4.0	4.0	mg/kg	*	6/28/02	WI MOD DRO
Blank spike	104	—	%Recov		6/28/02	WI MOD DRO
Blank spike duplicate	79	—	%Recov		6/28/02	WI MOD DRO
Blank	< 5.0	5.0	mg/kg		6/28/02	WI MOD DRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : B-4 @ 14-16'

Lab Sample Number : 823553-005

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : SOIL

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: WI MOD GRO Prep Date: 6/26/02 Analyst: SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 3.2	3.2	mg/kg		6/27/02	WI MOD GRO
Blank Spike	86	—	%Recov		6/27/02	WI MOD GRO
Blank Spike Duplicate	91	—	%Recov		6/27/02	WI MOD GRO
Blank	< 2.5	2.5	mg/kg		6/27/02	WI MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823553-006

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : WATER

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 6/26/02 Analyst: TLT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		6/26/02	SW846 8260B
Allyl Chloride	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		6/26/02	SW846 8260B
s-Butylbenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L		6/26/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823553-006

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : WATER

cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Isopropylbenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	6/26/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823553-006

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/2/02

Collection Date : 6/20/02

Matrix Type : WATER

1,2,3-Trichloropropane	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	6/26/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	6/26/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	6/26/02	SW846 8260B
4-Bromofluorobenzene	75	—	%Recov	6/26/02	SW846 8260B
Dibromofluoromethane	83	—	%Recov	6/26/02	SW846 8260B
Toluene-d8	87	—	%Recov	6/26/02	SW846 8260B

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1070-22					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : TRIP BLANK (MEOH)
Lab Sample Number : 823553-007
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/2/02
Collection Date : 6/20/02
Matrix Type : METHANOL

Organic Results

BTEX + MTBE - METHANOL

Prep Method: SW846 5030B **Prep Date:** 6/26/02 **Analyst:** SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
a,a,a-Trifluorotoluene	103	—	%Recov		6/27/02	SW846 M8021B
Benzene	< 25	25	ug/l		6/27/02	SW846 M8021B
Ethylbenzene	< 25	25	ug/l		6/27/02	SW846 M8021B
Methyl-tert-butyl-ether	< 25	25	ug/l		6/27/02	SW846 M8021B
Toluene	< 25	25	ug/l		6/27/02	SW846 M8021B
Xylenes, -m, -p	< 25	25	ug/l		6/27/02	SW846 M8021B
Xylene, -o	< 25	25	ug/l		6/27/02	SW846 M8021B

Organic Results

BTEX BLANK

Prep Method: **Prep Date:** 6/26/02 **Analyst:**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
BTEX - Blank	1062-73					

Organic Results

GASOLINE RANGE ORGANICS - METHANOL

Prep Method: WI MOD GRO **Prep Date:** 6/26/02 **Analyst:** SMT

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	< 2500	2500	ug/L		6/27/02	WI MOD GRO
Blank Spike	86	—	%Recov		6/27/02	WI MOD GRO
Blank Spike Duplicate	91	—	%Recov		6/27/02	WI MOD GRO
Blank	< 50	50	ug/L		6/27/02	WI MOD GRO

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1070-22

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1070-22

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 06260214

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

74-83-9	DICHLORODIFLUOROMETHANE	1.00	U
74-87-3	CHLOROMETHANE	1.00	U
75-01-4	VINYL CHLORIDE	1.00	U
74-83-9	BROMOMETHANE	1.00	U
75-00-3	CHLOROETHANE	1.00	U
75-43-4	DICHLOROFLUOROMETHANE	1.00	U
75-69-4	TRICHLOROFLUOROMETHANE	1.00	U
60-29-7	DIETHYL ETHER	1.00	U
75-35-4	1 1-DICHLOROETHENE	1.00	U
76-13-1	1 1 2-TRICHLOROTRIFLUOROETHA	1.00	U
67-64-1	ACETONE	5.00	U
107-05-1	ALLYL CHLORIDE	1.00	U
75-09-2	METHYLENE CHLORIDE	1.00	U
156-60-5	TRANS-1 2-DICHLOROETHENE	1.00	U
1634-04-4	METHYL T-BUTYL ETHER	1.00	U
75-34-3	1 1-DICHLOROETHANE	1.00	U
590-20-7	2 2-DICHLOROPROPANE	1.00	U
156-59-2	CIS-1 2-DICHLOROETHENE	1.00	U
78-93-3	2-BUTANONE	5.00	U
74-97-5	BROMOCHLOROMETHANE	1.00	U
109-99-9	TETRAHYDROFURAN	5.00	U
67-66-3	CHLOROFORM	1.00	U
71-55-6	1 1 1-TRICHLOROETHANE	1.00	U
56-23-5	CARBON TETRACHLORIDE	1.00	U
563-58-6	1 1-DICHLOROPROPENE	1.00	U
71-43-2	BENZENE	1.00	U
107-06-2	1 2-DICHLOROETHANE	1.00	U
79-01-6	TRICHLOROETHENE	1.00	U
78-87-5	1 2-DICHLOROPROPANE	1.00	U
74-95-3	DIBROMOMETHANE	1.00	U
75-27-4	BROMODICHLOROMETHANE	1.00	U
10061-01-5	CIS-1 3-DICHLOROPROPENE	1.00	U
108-10-1	4-METHYL-2-PENTANONE	5.00	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1070-22

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1070-22

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 06260214

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

108-88-3-----	TOLUENE	1.00	U
10061-02-6-----	TRANS-1 3-DICHLOROPROPENE	1.00	U
79-00-5-----	1 1 2-TRICHLOROETHANE	1.00	U
127-18-4-----	TETRACHLOROETHENE	1.00	U
142-28-9-----	1 3-DICHLOROPROPANE	1.00	U
124-48-1-----	DIBROMOCHLOROMETHANE	1.00	U
106-93-4-----	1 2-DIBROMOETHANE	1.00	U
108-90-7-----	CHLOROBENZENE	1.00	U
630-26-6-----	1 1 1 2-TETRACHLOROETHANE	1.00	U
100-41-4-----	ETHYL BENZENE	1.00	U
108-38-3-----	M- P-XYLENE	2.00	U
95-47-6-----	O-XYLENE	1.00	U
100-42-5-----	STYRENE	1.00	U
75-25-2-----	BROMOFORM	1.00	U
98-82-8-----	ISOPROPYLBENZENE	1.00	U
108-86-1-----	BROMOBENZENE	1.00	U
79-34-5-----	1 1 2 2-TETRACHLOROETHANE	1.00	U
96-18-4-----	1 2 3-TRICHLOROPROPANE	1.00	U
103-65-1-----	N-PROPYLBENZENE	1.00	U
95-49-8-----	2-CHLOROTOLUENE	1.00	U
106-43-4-----	4-CHLOROTOLUENE	1.00	U
108-67-8-----	1 3 5-TRIMETHYLBENZENE	1.00	U
98-06-6-----	TERT-BUTYLBENZENE	1.00	U
95-63-6-----	1 2 4-TRIMETHYLBENZENE	1.00	U
135-98-8-----	SEC-BUTYLBENZENE	1.00	U
541-73-1-----	1 3-DICHLOROBENZENE	1.00	U
99-878-6-----	P-ISOPROPYLTOLUENE (CYMENE)	1.00	U
106-46-7-----	1 4-DICHLOROBENZENE	1.00	U
95-50-1-----	1 2-DICHLOROBENZENE	1.00	U
104-51-8-----	N-BUTYLBENZENE	1.00	U
96-12-8-----	1 2-DIBROMO-3-CHLOROPROPANE	1.00	U
95-63-6-----	1 2 4-TRICHLOROBENZENE	1.00	U
87-68-3-----	HEXACHLOROBUTADIENE	1.00	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1070-22

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1070-22

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 06260214

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

91-20-3-----	NAPHTHALENE	1.00	U
96-18-4-----	1 2 3-TRICHLOROBENZENE	1.00	U

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix Spike - Sample No.: VBLK1070-22

COMPOUND	SPIKE ADDED (ug/L)	BLANK AMOUNT (ug/L)	BS AMOUNT (ug/L)	BS % REC #	QC. LIMITS REC.
CHLOROMETHANE	50.00	0.00	35.32	71	50-150
VINYL CHLORIDE	50.00	0.00	43.39	87	50-150
BROMOMETHANE	50.00	0.00	45.18	90	50-150
CHLOROETHANE	50.00	0.00	46.36	93	50-150
1 1-DICHLOROETHENE	50.00	0.00	46.95	94	83-127
ACETONE	50.00	0.00	86.43	173*	70-130
CARBON DISULFIDE	50.00	0.00	48.64	97	70-130
METHYLENE CHLORIDE	50.00	0.00	47.16	94	70-130
TRANS-1 2-DICHLOROETHEN	50.00	0.00	48.90	98	70-130
1 1-DICHLOROETHANE	50.00	0.00	45.34	91	70-130
CIS-1 2-DICHLOROETHENE	50.00	0.00	48.01	96	70-130
2-BUTANONE	50.00	0.00	76.84	154*	70-130
CHLOROFORM	50.00	0.00	43.82	88	70-130
1 1 1-TRICHLOROETHANE	50.00	0.00	42.59	85	70-130
CARBON TETRACHLORIDE	50.00	0.00	45.05	90	70-130
BENZENE	50.00	0.00	50.03	100	79-122
1 2-DICHLOROETHANE	50.00	0.00	38.48	77	70-130
TRICHLOROETHENE	50.00	0.00	51.30	103	84-118
1 2-DICHLOROPROPANE	50.00	0.00	46.16	92	70-130
BROMODICHLOROMETHANE	50.00	0.00	41.00	82	70-130
CIS-1 3-DICHLOROPROPENE	50.00	0.00	45.91	92	70-130
4-METHYL-2-PENTANONE	50.00	0.00	47.03	94	70-130
TOLUENE	50.00	0.00	48.93	98	89-117
TRANS-1 3-DICHLOROPROPE	50.00	0.00	41.13	82	70-130
1 1 2-TRICHLOROETHANE	50.00	0.00	46.90	94	70-130
TETRACHLOROETHENE	50.00	0.00	53.93	108	70-130
2-HEXANONE	50.00	0.00	66.34	133*	70-130
DIBROMOCHLOROMETHANE	50.00	0.00	49.92	100	70-130

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix Spike - Sample No.: VBLK1070-22

COMPOUND	SPIKE ADDED (ug/L)	BLANK AMOUNT (ug/L)	BS AMOUNT (ug/L)	BS % REC #	QC. LIMITS REC.
CHLOROBENZENE	50.00	0.00	49.21	98	89-114
ETHYL BENZENE	50.00	0.00	48.10	96	70-130
M- P-XYLENE	100.00	0.00	102.71	103	70-130
O-XYLENE	50.00	0.00	50.70	101	70-130
STYRENE	50.00	0.00	50.47	101	70-130
BROMOFORM	50.00	0.00	48.09	96	70-130
1 1 2 2-TETRACHLOROETHA	50.00	0.00	46.87	94	70-130

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix Spike - Sample No.: VBLK1070-22

COMPOUND	SPIKE ADDED (ug/L)	BSD AMOUNT (ug/L)	BSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROMETHANE	50.00	35.53	71	0	50	50-150
VINYL CHLORIDE	50.00	41.80	84	4	50	50-150
BROMOMETHANE	50.00	46.10	92	2	50	50-150
CHLOROETHANE	50.00	44.45	89	4	50	50-150
1 1-DICHLOROETHENE	50.00	45.24	90	4	10	83-127
ACETONE	50.00	76.69	153*	12	40	70-130
CARBON DISULFIDE	50.00	46.91	94	3	40	70-130
METHYLENE CHLORIDE	50.00	44.93	90	4	40	70-130
TRANS-1 2-DICHLOROETHEN	50.00	47.96	96	2	40	70-130
1 1-DICHLOROETHANE	50.00	43.38	87	4	40	70-130
CIS-1 2-DICHLOROETHENE	50.00	45.63	91	5	40	70-130
2-BUTANONE	50.00	71.68	143*	7	40	70-130
CHLOROFORM	50.00	42.76	86	2	40	70-130
1 1 1-TRICHLOROETHANE	50.00	41.83	84	1	40	70-130
CARBON TETRACHLORIDE	50.00	43.68	87	3	40	70-130
BENZENE	50.00	48.80	98	2	11	79-122
1 2-DICHLOROETHANE	50.00	36.76	74	4	40	70-130
TRICHLOROETHENE	50.00	48.94	98	5	12	84-118
1 2-DICHLOROPROPANE	50.00	45.21	90	2	40	70-130
BROMODICHLOROMETHANE	50.00	40.50	81	1	40	70-130
CIS-1 3-DICHLOROPROPENE	50.00	43.35	87	6	40	70-130
4-METHYL-2-PENTANONE	50.00	43.96	88	6	40	70-130
TOLUENE	50.00	48.32	97	1	11	89-117
TRANS-1 3-DICHLOROPROPE	50.00	40.28	80	2	40	70-130
1 1 2-TRICHLOROETHANE	50.00	45.43	91	3	40	70-130
TETRACHLOROETHENE	50.00	53.41	107	1	40	70-130
2-HEXANONE	50.00	60.40	121	9	40	70-130
DIBROMOCHLOROMETHANE	50.00	47.02	94	6	40	70-130

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS206262002A

Matrix Spike - Sample No.: VBLK1070-22

COMPOUND	SPIKE ADDED (ug/L)	BSD AMOUNT (ug/L)	BSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROBENZENE	50.00	47.66	95	3	10	89-114
ETHYL BENZENE	50.00	46.80	94	2	40	70-130
M- P-XYLENE	100.00	99.22	99	4	40	70-130
O-XYLENE	50.00	47.60	95	6	40	70-130
STYRENE	50.00	48.60	97	4	40	70-130
BROMOFORM	50.00	46.56	93	3	40	70-130
1 1 2 2-TETRACHLOROETHA	50.00	46.23	92	2	40	70-130

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

* Values outside of QC limits

RPD: 0 out of 35 outside limits

Spike Recovery: 5 out of 70 outside limits

COMMENTS: _____

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BLKF 1062-73

Lab Name: ENCHEM INC. - GREEN BAY Contract:
 Lab Code: ENCHEMGB Case No.: SAS No.: SDG No.: GRO2-062702
 Matrix: (soil/water) SOIL Lab Sample ID: BLKF 1062-73
 Sample wt/vol: _____ (g/mL) G Lab File ID: 002F0101
 Level: (low/med) MED Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 06/27/02
 GC Column: DB-624 ID: 0.32 (mm) Dilution Factor: 50.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1634-04-4	Methyl tert-butyl ether	25.000	U
71-43-2	Benzene	25.000	U
108-88-3	Toluene	25.000	U
100-41-4	Ethylbenzene	25.000	U
108-38-3	m/p-Xylene	16.048	J
95-47-6	o-Xylene	12.494	J
108-67-8	1,3,5-Trimethylbenzene	25.000	U
95-63-6	1,2,4-Trimethylbenzene	10.123	J
91-20-3	Naphthalene	36.723	
	Total Xylenes	28.543	J

FORM 3
SOIL VOLATILE BLANK SPIKE RECOVERY

Lab Name: ENCHEM INC. - GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: GRO2-062702

Matrix Spike - Sample No.: BLKF 1062-73

Level: (low/med) MED

COMPOUND	SPIKE ADDED (ug/Kg)	BLANK CONCENTRATION (ug/Kg)	BS CONCENTRATION (ug/Kg)	BS % REC #	QC. LIMITS REC.
Methyl tert-butyl ether	1000.0	0.0000	1019.5	102	80-120
Benzene	1000.0	0.0000	994.95	99	80-120
Toluene	1000.0	0.0000	1023.2	102	80-120
Ethylbenzene	1000.0	0.0000	1055.4	106	80-120
m/p-Xylene	2000.0	16.048	2078.8	103	80-120
o-Xylene	1000.0	12.494	1030.3	102	80-120
1,3,5-Trimethylbenzene	1000.0	0.0000	976.61	98	80-120
1,2,4-Trimethylbenzene	1000.0	10.123	992.24	98	80-120
Naphthalene	1000.0	36.723	1142.7	110	80-120
Total Xylenes	3000.0	28.543	3109.1	103	80-120

COMPOUND	SPIKE ADDED (ug/Kg)	BSD CONCENTRATION (ug/Kg)	BSD % REC #	% RPD #	QC LIMITS RPD	REC.
Methyl tert-butyl ether	1000.0	1036.6	104	2	20	80-120
Benzene	1000.0	1012.7	101	2	20	80-120
Toluene	1000.0	1041.0	104	2	20	80-120
Ethylbenzene	1000.0	1074.8	107	1	20	80-120
m/p-Xylene	2000.0	2076.8	103	0	20	80-120
o-Xylene	1000.0	1020.1	101	1	20	80-120
1,3,5-Trimethylbenzene	1000.0	964.44	96	2	20	80-120
1,2,4-Trimethylbenzene	1000.0	997.02	99	1	20	80-120
Naphthalene	1000.0	1169.0	113	3	20	80-120
Total Xylenes	3000.0	3096.8	102	1	20	80-120

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

* Values outside of QC limits

RPD: 0 out of 10 outside limits

Spike Recovery: 0 out of 20 outside limits

COMMENTS:

Date : 26-JUN-2002 06:21

Client ID: 823553-001

Sample Info: 23853B001HAU1

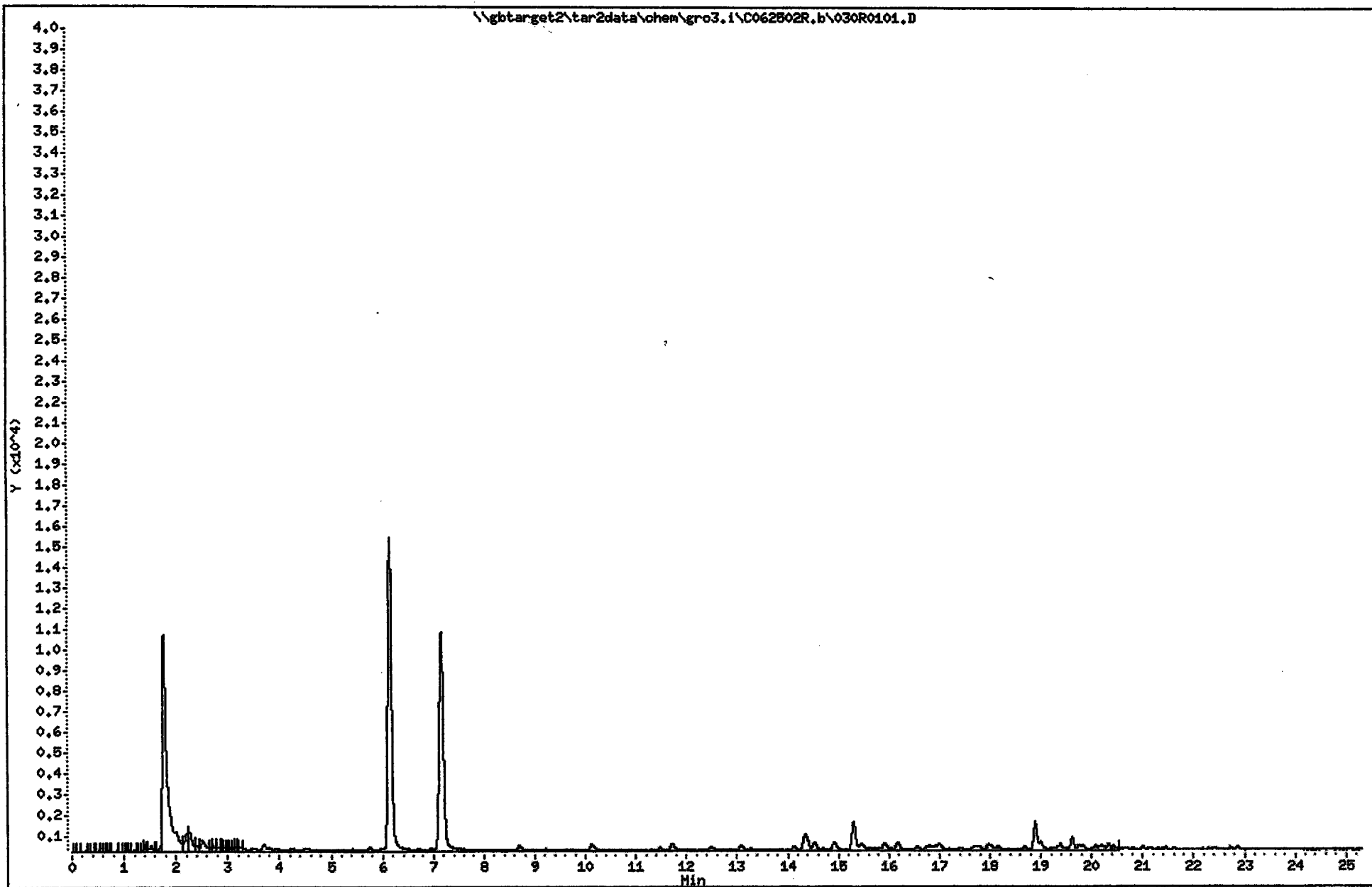
Purge Volume: 5.0

Column phase: DB-624

Instrument: gro3.i

Operator: MSB

Column diameter: 0.53



Date : 27-JUN-2002 07:36

Client ID: 823553-002

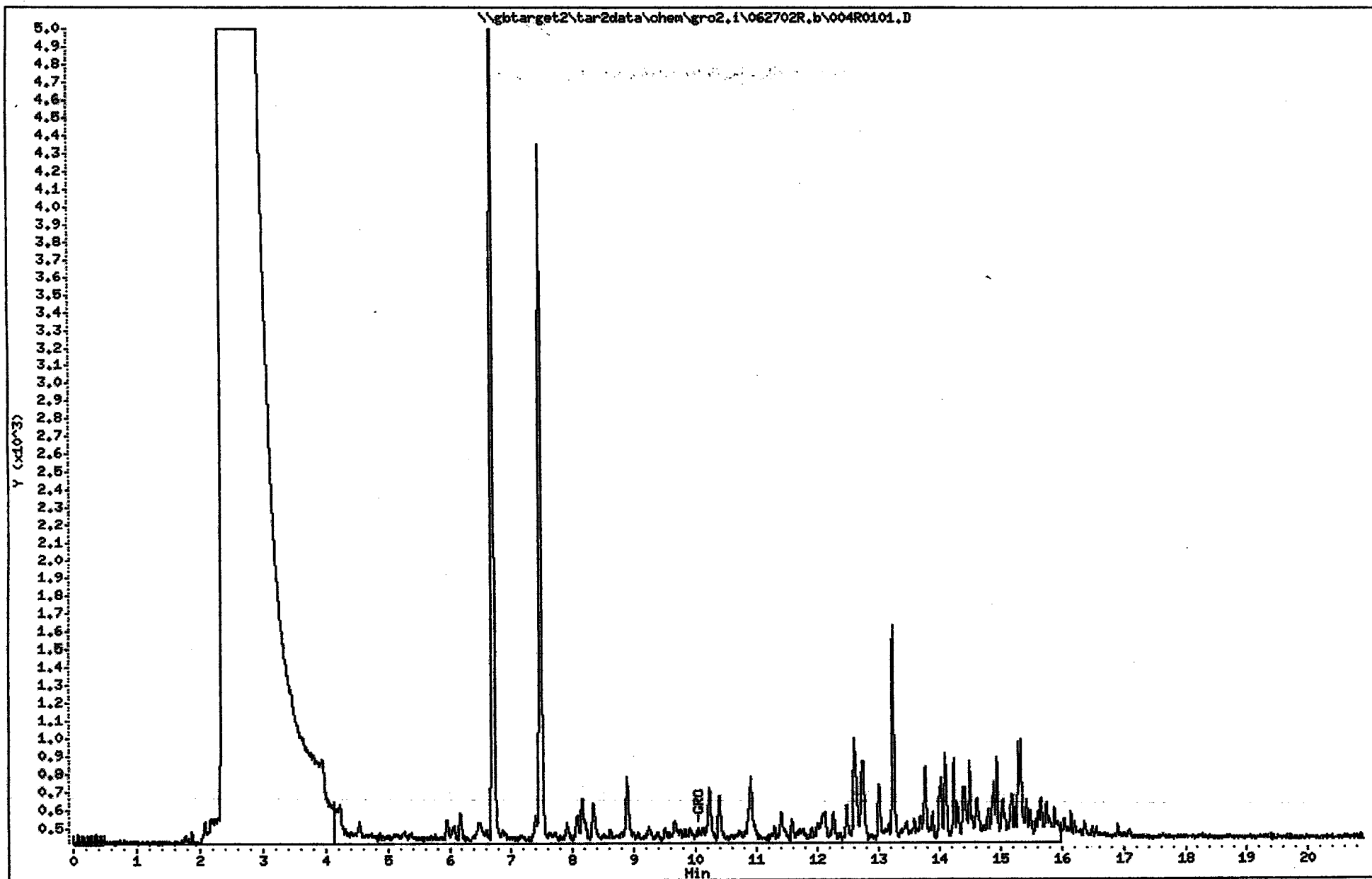
Sample Info: 23553F002SCF50

Instrument: gro2.i

Operator: SMT

Column diameter: 0,32

Column phase: DB-624



Date : 27-JUN-2002 15:48

Client ID: 823553-003

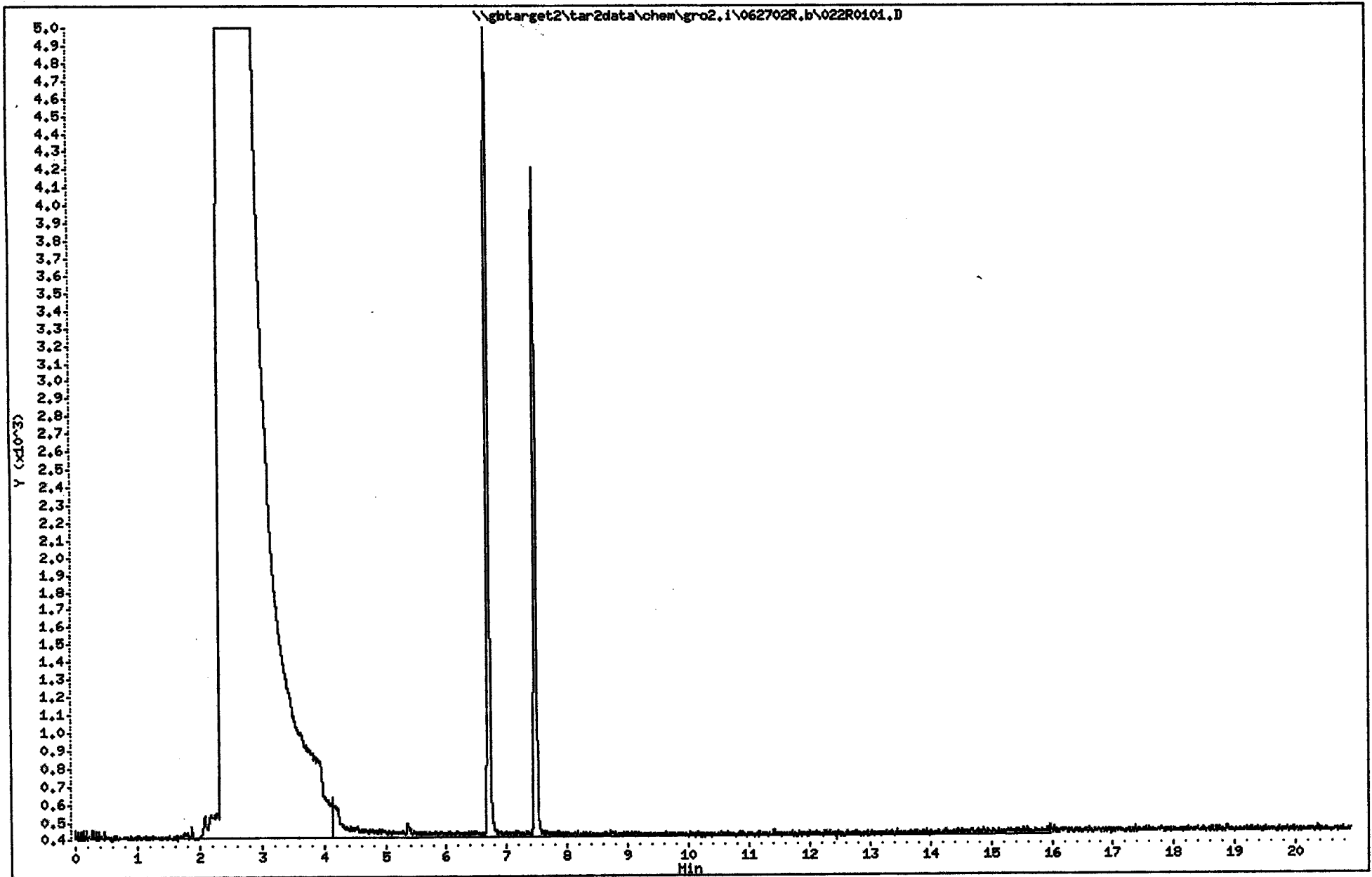
Sample Info: 23553F003SCF50

Instrument: gro2.i

Operator: SMT

Column diameter: 0.32

Column phase: DB-624



Date : 27-JUN-2002 16:13

Client ID: 823553-004

Sample Info: 23553F004SCF50

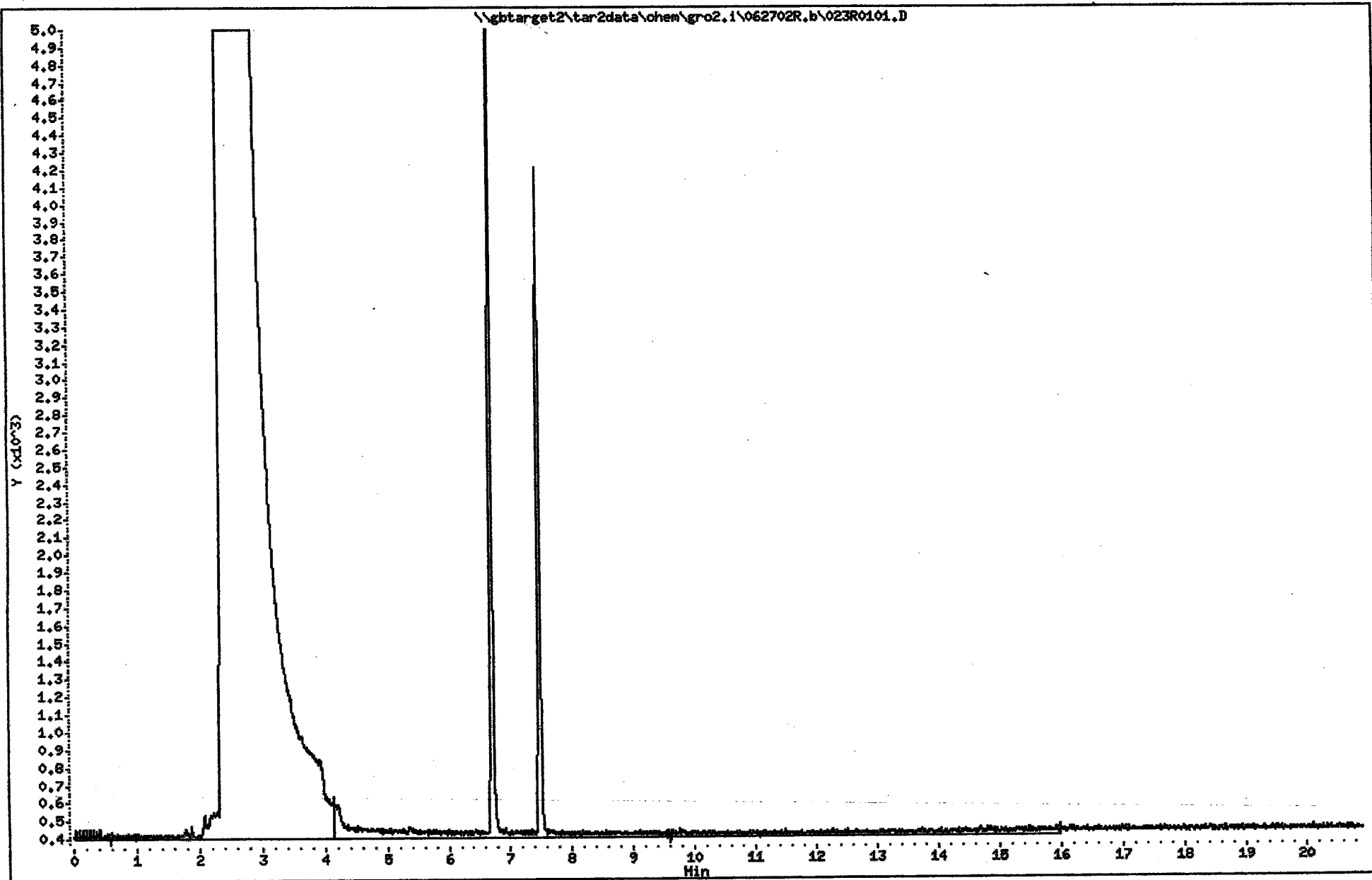
Instrument: gro2.i

Operator: SMT

Column diameter: 0.32

Column phase: DB-624

\\gbtarget2\tar2data\chen\gro2.1\062702R.b\023R0101.D



Date : 27-JUN-2002 16:39

Client ID: 823553-005

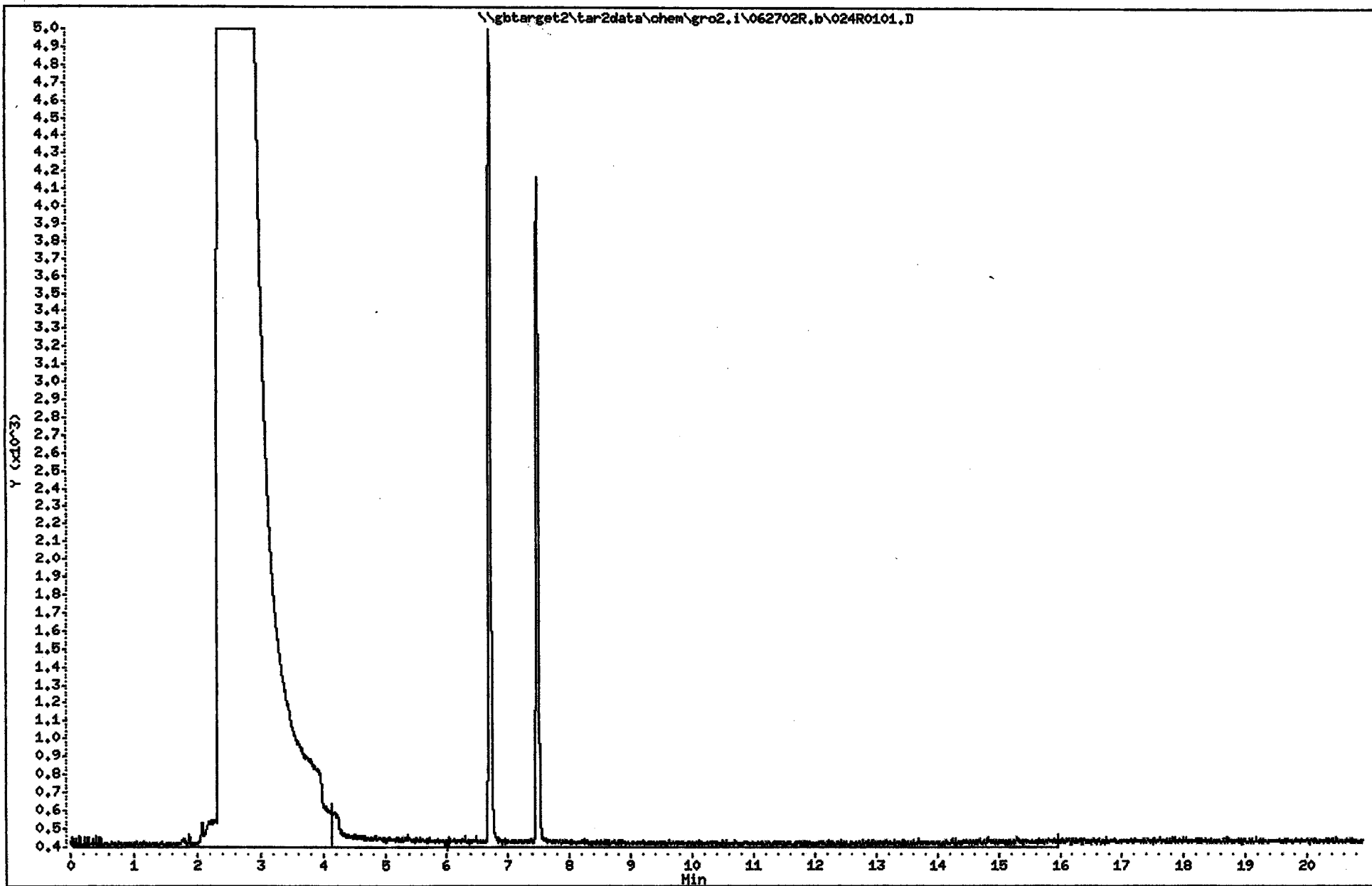
Sample Info: 23553F005SCF50

Instrument: gro2.i

Operator: SMT

Column diameter: 0.32

Column phase: DB-624



Date : 27-JUN-2002 17:05

Client ID: 823553-007

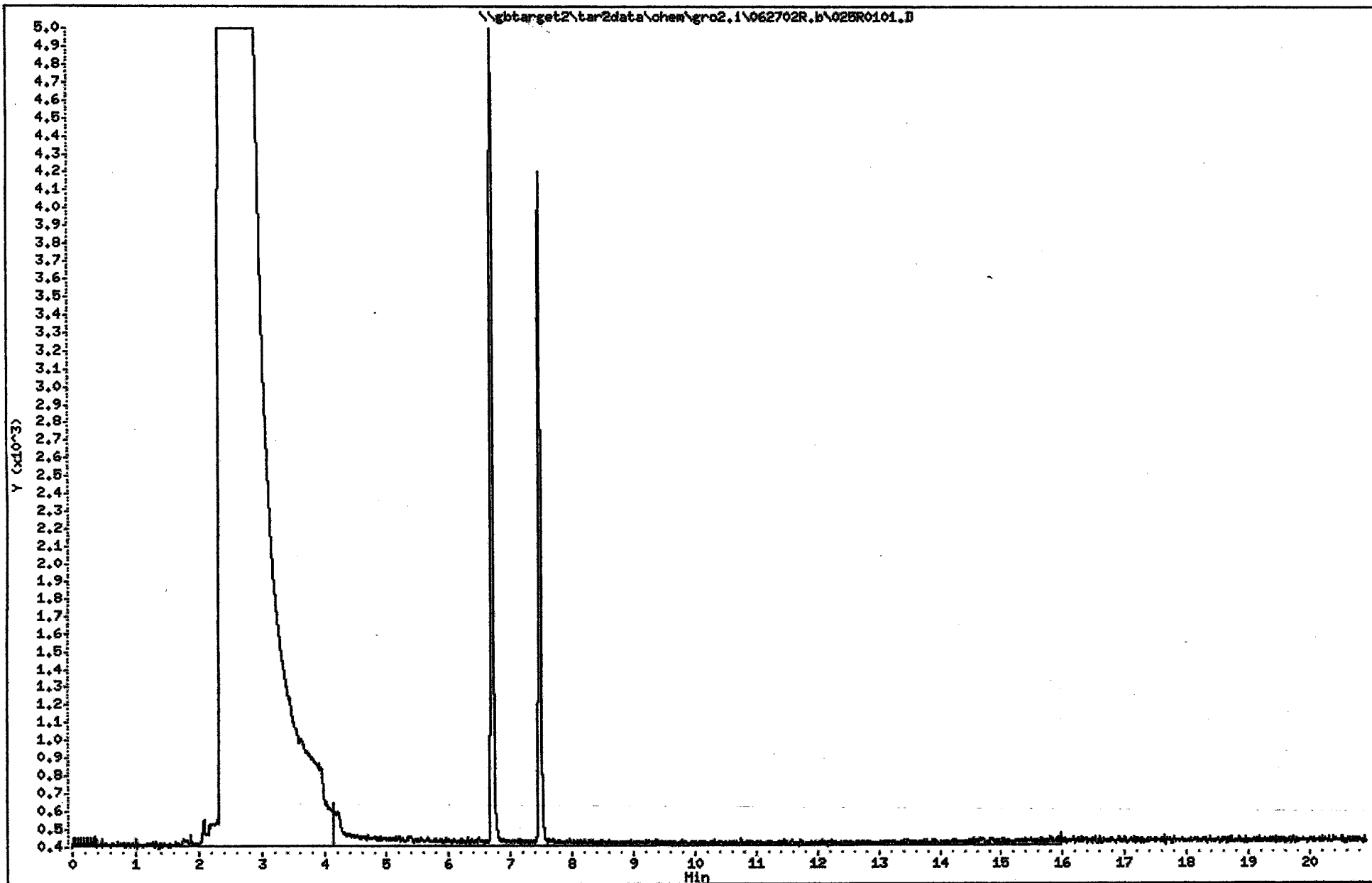
Sample Info: 23853F007MCF50

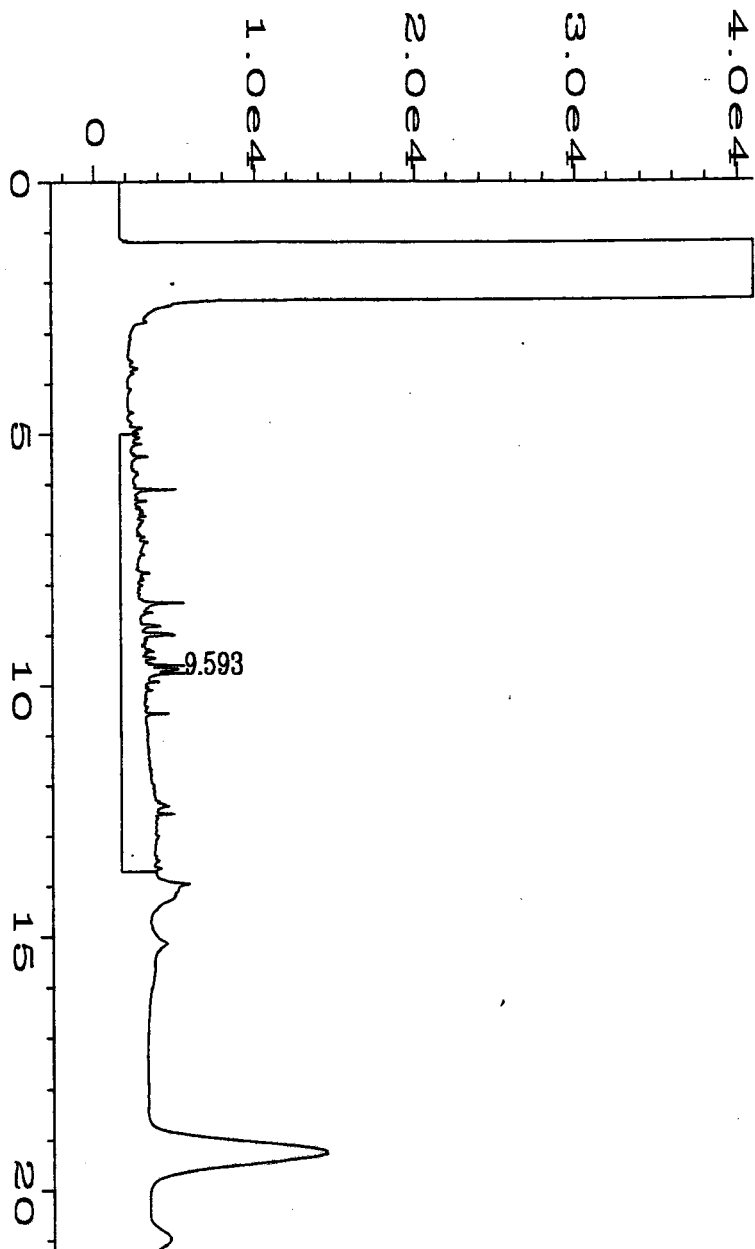
Instrument: gro2.i

Operator: SMT

Column diameter: 0.32

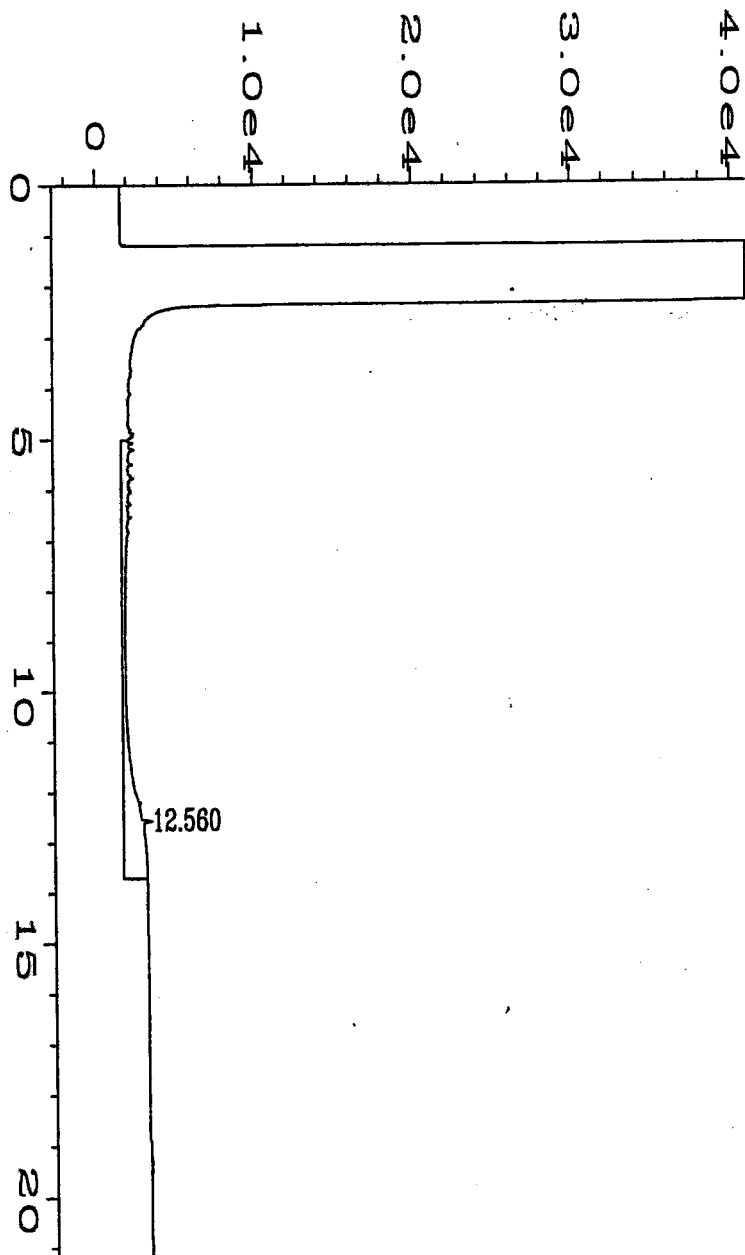
Column phase: DB-624





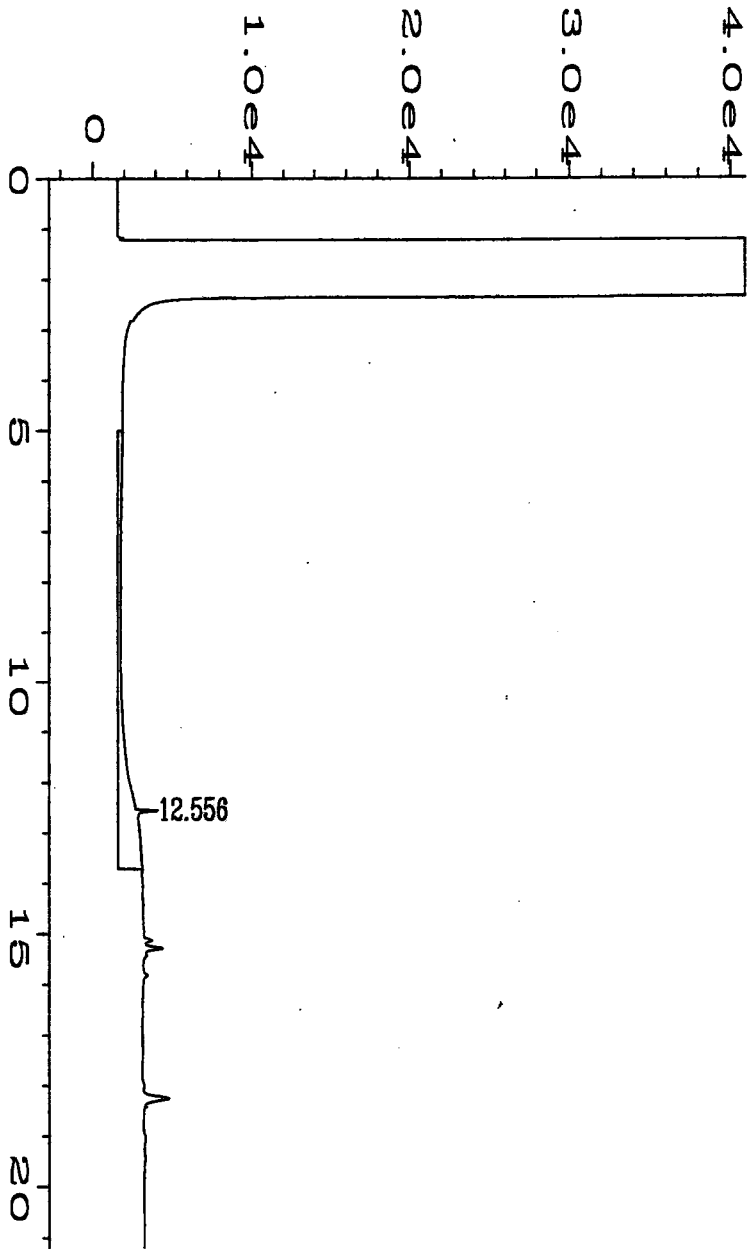
user modified

Data File Name	: G:\HPCHEM\3\DATA\062602\015R0101.D	Page Number	: 1
Operator	: KEG	Vial Number	: 15
Instrument	: DRO	Injection Number	: 1
Sample Name	: 23553D001WPX1	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	1QUICK.MTH
Acquired on	: 26 Jun 02 08:46 PM	Analysis Method	: 1QUICK.MTH
Report Created on:	26 Jun 02 09:12 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



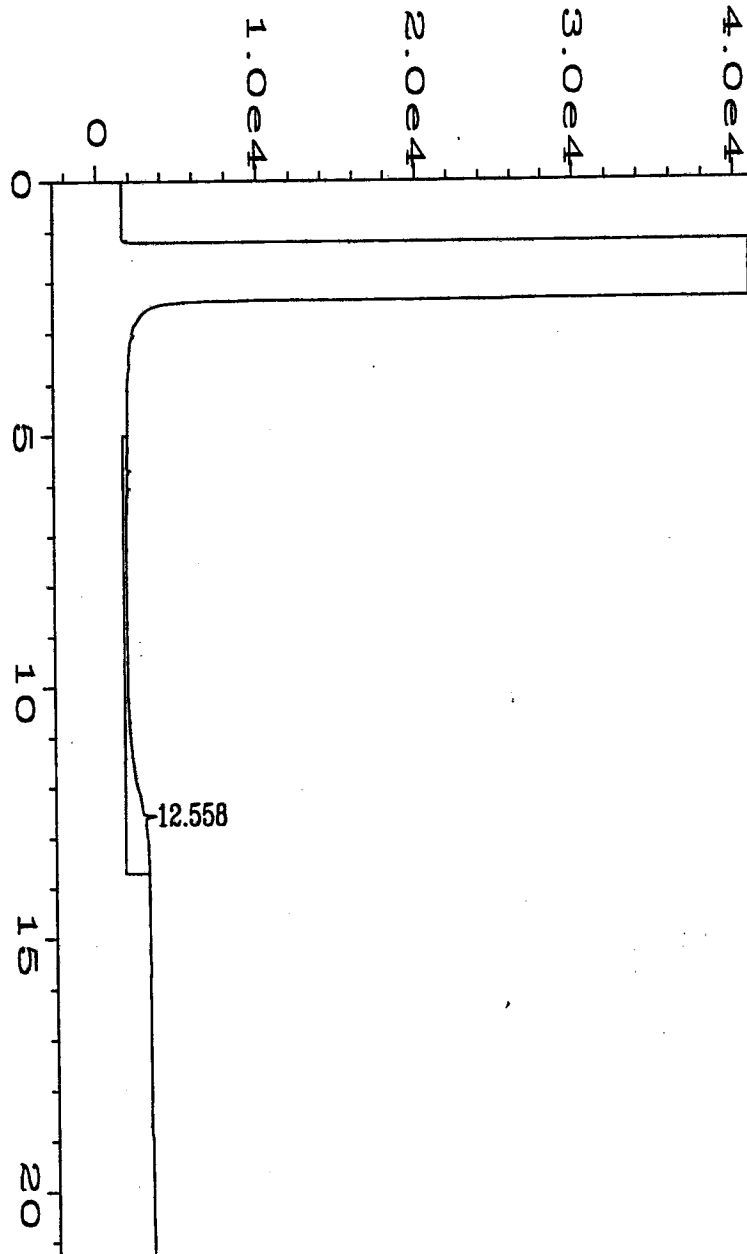
user modified

Data File Name	: G:\HPCHEM\3\DATA\062802\018R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 18
Instrument	: DRO	Injection Number	: 1
Sample Name	: 23553D002SRX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	1QUICK.MTH
Acquired on	: 28 Jun 02 06:51 PM	Analysis Method	: 1QUICK.MTH
Report Created on:	28 Jun 02 07:17 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



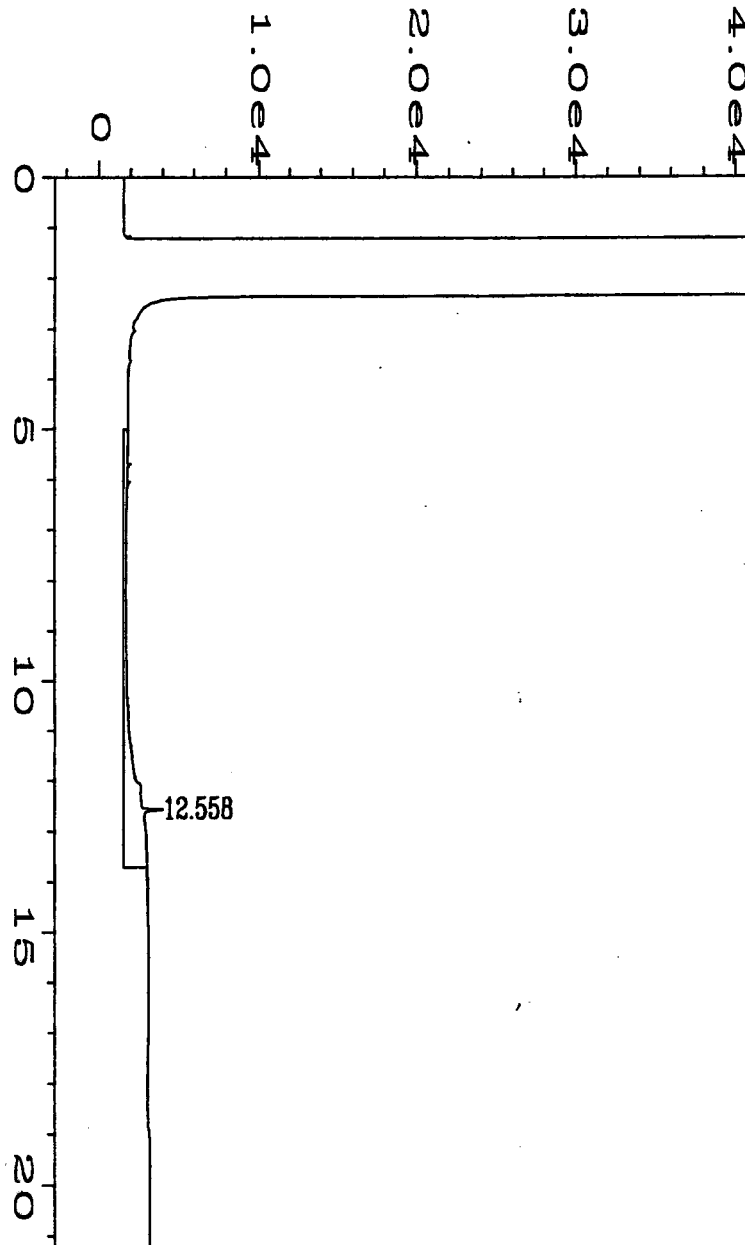
User modified

Data File Name	: G:\HPCHEM\3\DATA\062802\019R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 19
Instrument	: DRO	Injection Number	: 1
Sample Name	: 23553D003SRX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	1QUICK.MTH
Acquired on	: 28 Jun 02 07:17 PM	Analysis Method	: 1QUICK.MTH
Report Created on:	28 Jun 02 07:43 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\3\DATA\062802\020R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 20
Instrument	: DRO	Injection Number	: 1
Sample Name	: 23553D004SRX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	1QUICK.MTH
Acquired on	: 28 Jun 02 07:44 PM	Analysis Method	: 1QUICK.MTH
Report Created on:	28 Jun 02 08:10 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\3\DATA\062802\021R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 21
Instrument	: DRO	Injection Number	: 1
Sample Name	: 23553D005SRX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	1QUICK.MTH
Required on	: 28 Jun 02 08:10 PM	Analysis Method	: 1QUICK.MTH
Report Created on:	28 Jun 02 08:36 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		

(Please Print Legibly)

Company Name: GME Consultants Inc

Branch or Location: Crosby

Project Contact: Eric Wallin

Telephone: 218-546-6371

Project Number: C-8214-B

Project Name: Wigwam Inn

Project State: MN

Sampled By (Print): Eric Wallin



1241 Bellevue St., Suite 9
Green Bay, WI 54302
920-489-2436
FAX 920-489-8827

525 Science Drive
Madison, WI 53711
608-232-3300
FAX: 608-233-0502

VARO

CHAIN OF CUSTODY

75014

Page 1 of 1

P.O. # _____ Quote # _____

Mail Report To: Eric Wallin

Company: GME Consultants

Address: P.O. Box 250

Crosby MN 56441

Invoice To: _____

Company: Janet

Address: _____

Mail Invoice To: _____

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=EnCore F=Methanol G=NaOH
 H = Sodium Bisulfate Solution I=Other
 FILTERED? (YES/NO) N N N
 PRESERVATION (CODE)* B B B

ANALYSES REQUESTED
GRD DRD VOCs GRD / BTEX / PCBs DRD Digly

TOTAL # OF BOTTLES SENT

Data Package Options
 (please circle if requested)
 Results Only
 EnChem Level III (Subject to Surcharge)
 EnChem Level IV (Subject to Surcharge)

Regulatory Program
 UST
 RCRA
 SDWA
 NPDES
 CERCLA

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

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX	ANALYSES REQUESTED							TOTAL # OF BOTTLES SENT	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
		DATE	TIME		GRD	DRD	VOCs	GRD / BTEX / PCBs	DRD	Digly				
001	B-2 @ 6'	6/1/02		N	✓	✓	✓					7		6-40ml 1-2gms B
002	B-1 @ 14-16'			S				✓	✓	✓		3		1-2gms 1-2gms 1-4gms
003	B-2 @ 9-11'			S				✓	✓	✓		3		
004	B-3 @ 14-16'			S				✓	✓	✓		3		
005	B-4 @ 14-16'			S				✓	✓	✓		3		
006	Trip Blank			W			✓					2		2-40ml H2O BIK
007	Trip Blank (control)						✓					1		1-2gms meth BIK

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

Relinquished By: <u>[Signature]</u>	Date/Time: <u>6/4/02 1:00</u>	Received By: _____	Date/Time: _____
Relinquished By: <u>UPS</u>	Date/Time: _____	Received By: <u>[Signature]</u>	Date/Time: <u>4/25/02 10:10</u>
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____

En Chem Project No. 803553
 Sample Receipt Temp. 3.0°C
 Sample Receipt pH (Not/Match) NA
 Cooler Custody Seal
 Present / Not Present Present
 Intact / Not Intact Intact

Corporate Office & Laboratory
1241 Bellevue Street
Green Bay, WI 54302
920-469-2436 • FAX: 920-469-8827
800-7-ENCHEM



Madison Office & Laboratory
525 Science Drive
Madison, WI 53711
608-232-3300 • FAX: 608-233-0502
888-5-ENCHEM

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Client: GME CONSULTANTS

MDH LAB ID : 055-999-334

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
823710-001	TRIP BLANK	6/25/02			
823710-002	MW-3	6/25/02			
823710-003	MW-2	6/25/02			
823710-004	MW-1	6/25/02			

Please visit our Internet homepage at: www.enchem.com

Soil VOC detects are corrected for the total solids, unless otherwise noted.

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

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

Approval Signature

A handwritten date "07/09/02" is written in black ink over a horizontal line.

Date

En Chem Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
Fax: 920-469-8827

Lab#:	TestGroupID:	Comment:
823710-001	GRO-W	Sample analyzed from a vial with headspace.
TRIP BLANK		
823710-004	GRO-W	Early and late eluting peaks were present outside the window of analysis.
MW-1	DRO-W	Front eluting peaks were present along with diesel peaks.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823710-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 7/1/02 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		7/3/02	WI MOD GRO
Blank Spike	98	—	%Recov		7/3/02	WI MOD GRO
Blank Spike Duplicate	94	—	%Recov		7/3/02	WI MOD GRO
Blank	< 50	50	ug/l		7/3/02	WI MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 7/1/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B
Allyl Chloride	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B
s-Butylbenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823710-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

2-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Isopropylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : TRIP BLANK

Lab Sample Number : 823710-001

MDH LAB ID : 065-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	7/2/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Bromofluorobenzene	112	—	%Recov	7/2/02	SW846 8260B
Dibromofluoromethane	123	—	%Recov	7/2/02	SW846 8260B
Toluene-d8	121	—	%Recov	7/2/02	SW846 8260B

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1070-38					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : MW-3
Lab Sample Number : 823710-002
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/9/02
Collection Date : 6/25/02
Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 7/1/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 100	100	ug/l		7/2/02	Wi MOD DRO
Blank spike	82	--	%Recov		7/2/02	Wi MOD DRO
Blank spike duplicate	84	--	%Recov		7/2/02	Wi MOD DRO
Blank	< 50	50	ug/l		7/2/02	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 7/1/02 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		7/3/02	Wi MOD GRO
Blank Spike	98	--	%Recov		7/3/02	Wi MOD GRO
Blank Spike Duplicate	94	--	%Recov		7/3/02	Wi MOD GRO
Blank	< 50	50	ug/l		7/3/02	Wi MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 7/1/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B
Allyl Chloride	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-3

Lab Sample Number : 823710-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-3

Lab Sample Number : 823710-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	7/2/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Bromofluorobenzene	113	—	%Recov	7/2/02	SW846 8260B
Dibromofluoromethane	124	—	%Recov	7/2/02	SW846 8260B
Toluene-d8	120	—	%Recov	7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-3

Lab Sample Number : 823710-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1070-38					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-2

Lab Sample Number : 823710-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 7/1/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 100	100	ug/l		7/2/02	Wi MOD DRO
Blank spike	82	—	%Recov		7/2/02	Wi MOD DRO
Blank spike duplicate	84	—	%Recov		7/2/02	Wi MOD DRO
Blank	< 50	50	ug/l		7/2/02	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 7/1/02 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		7/3/02	Wi MOD GRO
Blank Spike	98	—	%Recov		7/3/02	Wi MOD GRO
Blank Spike Duplicate	94	—	%Recov		7/3/02	Wi MOD GRO
Blank	< 50	50	ug/l		7/3/02	Wi MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 7/1/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B
Allyl Chloride	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromofom	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		7/2/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-2

Lab Sample Number : 823710-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-2

Lab Sample Number : 823710-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L	7/2/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	7/2/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L	7/2/02	SW846 8260B
4-Bromofluorobenzene	113	—	%Recov	7/2/02	SW846 8260B
Dibromofluoromethane	124	—	%Recov	7/2/02	SW846 8260B
Toluene-d8	118	—	%Recov	7/2/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-2

Lab Sample Number : 823710-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1070-38					

- Analytical Report -

Project Name : WIGWAM INN
Project Number : C-8214-B
Field ID : MW-1
Lab Sample Number : 823710-004
MDH LAB ID : 055-999-334

Client : GME CONSULTANTS
Report Date : 7/9/02
Collection Date : 6/25/02
Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 7/1/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	3400	100	ug/l		7/2/02	Wi MOD DRO
Blank spike	82	—	%Recov		7/2/02	Wi MOD DRO
Blank spike duplicate	84	—	%Recov		7/2/02	Wi MOD DRO
Blank	< 50	50	ug/l		7/2/02	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 7/1/02 Analyst: MSB

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	11000	250	ug/l		7/3/02	Wi MOD GRO
Blank Spike	98	—	%Recov		7/3/02	Wi MOD GRO
Blank Spike Duplicate	94	—	%Recov		7/3/02	Wi MOD GRO
Blank	< 50	50	ug/l		7/3/02	Wi MOD GRO

Organic Results

MDH 465 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 7/1/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 50	50	ug/L		7/3/02	SW846 8260B
Allyl Chloride	< 10	10	ug/L		7/3/02	SW846 8260B
Benzene	< 10	10	ug/L		7/3/02	SW846 8260B
Bromochloromethane	< 10	10	ug/L		7/3/02	SW846 8260B
Bromodichloromethane	< 10	10	ug/L		7/3/02	SW846 8260B
Bromoform	< 10	10	ug/L		7/3/02	SW846 8260B
Bromobenzene	< 10	10	ug/L		7/3/02	SW846 8260B
Bromomethane	< 10	10	ug/L		7/3/02	SW846 8260B
2-Butanone	< 50	50	ug/L		7/3/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-1

Lab Sample Number : 823710-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

s-Butylbenzene	< 10	10	ug/L	7/3/02	SW846 8260B
t-Butylbenzene	< 10	10	ug/L	7/3/02	SW846 8260B
n-Butylbenzene	120	10	ug/L	7/3/02	SW846 8260B
Carbon tetrachloride	< 10	10	ug/L	7/3/02	SW846 8260B
Chloroform	< 10	10	ug/L	7/3/02	SW846 8260B
Chlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
Chlorodibromomethane	< 10	10	ug/L	7/3/02	SW846 8260B
Chloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
Chloromethane	< 10	10	ug/L	7/3/02	SW846 8260B
2-Chlorotoluene	< 10	10	ug/L	7/3/02	SW846 8260B
4-Chlorotoluene	< 10	10	ug/L	7/3/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 10	10	ug/L	7/3/02	SW846 8260B
1,2-Dibromoethane	< 10	10	ug/L	7/3/02	SW846 8260B
Dibromomethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,3-Dichlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
1,4-Dichlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
1,2-Dichloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,2-Dichlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
1,1-Dichloroethene	< 10	10	ug/L	7/3/02	SW846 8260B
cis-1,2-Dichloroethene	< 10	10	ug/L	7/3/02	SW846 8260B
Dichlorodifluoromethane	< 10	10	ug/L	7/3/02	SW846 8260B
trans-1,2-Dichloroethene	< 10	10	ug/L	7/3/02	SW846 8260B
Dichlorofluoromethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,2-Dichloropropane	< 10	10	ug/L	7/3/02	SW846 8260B
1,1-Dichloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,3-Dichloropropane	< 10	10	ug/L	7/3/02	SW846 8260B
2,2-Dichloropropane	< 10	10	ug/L	7/3/02	SW846 8260B
1,1-Dichloropropene	< 10	10	ug/L	7/3/02	SW846 8260B
cis-1,3-Dichloropropene	< 10	10	ug/L	7/3/02	SW846 8260B
trans-1,3-Dichloropropene	< 10	10	ug/L	7/3/02	SW846 8260B
Ethylbenzene	72	10	ug/L	7/3/02	SW846 8260B
Diethyl ether	< 10	10	ug/L	7/3/02	SW846 8260B
Fluorotrichloromethane	< 10	10	ug/L	7/3/02	SW846 8260B
Hexachlorobutadiene	< 10	10	ug/L	7/3/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-1

Lab Sample Number : 823710-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Isopropylbenzene	89	10	ug/L	7/3/02	SW846 8260B
p-Isopropyltoluene	21	10	ug/L	7/3/02	SW846 8260B
Methylene chloride	< 10	10	ug/L	7/3/02	SW846 8260B
4-Methyl-2-pentanone	< 50	50	ug/L	7/3/02	SW846 8260B
Methyl-tert-butyl-ether	< 10	10	ug/L	7/3/02	SW846 8260B
Naphthalene	97	10	ug/L	7/3/02	SW846 8260B
n-Propylbenzene	270	10	ug/L	7/3/02	SW846 8260B
Styrene	< 10	10	ug/L	7/3/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
Tetrachloroethene	< 10	10	ug/L	7/3/02	SW846 8260B
Toluene	< 10	10	ug/L	7/3/02	SW846 8260B
1,2,3-Trichlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
1,2,4-Trichlorobenzene	< 10	10	ug/L	7/3/02	SW846 8260B
1,1,1-Trichloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,1,2-Trichloroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 10	10	ug/L	7/3/02	SW846 8260B
1,2,4-Trimethylbenzene	1600	10	ug/L	7/3/02	SW846 8260B
Trichloroethene	< 10	10	ug/L	7/3/02	SW846 8260B
1,2,3-Trichloropropane	< 10	10	ug/L	7/3/02	SW846 8260B
Tetrahydrofuran	< 50	50	ug/L	7/3/02	SW846 8260B
1,3,5-Trimethylbenzene	440	10	ug/L	7/3/02	SW846 8260B
Vinyl chloride	< 10	10	ug/L	7/3/02	SW846 8260B
Xylenes, -m, -p	290	20	ug/L	7/3/02	SW846 8260B
Xylene, -o	160	10	ug/L	7/3/02	SW846 8260B
4-Bromofluorobenzene	114	—	%Recov	7/3/02	SW846 8260B
Dibromofluoromethane	121	—	%Recov	7/3/02	SW846 8260B
Toluene-d8	120	—	%Recov	7/3/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-B

Field ID : MW-1

Lab Sample Number : 823710-004

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 7/9/02

Collection Date : 6/25/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte

Result

EQL

Units

Code

**Analysis
Date**

**Analysis
Method**

VOC-BLK

1070-38

Date : 03-JUL-2002 20:21

Client ID: 823710-001

Sample Info: 23710B001HAZ1

Purge Volume: 5.0

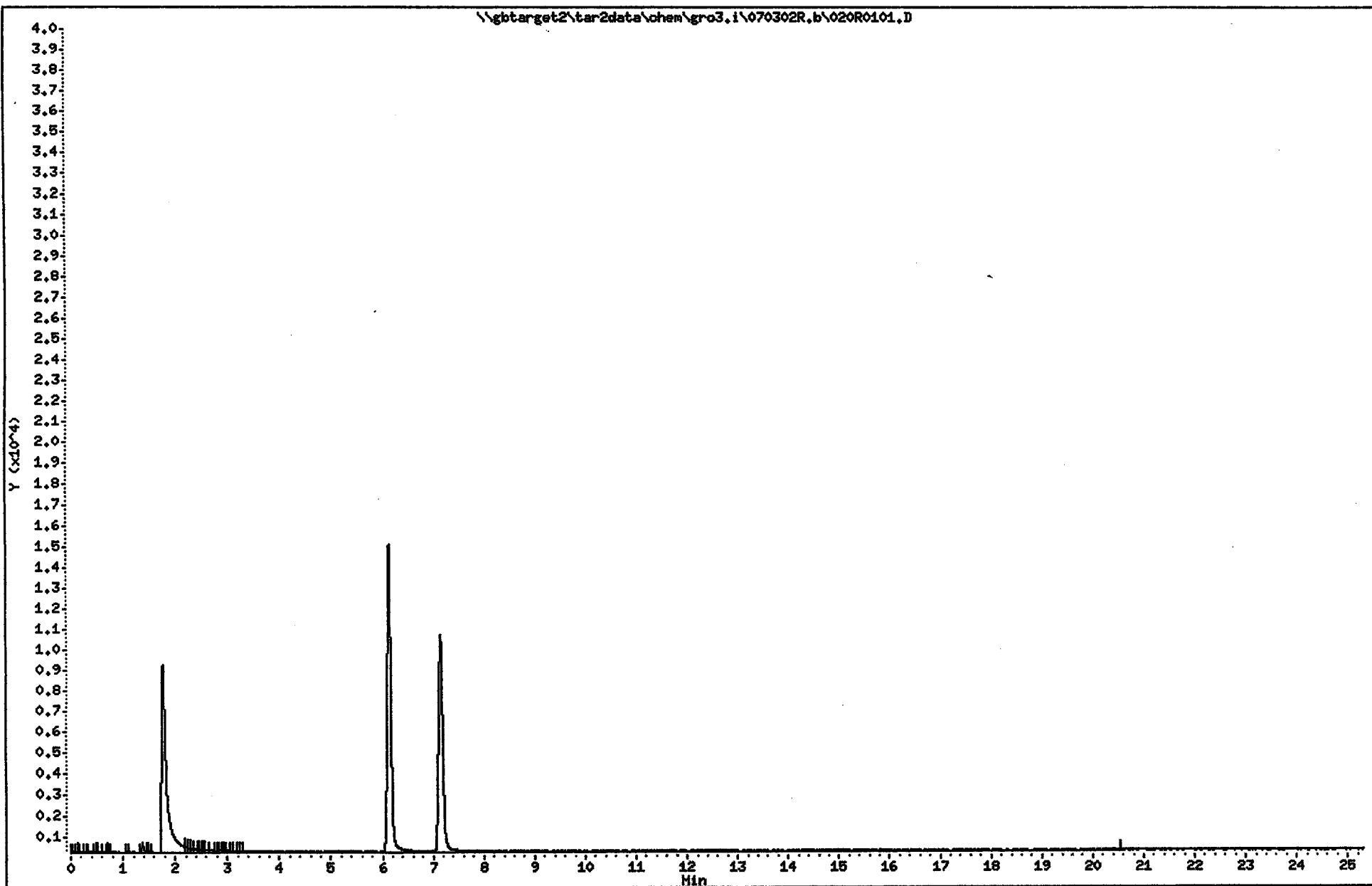
Column phase: DB-624

Instrument: gro3.i

Operator: MSB

Column diameter: 0.53

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Date : 03-JUL-2002 18:34

Client ID: 823710-002

Sample Info: 23710B002HA21

Purge Volume: 5.0

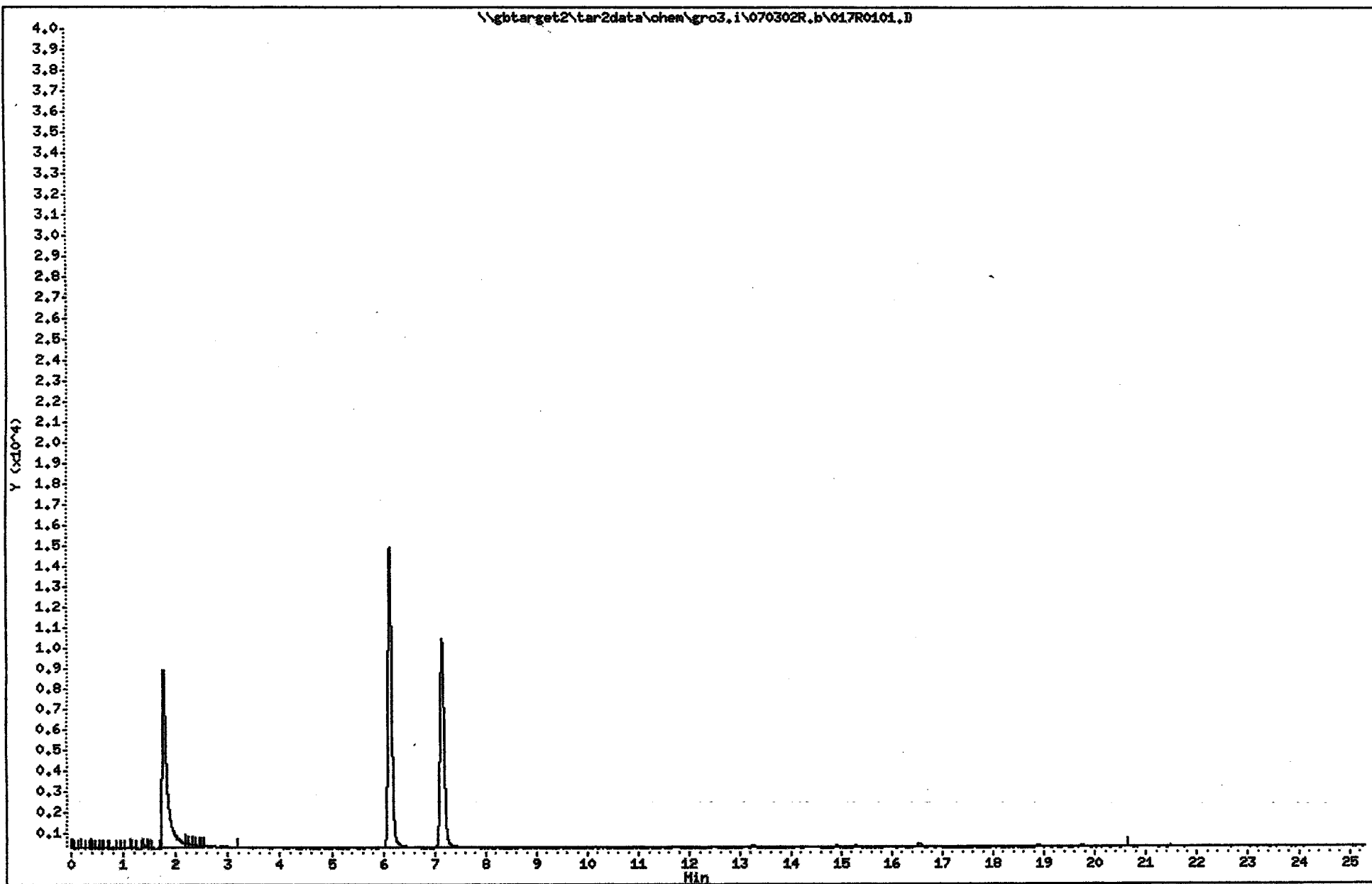
Column phase: DB-624

Instrument: gro3.i

Operator: MSB

Column diameter: 0.53

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Date : 03-JUL-2002 23:20

Client ID: 823710-003

Sample Info: 23710B003NAZ1

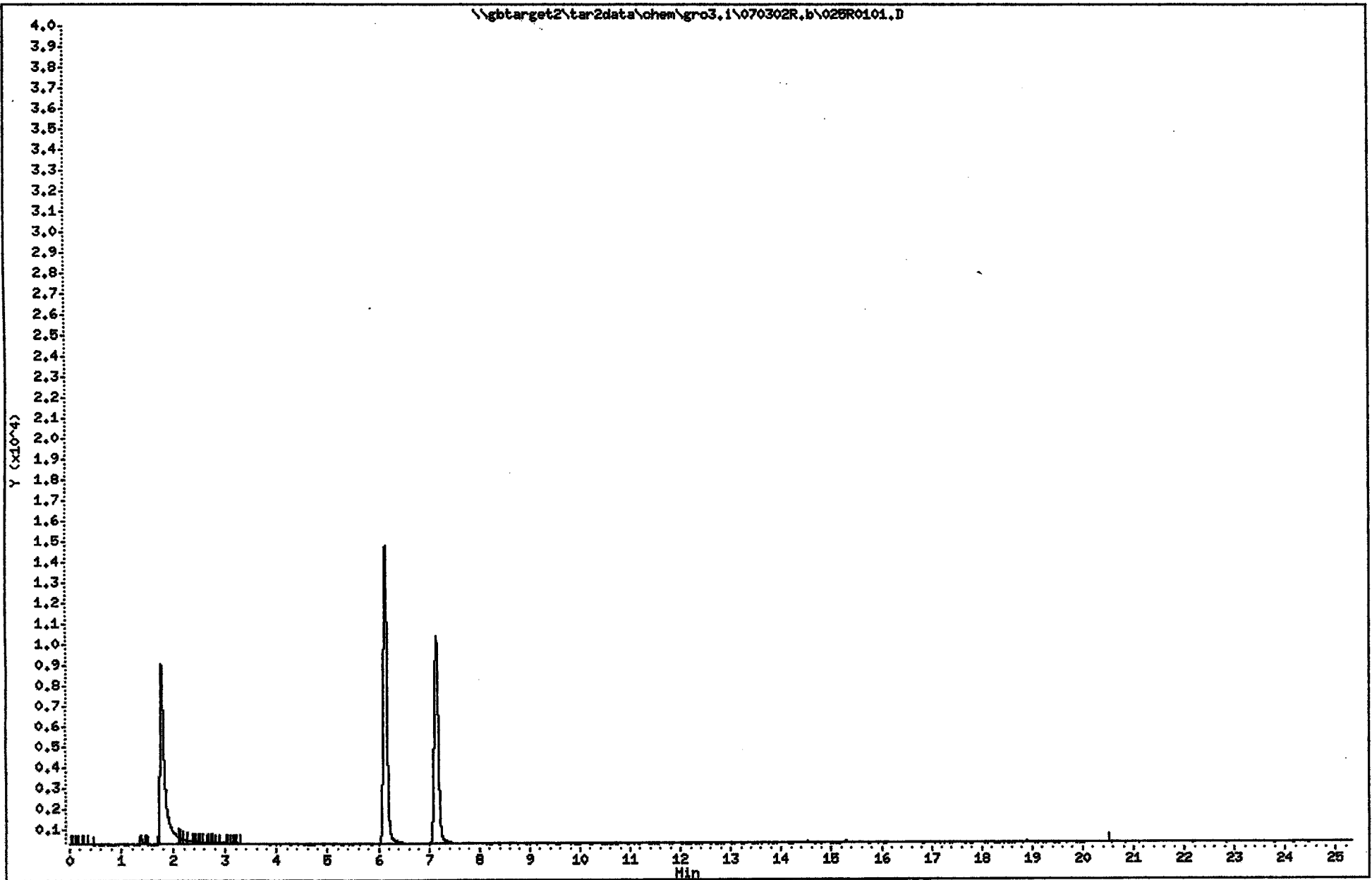
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Column phase: DB-624

Instrument: gro3.i

Operator: HSB

Column diameter: 0.53



Date : 03-JUL-2002 21:33

Client ID: 823710-004

Sample Info: 23710B004HAZ5

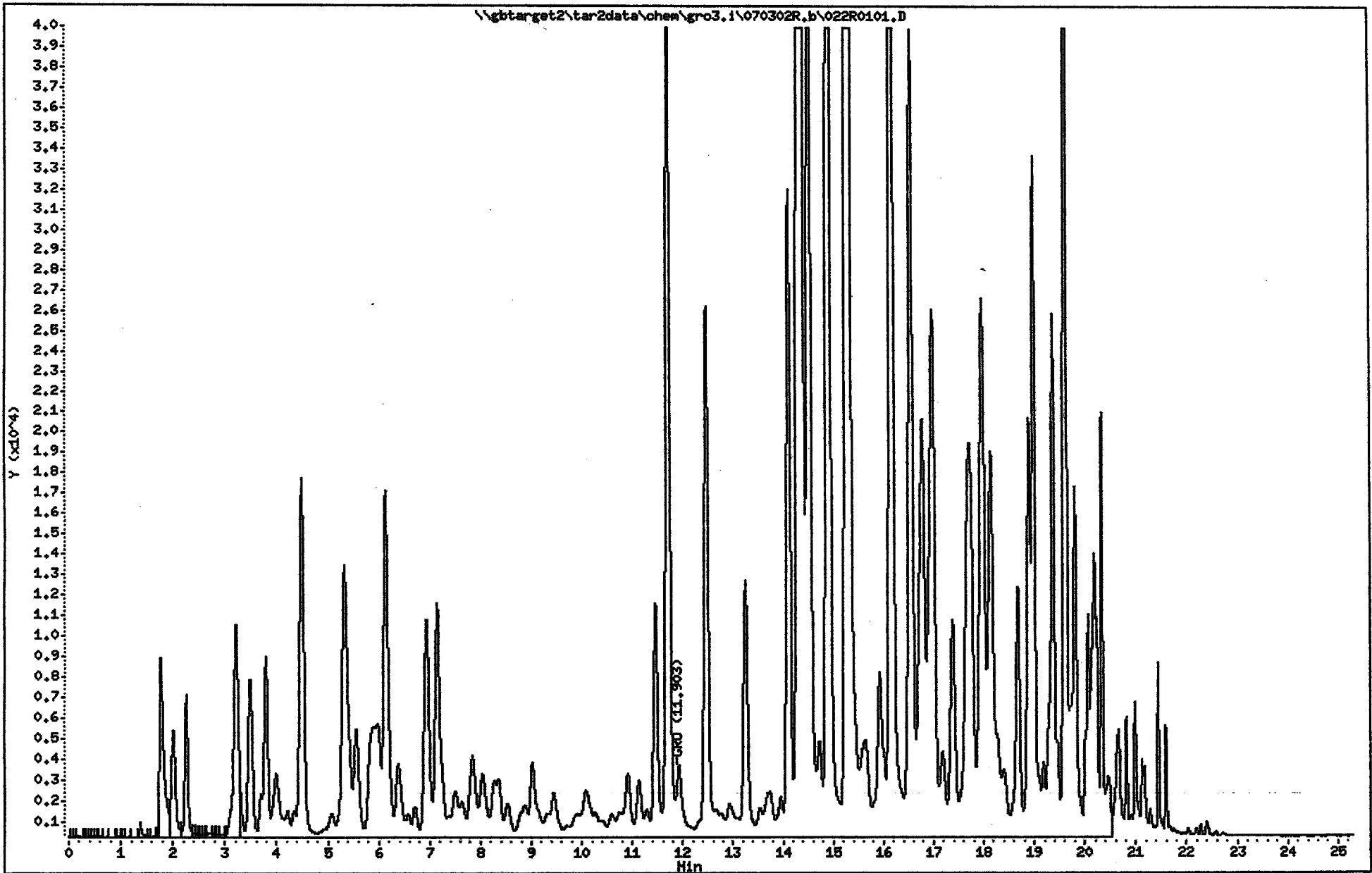
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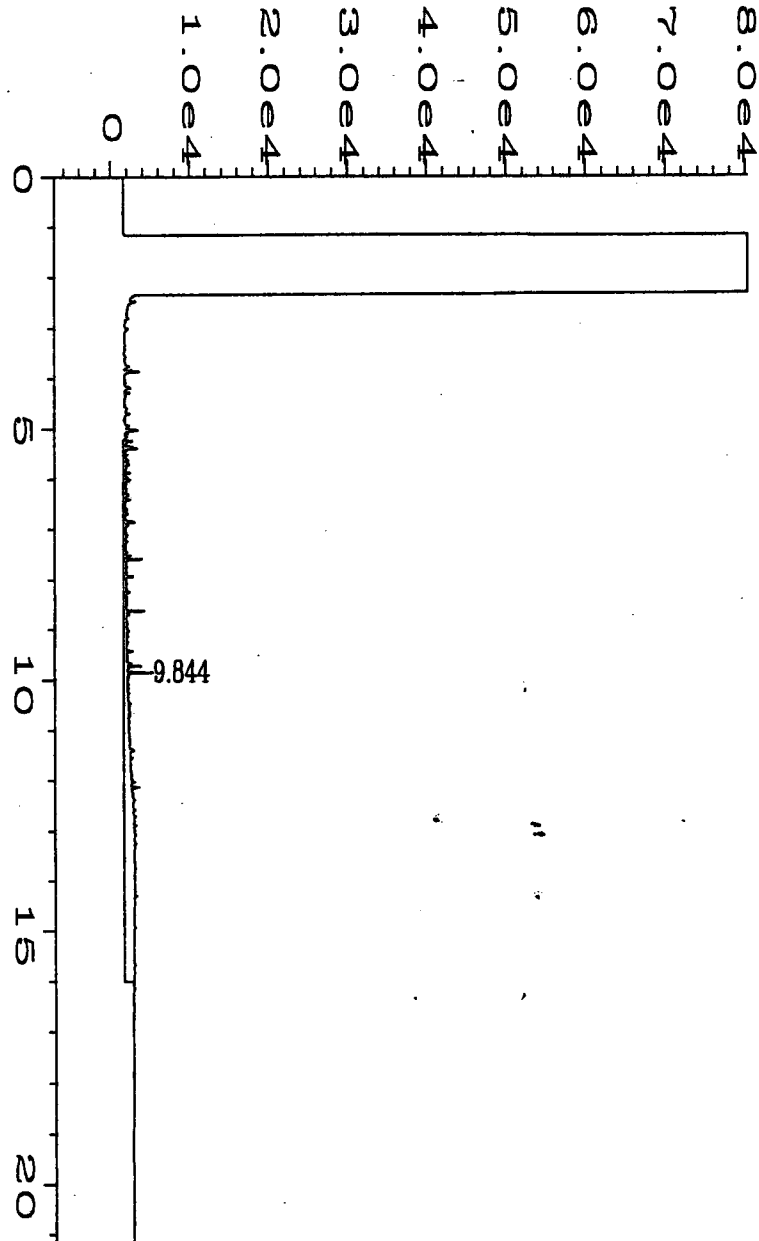
Column phase: DB-624

Instrument: gro3.i

Operator: MSB

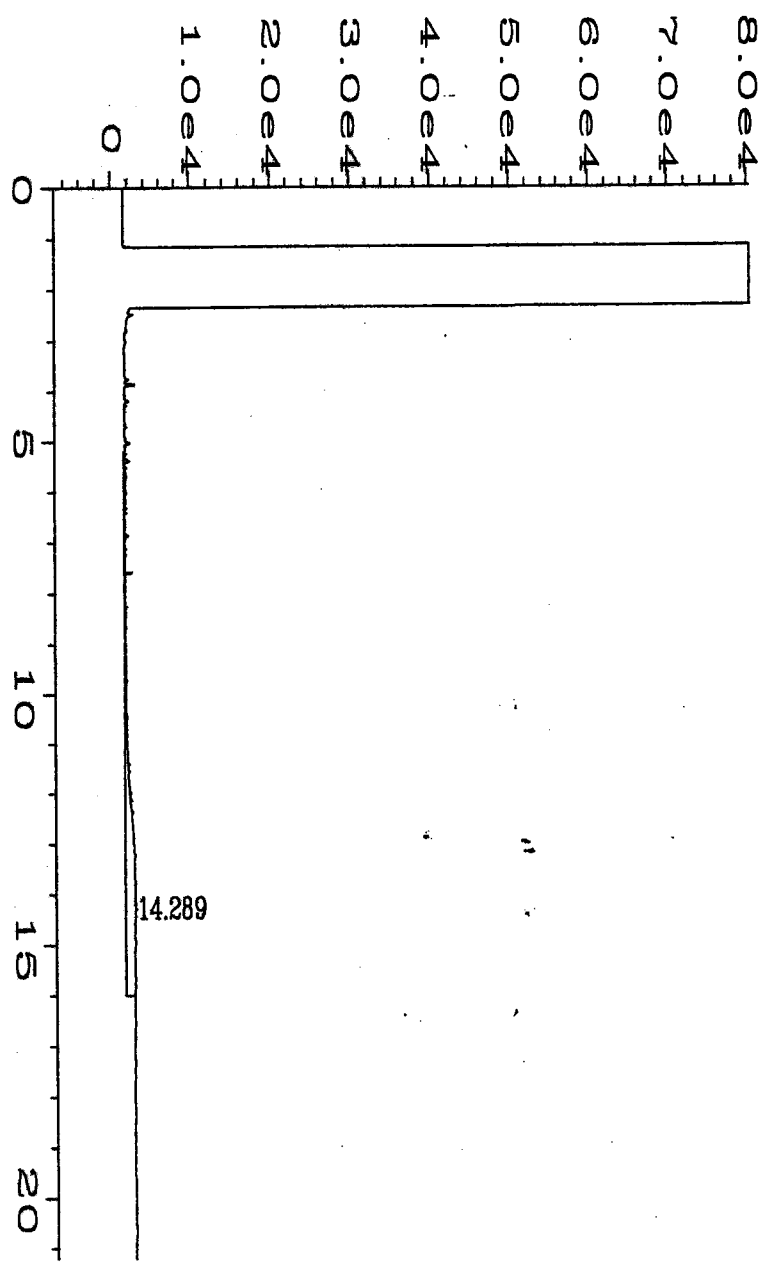
Column diameter: 0.53





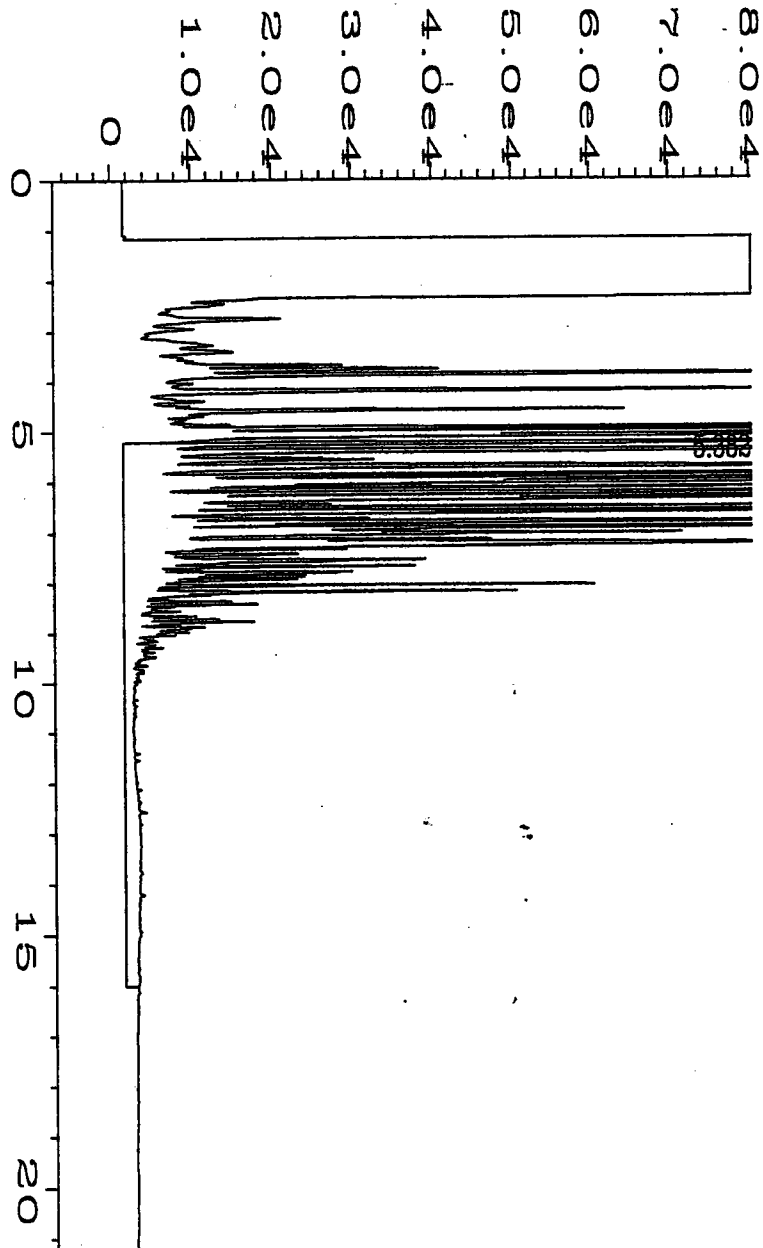
user modified

Data File Name	: G:\HPCHEM\7\DATA\070202\008R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 8
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 23710D002WYX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	3QUICK.MTH
Acquired on	: 02 Jul 02 09:51 AM	Analysis Method	: 3QUICK.MTH
Report Created on:	02 Jul 02 10:17 AM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\7\DATA\070202\009R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 9
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 23710D003WYX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	3QUICK.MTH
Acquired on	: 02 Jul 02 10:17 AM	Analysis Method	: 3QUICK.MTH
Report Created on:	02 Jul 02 10:43 AM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\7\DATA\070202\016R0201.D	Page Number	: 1
Operator	: KEG	Vial Number	: 16
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 23710D004WYX1	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	3QUICK.MTH
Acquired on	: 02 Jul 02 01:21 PM	Analysis Method	: 3QUICK.MTH
Report Created on:	02 Jul 02 01:47 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		

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888-5-ENCHEM

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Client: GME CONSULTANTS


MDH LAB ID : 055-999-334

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
825594-001	MW-1	9/11/02			
825594-002	MW-2	9/11/02			
825594-003	MW-3	9/11/02			

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Soil VOC detects are corrected for the total solids, unless otherwise noted.

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


Approval Signature

09/25/02
Date

Lab#:	TestGroupID:	Comment:
825594-001 MW-1	GRO-W	Early and late eluting peaks were present outside the window of analysis.
	DRO-W	Front eluting peaks were present along with diesel peaks.
825594-003 MW-3	DRO-W	Hump was present late in chromatogram.

Organic Data Qualifiers

- B Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
- C Elevated detection limit.
- D Analyte value from diluted analysis, or surrogate result not applicable due to sample dilution.
- E Analyte concentration exceeds calibration range.
- F Surrogate results outside control criteria.
- H Extraction or analysis performed past holding time.
- J Qualitative evidence of analyte present: concentration detected is greater than the method detection limit but less than the reporting limit.
- K Detection limit may be elevated due to the presence of an unrequested analyte.
- N Spiked sample recovery not within control limits.
- P The relative percent difference between the two columns for detected concentrations was greater than 40%.
- Q The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
- S The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
- U The analyte was not detected above the reporting limit.
- W Sample received with headspace.
- X See Sample Narrative.
- & Laboratory Control Spike recovery not within control limits.
- * Duplicate analyses not within control limits.
- SUB1 Assay was subcontracted to an approved lab.
- SUB2 Assay was subcontracted to En Chem Green Bay WI Cert. #405132750.

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-1

Lab Sample Number : 825594-001

MDH LAB ID : 056-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 9/13/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	4200	160	ug/l		9/17/02	Wi MOD DRO
Blank spike	100	—	%Recov		9/17/02	Wi MOD DRO
Blank spike duplicate	85	—	%Recov		9/17/02	Wi MOD DRO
Blank	< 50	50	ug/l		9/17/02	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 9/16/02 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	5300	250	ug/l		9/17/02	Wi MOD GRO
Blank Spike	101	—	%Recov		9/17/02	Wi MOD GRO
Blank Spike Duplicate	95	—	%Recov		9/17/02	Wi MOD GRO
Blank	< 50	50	ug/l		9/17/02	Wi MOD GRO

Organic Results

MDH 466 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/14/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 25	25	ug/L		9/24/02	SW846 8260B
Allyl Chloride	< 25	25	ug/L		9/24/02	SW846 8260B
Benzene	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
Bromochloromethane	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
Bromodichloromethane	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
Bromoform	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
Bromobenzene	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
Bromomethane	< 5.0	5.0	ug/L		9/24/02	SW846 8260B
2-Butanone	< 25	25	ug/L		9/24/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-1

Lab Sample Number : 825594-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

s-Butylbenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
t-Butylbenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
n-Butylbenzene	83	5.0	ug/L	9/24/02	SW846 8260B
Carbon tetrachloride	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Chloroform	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Chlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Chlorodibromomethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Chloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Chloromethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
2-Chlorotoluene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
4-Chlorotoluene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2-Dibromoethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Dibromomethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,3-Dichlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,4-Dichlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2-Dichloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2-Dichlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8280B
1,1-Dichloroethene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Dichlorodifluoromethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Dichlorofluoromethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2-Dichloropropane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1-Dichloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,3-Dichloropropane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
2,2-Dichloropropane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1-Dichloropropene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
cis-1,3-Dichloropropene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
trans-1,3-Dichloropropene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Ethylbenzene	38	5.0	ug/L	9/24/02	SW846 8260B
Diethyl ether	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Fluorotrichloromethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Hexachlorobutadiene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-1

Lab Sample Number : 825594-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Isopropylbenzene	40	5.0	ug/L	9/24/02	SW846 8260B
p-Isopropyltoluene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Methylene chloride	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
4-Methyl-2-pentanone	< 25	25	ug/L	9/24/02	SW846 8260B
Methyl-tert-butyl-ether	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Naphthalene	40	5.0	ug/L	9/24/02	SW846 8260B
n-Propylbenzene	110	5.0	ug/L	9/24/02	SW846 8260B
Styrene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Tetrachloroethene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Toluene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2,3-Trichlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2,4-Trichlorobenzene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2,4-Trimethylbenzene	630	5.0	ug/L	9/24/02	SW846 8260B
Trichloroethene	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
1,2,3-Trichloropropane	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Tetrahydrofuran	< 25	25	ug/L	9/24/02	SW846 8260B
1,3,5-Trimethylbenzene	250	5.0	ug/L	9/24/02	SW846 8260B
Vinyl chloride	< 5.0	5.0	ug/L	9/24/02	SW846 8260B
Xylenes, -m, -p	150	10	ug/L	9/24/02	SW846 8260B
Xylene, -o	93	5.0	ug/L	9/24/02	SW846 8260B
4-Bromofluorobenzene	109	—	%Recov	9/24/02	SW846 8260B
Dibromofluoromethane	95	—	%Recov	9/24/02	SW846 8260B
Toluene-d8	109	—	%Recov	9/24/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-1

Lab Sample Number : 825594-001

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte

Result

EQL

Units

Code

**Analysis
Date**

**Analysis
Method**

VOC-BLK

1097-39

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-2

Lab Sample Number : 825594-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 9/13/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	< 100	100	ug/l		9/16/02	WI MOD DRO
Blank spike	100	—	%Recov		9/16/02	WI MOD DRO
Blank spike duplicate	85	—	%Recov		9/16/02	WI MOD DRO
Blank	< 50	50	ug/l		9/16/02	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: Wi MOD GRO Prep Date: 9/16/02 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/17/02	WI MOD GRO
Blank Spike	101	—	%Recov		9/17/02	WI MOD GRO
Blank Spike Duplicate	95	—	%Recov		9/17/02	WI MOD GRO
Blank	< 50	50	ug/l		9/17/02	WI MOD GRO

Organic Results

MDH 466 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/14/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L	&	9/15/02	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-2

Lab Sample Number : 825594-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-2

Lab Sample Number : 825594-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	&	9/15/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
4-Bromofluorobenzene	103	—	%Recov		9/15/02	SW846 8260B
Dibromofluoromethane	99	—	%Recov		9/15/02	SW846 8260B
Toluene-d8	106	—	%Recov		9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-2

Lab Sample Number : 825594-002

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

VOC-BLK-W		Prep Method:	Prep Date:	Analyst:		
Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1097-39					

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-3

Lab Sample Number : 825594-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

DIESEL RANGE ORGANICS - WATER

Prep Method: Wi MOD DRO Prep Date: 9/13/02 Analyst: KEG

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	110	100	ug/l		9/16/02	WI MOD DRO
Blank spike	100	—	%Recov		9/16/02	WI MOD DRO
Blank spike duplicate	85	—	%Recov		9/16/02	WI MOD DRO
Blank	< 50	50	ug/l		9/16/02	WI MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - WATER

Prep Method: WI MOD GRO Prep Date: 9/16/02 Analyst: PMS

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
GASOLINE RANGE ORGANIC	< 50	50	ug/l		9/16/02	WI MOD GRO
Blank Spike	101	—	%Recov		9/16/02	WI MOD GRO
Blank Spike Duplicate	95	—	%Recov		9/16/02	WI MOD GRO
Blank	< 50	50	ug/l		9/16/02	WI MOD GRO

Organic Results

MDH 466 VOLATILES - WATER

Prep Method: SW846 5030B Prep Date: 9/14/02 Analyst: HW

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Acetone	< 5.0	5.0	ug/L	&	9/15/02	SW846 8260B
Allyl Chloride	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
Benzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromochloromethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromodichloromethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromoform	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Bromomethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
2-Butanone	< 5.0	5.0	ug/L		9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-3

Lab Sample Number : 825594-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

s-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
t-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
n-Butylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Carbon tetrachloride	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloroform	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chlorodibromomethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Chloromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
2-Chlorotoluene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
4-Chlorotoluene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dibromo-3-chloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dibromoethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dibromomethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,3-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,4-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichlorobenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dichlorodifluoromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
trans-1,2-Dichloroethene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Dichlorofluoromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,2-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloroethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,3-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
2,2-Dichloropropane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
1,1-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Ethylbenzene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Diethyl ether	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Fluorotrichloromethane	< 1.0	1.0	ug/L	9/15/02	SW846 8260B
Hexachlorobutadiene	< 1.0	1.0	ug/L	9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-3

Lab Sample Number : 825594-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Isopropylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
p-Isopropyltoluene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Methylene chloride	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
4-Methyl-2-pentanone	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
Methyl-tert-butyl-ether	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Naphthalene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
n-Propylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Styrene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2,2-Tetrachloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,1,2-Tetrachloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Tetrachloroethene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Toluene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,3-Trichlorobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,4-Trichlorobenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,1-Trichloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2-Trichloroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,4-Trimethylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Trichloroethene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
1,2,3-Trichloropropane	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Tetrahydrofuran	< 5.0	5.0	ug/L		9/15/02	SW846 8260B
1,3,5-Trimethylbenzene	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Vinyl chloride	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
Xylenes, -m, -p	< 2.0	2.0	ug/L	&	9/15/02	SW846 8260B
Xylene, -o	< 1.0	1.0	ug/L		9/15/02	SW846 8260B
4-Bromofluorobenzene	106	--	%Recov		9/15/02	SW846 8260B
Dibromofluoromethane	98	--	%Recov		9/15/02	SW846 8260B
Toluene-d8	106	--	%Recov		9/15/02	SW846 8260B

- Analytical Report -

Project Name : WIGWAM INN

Project Number : C-8214-13

Field ID : MW-3

Lab Sample Number : 825594-003

MDH LAB ID : 055-999-334

Client : GME CONSULTANTS

Report Date : 9/25/02

Collection Date : 9/11/02

Matrix Type : WATER

Organic Results

VOC-BLK-W

Prep Method:

Prep Date:

Analyst:

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
VOC-BLK	1097-39					

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1097-39

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1097-39

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09150204

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/15/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-83-9-----	DICHLORODIFLUOROMETHANE	1.00	U
74-87-3-----	CHLOROMETHANE	1.00	U
75-01-4-----	VINYL CHLORIDE	1.00	U
74-83-9-----	BROMOMETHANE	1.00	U
75-00-3-----	CHLOROETHANE	1.00	U
75-43-4-----	DICHLOROFLUOROMETHANE	1.00	U
75-69-4-----	TRICHLOROFLUOROMETHANE	1.00	U
60-29-7-----	DIETHYL ETHER	1.00	U
107-62-8-----	ACROLEIN	5.00	U
75-35-4-----	1 1-DICHLOROETHENE	1.00	U
76-13-1-----	1 1 2-TRICHLOROTRIFLUOROETHA	1.00	U
67-64-1-----	ACETONE	5.00	U
74-88-4-----	IODOMETHANE	1.00	U
75-15-0-----	CARBON DISULFIDE	1.00	U
107-05-1-----	ALLYL CHLORIDE	1.00	U
75-09-2-----	METHYLENE CHLORIDE	1.00	U
107-13-1-----	ACRYLONITRILE	5.00	U
156-60-5-----	TRANS-1 2-DICHLOROETHENE	1.00	U
1634-04-4-----	METHYL T-BUTYL ETHER	1.00	U
110-545-3-----	N-HEXANE	5.00	U
75-34-3-----	1 1-DICHLOROETHANE	1.00	U
108-05-4-----	VINYL ACETATE	5.00	U
108-20-3-----	DIISOPROPYL ETHER	1.00	U
590-20-7-----	2 2-DICHLOROPROPANE	1.00	U
156-59-2-----	CIS-1 2-DICHLOROETHENE	1.00	U
78-93-3-----	2-BUTANONE	5.00	U
74-97-5-----	BROMOCHLOROMETHANE	1.00	U
109-99-9-----	TETRAHYDROFURAN	5.00	U
67-66-3-----	CHLOROFORM	1.00	U
71-55-6-----	1 1 1-TRICHLOROETHANE	1.00	U
56-23-5-----	CARBON TETRACHLORIDE	1.00	U
563-58-6-----	1 1-DICHLOROPROPENE	1.00	U
71-43-2-----	BENZENE	1.00	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1097-39

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1097-39

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09150204

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/15/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

107-06-2-----1	2-DICHLOROETHANE	1.00	U
462-95-3-----	DIETHOXYMETHANE	1.00	U
79-01-6-----	TRICHLOROETHENE	1.00	U
78-87-5-----1	2-DICHLOROPROPANE	1.00	U
74-95-3-----	DIBROMOMETHANE	1.00	U
75-27-4-----	BROMODICHLOROMETHANE	1.00	U
110-75-8-----2	CHLOROETHYL VINYL ETHER	1.00	U
10061-01-5-----	CIS-1 3-DICHLOROPROPENE	1.00	U
108-10-1-----4	METHYL-2-PENTANONE	5.00	U
108-88-3-----	TOLUENE	1.00	U
10061-02-6-----	TRANS-1 3-DICHLOROPROPENE	1.00	U
79-00-5-----1	1 2-TRICHLOROETHANE	1.00	U
127-18-4-----	TETRACHLOROETHENE	1.00	U
142-28-9-----1	3-DICHLOROPROPANE	1.00	U
591-78-6-----2	HEXANONE	5.00	U
124-48-1-----	DIBROMOCHLOROMETHANE	1.00	U
106-93-4-----1	2-DIBROMOETHANE	1.00	U
108-90-7-----	CHLOROBENZENE	1.00	U
630-26-6-----1	1 1 2-TETRACHLOROETHANE	1.00	U
100-41-4-----	ETHYL BENZENE	1.00	U
108-38-3-----M	P-XYLENE	2.00	U
95-47-6-----O	XYLENE	1.00	U
100-42-5-----	STYRENE	1.00	U
75-25-2-----	BROMOFORM	1.00	U
98-82-8-----	ISOPROPYLBENZENE	1.00	U
110-57-6-----	TRANS-1 4-DICHLORO-2-BUTENE	1.00	U
108-86-1-----	BROMOBENZENE	1.00	U
79-34-5-----1	1 2 2-TETRACHLOROETHANE	1.00	U
96-18-4-----1	2 3-TRICHLOROPROPANE	1.00	U
1476-11-5-----	CIS-1 4-DICHLORO-2-BUTENE	1.00	U
103-65-1-----	N-PROPYLBENZENE	1.00	U
95-49-8-----2	CHLOROTOLUENE	1.00	U
106-43-4-----4	CHLOROTOLUENE	1.00	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLK1097-39

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix: (soil/water) WATER

Lab Sample ID: VBLK1097-39

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09150204

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 09/15/02

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
108-67-8	1 3 5-TRIMETHYLBENZENE	1.00 U
98-06-6	TERT-BUTYLBENZENE	1.00 U
95-63-6	1 2 4-TRIMETHYLBENZENE	1.00 U
135-98-8	SEC-BUTYLBENZENE	1.00 U
541-73-1	1 3-DICHLOROBENZENE	1.00 U
106-46-7	1 4-DICHLOROBENZENE	1.00 U
99-878-6	P-ISOPROPYLTOLUENE (CYMENE)	1.00 U
95-50-1	1 2-DICHLOROBENZENE	1.00 U
104-51-8	N-BUTYLBENZENE	1.00 U
67-72-1	HEXACHLOROETHANE	1.00 U
96-12-8	1 2-DIBROMO-3-CHLOROPROPANE	1.00 U
95-63-6	1 2 4-TRICHLOROBENZENE	1.00 U
87-68-3	HEXACHLOROBUTADIENE	1.00 U
91-20-3	NAPHTHALENE	1.00 U
96-18-4	1 2 3-TRICHLOROBENZENE	1.00 U
91-57-6	2-METHYLNAPHTHALENE	5.00 U
	TOTAL 1 2-DICHLOROETHENE	2.00 U
80-62-6	METHYL METHACRYLATE	5.00 U
97-63-2	ETHYL METHACRYLATE	5.00 U
	TOTAL XYLENES	3.00 U
79-20-9	METHYL ACETATE	1.00 U
110-82-7	CYCLOHEXANE	1.00 U
108-87-2	METHYLCYCLOHEXANE	1.00 U
78-88-6	2 3-DICHLOROPROPENE	1.00 U
526-73-8	1 2 3-TRIMETHYLBENZENE	1.00 U
75-05-8	ACETONITRILE	5.00 U

FORM 3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: 824869-072

Bald QC

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/L)	MS AMOUNT (ug/L)	MS % REC #	QC. LIMITS REC.
CHLOROMETHANE	50.00	0.00	66.15	132	39-138
VINYL CHLORIDE	50.00	0.00	60.43	121	62-137
BROMOMETHANE	50.00	0.00	69.28	138*	57-135
CHLOROETHANE	50.00	0.00	60.05	120	71-127
1 1-DICHLOROETHENE	50.00	0.00	59.21	118	83-125
ACETONE	50.00	0.00	54.60	109	38-139
CARBON DISULFIDE	50.00	0.00	58.60	117	77-128
METHYLENE CHLORIDE	50.00	0.00	57.12	114	70-130
TRANS-1 2-DICHLOROETHEN	50.00	0.00	51.22	102	70-130
1 1-DICHLOROETHANE	50.00	0.00	51.48	103	82-121
CIS-1 2-DICHLOROETHENE	50.00	0.00	53.01	106	70-130
2-BUTANONE	50.00	0.00	42.69	85	42-156
CHLOROFORM	50.00	0.00	51.82	104	70-130
1 1 1-TRICHLOROETHANE	50.00	0.00	54.13	108	87-127
CARBON TETRACHLORIDE	50.00	0.00	54.33	109	84-132
BENZENE	50.00	0.00	52.82	106	70-130
1 2-DICHLOROETHANE	50.00	0.00	49.25	98	70-130
TRICHLOROETHENE	50.00	0.00	53.35	107	70-130
1 2-DICHLOROPROPANE	50.00	0.00	49.67	99	70-130
BROMODICHLOROMETHANE	50.00	0.00	50.53	101	70-130
CIS-1 3-DICHLOROPROPENE	50.00	0.00	49.89	100	70-119
4-METHYL-2-PENTANONE	50.00	0.00	45.72	91	66-122
TOLUENE	50.00	0.00	55.49	111	70-130
TRANS-1 3-DICHLOROPROPE	50.00	0.00	49.18	98	70-130
1 1 2-TRICHLOROETHANE	50.00	0.00	53.46	107	70-130
TETRACHLOROETHENE	50.00	0.00	60.40	121	88-121
2-HEXANONE	50.00	0.00	47.08	94	32-174
DIBROMOCHLOROMETHANE	50.00	0.00	50.24	100	79-119

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

* Values outside of QC limits

COMMENTS:

FORM 3
 WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: 824869-072

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/L)	MS AMOUNT (ug/L)	MS % REC #	QC. LIMITS REC.
CHLOROBENZENE	50.00	0.00	55.34	111	70-130
ETHYL BENZENE	50.00	0.00	56.63	113	70-130
M- P-XYLENE	100.00	0.00	118.29	118	73-132
O-XYLENE	50.00	0.00	56.90	114	73-132
STYRENE	50.00	0.00	43.92	88	70-130
BROMOFORM	50.00	0.00	47.75	96	66-124
1 1 2 2-TETRACHLOROETHA	50.00	0.00	48.14	96	70-130

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: 824869-072

COMPOUND	SPIKE ADDED (ug/L)	MSD AMOUNT (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROMETHANE	50.00	68.39	137	4	21	39-138
VINYL CHLORIDE	50.00	64.54	129	6	30	62-137
BROMOMETHANE	50.00	69.41	139*	1	23	57-135
CHLOROETHANE	50.00	62.97	126	5	30	71-127
1 1-DICHLOROETHENE	50.00	58.74	117	1	20	83-125
ACETONE	50.00	51.90	104	5	30	38-139
CARBON DISULFIDE	50.00	60.85	122	4	38	77-128
METHYLENE CHLORIDE	50.00	59.14	118	3	30	70-130
TRANS-1 2-DICHLOROETHEN	50.00	51.43	103	1	30	70-130
1 1-DICHLOROETHANE	50.00	52.90	106	3	20	82-121
CIS-1 2-DICHLOROETHENE	50.00	52.94	106	0	30	70-130
2-BUTANONE	50.00	44.96	90	6	30	42-156
CHLOROFORM	50.00	54.11	108	4	30	70-130
1 1 1-TRICHLOROETHANE	50.00	54.11	108	0	20	87-127
CARBON TETRACHLORIDE	50.00	55.85	112	3	30	84-132
BENZENE	50.00	54.92	110	4	30	70-130
1 2-DICHLOROETHANE	50.00	50.07	100	2	30	70-130
TRICHLOROETHENE	50.00	53.91	108	1	30	70-130
1 2-DICHLOROPROPANE	50.00	51.56	103	4	30	70-130
BROMODICHLOROMETHANE	50.00	52.77	106	5	30	70-130
CIS-1 3-DICHLOROPROPENE	50.00	49.28	98	2	20	70-119
4-METHYL-2-PENTANONE	50.00	48.21	96	5	25	66-122
TOLUENE	50.00	56.08	112	1	30	70-130
TRANS-1 3-DICHLOROPROPE	50.00	47.95	96	2	30	70-130
1 1 2-TRICHLOROETHANE	50.00	51.78	104	3	30	70-130
TETRACHLOROETHENE	50.00	57.73	115	5	13	88-121
2-HEXANONE	50.00	47.53	95	1	43	32-174
DIBROMOCHLOROMETHANE	50.00	48.29	96	4	20	79-119

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: 824869-072

COMPOUND	SPIKE ADDED (ug/L)	MSD AMOUNT (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROBENZENE	50.00	54.15	108	3	30	70-130
ETHYL BENZENE	50.00	56.53	113	0	30	70-130
M- P-XYLENE	100.00	119.22	119	1	30	73-132
O-XYLENE	50.00	57.57	115	1	30	73-132
STYRENE	50.00	43.02	86	2	30	70-130
BROMOFORM	50.00	47.76	96	0	30	66-124
1 1 2 2-TETRACHLOROETHA	50.00	48.96	98	2	30	70-130

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

* Values outside of QC limits

RPD: 0 out of 35 outside limits

Spike Recovery: 2 out of 70 outside limits

COMMENTS:

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: VBLK1097-39

COMPOUND	SPIKE ADDED (ug/L)	BLANK AMOUNT (ug/L)	BS AMOUNT (ug/L)	BS % REC #	QC. LIMITS REC.
CHLOROMETHANE	50.00	0.00	66.05	132	48-134
VINYL CHLORIDE	50.00	0.00	62.12	124	61-134
BROMOMETHANE	50.00	0.00	61.71	123	53-137
CHLOROETHANE	50.00	0.00	60.26	120	73-127
1 1-DICHLOROETHENE	50.00	0.00	58.78	118	82-127
ACETONE	50.00	0.00	79.76	160*	42-120
CARBON DISULFIDE	50.00	0.00	60.59	121	78-130
METHYLENE CHLORIDE	50.00	0.00	57.58	115	77-117
TRANS-1 2-DICHLOROETHEN	50.00	0.00	51.51	103	80-120
1 1-DICHLOROETHANE	50.00	0.00	52.56	105	80-120
CIS-1 2-DICHLOROETHENE	50.00	0.00	53.28	106	80-120
2-BUTANONE	50.00	0.00	54.72	109	59-122
CHLOROFORM	50.00	0.00	51.74	103	80-120
1 1 1-TRICHLOROETHANE	50.00	0.00	53.65	107	80-120
CARBON TETRACHLORIDE	50.00	0.00	53.19	106	85-128
BENZENE	50.00	0.00	53.84	108	80-120
1 2-DICHLOROETHANE	50.00	0.00	49.90	100	80-120
TRICHLOROETHENE	50.00	0.00	54.30	109	80-120
1 2-DICHLOROPROPANE	50.00	0.00	52.37	105	80-120
BROMODICHLOROMETHANE	50.00	0.00	53.32	107	80-120
CIS-1 3-DICHLOROPROPENE	50.00	0.00	50.49	101	78-120
4-METHYL-2-PENTANONE	50.00	0.00	50.85	102	69-119
TOLUENE	50.00	0.00	55.87	112	80-120
TRANS-1 3-DICHLOROPROPE	50.00	0.00	49.09	98	80-120
1 1 2-TRICHLOROETHANE	50.00	0.00	54.14	108	80-120
TETRACHLOROETHENE	50.00	0.00	58.01	116	80-120
2-HEXANONE	50.00	0.00	67.15	134*	60-123
DIBROMOCHLOROMETHANE	50.00	0.00	49.95	100	80-120

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: VBLK1097-39

COMPOUND	SPIKE ADDED (ug/L)	BLANK AMOUNT (ug/L)	BS AMOUNT (ug/L)	BS % REC #	QC. LIMITS REC.
CHLOROBENZENE	50.00	0.00	55.83	112	80-120
ETHYL BENZENE	50.00	0.00	56.68	113	80-120
M- P-XYLENE	100.00	0.00	120.86	121*	80-120
O-XYLENE	50.00	0.00	57.80	116	80-120
STYRENE	50.00	0.00	44.73	89	80-120
BROMOFORM	50.00	0.00	48.53	97	66-123
1 1 2 2-TETRACHLOROETHA	50.00	0.00	50.98	102	74-115

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: VBLK1097-39

COMPOUND	SPIKE ADDED (ug/L)	BSD AMOUNT (ug/L)	BSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROMETHANE	50.00	65.17	130	2	20	48-134
VINYL CHLORIDE	50.00	64.29	128	3	20	61-134
BROMOMETHANE	50.00	65.60	131	6	20	53-137
CHLOROETHANE	50.00	62.07	124	3	20	73-127
1 1-DICHLOROETHENE	50.00	58.12	116	2	20	82-127
ACETONE	50.00	86.26	172*	7	33	42-120
CARBON DISULFIDE	50.00	59.43	119	2	20	78-130
METHYLENE CHLORIDE	50.00	57.87	116	1	20	77-117
TRANS-1 2-DICHLOROETHEN	50.00	52.49	105	2	20	80-120
1 1-DICHLOROETHANE	50.00	53.34	107	2	20	80-120
CIS-1 2-DICHLOROETHENE	50.00	53.73	107	1	20	80-120
2-BUTANONE	50.00	54.12	108	1	27	59-122
CHLOROFORM	50.00	52.88	106	3	20	80-120
1 1 1-TRICHLOROETHANE	50.00	52.89	106	1	20	80-120
CARBON TETRACHLORIDE	50.00	55.03	110	4	20	85-128
BENZENE	50.00	54.31	109	1	20	80-120
1 2-DICHLOROETHANE	50.00	50.17	100	0	20	80-120
TRICHLOROETHENE	50.00	53.59	107	2	20	80-120
1 2-DICHLOROPROPANE	50.00	51.31	103	2	20	80-120
BROMODICHLOROMETHANE	50.00	51.57	103	4	20	80-120
CIS-1 3-DICHLOROPROPENE	50.00	49.22	98	3	20	78-120
4-METHYL-2-PENTANONE	50.00	51.44	103	1	20	69-119
TOLUENE	50.00	55.73	111	1	20	80-120
TRANS-1 3-DICHLOROPROPE	50.00	49.57	99	1	20	80-120
1 1 2-TRICHLOROETHANE	50.00	54.21	108	0	20	80-120
TETRACHLOROETHENE	50.00	60.58	121*	4	20	80-120
2-HEXANONE	50.00	69.78	140*	4	20	60-123
DIBROMOCHLOROMETHANE	50.00	49.78	100	0	20	80-120

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE BLANK SPIKE RECOVERY

Lab Name: EN CHEM GREEN BAY

Contract:

Lab Code: ENCHEMGB

Case No.:

SAS No.:

SDG No.: MS109152002

Matrix Spike - Sample No.: VBLK1097-39

COMPOUND	SPIKE ADDED (ug/L)	BSD AMOUNT (ug/L)	BSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
CHLOROBENZENE	50.00	54.77	110	2	20	80-120
ETHYL BENZENE	50.00	57.29	114	1	20	80-120
M- P-XYLENE	100.00	122.06	122*	1	20	80-120
O-XYLENE	50.00	57.78	116	0	20	80-120
STYRENE	50.00	44.08	88	1	20	80-120
BROMOFORM	50.00	48.51	97	0	20	66-123
1 1 2 2-TETRACHLOROETHA	50.00	49.08	98	4	20	74-115

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

* Values outside of QC limits

RPD: 0 out of 35 outside limits

Spike Recovery: 7 out of 70 outside limits

COMMENTS:

Surrogate - GC VOA	Aqueous		Low Level Solids		Methanol Solids	
	LCL	UCL	LCL	UCL	LCL	UCL
α,α,α -Trifluorotoluene	61	149	54	144	62	154

Surrogate - GCMS VOA	Aqueous		Low Level Solids		Methanol Solids	
	LCL	UCL	LCL	UCL	LCL	UCL
Dibromofluoromethane	61	136	51	127	57	118
Toluene- d_8	63	140	62	126	72	115
4-Bromofluorobenzene	55	136	60	109	67	112

Surrogate - GCMS PAH	Aqueous		Solids	
	LCL	UCL	LCL	UCL
Nitrobenzene- d_5	30	170	35	126
2-Fluorobiphenyl	30	126	44	110
Terphenyl- d_{14}	56	148	38	145

Surrogate - GCMS BNA	Aqueous		Solids	
	LCL	UCL	LCL	UCL
2-Fluorophenol	13	70	35	114
Phenol- d_5	8	44	29	114
2-Chlorophenol- d_4	29	104	34	107
1,2-Dichlorobenzene- d_4	34	112	27	116
Nitrobenzene- d_5	34	126	26	126
2-Fluorobiphenyl	36	126	26	126
2,4,6-Tribromophenol	39	133	17	129
Terphenyl- d_{14}	56	139	23	141

Surrogate - GC PCB	Aqueous		Solids	
	LCL	UCL	LCL	UCL
Decachlorobiphenyl	22	133	11	142

Date : 17-SEP-2002 18:01

Client ID: 825594-001

Sample Info: 25594B001MAX5

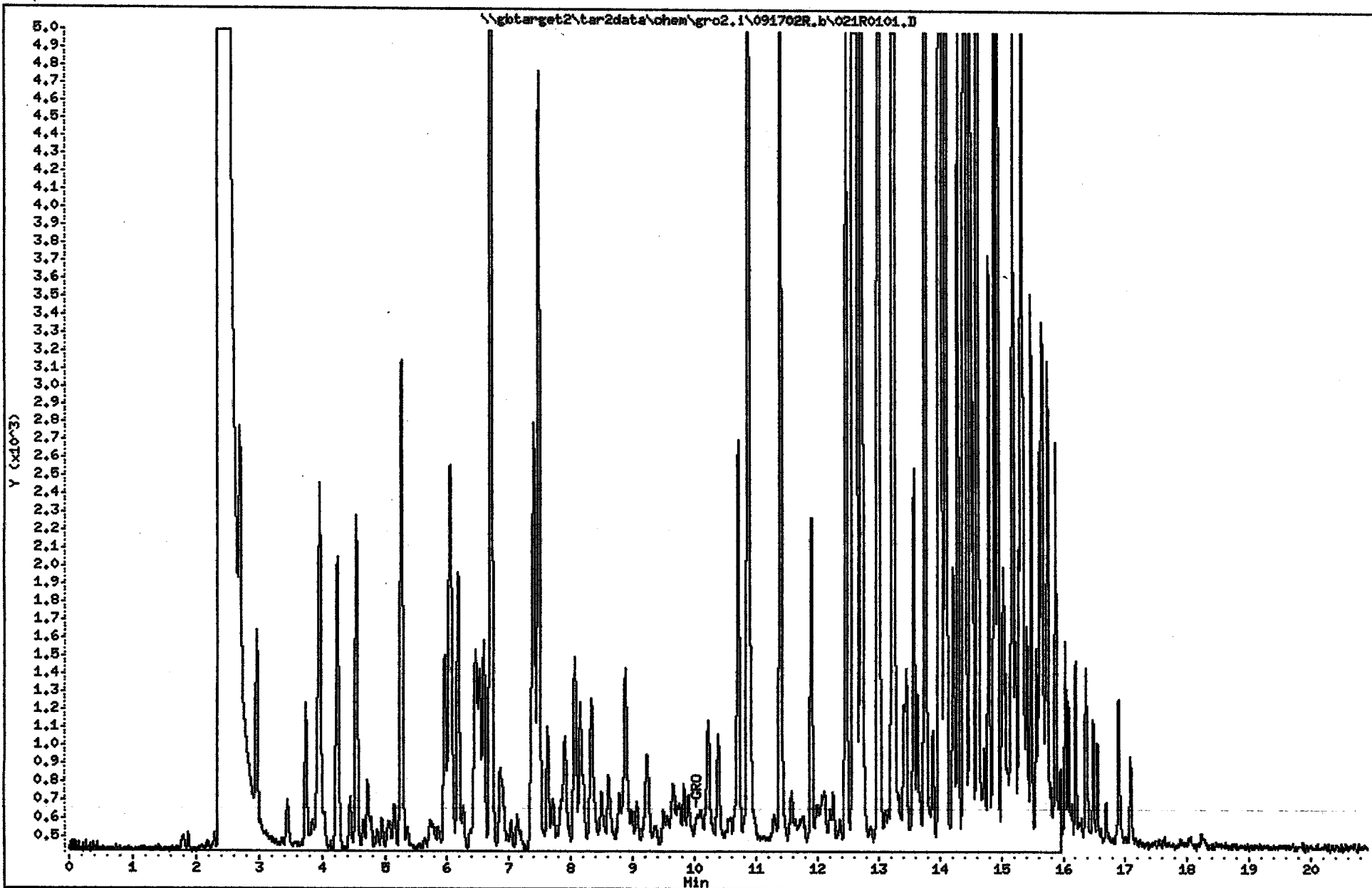
Purge Volume: 5.0

Column phase: DB-624

Instrument: gro2.1

Operator: PMS

Column diameter: 0.32



Data File: \\gbtarget2\tar2data\chem\gro2.i\091702R.b\018R0101.D

Date : 17-SEP-2002 16:44

Client ID: 825594-002

Sample Info: 25594B002MAX1

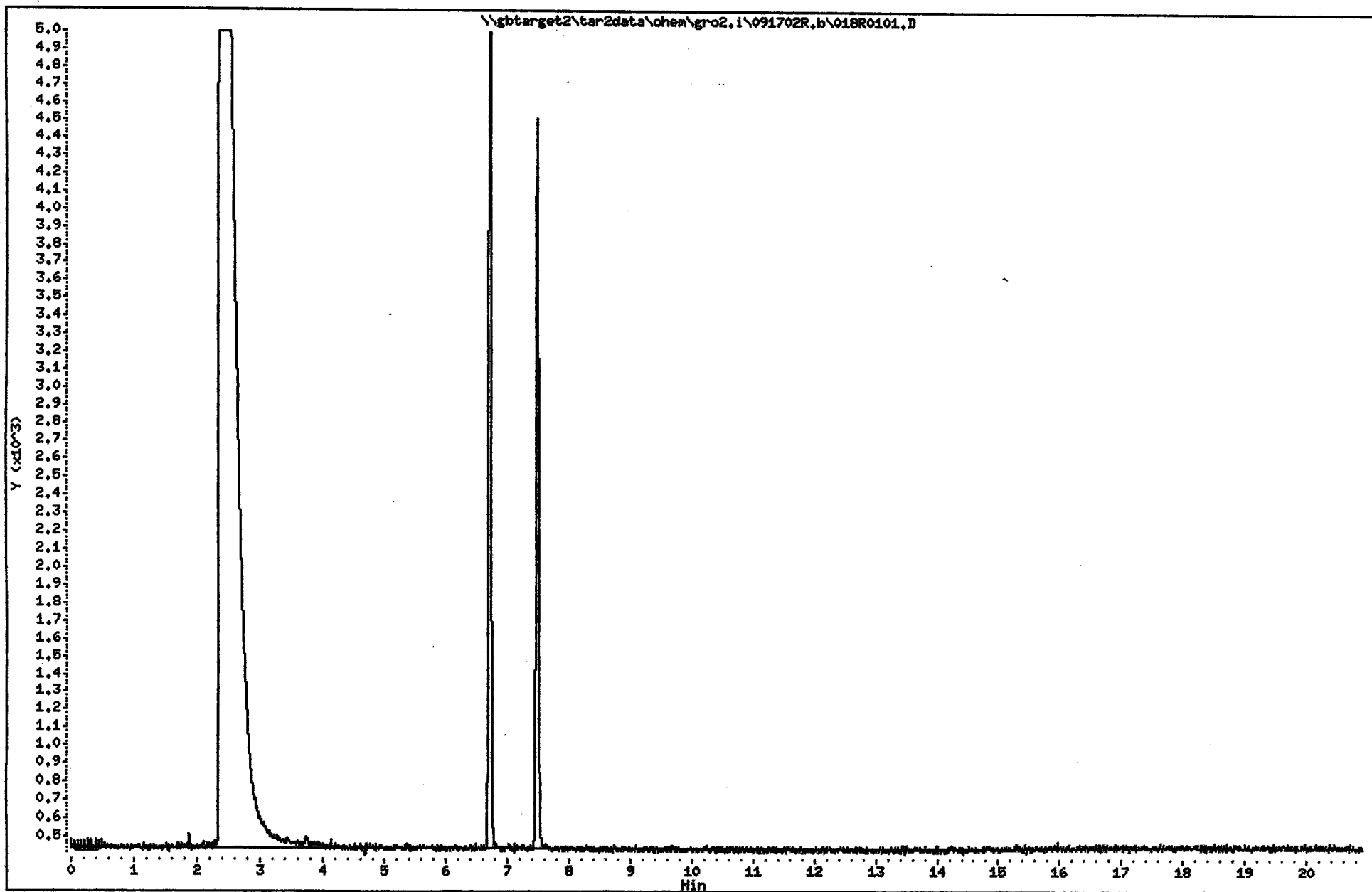
Purge Volume: 5.0

Column phase: DB-624

Instrument: gro2.i

Operator: PMS

Column diameter: 0.32



Date : 16-SEP-2002 16:18

Client ID: 825594-003

Sample Info: 25594B003MAX1

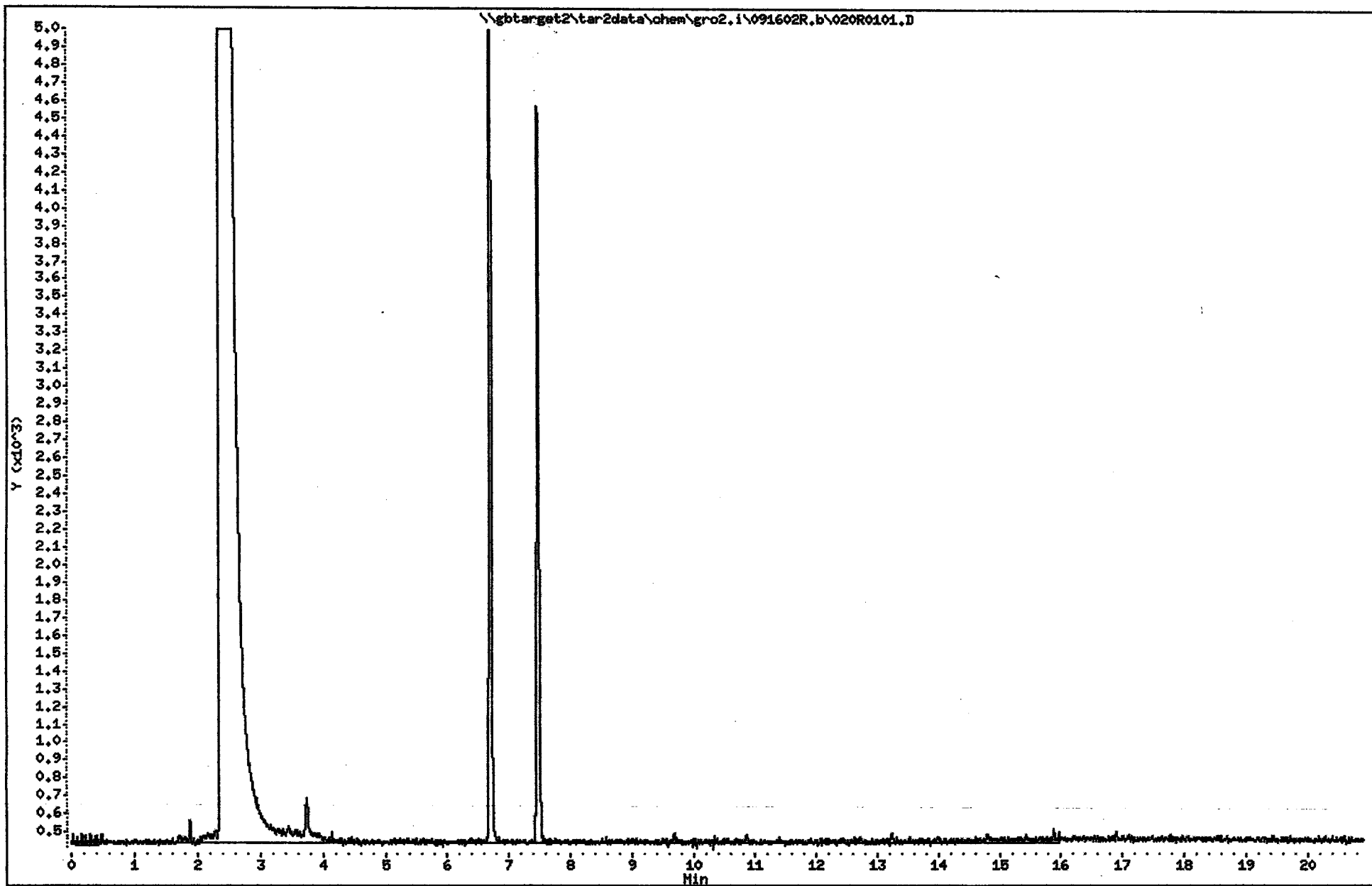
Purge Volume: 5.0

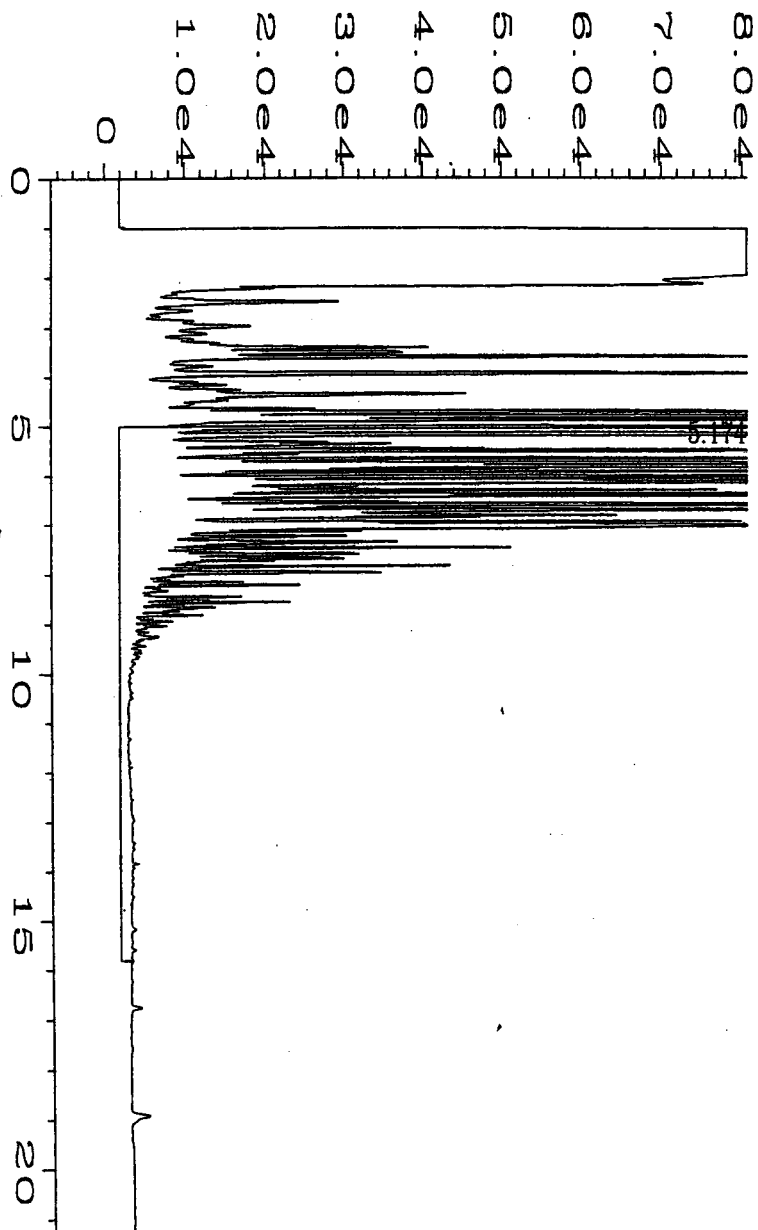
Column phase: DB-624

Instrument: gro2.i

Operator: PMS

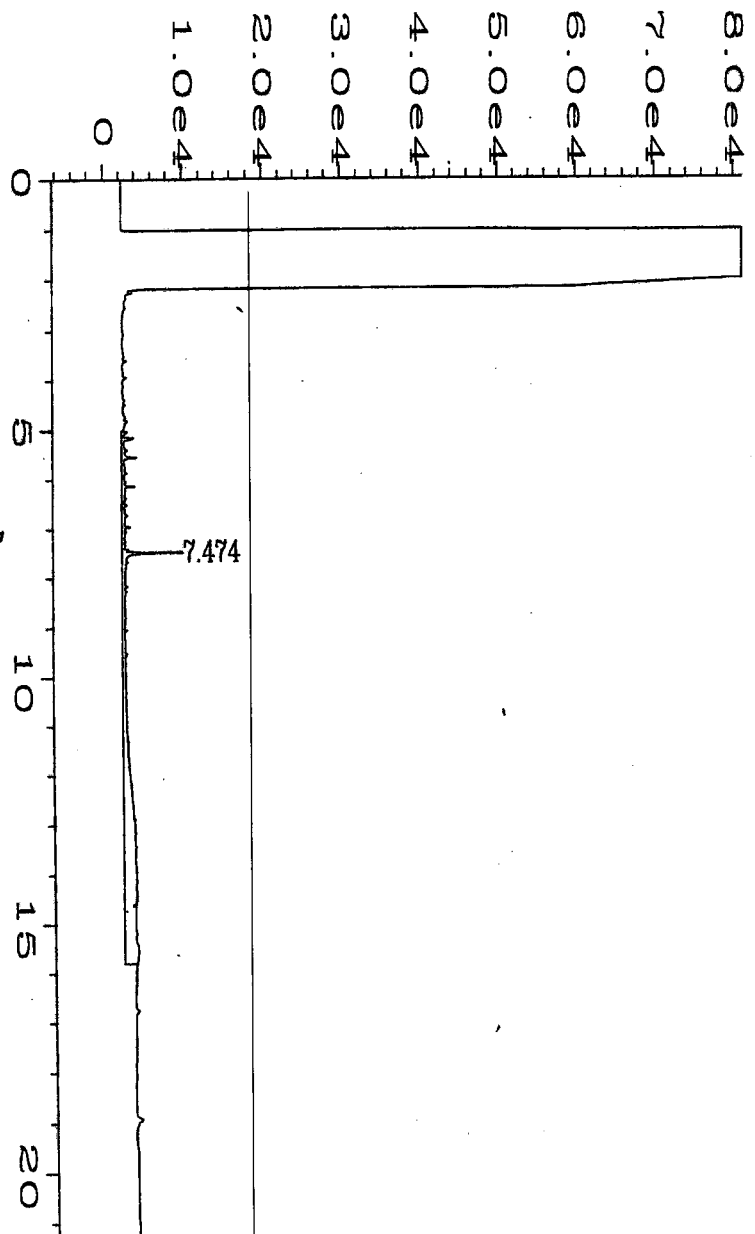
Column diameter: 0.32





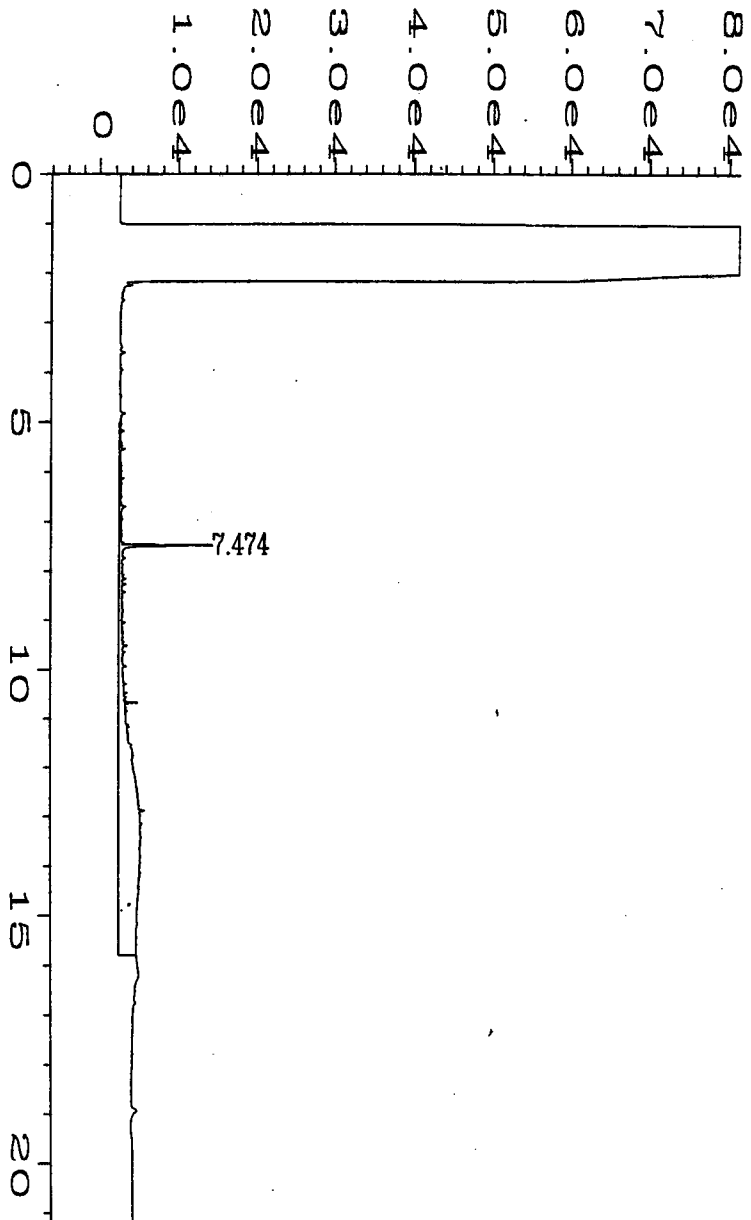
user modified

Data File Name	: G:\HPCHEM\7\DATA\091702\003R0101.D	Page Number	: 1
Operator	: KEG	Vial Number	: 3
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 25594D001WXR1.6	Sequence Line	: 1
Run Time Bar Code:		Instrument Method:	3QUICK.MTH
Acquired on	: 17 Sep 02 10:34 AM	Analysis Method	: 3QUICK.MTH
Report Created on:	17 Sep 02 11:01 AM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\7\DATA\091602\014R0301.D	Page Number	: 1
Operator	: KEG	Vial Number	: 14
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 25594D002WXX1	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	: 3QUICK.MTH
Acquired on	: 16 Sep 02 10:00 PM	Analysis Method	: 3QUICK.MTH
Report Created on:	: 16 Sep 02 10:26 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		



user modified

Data File Name	: G:\HPCHEM\7\DATA\091602\015R0301.D	Page Number	: 1
Operator	: KEG	Vial Number	: 15
Instrument	: DRO3	Injection Number	: 1
Sample Name	: 25594D003WXX1	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	3QUICK.MTH
Acquired on	: 16 Sep 02 10:26 PM	Analysis Method	: 3QUICK.MTH
Report Created on:	16 Sep 02 10:52 PM	Sample Amount	: 0
Last Recalib on	: 20 JUN 93 01:52 PM	ISTD Amount	:
Multiplier	: 1		

(Please Print Legibly)

Company Name: GMC Inc.

Branch or Location: Crosby, MN

Project Contact: Eric Wallin

Telephone: 218-546-6371

Project Number: C-8214-13

Project Name: Liquidum Fan

Project State: MN

Sampled By (Print): Michelle Hasfield



1241 Bellevue St., Suite 9
Green Bay, WI 54302
920-469-2436
FAX 920-469-8827

825 Science Drive
Madison, WI 53711
608-232-3300
FAX: 608-238-0502

CHAIN OF CUSTODY

674.3

*Preservation Codes
 A=None B=HCL C=H2SO4 D=HNB3 E=EnCore F=Methanol G=NaOH
 H = Sodium Bisulfate Solution I= Other

FILTERED? (YES/NO)
 PRESERVATION (CODE)*

Page 1 of 1

P.O. # _____ Quote # _____

Mail Report To: Eric Wallin

Company: GMC Inc.

Address: PO Box 750
Crosby, MN 56441

Invoice To: Farm

Company: _____

Address: _____

Mail Invoice To: _____

Data Package Options
 (please circle if requested)

Results Only SB

EnChem Level III (Subject to Surcharge)

EnChem Level IV (Subject to Surcharge)

Regulatory Program

UST
RCRA
SDWA
NPDES
CERCLA

Matrix Codes

W=Water
S=Soil
A=Air
C=Charcoal
B=Biota
Sl=Sludge

ANALYSES REQUESTED

MAK USE VUC'S

GRO

ALO

TOTAL # OF BOTTLES SENT

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION		MATRIX	ANALYSES REQUESTED							TOTAL # OF BOTTLES SENT	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
		DATE	TIME		MAK	USE	VUC'S	GRO	ALO	OTHER				
	Trip Blank			W	✓							2		did not receive
001	mw-1	9/12/02		↓	✓	✓	✓					7	1-Hand, 6	40ml
002	mw-2	↓		↓	✓	✓	✓					7		
003	mw-3	↓		↓	✓	✓	✓					7	↓	

Rush Turnaround Time Requested (TAT) - Prelim
 (Rush TAT subject to approval/surcharge)

Date Needed: _____

Transmit Prelim Rush Results by (circle):
 Phone Fax E-Mail

Phone #: _____

Fax #: _____

E-Mail Address: _____

Relinquished By: <u>RJ Gulman</u>	Date/Time: <u>9/12/02</u>	Received By: _____	Date/Time: _____
Relinquished By: <u>URS</u>	Date/Time: _____	Received By: <u>R Jacobs</u>	Date/Time: <u>9/13/02 9:45</u>
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____

En Chem Project No. 825594

Sample Receipt Temp. 0.4C

Sample Receipt pH (Wet/Metals) _____

Cooler Custody Seal Present / Not Present

Intact / Not Intact

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

APPENDIX C
METHODOLOGIES AND PROCEDURES

REMEDIAL INVESTIGATION PROCEDURES

A. Field

1. Geoprobe Survey

On September 6, 2000, Matrix Technologies (Matrix) conducted five push probes with a geoprobe. The push probe locations (Figure 2) were selected based on the findings of the previous environmental soil sampling during the removal of the USTs. Underground utilities were cleared prior to drilling. The probes and sampling devices were cleaned prior to mobilization to the site and between boring locations as needed. The borings were advanced using 2-inch probes and soils were sampled at selected intervals.

Our Environmental Scientist conducted headspace analyses on representative portions of the recovered soil samples using an HNU Model PI-101 (HNU) fitted with a 10.2 eV lamp. The HNU is a photoionization detector (PID) that measures certain organic vapors in parts per million (ppm). Polyethylene bag headspace analyses were conducted in general accordance with MPCA guidance documents.

Upon completion, the probe holes were located on a site map and were sealed with neat cement grout. The temporary wells were sealed in accordance with Minnesota Department of Health (MDH) regulations. The GME Soil Boring Logs in the Appendix summarize soil classifications and observed groundwater levels.

2. Soil Boring

On June 20, 2002, we drilled four environmental soil borings with our CME 550 drill rig and installed groundwater table monitoring wells in three of the borings.

The boring locations (Figure 2) were selected by our Environmental Scientist, based on site logistics. Underground utilities were cleared prior to drilling. The drill rig, augers and sampling devices were steam cleaned prior to mobilization to the site and between boring locations as needed.

The four environmental soil borings were drilled to depths ranging from approximately 11 to 16 feet below grade. Three of these boreholes were completed as groundwater table monitoring wells MW-1, MW-2 and MW-3; the other borehole was grouted.

The environmental soil borings were advanced using CME 4-1/4 inch inside diameter continuous flight hollow stem augers. Soils were sampled at 2-foot intervals by the split barrel method (ASTM D: 1586). The split barrel sampler was washed in tri-sodium phosphate solution and was rinsed with distilled water prior to collection of each sample.

Our Environmental Scientist conducted headspace analyses on representative portions of the recovered soil samples using an HNU Model PI-101 (HNU) photoionization detector (PID) fitted with a 10.2 eV lamp. The HNU measures certain organic vapors in parts per million (ppm).

Polyethylene bag headspace analyses were conducted in general accordance with MPCA guidance documents. Also, one soil sample was collected from each boring for laboratory analyses. The GME Soil Boring Logs summarize drilling and sampling procedures, soil classifications, and observed groundwater levels.

3. Monitoring Well Installation

The screens, risers and couplings were steam cleaned prior to installation in the boreholes. The groundwater table monitoring wells were constructed with a 2-inch diameter NO. 10 slot Schedule 40 PVC screen connected to a 2-inch diameter Schedule 40 PVC riser pipe by threaded couplings.

The annular space between the screen and the borehole for each well was filled with No. 45-55 Red Flint washed sand to approximately 0.5 foot above the top of the well screen. Approximately 0.5 foot of bentonite slurry was placed above the filter pack. The remaining annular space was filled with a neat cement grout to the ground surface.

A 6-inch diameter by 8-foot long steel protective casing with a lock was set in concrete over the two monitoring wells with approximately 1.5 to 3 feet of "stick-up."

The wells were constructed in accordance with Minnesota Department of Health (MDH) regulations. The MDH Well Logs are presented in Appendix D.

4. Monitoring Well Development

Prior to well development, groundwater levels were measured to the nearest 0.01 foot with an electronic water level indicator. The monitoring wells were developed by surging and purging with disposable bailers. Development continued until the water was relatively sediment free (at least 5 well casing volumes were removed from each well).

5. Site Survey

Site survey activities included locating the soil borings and monitoring wells and measuring the elevations of the tops of the well risers. All elevations were surveyed to the Geodetic Marker with an elevation of 1258 NGVD.

6. Monitoring Well Sampling

The three groundwater monitoring wells were sampled by our staff on June 25 and September 11, 2002. The groundwater level in each well was measured to the nearest 0.01 foot and at least five well casing volumes were removed from each well. Each well was sampled with a dedicated disposable bailer.

APPENDIX D
SOIL BORING LOGS

LOG OF BORING P-1

PROJECT
Remedial Investigation

SITE Wigwam Inn

CLIENT
Mille Lacs Band of Ojibwe

ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²								
							1	2	3	4	5				
				SURFACE ELEVATION ↓			WATER CONTENT % STANDARD PENETRATION (BLOWS/FOOT)								
	1SS			Brown SAND - wet at 8 feet - (SP)	1.4										
5	2SS				180										
10	3SS	▽			60										
			12.0												
			12.5	Peat - (Pt)											
	4SS			Brown fine SAND - (SP)	0.8										
15			16.0												
				End of boring at 16 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 8-9 feet and 15-16 feet were submitted to laboratory for analysis Water sample collected from 8-10 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout											

WATER LEVEL OBSERVATIONS	
W.L.	<input checked="" type="checkbox"/> 8
W.L.	
W.L.	



GME CONSULTANTS, INC.
 Geotechnical Materials Environmental
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 548-6371

BORING STARTED		9/6/00
BORING COMPLETED		9/6/00
RIG	Geoprobe	DRILLER Matrix
DRAWN	EJW	APPROVED MDM
JOB #	C-8214-B	SHEET 1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING P-2

PROJECT Remedial Investigation	SITE Wigwam Inn
CLIENT Mille Lacs Band of Ojibwe	ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²				
							1	2	3	4	5
				SURFACE ELEVATION ↓			WATER CONTENT % ●				
							STANDARD PENETRATION (BLOWS/FOOT) ⊗				
5	1SS			Fine to medium SAND - wet at 8 feet - (SP)	2.2						
10	2SS	▽			2.4						
11.5	3SS				2.3						
12.0				Peat - (Pt)							
				End of boring at 12 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 8-9 feet was submitted to laboratory for analysis Water sample collected from 8-10 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout							

WATER LEVEL OBSERVATIONS	
W.L.	<input checked="" type="checkbox"/> 8
W.L.	
W.L.	



GME CONSULTANTS, INC.
 Geotechnical Materials Environmental
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 546-6371

BORING STARTED		9/6/00
BORING COMPLETED		9/6/00
RIG	Geoprobe	DRILLER Matrix
DRAWN	EJW	APPROVED MDM
JOB #	C-8214-B	SHEET 1 of 1

The stratification lines represent transition approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING P-3

PROJECT
Remedial Investigation

SITE Wigwam Inn

CLIENT
Mille Lacs Band of Ojibwe

ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²							
							1	2	3	4	5			
				SURFACE ELEVATION ↓			WATER CONTENT % ○ ● STANDARD PENETRATION (BLOWS/FOOT) ⊗ 10 20 30 40 50							
	1SS			Brown fine to medium SAND - wet at 8 feet - (SP)	1.4									
5	2SS				3.2									
10	3SS	▽			0.4									
			11.0											
			11.5	Peat - (Pt)										
			12.0	Brownish gray fine to medium SAND - (SP)										
				End of boring at 12 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 8-9 feet was submitted to laboratory for analysis Water sample collected from 8-10 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout										

WATER LEVEL OBSERVATIONS	
W.L.	<input checked="" type="checkbox"/> 8
W.L.	
W.L.	



GME CONSULTANTS, INC.
 Geotechnical Materials Environmental
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 546-8371

BORING STARTED		9/6/00
BORING COMPLETED		9/6/00
RIG	Geoprobe	DRILLER Matrix
DRAWN	EJW	APPROVED MDM
JOB #	C-8214-B	SHEET 1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING P-4

PROJECT
Remedial Investigation

SITE Wigwam Inn

CLIENT
Mille Lacs Band of Ojibwe

ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²				
							1	2	3	4	5
							WATER CONTENT %				
							STANDARD PENETRATION (BLOWS/FOOT)				
							10	20	30	40	50
5	1SS			Brown fine to medium SAND - wet at 8 feet - (SP)	2.2						
5	2SS				4.5						
10	3SS				3.5						
			11.0								
			11.5	Peat - (Pt)							
			12.0	Brownish gray fine SAND - (SP)							
				End of boring at 12 feet							
				HNU headspace measurements in parts per million (ppm) Soil sample collected from 8-9 feet was submitted to laboratory for analysis Water sample collected from 8-10 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout							

WATER LEVEL OBSERVATIONS

W.L. 8
W.L.
W.L.



GME CONSULTANTS, INC.
Geotechnical Materials Environmental
P.O. Box 250
Crosby, Minnesota 56441
(281) 546-6371

BORING STARTED 9/6/00
BORING COMPLETED 9/6/00
RIG Geoprobe DRILLER Matrix
DRAWN EJW APPROVEDMDM
JOB # C-8214-B SHEET 1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING P-5

PROJECT
Remedial Investigation

SITE Wigwam Inn

CLIENT
Mille Lacs Band of Ojibwe

ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²											
							1	2	3	4	5							
				SURFACE ELEVATION ↓			WATER CONTENT % STANDARD PENETRATION (BLOWS/FOOT)											
	1SS	▽		Brown fine to medium SAND - wet at 1.5 feet - (SP)	3.2													
5	2SS		7.5			2.8												
			7.7	Peat - (Pt)														
10	3SS		11.0	Brown fine SAND - (SP)	2.4													
				Brownish gray fine SAND with 2" silty sand layers - (SP)														
15	4SS				1.3													
20	5SS		20.0		1.4													
				End of boring at 20 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 1.5-2.5 feet was submitted to laboratory for analysis Water sample collected at 1.5-3.5 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout														

WATER LEVEL OBSERVATIONS

W.L.	<input checked="" type="checkbox"/>	1.5
W.L.	<input type="checkbox"/>	
W.L.	<input type="checkbox"/>	



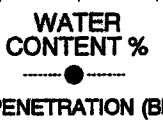
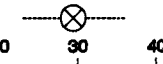
GME CONSULTANTS, INC.
 Geotechnical Materials Environments
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 548-6371

BORING STARTED		9/6/00
BORING COMPLETED		9/6/00
RIG	Geoprobe	DRILLER Matrix
DRAWN	EJW	APPROVEDMDM
JOB #	C-8214-B	SHEET 1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING B-1/MW-1

PROJECT Remedial Investigation	SITE Wigwam Inn
CLIENT Mille Lacs Band of Ojibwe	ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²				
				SURFACE ELEVATION ↓			1	2	3	4	5
							WATER CONTENT % 				
							STANDARD PENETRATION (BLOWS/FOOT) 				
5	1SS			Brown fine to medium SAND - (SP)	0.2						
10	2SS				4.1						
15	3SS				18.6						
			16.0	End of boring at 16 feet HNU headspace measurements in parts per million (ppm) Soil sample collected at 14-16 feet was submitted to laboratory for analysis Monitoring well MW-1 installed in borehole							

WATER LEVEL OBSERVATIONS	 GME CONSULTANTS, INC. Geotechnical Materials Environmental P.O. Box 250 Crosby, Minnesota 56441 (281) 546-6371	BORING STARTED	6/20/02	
W.L. 10		BORING COMPLETED	6/20/02	
W.L.		RIG	CME 550	DRILLER MH
W.L.		DRAWN	EJW	APPROVED MDM
	JOB #	C-8214-B	SHEET 1 of 1	

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING B-2

PROJECT Remedial Investigation	SITE Wigwam Inn
CLIENT Mille Lacs Band of Ojibwe	ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²				
				SURFACE ELEVATION ↓			1	2	3	4	5
5	1SS	▽		Brown fine to medium SAND - (SP)	0.2						
10	2SS		11.0		0.1						
				End of boring at 11 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 9-11 feet was submitted to laboratory for analysis Water sample collected from 6-8 feet was submitted to laboratory for analysis Borehole backfilled with neat cement grout							

WATER LEVEL OBSERVATIONS			BORING STARTED 6/20/02 BORING COMPLETED 6/20/02		
W.L.	<input checked="" type="checkbox"/> 6			RIG CME 550	DRILLER MH
W.L.				DRAWN EJW	APPROVED MDM
W.L.				JOB # C-8214-B	SHEET 1 of 1
The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.					

GME CONSULTANTS, INC.
 Geotechnical Materials Environmental
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 548-6371

LOG OF BORING B-3/MW-2

PROJECT
Remedial Investigation

SITE Wigwam Inn

CLIENT
Mille Lacs Band of Ojibwe

ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²				
							1	2	3	4	5
				SURFACE ELEVATION ↓			WATER CONTENT % STANDARD PENETRATION (BLOWS/FOOT)				
5	1SS	▽		Brown fine to medium SAND - (SP)	1.2						
10	2SS				0.3						
15	3SS		16.0		0.1						
				End of boring at 16 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 14-16 feet was submitted to laboratory for analysis Monitoring well MW-2 installed in borehole							

WATER LEVEL OBSERVATIONS	
W.L.	<input checked="" type="checkbox"/> 6
W.L.	
W.L.	



GME CONSULTANTS, INC.
 Geotechnical Materials Environmental
 P.O. Box 250
 Crosby, Minnesota 56441
 (281) 546-6371

BORING STARTED		6/20/02
BORING COMPLETED		6/20/02
RIG	CME 550	DRILLER MH
DRAWN	EJW	APPROVED MDM
JOB #	C-8214-B	SHEET 1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

LOG OF BORING B-4/MW-3

PROJECT Remedial Investigation	SITE Wigwam Inn
CLIENT Mille Lacs Band of Ojibwe	ARCHITECT-ENGINEER

DEPTH, FEET	SAMPLE NUMBER AND TYPE	WATER LEVEL	STRATA CHANGE, FEET	DESCRIPTION OF MATERIAL	SPECIAL TEST RESULTS HNU READINGS (ppm)	N-VALUE (BLOWS/FT.)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²					
				SURFACE ELEVATION ↓			WATER CONTENT %	STANDARD PENETRATION (BLOWS/FOOT)				
5	1SS	▽		Brown fine to medium SAND - (SP)	0.3		1	2	3	4	5	
10	2SS				0.3							
15	3SS		16.0		0.2							
				End of boring at 16 feet HNU headspace measurements in parts per million (ppm) Soil sample collected from 14-16 feet was submitted to laboratory for analysis Monitoring well MW-3 installed in borehole								

WATER LEVEL OBSERVATIONS		 GME CONSULTANTS, INC. Geotechnical Materials Environmental P.O. Box 250 Crosby, Minnesota 56441 (281) 546-6371	BORING STARTED 6/20/02			
W.L.	<input checked="" type="checkbox"/> 6		BORING COMPLETED 6/20/02			
W.L.			RIG	CME 550	DRILLER	MH
W.L.			DRAWN	EJW	APPROVED	MDM
			JOB #	C-8214-B	SHEET	1 of 1

The stratification lines represent approximate boundaries between soil types; insitu the transition may be gradual.

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

MINNESOTA UNIQUE WELL NO.

674275

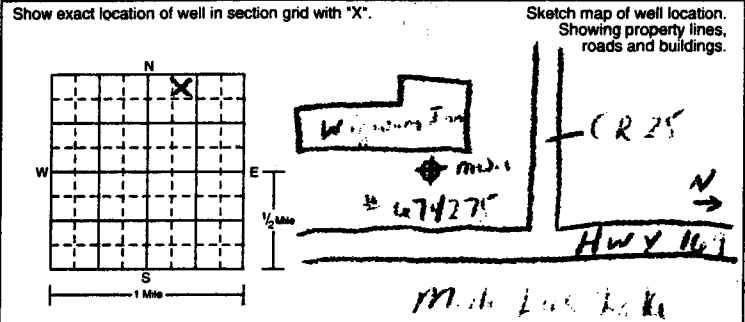
WELL LOCATION
County Name M. H. Lake

Township Name Kathlamet Township No. 43 Range No. 77 Section No. 10 Fraction NE 1/4 NE 1/4

WELL DEPTH (completed) 14 ft. Date Work Completed 6/20/12

House Number, Street Name, City, and Zip Code of Well Location 18771 Hwy 161, Cannonville, UT 84501 or Fire Number

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted



DRILLING FLUID N/A WELL HYDROFRACTURED? YES NO
FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Environ. Bore Hole Noncommunity PWS Remedial
 Dewatering

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

PROPERTY OWNER'S NAME
M. H. Lake Board of Op. Wks

CASING DIAMETER _____ in. to _____ ft. WEIGHT _____ lbs./ft. _____ in. to _____ ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.
_____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.

Property owner's mailing address if different than well location address indicated above.
Hwy 67 Box 194
Cannonville MN 56359

SCREEN _____ OPEN HOLE _____
Make J. L. ... from _____ ft. to _____ ft.
Type 10' PVC Diam. 2"
Slot/Gauze 3/16" Length 11'
Set between 4 ft. and 14 ft. FITTINGS: _____

WELL OWNER'S NAME
M. H. Lake Board of Op. Wks

STATIC WATER LEVEL
6 ft. below above land surface Date measured 6/20/12

Well owner's mailing address if different than property owner's address indicated above.
Hwy 67 Box 194
Cannonville MN 56359

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

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
<u>Fr. medium sand</u>	<u>Brown</u>	<u>loose</u>	<u>0</u>	<u>14</u>

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection 2' lock of steel 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
G from 2' to 3' ft. _____ yds. _____ bags
from 3' to 14' ft. _____ yds. _____ bags
from _____ to _____ ft. _____ yds. _____ bags

NEAREST KNOWN SOURCE OF CONTAMINATION
0 feet SW direction _____ 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 TN# _____

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.
Beach front Coordinate 17th-18th
elevation 125ft
MW-1

G. M. ... License Business Name Lic. or Reg. No.
[Signature] Authorized Representative Signature Date
[Signature] Name of Driller Date

WELL CONTRACTOR COPY **674275**

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD

MINNESOTA UNIQUE WELL NO.

674276

Minnesota Statutes Chapter 1031

WELL LOCATION

County Name
M. H. Lucas

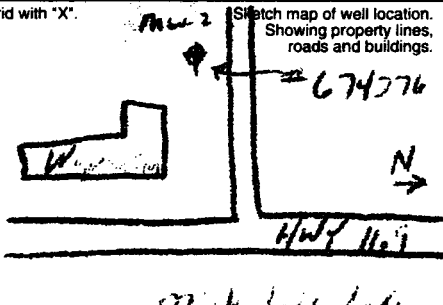
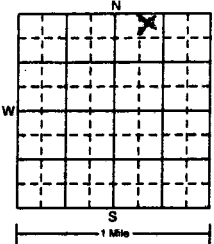
Township Name
Kathryn Township No. *43* Range No. *27* Section No. *18* Fraction *NE 1/4 NE 1/4*

WELL DEPTH (completed) *14* ft. Date Work Completed *6/10/12*

House Number, Street Name, City, and Zip Code of Well Location
18271 46th Street Carson 56457 or Fire Number

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted

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



DRILLING FLUID *N/A* WELL HYDROFRACTURED? YES NO
 FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Environ. Bore Hole Noncommunity PWS Remedial
 Dewatering _____

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

CASING DIAMETER WEIGHT
2 in. to *14* ft. _____ lbs./ft. _____ in. to _____ ft.
 _____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.
 _____ in. to _____ ft. _____ lbs./ft. _____ in. to _____ ft.

PROPERTY OWNER'S NAME
M. H. Lucas Trust & Co. Ltd.

Property owner's mailing address if different than well location address indicated above.
HR 67 Box 194
Oronoma MN 56359

SCREEN OPEN HOLE
 Make *Fisher* from _____ ft. to _____ ft.
 Type *Sched 40 PVC* Diam. *2"*
 Slot/Gauze *#10* Length *10'*
 Set between *4* ft. and *14* ft. FITTINGS: _____

WELL OWNER'S NAME
M. H. Lucas Trust & Co. Ltd.

Well owner's mailing address if different than property owner's address indicated above.
HR 67 Box 194
Oronoma MN 56359

STATIC WATER LEVEL
6 ft. below above land surface Date measured *6/10/12*

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

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection *B' Locking Steel* 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
5 from *25* to *30* ft. _____ yds. bags
 from *25* to *14* ft. _____ yds. bags
 from _____ to _____ ft. _____ yds. bags

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
<i>Fine to medium sand</i>	<i>Beige</i>	<i>1-1.5</i>	<i>0</i>	<i>14</i>

NEAREST KNOWN SOURCE OF CONTAMINATION
120 feet *SE* direction *pub.* 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 TN# _____

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.

Comel J. Hank J. *MW-2*
 _____ Lic. or Reg. No. _____

 _____ Authorized Representative Signature _____ Date _____
 _____ Name of Driller _____ Date _____

REMARKS, ELEVATION, SOURCE OF DATA, etc.
Beige sand located in M. H. Lucas Lake
elevation 1250
MW-2

WELL CONTRACTOR COPY **674276**

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

MINNESOTA UNIQUE WELL NO.

674277

WELL LOCATION

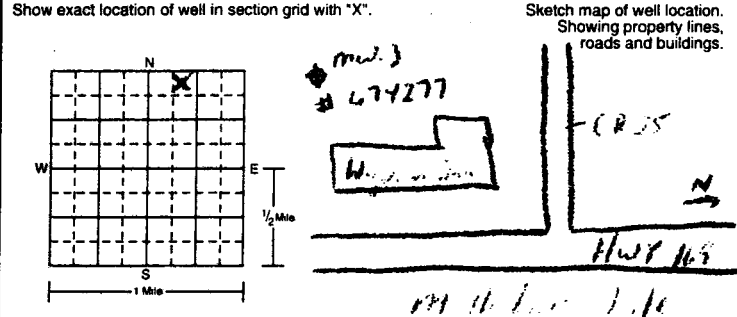
County Name
M. H. Lake

Township Name *Rathio* Township No. *43* Range No. *27* Section No. *18* Fraction *NE 1/4 NW 1/4*

WELL DEPTH (completed) *14* ft. Date Work Completed *6/1/2*

House Number, Street Name, City, and Zip Code of Well Location
18271 Hwy 163 or Fire Number

DRILLING METHOD
 Cable Tool Driven Dug
 Auger Rotary Jetted



DRILLING FLUID *N/A* WELL HYDROFRACTURED? YES NO
FROM _____ ft. to _____ ft.

USE
 Domestic Monitoring Heating/Cooling
 Irrigation Community PWS Industry/Commercial
 Environ. Bore Hole Noncommunity PWS Remedial
 Dewatering

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

CASING DIAMETER _____ in. to _____ ft. WEIGHT _____ lbs./ft.
_____ in. to _____ ft. _____ lbs./ft.
_____ in. to _____ ft. _____ lbs./ft.

PROPERTY OWNER'S NAME
M. H. Lake Board of Supervisors

Property owner's mailing address if different than well location address indicated above.
*Hwy 67 Box 194
Oshtemo MN 56359*

SCREEN OPEN HOLE
Make *J. L. ...* from _____ ft. to _____ ft.
Type *40 PVC* Diam. *2"*
Slot/Gauze *1"* Length *10'*
Set between *4* ft. and *14* ft. FITTINGS: _____

WELL OWNER'S NAME
M. H. Lake Board of Supervisors

Well owner's mailing address if different than property owner's address indicated above.
*Hwy 67 Box 194
Oshtemo MN 56359*

STATIC WATER LEVEL
6 ft. below above land surface Date measured *6/1/2*

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

WELL HEAD COMPLETION
 Pitless adapter manufacturer _____ Model _____
 Casing Protection *8" Incon Steel* 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 *25* to *30* ft. _____ yds. _____ bags
from *25* to *infinite* ft. _____ yds. _____ bags
from _____ to _____ ft. _____ yds. _____ bags

GEOLOGICAL MATERIALS	COLOR	HARDNESS OF MATERIAL	FROM	TO
<i>Gravel and sand</i>	<i>tan</i>	<i>loose</i>	<i>0</i>	<i>14</i>

NEAREST KNOWN SOURCE OF CONTAMINATION
120 feet *NE* direction *pl.* 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 TN# _____

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.
*Benchmark located at Marker
elevation 1250
MW-5*

Tom Cap... Licensee Business Name *M.H.L.* Lic. or Reg. No.
[Signature] Authorized Representative Signature Date
M.H.L. Name of Driller Date

WELL CONTRACTOR COPY **674277**

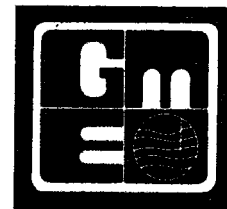
APPENDIX E

NEARBY WATER SUPPLY WELL LOGS

GME CONSULTANTS, INC.

CONSULTING ENGINEERS

Lake Shore Drive, P.O. Box 250 / Crosby, MN 56441
(218) 546-6371 / Fax (218) 546-8196



March 14, 2003

Property Owner:

Neva Williams

45881 U.S. Hwy 169

Onamia, MN. 56359

RE: Minnesota Pollution Control Agency Well Survey

Dear Property Owner:

GME Consultants, Inc. is conducting a Remedial Investigation at the Wigwam Inn site required by the Minnesota Pollution Control Agency (MPCA), for petroleum releases that were discovered during tank removals at the site. As part of the MPCA requirements, all nearby property owners must be contacted to provide information about their water supply and about any existing or abandoned water wells.

We would appreciate your assistance in completing this survey by filling out the attached questionnaire and returning it to us in the enclosed self-addressed, stamped envelope. If the form is not returned to us by March 21, 2003, we will assume that there are no known existing or abandoned water wells at your property.

Thank you very much for your assistance.

Sincerely,

GME CONSULTANTS, INC.

Mark D. Millsop
Hydrogeologist

Enclosure: Questionnaire

WATER SUPPLY QUESTIONNAIRE

Please answer the following questions and return this questionnaire to GME Consultants in the enclosed self-addressed, stamped envelope. Thank you.

1. Property Address: 45881 U.S. Hwy 169
Orama, MN 56359

2. How is water supplied to your residence or facility? Please check each of the following that apply.

Municipal water from the city _____

Private water well X

Other - please explain _____

3. To the best of your knowledge, are there any existing or abandoned water wells on your property?

X Yes ~~___~~ No

4. If there are any existing or abandoned water wells on your property, please provide the following information.

a. Identify number of wells on your property. One

b. Identify what each of the wells listed above is used for.

Personal household use

c. Please provide available information pertaining to the well depths and other construction details for each of the wells. Please attach the well log(s), if available.

Well drilled in 1976 by Traut Wells
84 feet in depth - no log available
submersible pump
Brainerd
E Well
N House S
W

d. Provide the name and phone number of a property owner representative that may be contacted, if more information is needed.

IT was my parents home - now mine
No one else knows any more about the well.

5. Please sign and date this form.

Name Deva Williams

Date March 14, 2003

Unique No. 638133	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>	Update Date															
County Name Mille Lacs		Entry Date 2000/03/21															
Township Name Township Range Dir Section Subsection 43 27 W 18 CDB	Well Depth 54 ft. Depth Completed 54 ft. Date Well Completed 1999/10/26																
Well Name MILLE LACS BAND OF OJIBW	Drilling Method Non-specified Rotary																
Contact's Name MILLE LACS BAND OF OJIBWE 1318 210 W HY BAXTER MN 56425-	Drilling Fluid Bentonite	Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From ft. to ft.															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:left;">GEOLOGICAL MATERIAL</th> <th style="text-align:left;">COLOR</th> <th style="text-align:left;">HARDNESS</th> <th style="text-align:left;">FROM</th> <th style="text-align:left;">TO</th> </tr> </thead> <tbody> <tr> <td>CLAY</td> <td></td> <td></td> <td>0</td> <td>40</td> </tr> <tr> <td>SAND</td> <td></td> <td></td> <td>40</td> <td>54</td> </tr> </tbody> </table>	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	CLAY			0	40	SAND			40	54	Use Domestic	
	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO												
	CLAY			0	40												
	SAND			40	54												
	Casing Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N	Hole Diameter in. to 54 ft.															
Casing Diameter 4 in. to 50 ft. Weight(lbs/ft) 200																	
Screen y	Open Hole From ft. to ft.																
Make JOHNSON	Type L																
Diameter Slot Length Set	Fitting																
2 12 4 50	ft. to 54 ft.																
Static Water Level 18 ft. from Land surface	Date 1999/10/26																
PUMPING LEVEL (below land surface)																	
ft. after	hrs. pumping	15 g.p.m.															
Well Head Completion																	
Pitless adapter mfr MAASS	Model J																
Casing Protection	<input checked="" type="checkbox"/> 12 in. above grade																
<input type="checkbox"/> At-grade(Environmental Wells and Borings ONLY)																	
Grouting Information Well grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
Material	From To (ft.)	Amount(yds/bags)															
B	0 30																
Nearest Known Source of Contamination																	
ft.	direction	type															
Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
Pump <input type="checkbox"/> Not Installed	Date Installed																
Mfr name STA-RITE																	
Model SP1050	HP 0.5	Volts 230															
Drop Pipe Length 38 ft.	Capacity 10 g.p.m.																
Type S																	
Any not in use and not sealed well(s) on property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
Was a variance granted from the MDH for this Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588																	
License Business Name	North Star Drilling																
Name of Driller	HAMM, R.																

Report Copy

Unique No. 638132
County Name Mille Lacs

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

Update Date
Entry Date 2000/03/21

Township Name Township Range Dir Section Subsection
43 27 W 18 CDB

Well Depth Depth Completed Date Well Completed
60 ft 60 ft 1999/10/26

Well Name MILLE LACS BAND OF QJIBW

Drilling Method Non-specified Rotary

Contact's Name MILLE LACS BAND OF QJIBWE
1318 210 W HY
BAXTER MN 56425-

Drilling Fluid Bentonite Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter
in. to 60 ft.

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
CLAY			0	45
SAND			45	50
SAND			50	60

Casing Diameter Weight(lbs/ft)
4 in. to 56 ft. 200

Screen Y Open Hole From ft. to ft.
Make JOHNSON Type L
Diameter Slot Length Set Fitting
2 12 4 56 ft. to 60 ft.

Static Water Level 18 ft. from Land surface Date 1999/10/26

PUMPING LEVEL (below land surface)
ft. after hrs. pumping 12 g.p.m.

Well Head Completion
Pitless adapter mfr MAASS Model J
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No
Material From To (ft.) Amount(yds/bags)
B 0 30

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? Yes No

Pump Not Installed Date Installed
Mfr name STA-RITE
Model SP1050 HP 0.5 Volts 230
Drop Pipe Length 41 ft. Capacity 10 g.p.m.
Type s

Any not in use and not sealed well(s) on property? Yes No

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

USGS Quad: Elevation:
Aquifer: Alt Id:

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588
License Business Name North Star Drilling
Name of Driller HAMM, R.

Report Copy

Unique No. 638131	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>	Update Date																				
County Name Mille Lacs		Entry Date 2000/03/21																				
Township Name Township Range Dir Section Subsection 43 27 W 18 CDB	Well Depth 56 ft. Depth Completed 56 ft. Date Well Completed 1999/10/25																					
Well Name MILLE LACS BANK OF QJIBW	Drilling Method Non-specified Rotary																					
Contact's Name MILLE LACS BANK OF QJIBWE 1318 210 W HY BAXTER MN 56425-	Drilling Fluid Bentonite Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From ft. to ft.																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>GEOLOGICAL MATERIAL</th> <th>COLOR</th> <th>HARDNESS</th> <th>FROM</th> <th>TO</th> </tr> </thead> <tbody> <tr> <td>CLAY</td> <td></td> <td></td> <td>0</td> <td>40</td> </tr> <tr> <td>SAND</td> <td></td> <td></td> <td>40</td> <td>50</td> </tr> <tr> <td>SAND</td> <td>MED</td> <td></td> <td>50</td> <td>56</td> </tr> </tbody> </table>	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	CLAY			0	40	SAND			40	50	SAND	MED		50	56	Use Domestic	
	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO																	
	CLAY			0	40																	
	SAND			40	50																	
	SAND	MED		50	56																	
	Casing Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N Hole Diameter in. to 56 ft.																					
	Casing Diameter 4 in. to Weight(lbs/ft) 52 ft. 200																					
	Screen Y Open Hole From ft. to ft. Make JOHNSON Type L Diameter Slot Length Set Fitting 2 12 4 52 ft. to 56 ft.																					
	Static Water Level 17 ft. from Land surface Date 1999/10/25																					
	PUMPING LEVEL (below land surface) ft. after hrs. pumping 10 g.p.m.																					
	Well Head Completion Pitless adapter mfr MAASS Model J Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade(Environmental Wells and Borings ONLY)																					
	Grouting Information Well grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Material From To (ft.) Amount(yds/bags) B 0 30																					
	Nearest Known Source of Contamination ft. direction type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																					
	Pump <input type="checkbox"/> Not installed Date installed Mfr name STA-RITE Model SP1050 HP 0.5 Volts 230 Drop Pipe Length 40 ft. Capacity 10 g.p.m. Type S																					
	Any not in use and not sealed well(s) on property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																					
	Was a variance granted from the MDH for this Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																					
USGS Quad: Elevation: Aquifer: Alt id:	Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588 License Business Name North Star Drilling Name of Driller HAMM, R.																					

Report Copy

Unique No. 638130

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

Update Date

County Name Mille Lacs

Entry Date 2000/03/21

Township Name Township Range Dir Section Subsection
43 27 W 18 CDB

Well Depth 60 ft. Depth Completed 60 ft. Date Well Completed 1999/10/25

Well Name

Drilling Method Non-specified Rotary

Drilling Fluid Bentonite Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter in. to 60 ft.

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
CLAY			0	40
SAND		SOFT	40	50
SAND		MED-HRD	50	60

Casing Diameter 4 in. to 56 ft. Weight(lbs/ft) 200

Screen Y Open Hole From ft. to ft.
Make JOHNSON Type L
Diameter Slot Length Set Fitting
2 12 4 56 ft. to 60 ft.

Static Water Level 14 ft. from Land surface Date 1999/10/25

PUMPING LEVEL (below land surface)
ft. after hrs. pumping 15 g.p.m.

Well Head Completion
Pitless adapter mfr MAASS Model J
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No
Material From To (ft.) Amount(yds/bags)
B 0 30

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? Yes No

Pump Not installed Date Installed
Mfr name STA-RITE
Model SP10150 HP 0.5 Volts 230
Drop Pipe Length 30 ft. Capacity 10 g.p.m.
Type s

Any not in use and not sealed well(s) on property? Yes No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588
License Business Name North Star Drilling
Name of Driller HAMM, R.

USGS Quad:

Elevation:

Aquifer:

Alt Id:

Report Copy

Unique No. 638129

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

Update Date

County Name Mille Lacs

Entry Date 2000/03/21

Township Name Township Range Dir Section Subsection
43 27 W 18 CDB

Well Depth Depth Completed Date Well Completed
48 ft. 48 ft. 1999/10/22

Well Name MILLE LACS BAND OF OJIBW

Drilling Method Non-specified Rotary

Contact's Name MILLE LACS BAND OF OJIBWE
1318 210 W HY
BAXTER MN 56425-

Drilling Fluid Bentonite Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter
in. to 48 ft.

Casing Diameter Weight(lbs/ft)
4 in. to 44 ft. 200

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
CLAY		HARD	0	20
SAND			20	48

Screen y Open Hole From ft. to ft.

Make JOHNSON Type L
Diameter Slot Length Set Fitting
2 4 44 ft. to 48 ft.

Static Water Level 14 ft. from Land surface Date 1999/10/22

PUMPING LEVEL (below land surface)
ft. after hrs. pumping 15 g.p.m.

Well Head Completion
Pitless adapter mfr MAASS Model J
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No
Material From To (ft.) Amount(yds/bags)
B 0 30

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? Yes No

Pump Not Installed Date installed
Mfr name STA-RITE
Model SP1050 HP 0.5 Volts 230
Drop Pipe Length 34 ft. Capacity 10 g.p.m.
Type S

Any not in use and not sealed well(s) on property? Yes No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49598

License Business Name North Star Drilling
Name of Driller HAMM, R.

USGS Quad:
Aquifer:

Elevation:
Alt id:

Report Copy

Unique No. 638127

County Name Mille Lacs

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

Update Date

Entry Date 2000/03/21

Township Name Township Range Dir Section Subsection
43 27 W 18 CDB

Well Depth 57 ft. Depth Completed 57 ft. Date Well Completed 1999/10/27

Well Name MILLE LACS BAND OF OBJIB

Drilling Method Non-specified Rotary

Contact's Name MILLE LACS BAND OF OBJIBWE
1318 210 W HY
BAXTER MN 56425-

Drilling Fluid Bentonite Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter in. to 57 ft.

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
CLAY			0	45
SAND			45	57

Casing Diameter 4 in. to 53 ft. Weight(lbs/ft) 200

Screen Y Open Hole From ft. to ft.
Make JOHNSON Type L
Diameter Slot Length Set Fitting
2 12 4 53 ft. to 57 ft.

Static Water Level 19 ft. from Land surface Date 1999/10/27

PUMPING LEVEL (below land surface)
ft. after hrs. pumping 15 g.p.m.

Well Head Completion
Pitless adapter mfr MAASS Model J
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No
Material From To (ft.) Amount(yds/bags)
B 0 30

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? Yes No

Pump Not Installed Date Installed
Mfr name STA-RITE
Model SP1050 HP 0.5 Volts 230
Drop Pipe Length 40 ft. Capacity 10 g.p.m.
Type S

Any not in use and not sealed well(s) on property? Yes No

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

USGS Quad:
Aquifer:

Elevation:
Alt Id:

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588
License Business Name North Star Drilling
Name of Driller HAMM, R.

Report Copy

Unique No. 638126	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>	Update Date															
County Name Mille Lacs		Entry Date 2000/03/21															
Township Name Township Range Dir Section Subsection 43 27 W 18 CDB	Well Depth 54 ft. Depth Completed 54 ft. Date Well Completed 1999/10/27																
Well Name MILLE LACS BAND OF OBJIB	Drilling Method Non-specified Rotary																
Contact's Name MILLE LACS BAND OF OBJIBWE 1318 210 W HY BAXTER MN 56425-	Drilling Fluid Bentonite Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From ft. to ft.																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:left;">GEOLOGICAL MATERIAL</th> <th style="text-align:left;">COLOR</th> <th style="text-align:left;">HARDNESS</th> <th style="text-align:left;">FROM</th> <th style="text-align:left;">TO</th> </tr> </thead> <tbody> <tr> <td>CLAY</td> <td></td> <td></td> <td>0</td> <td>44</td> </tr> <tr> <td>SAND</td> <td></td> <td></td> <td>44</td> <td>54</td> </tr> </tbody> </table>	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	CLAY			0	44	SAND			44	54	Use Domestic	
	GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO												
	CLAY			0	44												
	SAND			44	54												
	Casing Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N	Hole Diameter in. to 54 ft.															
Casing Diameter 4 in. to 50 ft. Weight(lbs/ft) 200																	
Screen Y	Open Hole From ft. to ft.																
Make JOHNSON Type L	Diameter Slot Length Set Fitting																
2 12 4 50 ft. to 54 ft.																	
Static Water Level 20 ft. from Land surface Date 1999/10/27																	
PUMPING LEVEL (below land surface) ft. after hrs. pumping 15 g.p.m.																	
Well Head Completion Pitless adapter mfr MAASS Model J Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade(Environmental Wells and Borings ONLY)																	
Grouting Information Well grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
Material B From To (ft.) 0 30 Amount(yds/bags)																	
Nearest Known Source of Contamination ft. direction type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
Pump <input type="checkbox"/> Not Installed Date Installed Mfr name STA-RITE Model SP1050 HP 0.5 Volts 230 Drop Pipe Length 38 ft. Capacity 10 g.p.m. Type S																	
Any not in use and not sealed well(s) on property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
Was a variance granted from the MDH for this Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
USGS Quad: Elevation: Aquifer: Alt Id:	Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49688 License Business Name North Star Drilling Name of Driller HAMM, R.																

Report Copy

Unique No. 603376

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

Update Date

County Name Mille Lacs

Entry Date 1999/10/06

Township Name Township Range Dir Section Subsection
43 27 W 18

Well Depth 66 ft. Depth Completed 66 ft. Date Well Completed 1997/09/09

Well Name HENRY, DICK & JUDY

Drilling Method Non-specified Rotary

Contact's Name HENRY, DICK & JUDY
45353 TIMBER TRAIL RD
ONAMIA MN 56359-

Drilling Fluid Bentonite Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter in. to 66 ft.

Casing Diameter 4 in. to Weight(lbs/ft) 62 ft.

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
CLAY		0	54	
SAND		54	66	

Screen Y Open Hole From ft. to ft.

Make JOHNSON Type L

Diameter Slot Length Set Fitting
2 12 4 62 ft. to 66 ft.

Static Water Level 16 ft. from Date 1997/09/09

PUMPING LEVEL (below land surface)
40 ft. after 1 hrs. pumping 20 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No
Material From To (ft.) Amount(yds/bags)
B 0 30

Nearest Known Source of Contamination
50 ft. direction type SDF
Well disinfected upon completion? Yes No

Pump Not Installed Date Installed
Mfr name STAR-RITE
Model 10SP4C02J HP 0.5 Volts 230
Drop Pipe Length 55 ft. Capacity 8 g.p.m.
Type S

Any not in use and not sealed well(s) on property? Yes No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 49588
License Business Name North Star Drilling
Name of Driller BACKOWSKI, M

REMARKS, ELEVATION, SOURCE OF DATA, etc.

USGS Quad: Elevation:
Aquifer: Alt Id:

Report Copy

Unique No. 00171236

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

Update Date 1994/08/22

County Name Mille Lacs

Entry Date 1988/04/13

Township Name Township Range Dir Section Subsection
43 27 W 18 ADBAAD

Well Depth 84 ft. Depth Completed 84 ft. Date Well Completed 1980/06/18

Well Name RAINBOW INN

Drilling Method Non-specified Rotary

Drilling Fluid Well Hydrofractured? Yes No
From ft. to ft.

Use Domestic

Casing Drive Shoe? Yes N Hole Diameter

Casing Diameter Weight(lbs/ft)
5 in. to 74 ft.

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO
SAND	BROW	SOFT	0	35
CLAY	GRAY	SOFT	35	74
SAND	GRAY	SOFT	74	84

Screen Y Open Hole From ft. to ft.

Make JOHNSON Type P

Diameter Slot Length Set Fitting

0 15 10 74 ft. to 84 ft.

Static Water Level 10 ft. from Land surface Date 1980/06/18

PUMPING LEVEL (below land surface)
70 ft. after hrs. pumping 30 g.p.m.

Well Head Completion
Pitless adapter mfr Model
Casing Protection 12 in. above grade
 At-grade(Environmental Wells and Borings ONLY)

Grouting Information Well grouted? Yes No

Material From To (ft.) Amount(yds/bags)
G 0 0 0

Nearest Known Source of Contamination
ft. direction type
Well disinfected upon completion? Yes No

Pump Not Installed Date installed N
Mfr name
Model HP 0 Volts
Drop Pipe Length ft. Capacity g.p.m.
Type

Any not in use and not sealed well(s) on property? Yes No

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

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 18446

License Business Name Diamond Water Wells

Name of Driller

USGS Quad: Vineland

Elevation: 1269

Aquifer: QBAA

Alt Id:

Report Copy

APPENDIX F

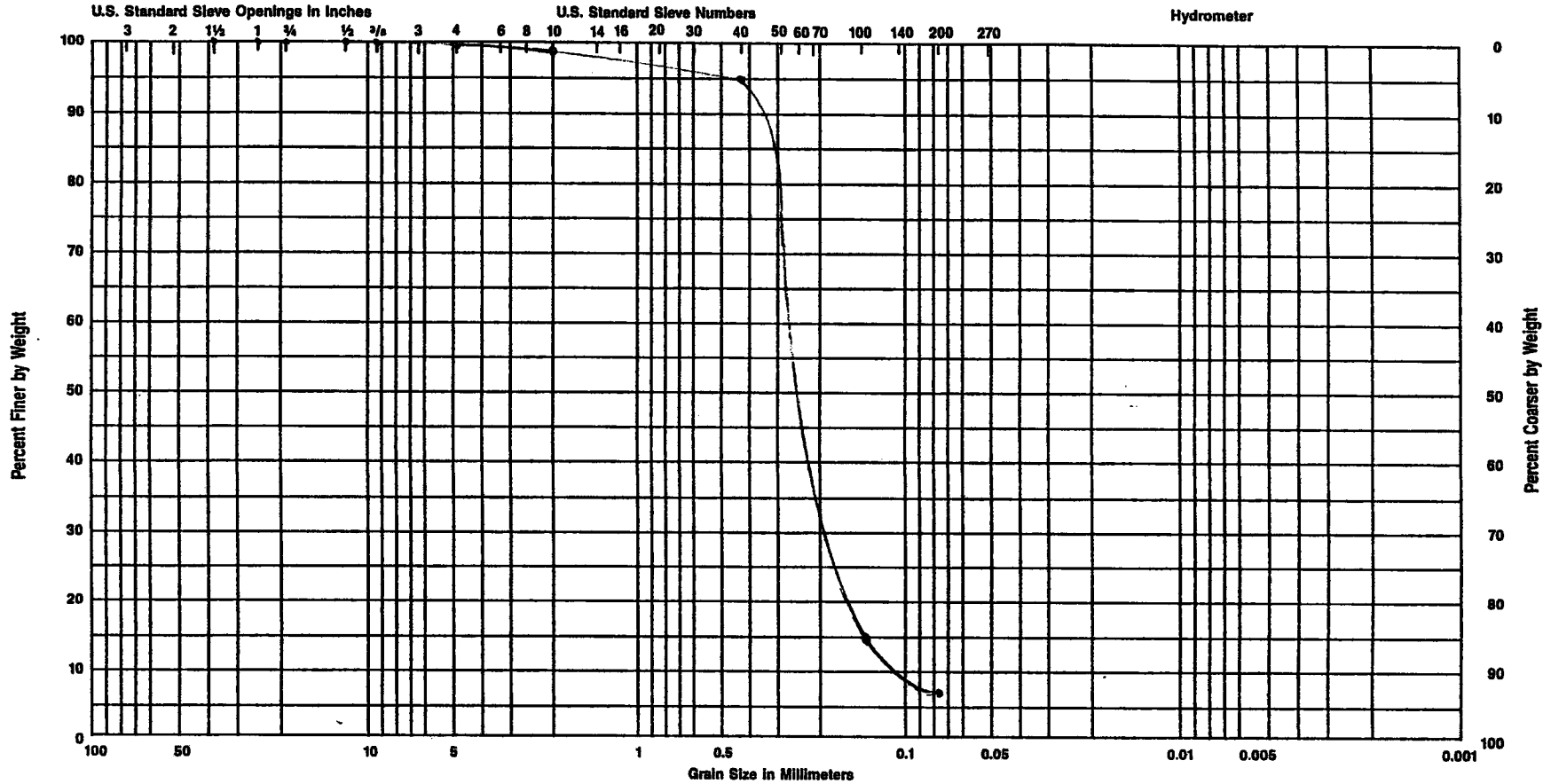
GRAIN SIZE ANALYSIS WORKSHEETS

Lake Shore Drive
 P.O. Box 250
 Crosby, MN 56441
 Office (218) 546-6371



P-1-455-2

GME CONSULTANTS, INC.



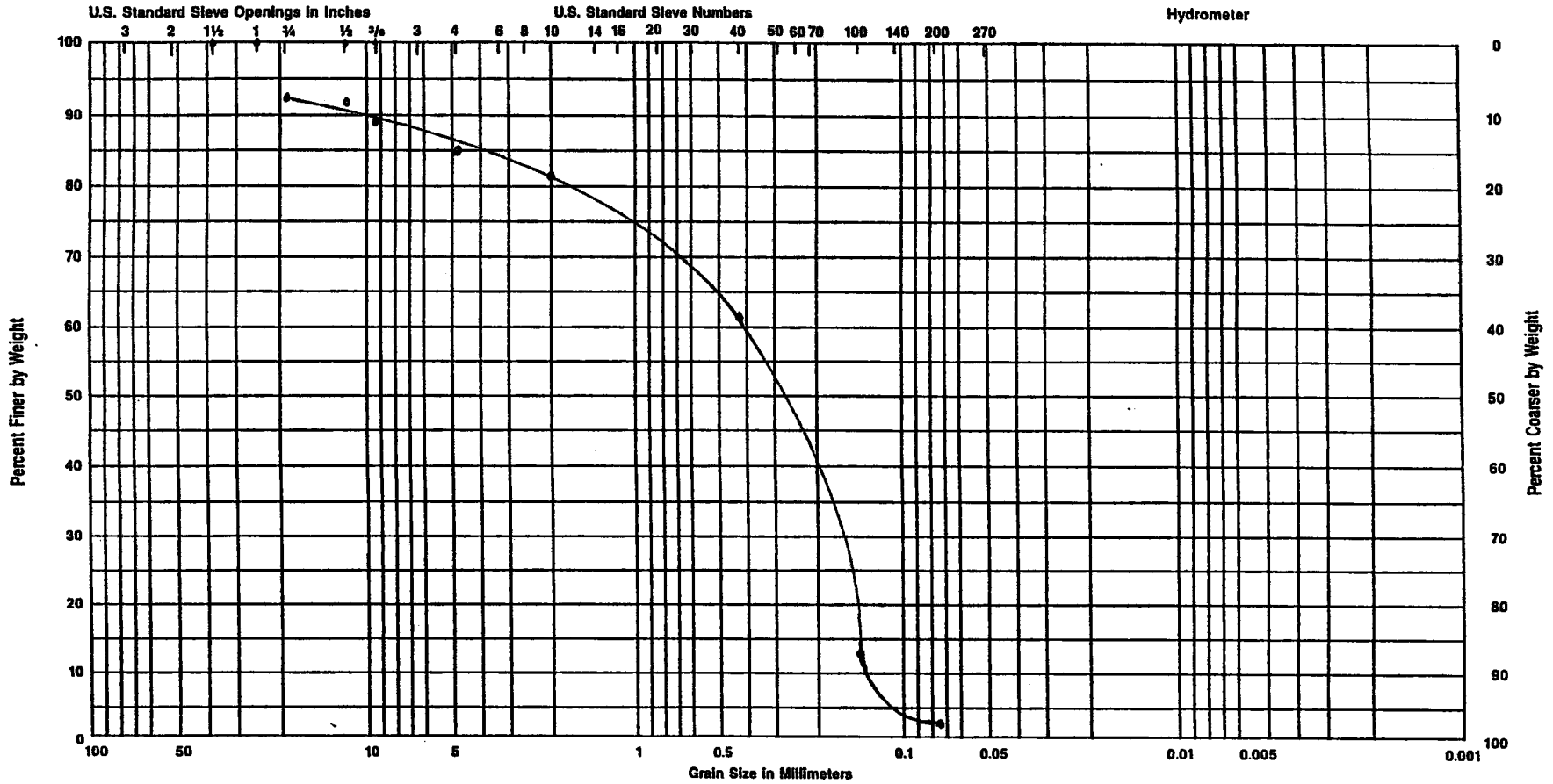
GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

KEY SYMBOL	BORING NUMBER	SAMPLE NUMBER	DEPTH FEET	PLASTICITY DATA			NATURAL WATER CONTENT (%)	UNIFIED SOIL CLASSIFICATION
				LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)		
								P-1 $d_{10} = 0.12$ $k = 0.01$ cm/s

Lake Shore Drive
 P.O. Box 250
 Crosby, MN 55441
 Office (218) 546-6371



GME CONSULTANTS, INC.



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

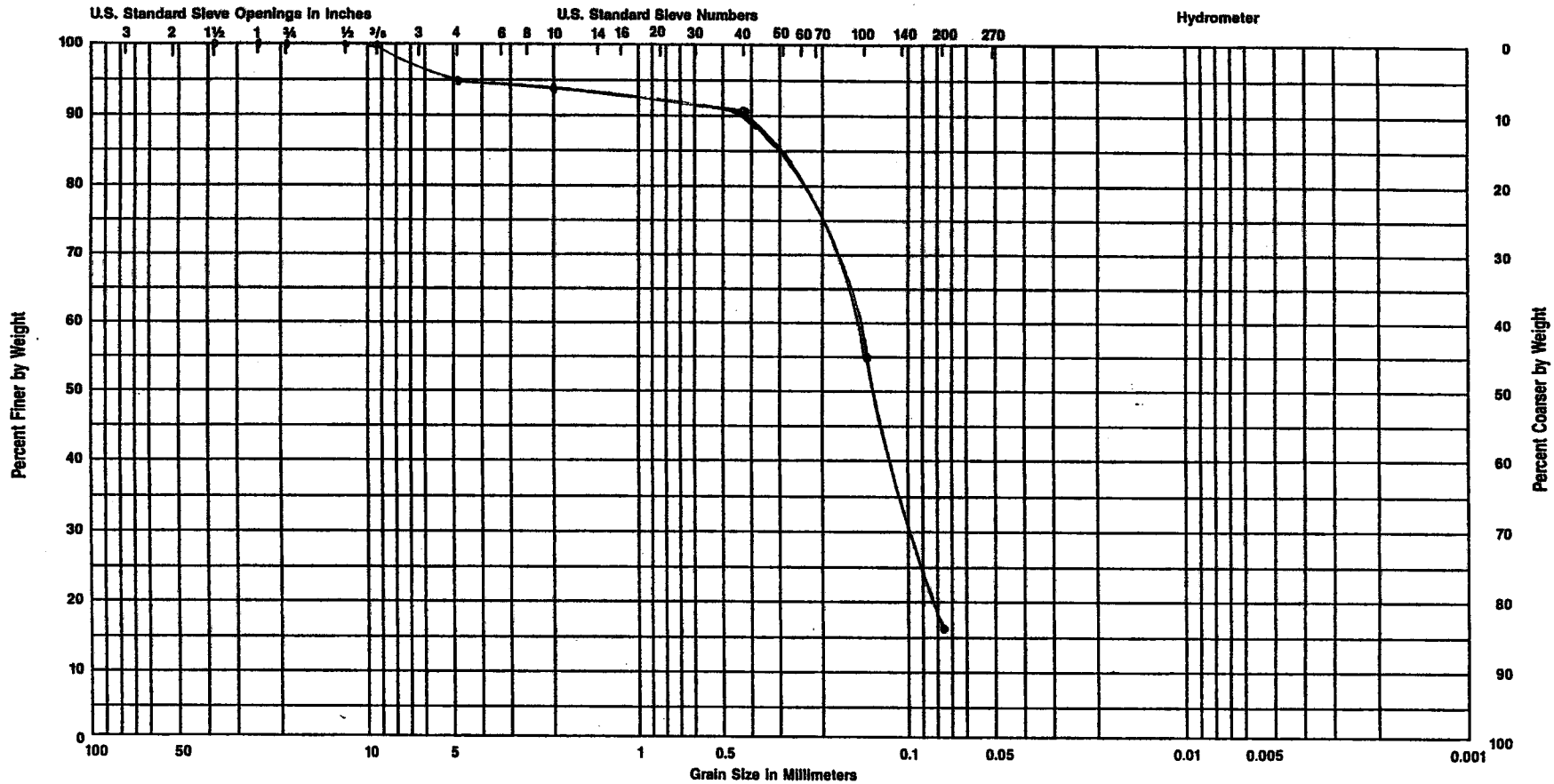
KEY SYMBOL	BORING NUMBER	SAMPLE NUMBER	DEPTH FEET	PLASTICITY DATA			NATURAL WATER CONTENT (%)	UNIFIED SOIL CLASSIFICATION
				LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)		
								<p>P-5</p> <p>$d_{10} = 0.15$</p> <p>$k = 0.02 \text{ cm/s}$</p>

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 P.O. Box 250
 Crosby, MN 56441
 Office (218) 546-6371



P-3-SS-3

GME CONSULTANTS, INC.



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

KEY SYMBOL	BORING NUMBER	SAMPLE NUMBER	DEPTH FEET	PLASTICITY DATA			NATURAL WATER CONTENT (%)	UNIFIED SOIL CLASSIFICATION
				LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)		
								$d_{10} = NA$

GME GENERAL QUALIFICATIONS

The conclusions and recommendations submitted in this report are based on data produced during this study and previous studies at the site. The scope of this report is limited to this specific project and location described herein. This report does not account for any variations that may occur between or outside of the exploration locations. Furthermore, we did not explore outside of the study area boundaries.

Groundwater level measurements and groundwater samples were collected and analyzed under the conditions stated in this report. These data have been reviewed and an interpretation made in the text of this report. However, it must be noted that seasonal fluctuations in hydrogeologic characteristics likely will occur.

Our description of this project represents our understanding of significant aspects relative to groundwater conditions. Conclusions in this report represent our professional judgment. No warranty, express or implied, is made.