



T & M ASSOCIATES, INC.

Engineers - Surveyors
HCR 63, Box 9A • Route 4
Lebanon, New Hampshire 03766
TEL: (603) 448-1295
FAX: (603) 448-2965

LETTER OF TRANSMITTAL

Date: 10/12/94	Job No.: 391993
Attention: Chuch Schwer, Supervisor	
Re: Initial Site Investigation Report	
Gateway Motors, Inc.	
White River Jct., VT	

TO: Sites Management Section

 VT Dept. of Environ. Conservation

 103 South Main Street, West Office

 Waterbury, Vermont 05071-0404

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SIGNED: 
 Timothy J. McNamara, Director
 Environmental Svcs & Planning

Phase	Type
<input checked="" type="checkbox"/> Initial Site Investigation	<input type="checkbox"/> Work Scope
<input type="checkbox"/> Corrective Action Feasibility Investigation	<input checked="" type="checkbox"/> Technical Report
<input type="checkbox"/> Corrective Action Plan	<input type="checkbox"/> PCF Reimbursement Request
<input type="checkbox"/> Corrective Action Summary Report	<input type="checkbox"/> General Correspondence
<input type="checkbox"/> Operations & Monitoring Report	

INITIAL SITE INVESTIGATION REPORT

**GATEWAY MOTORS, INC.
 SYKES AVENUE
 HARTFORD, VERMONT 05001**

Latitude: 43°38'55"N
 Longitude: 72°20'00"E

SMS SITE # 94-1570

September 29, 1994

A Facility Owned By:

**Charles and Allen Hall
 Gateway Motors, Inc.
 Sykes Avenue
 Hartford, Vermont 05001**

Prepared by:



T & M Associates, Inc. Engineers & Surveyors

HCR 63, Box 9A, Route 4
 Lebanon, New Hampshire 03766
 Telephone: (603) 448-1295 FAX: 448-2965

Contact: Timothy J. McNamara, Director of Environmental Services

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I. EXECUTIVE SUMMARY

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Gateway Motors, Inc., located on Sykes Avenue in the Town of Hartford, Vermont, utilizes a 10,000 gallon underground storage tank (UST) for the storage of waste oil generated by their automotive and truck maintenance facility.

In December of 1993, the waste oil UST at Gateway Motors was retrofitted with spill containment and overflow protection devices and an interstitial monitor. In order to install this equipment, an existing concrete sump, which contained the fill tube for the tank, was removed. This sump was of concrete construction with an earth bottom. During the removal of the sump, oil-stained soils were observed in the area immediately below the sump. Visually-contaminated soils were removed and stockpiled on-site for later disposal.

The presence of contamination associated with the Gateway waste oil tank was reported to the Hazardous Materials Management Division (HMMD) of the Vermont Agency of Natural Resources (VTANR). The Sites Management Section (SMS) of the HMMD requested that additional investigatory work be performed to assess the extent of contamination and the potential impact on receptors.

In response to the SMS directive, test borings were performed on September 8, 1994 at a total of six locations, none further than 20 feet from the former location of the concrete sump. Field screening of soils from the borings with an organic vapor meter (OVM) indicated the possible presence of volatile organic compounds (VOCs) in two of the six holes. Follow-up laboratory analyses indicated low levels of VOC contamination in soils from five of the six borings. Contaminants identified were typical of petroleum fuel residue. No evidence of groundwater was detected in the 20' depth of the borings.

Based on the results of the most recent field work, it is apparent that low levels of petroleum-related contamination exist within an area of approximately 1,200 square feet roughly centered on the waste oil tank. The source of these contaminants is in question, as the compounds detected in soil samples collected from the borings are different than the contaminants detected in soils above the waste oil tank.

Because individual soil samples from the borings were composited from between 0 and 20' below ground surface (bgs), it is not currently possible to determine if contamination is distributed uniformly throughout the soil column, or if it is confined to a certain layer or layers.

Based on the low contaminant levels identified in close proximity to the waste oil tank and the lack of potential receptors in proximity to the site, no further remedial action is recommended at this time. Limited further investigation is recommended to more accurately determine if soil contamination in the unsaturated zone is homogenous or is limited in vertical extent. Proposed additional investigatory activity would consist of conducting a single boring to a depth of 30' adjacent of existing boring B-1. The proposed boring would be performed using hollow-stem augers with continuous split spoon sampling. A total of six soil samples would be collected at intervals of approximately five feet. These samples would be analyzed individually by EPA Methods 8260/8100 for the presence of volatile organic compounds and total petroleum hydrocarbons. A monitoring well would be installed in the boring if groundwater were observed within the 30' boring depth.

II. SITE CHARACTERISTICS/HISTORY

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Gateway Motors is located on the northern side of Sykes Avenue in the Town of Hartford, Vermont. The property is approximately 4.7 acres in size. Figure 1, included in the Appendix of this report, depicts the Gateway property in a regional context as shown on the U.S. Geological Survey quadrangle sheet.

The property which is now Gateway Motors was originally two parcels, a western parcel containing an existing building constructed in the 1950s, and an eastern parcel which was undeveloped prior to Gateway's occupancy. The primary use of the building on the western parcel was as a trucking terminal from the mid-1950s until 1966, when Gateway Motors opened on the site. The eastern parcel was undeveloped until 1966.

A UST of approximately 6,000 gallon capacity was installed at the Gateway site in conjunction with construction of the company's facility in the mid-1960s. This tank was used for the storage of heating oil until 1983, when it was replaced with a 10,000 gallon UST which is still in use. This tank is apparently of single-wall steel construction. The removal of the 6,000 gallon UST was not documented by VTANR personnel, nor were any samples collected for assessment of soil and/or groundwater contamination. Conversations with Gateway personnel suggest that there were no indications of contamination observed during the removal of the 6,000 gallon UST.

In 1987, a 10,000 gallon double-wall steel UST was installed at Gateway Motors for the purpose of storing waste oil to be used for space heating. This tank is currently in use, and is the subject of this report.

On May 26, 1988, two gasoline USTs, originally installed in the 1960s, were removed from the Gateway property. These tanks were of 1,000 and 5,000 gallon capacity, respectively. Closure of these two tanks was observed by Chuck Schwer and John Brabant of the VTANR. Their report on the closure indicates that no contamination was observed.

In December of 1993, Gateway Motors retained a contractor to perform upgrades to the two remaining underground storage tanks. These upgrades included spill containment and overflow protection devices on the 10,000 gallon heating oil tank and spill containment/overflow protection and interstitial monitoring devices on the 10,000 gallon waste oil tank. The installation of the upgrades to the heating oil tank was uneventful, and no visual indications of contamination were observed.

In order to install the upgrades to the waste oil UST, it was necessary to remove a concrete sump which was located on top of the tank. The floor of this sump was open to the soil underlying it. The fill pipes for the waste oil tank were located in the sump. Piping was arranged such that oil could be added to the tank from a remote location within the building, as is normally the case, or directly to the tank through a vertical fill pipe.

While removing the sump, the contractor observed visual indications of contamination in the underlying soil. This was reported to Gateway management, who contacted T & M Associates to investigate the situation. At T & M's direction, the contractor excavated approximately 10 cubic yards of visibly-contaminated soil from around and under the concrete sump. This material was polyencapsulated and stored on site. An OVM was used to field screen soils at the perimeter of the excavated area. No contamination was detected using this instrument. T & M then collected a single composite soil sample from around the perimeter of the excavated area. This sample, designated Gateway-S1, was analyzed by EPA Methods 8240 and 8100 for the presence of VOCs and total petroleum hydrocarbons (TPH). The only VOC detected in the analysis was tetrachloroethylene, at a concentration of 25.9 $\mu\text{g}/\text{kg}$. The TPH concentration of the sample was 1,400 mg/kg. The laboratory report of this analysis is included in the Appendix to this document.

Through T & M, the management at Gateway Motors transmitted the results of site observations and testing to the SMS. The site investigation documented in this report is intended to provide an assessment of the extent of contamination associated with the waste oil tank.

Information provided to T & M by the management at Gateway Motors indicates that an overflow or series of overfills appear to be the source of the contamination encountered in December of 1993. The management recalled one incident in which waste oil being added to the tank through the outdoor filler was spilled into the concrete sump where the filler pipe was located. A portion of this oil apparently seeped into the soils at the bottom of the sump before it could be pumped out, resulting in some degree of residual soil contamination.

III. TEST BORINGS

III. TEST BORINGS

In order to more accurately determine the vertical and horizontal extent of contamination associated with leakage from the waste oil tank sump, a series of test borings were made on September 8, 1994 by M & W Soils Engineering, Inc.. These operations were observed by a T & M representative.

Test borings were conducted using 4.0" diameter solid augers. Borings were made at a total of six individual locations around the waste oil tank, as shown in Figure 2 in the Appendix. Distances from the individual borings to the former sump location ranged from 10 to 20 feet laterally. In conducting the borings, the augers were advanced at 5.0' intervals to a total depth of 20.0' in each boring. Soil samples were collected from the auger tailings at depths of 0 to 5, 5 to 10, 10 to 15, and 15 to 20 feet respectively. Each sample was placed in a sealable plastic bag for approximately 10 minutes. The headspace in each bag was then field-screened using a Thermo Environmental Systems Model 580B OVM equipped with a 10.6 eV lamp. The results of the field screening are summarized in Table 1, below. Units are parts per million as directly read from the display of the OVM.

DEPTH	BORING #					
	1	2	3	4	5	6
0 - 5'	NR ¹	NR	NR	3.4 ³	NR	NR
5' - 10'	NR	NR	2.0 ²	2.0	NR	NR
10' - 15'	NR	NR	2.0 ²	NR	NR	NR
15' - 20'	NR	NR	NR	NR	NR	NR

1 NR = No response above background levels. Background levels were generally 0 - 0.6 ppm.

2 Proximity to open garage bay doors resulted in occasional solvent odors registering up to 3.0 ppm on OVM. Readings of 2.0 ppm from boring B-3 soils may have been impacted by background contaminants.

3 Same as Note 2 above.

The physical characteristics of the soils encountered at the six boring locations are summarized in Table 2 below. In general, the material was a relatively homogeneous loamy sand from just below ground surface (bgs) to the maximum boring depth of 20.0'. Soils were dry, with no evidence of a groundwater table at any level. There were no visual indications of free product. The area in which the borings were located was paved with asphalt. This asphalt was extensively stained with what appeared to be oil at the location of boring B-6. The soil characteristics presented in Table 2 begin immediately below the asphalt.

TABLE 2	
BORING #	SOIL CHARACTERISTICS
1	Light brown loamy fine sand from surface to 20' bgs. Material is uniform and dry. No odor.
2	Light brown loamy fine sand, with some small stones, from surface to 20.0' bgs. Material is uniform and dry. No odor.
3	Gray-brown loamy fine sand from 0 to 5' bgs. Light brown loamy fine sand from approximately 5' to 20' bgs. Material is dry with no odor.
4	Gray-brown fine loamy sand from 0 to 5' bgs, with some small stones and wood fragments in upper 4'. Light brown loamy fine sand from approximately 5' to 20' bgs. Material is dry with no odor.
5	Brown gravel from 0 to 5' bgs. Light brown loamy fine sand from approximately 5' to 20' bgs. Material is dry with no odor.
6	Light brown loamy fine sand, with some small stones, from surface to 20' bgs. Material is uniform and dry. No odor.

Following the conclusion of field screening, approximately equal volumes of the four individual soil samples collected at each boring location were composited together in sealable plastic bags; one per boring location. After compositing, the individual samples were transferred to 4 ounce glass jars with teflon-lined screw caps. Samples were chilled and were transferred by UPS to Aquarian Analytical, Inc. in Canterbury, New Hampshire for analysis. Each sample was individually analyzed by a modified EPA Method 8260/8100 for VOCs and TPH. The results of the analyses are summarized in Table 3 below. The sample numbers, designated GSC-1 through GSC-6, refer to the boring locations as previously described.

TABLE 3						
COMPOUND	BORING LOCATION					
	1	2	3	4	5	6
n-Butylbenzene	BD	BD	BD	BD	BD	165
Toluene	61	BD	BD	32	30	BD
1,2,4 Trimethylbenzene	72	BD	BD	38	60	37
1,3,5 Trimethylbenzene	BD	BD	BD	BD	21	BD
O-Xylene	BD	BD	BD	BD	15	BD
M & P- Xylene	74	69	BD	44	32	33
TPH	22.0	99.0	BD	BD	52.0	31.0

NOTES:

All results are in $\mu\text{g}/\text{kg}$ except for TPH, which is reported in mg/kg .

BD = below detection limit. Detection limits range from $15\mu\text{g}/\text{kg}$ to $50\mu\text{g}/\text{kg}$ for listed VOCs and $10.0\text{ mg}/\text{kg}$ for TPH.

Copies of the laboratory reports for soil samples analyzed during the boring program are included in the Appendix.

IV. SITE GEOMORPHOLOGY

IV. SITE GEOMORPHOLOGY

The U.S.D.A. Soil Conservation Service (SCS) has mapped the area in the vicinity of Gateway Motors as a Windsor loamy fine sand or fine sand. This is an excessively drained material occupying deltas, kame terraces and old lake beaches.

The "Surficial Geology Map of Vermont", published in 1970, shows the unconsolidated materials underlying the Gateway Motors site to be glaciolacustrine littoral sediments, predominantly well-sorted sand. This is consistent with the SCS description, and probably reflects the past deposition of material in a delta or terrace associated with glacial Lake Hitchcock.

The depth of the glaciolacustrine sediments beneath the Gateway motors site has not been precisely determined, but is estimated to exceed 100 feet based on the depth of a former gravel pit located approximately 3,000 feet to the east of the site and the elevation of the site above the Connecticut River.

The "Centennial Geologic Map of Vermont", published in 1961, indicates that the bedrock underlying the Gateway Motors site is a granite intrusion within the Post pond Volcanics of the Orfordville Formation.

V. POTENTIAL RECEPTORS

V. POTENTIAL RECEPTORS

Figure 3 in the Appendix of this report is a map showing existing buildings in the vicinity of Gateway Motors as of 1988. This map was provided by the Town of Hartford Planning and Zoning Office. "Windshield surveys" indicate that buildings as shown on the 1988 map remain accurate. The closest buildings to the waste oil tank, other than Gateway, are two residences located on Ash Street, approximately 200'-300' north of the Gateway property. Tax records indicate that both of these buildings have full basements. There is also a church located approximately 200' to the northeast of the waste oil tank site which also is reported as having a full basement. Given the rapid lateral diminution of contaminants within 20' of the waste oil tank sump, the possibility of contaminants impacting these structures through infiltration of basements is extremely remote. The Gateway building adjacent to the waste oil tank is located on a concrete slab with no basement.

According to information obtained from the Town of Hartford Water Department, all buildings within approximately 2,000' of Gateway Motors are serviced by the municipal water supply. It is therefore deemed unlikely that the contamination detected on the Gateway property has or will adversely impact potable water supplies.

Gateway Motors is located approximately 3,000' from the White River, 3,500' from the Connecticut River and 2,000' from a small pond located to the west of the site. There is no direct hydrologic connection between the Gateway site and this pond. Using ground surface contours, as depicted on the USGS quadrangle sheet, it appears that surface drainage from the Gateway Motors site flows toward the White River. It is assumed that groundwater flow patterns mimic surface contours in this area, particularly given the deep sands underlying the site. Information provided by the Town of Hartford indicates that the municipal stormwater collection system in the Sykes Avenue area discharges to a natural drainage swale located approximately 500' to the northeast of the Gateway property. The discharge from this swale ultimately flows to the White River. Because of the distances involved, it appears to be highly unlikely that the subsurface contaminants observed on the Gateway site would result in any adverse impacts to surface water bodies.

VI. DISPOSAL OF CONTAMINATED SOILS

VI. DISPOSAL OF CONTAMINATED SOILS

As previously noted in this report, approximately ten cubic yards of contaminated soils were excavated from the vicinity of the former waste oil tank in December of 1993. These soils were polyencapsulated and remain on site. A composite sample, designated Gateway C-1, was collected from the contaminated soil stockpile on June 30, 1994 and subjected to pre-disposal laboratory analysis. Based on this analysis, the soil has been accepted for disposal at the Environmental Soil Management, Inc. (ESMI) facility in Loudon, New Hampshire. This facility is licensed by the State of New Hampshire for treatment of petroleum-contaminated soils through low-temperature thermal desorption.

VII. CONCLUSIONS AND RECOMMENDATIONS

VII. CONCLUSIONS AND RECOMMENDATIONS

The results of the limited boring program conducted at the Gateway Motors site lead to the conclusion that soils in the immediate vicinity of the waste oil tank are not grossly contaminated, and that contamination, as expressed by TPH, decreases rapidly between the former concrete sump, presumed to be the contaminant source, and the boring locations 20 feet or less away. Residual contaminant levels in this area do not appear to be sufficiently high to warrant further remediation in the form of soil excavation.

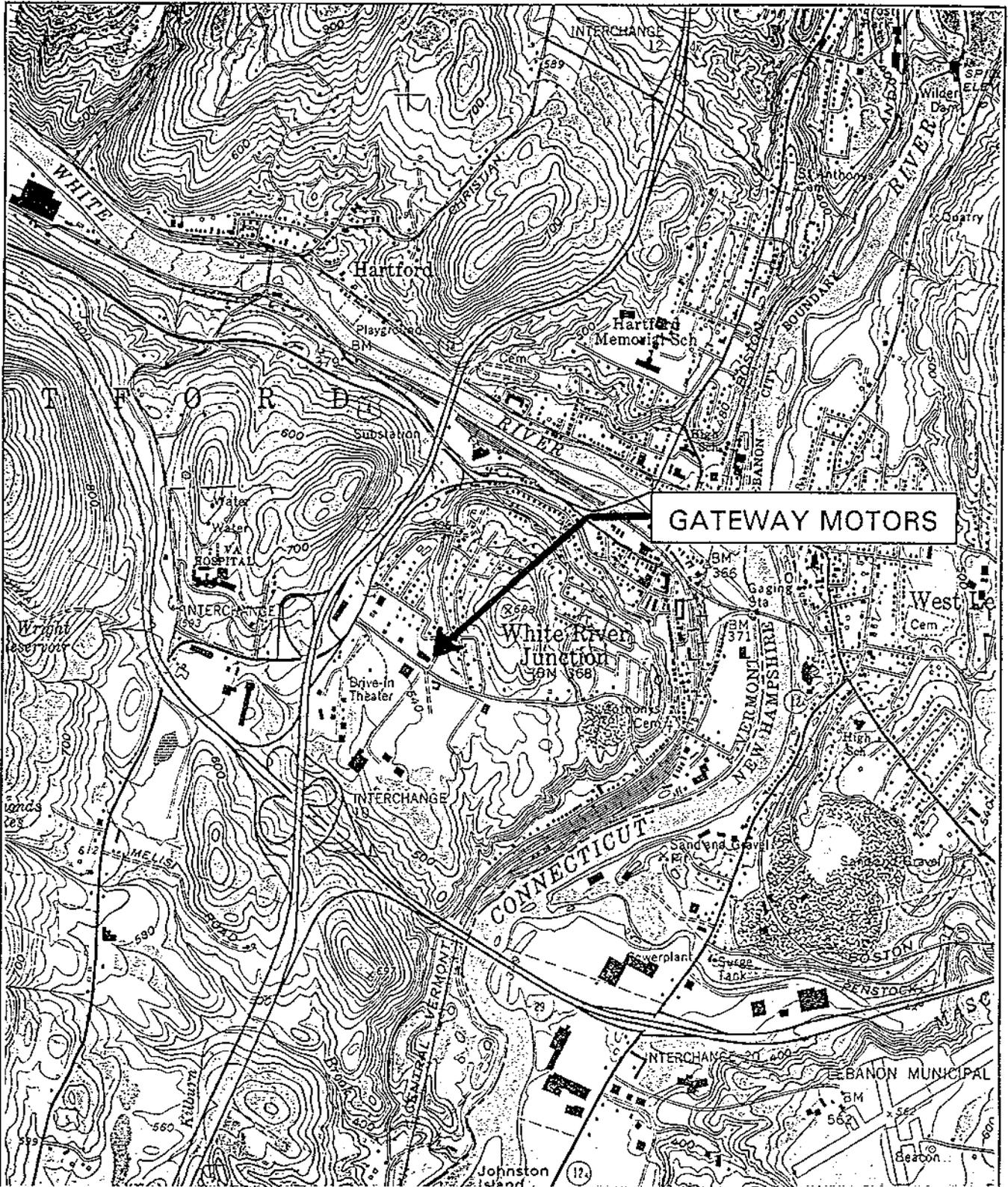
Five of the six soil samples analyzed in the course of the boring program exhibited low levels of VOC contaminants typical of petroleum fuels. These contaminants were not present in the soil sample previously collected adjacent to the concrete sump presumed to be the contaminant source. Conversely, the samples from the borings did not contain detectable levels of tetrachloroethylene, which was found in the sample collected adjacent to the sump.

The relatively low concentration of tetrachloroethylene detected in the sump sample, coupled with the relatively high detection limits for this compound in the samples from the borings may mean that tetrachloroethylene could be present in the latter samples, but at concentrations below the detection limit. There is also the possibility, although this is not substantiated by site history, that the contaminants found in the soil samples collected from the borings may have a source other than the concrete sump associated with the waste oil tank.

Given the degree of uncertainty associated with the source of contaminants in the soil samples collected from the borings, it would appear to be prudent to conduct a limited amount of additional field work in an attempt to determine if the contamination found in the borings is homogeneously distributed throughout the soil column, or if it is limited to a discrete layer or layers. It is recommended that this work be accomplished by performing an additional boring adjacent to existing boring B-1. Soils from this boring generally exhibited high levels of VOCs and the location is presumed to be downgradient of the waste oil tank. The recommended boring program would be conducted using hollow-stem augers with continuous split spoon sampling. The boring would be terminated at a depth of 30' bgs, 10' deeper than the previous borings. Discrete soil samples would be collected at approximately five foot intervals. These samples would be analyzed by EPA Methods 8240 and 8100 for VOCs and TPH. If groundwater is encountered, a 2" diameter PVC monitoring well should be installed and a groundwater sample collected for analysis similar to the soil samples. A report documenting the results of this work should be prepared and submitted to the SMS.

VIII. APPENDIX

A. FIGURE 1: LOCUS MAP



T & M ASSOCIATES, INC.
 HCR 63, BOX 9-A, ROUTE 4
 LEBANON, NH 03766
 (603) 448-1295

FIGURE
 1

LOCUS MAP
 GATEWAY MOTORS, INC.
 HARTFORD, VERMONT

DESIGNED BY: TJM DRAWN BY: TJM DATE: 9/28/94 JOB#: 391993

B. LABORATORY REPORT: SOIL SAMPLE GATEWAY S-1



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

01-03-94, 10:09

Sample 11969

- Sample Matrix = Soil Project = 391993 GATEWAY UST
 Date Sampled = 12-21-93, 13:30 Sampler = TIM MCNAMARA
 Date Logged In = 12-23-93, 16:01 Location = GATEWAY-S1
 - Date of Analysis = 12-29-93 Town = WHITE RIVER JCT.

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Bromodichloromethane	BD	15.0
Chlorodibromomethane	BD	15.0
Bromoform	BD	15.0
Chloroform	BD	15.0
Carbon Tetrachloride	BD	15.0
Dichloromethane	BD	30.0
1,1-dichloroethane	BD	15.0
1,2-dichloroethane	BD	30.0
1,1,1-trichloroethane	BD	15.0
1,1,2-trichloroethane	BD	15.0
1,1-dichloroethylene	BD	15.0
Trichloroethylene	BD	15.0
Tetrachloroethylene	25.9	15.0
1,2-Dichloroethylene (c)	BD	15.0
1,2-Dichloroethylene (t)	BD	15.0
Chloroethane	BD	15.0
Vinylchloride	BD	15.0
Bromomethane	BD	15.0
Chloromethane	BD	15.0
Trichlorofluoromethane	BD	30.0
Benzene	BD	15.0
Toluene	BD	15.0
Ethylbenzene	BD	15.0
m&p-Xylene	BD	15.0
o-Xylene	BD	15.0
Chlorobenzene	BD	15.0
1,2-dichlorobenzene	BD	15.0
1,3-dichlorobenzene	BD	15.0
1,4-dichlorobenzene	BD	15.0
1,2,4-trichlorobenzene	BD	30.0
Styrene	BD	15.0
Acetone	BD	1500.0
Tetrahydrofuran	BD	375.0
Diethylether	BD	225.0
Methyl t-butyl ether	BD	15.0
Methyl isobutyl ketone	BD	375.0
Methyl ethyl ketone	BD	375.0
Carbon Disulfide	BD	30.0
1,1,2-1,2,2 trichlorotri- fluoroethane	BD	30.0
Total Pet. Hydrocarbons	1400.00	5.00
Modified EPA-8100 (Extraction, GC/FID)		Results for TPH are expressed in mg/kg (ppm)

Comments:

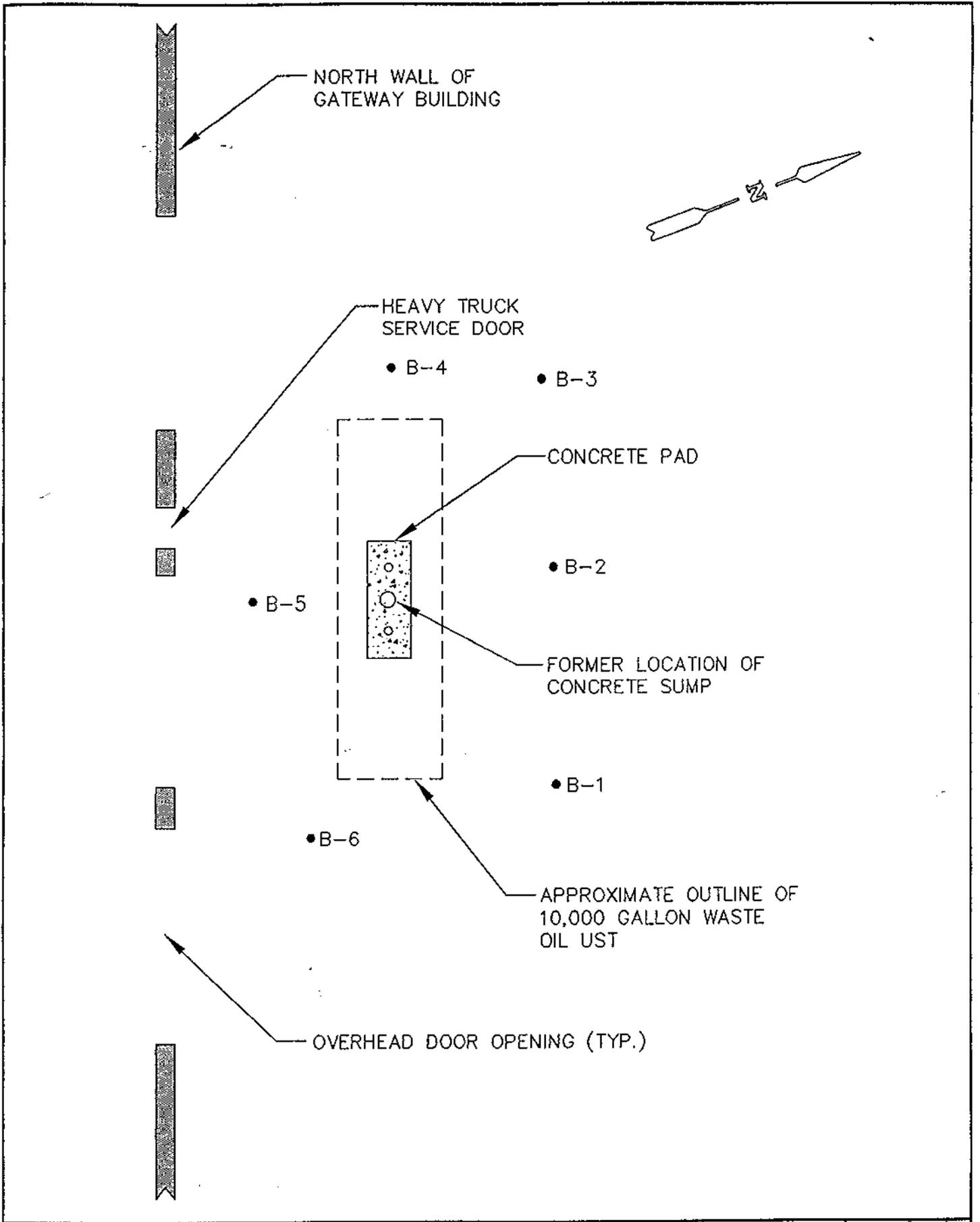
Sample Matrix = Soil

TPH was performed with fuel oil as the standard.

Method of VOA Analyses = EPA-8240, BD = Below Detection Limit

doc. m8240t

C. FIGURE 2: BORING LOCATION PLAN



T & M Associates, Inc. Engineers & Surveyors
 HCR 63, Box 9A Route 4
 Lebanon, New Hampshire 03766
 (603) 448-1295, FAX: (603) 448-2965

FIGURE 2: BORING LOCATION PLAN
GATEWAY MOTORS, INC.
 HARTFORD, VERMONT

SCALE: 1" = 10'
DESIGNED BY: GG
DRAWN BY: GG
CHECKED BY: TJM
DATE: 09/28/94
PROJ. NO. 391993

D. LABORATORY REPORTS: SOIL SAMPLES GSC-1 THORUGH GSC-6

SEP. 19 1994



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

09-15-94, 16:16

Mr. Tim McNamara
T&M Associates, Inc.
HCR 63, Box 9A
Route 4
Lebanon, N.H. 03766

Dear Mr. McNamara:

Please find enclosed the reports, and invoice for the samples that were logged in on, 09-09-94.

AAI Sample	Date Sampled	Project Description	Sample Location
15464	09-08-94	391993A GATEWAY MOTORS	GSC-1
15465	09-08-94	391993A GATEWAY MOTORS	GSC-2
15466	09-08-94	391993A GATEWAY MOTORS	GSC-3
15467	09-08-94	391993A GATEWAY MOTORS	GSC-4
15468	09-08-94	391993A GATEWAY MOTORS	GSC-5
15469	09-08-94	391993A GATEWAY MOTORS	GSC-6

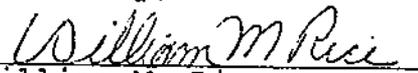
To perform these analyses, the following methods were used:

QTY. EPA Methodologies/Applications

6 VOA + TPH Soil fuel oil Mod. 8260/8100

Thank you for using Aquarian Analytical Inc. on this project. If I can be of any further help, please feel free to call.

Sincerely,


William M. Rice
Laboratory Director
doc. L02496



AQUARIAN ANALYTICAL INC.

Laboratory Services

*P.O. Box 186
Canterbury, N.H. 03224
603-783-9097*

09-15-94,16:16

As part of Aquarian's ongoing quality assurance program, all analyses included the following quality assurance measures.

Samples were received in an acceptable condition.

Samples were prepared and analyzed within the appropriate hold time specified in the method referred to on the analyses sheet.

The instrument that was used for the analyses was calibrated and/or tuned at the required frequency.

A daily calibration check was performed.

A daily blank was run, and contamination was not observed at levels that would affect the analyses.

For all work, internal standards, and surrogates gave appropriate response levels.

Matrix spikes were added where appropriate, and recoveries were within the acceptable range.

Duplicates were run at the frequency specified in the applicable state or federal regulations.

In addition to the above steps, all original-raw data is on file at Aquarian Analytical's offices for inspection when required.

Exceptions (if any)

WMR
Certification



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report

09-15-94, 16:14

Sample 15464

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:07 Location = GSC-1
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	50
Bromobenzene	BD	50
Bromodichloromethane	BD	50
Bromoform	BD	50
Bromomethane	BD	50
n-Butylbenzene	BD	50
sec-Butylbenzene	BD	50
tert-Butylbenzene	BD	50
Carbon-Tetrachloride	BD	50
Chlorobenzene	BD	50
Chloroethane	BD	100
Chloroform	BD	50
Chloromethane	BD	50
2-Chlorotoluene	BD	50
4-Chlorotoluene	BD	50
Dibromochloromethane	BD	50
1,2 Dibromo-3-Chloropropane	BD	100
1,2 Dibromoethane	BD	100
Dibromomethane	BD	50
1,2 Dichlorobenzene	BD	50
1,3 Dichlorobenzene	BD	50
1,4 Dichlorobenzene	BD	50
Dichlorodifluoromethane	BD	100
1,1 Dichloroethane	BD	50
1,2 Dichloroethane	BD	100
1,1 Dichloroethene	BD	50
cis-1,2 Dichloroethene	BD	50
trans-1,2 Dichloroethene	BD	50
1,2 Dichloropropane	BD	100
1,3 Dichloropropane	BD	50
2,2 Dichloropropane	BD	50
1,1 Dichloropropene	BD	50
cis-1,3 Dichloropropene	BD	50
trans-1,3 Dichloropropene	BD	50
Ethylbenzene	BD	50
Hexachlorobutadiene	BD	100
Isopropylbenzene	BD	50



AQUARIAN ANALYTICAL INC.

Laboratory Services

Page 2

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:14

Sample 15464

Project = 391993A GATEWAY MOTORS
Location = GSC-1

Matrix = Soil

Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	50
Methylene Chloride	BD	100
Naphthalene	BD	100
n-Propylbenzene	BD	50
Styrene	BD	50
1,1,1,2 Tetrachloroethane	BD	50
1,1,2,2 Tetrachloroethane	BD	50
Tetrachloroethene	BD	50
Toluene	61	50
1,2,3 Trichlorobenzene	BD	50
1,2,4 Trichlorobenzene	BD	50
1,1,1 Trichloroethane	BD	50
1,1,2 Trichloroethane	BD	50
Trichloroethene	BD	50
Trichlorofluoromethane	BD	100
1,2,3 Trichloropropane	BD	50
1,2,4 Trimethylbenzene	72	50
1,3,5 Trimethylbenzene	BD	50
Vinyl Chloride	BD	100
o-Xylene	BD	50
m&p-Xylene	74	50
Ethyl Ether	BD	750
Acetone	BD	5000
Methylethylketone MEK	BD	1250
Methylisobutylketone	BD	1250
Tetrahydrofuran	BD	1250
Methyl-t-butyl ether	BD	50
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	22.0	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report 09-15-94, 16:12 Sample 15465

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:09 Location = GSC-2
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	50
Bromobenzene	BD	50
Bromodichloromethane	BD	50
Bromoform	BD	50
Bromomethane	BD	50
n-Butylbenzene	BD	50
sec-Butylbenzene	BD	50
tert-Butylbenzene	BD	50
Carbon-Tetrachloride	BD	50
Chlorobenzene	BD	50
Chloroethane	BD	100
Chloroform	BD	50
Chloromethane	BD	50
2-Chlorotoluene	BD	50
4-Chlorotoluene	BD	50
Dibromochloromethane	BD	50
1,2 Dibromo-3-Chloropropane	BD	100
1,2 Dibromoethane	BD	100
Dibromomethane	BD	50
1,2 Dichlorobenzene	BD	50
1,3 Dichlorobenzene	BD	50
1,4 Dichlorobenzene	BD	50
Dichlorodifluoromethane	BD	100
1,1 Dichloroethane	BD	50
1,2 Dichloroethane	BD	100
1,1 Dichloroethene	BD	50
cis-1,2 Dichloroethene	BD	50
trans-1,2 Dichloroethene	BD	50
1,2 Dichloropropane	BD	100
1,3 Dichloropropane	BD	50
2,2 Dichloropropane	BD	50
1,1 Dichloropropene	BD	50
cis-1,3 Dichloropropene	BD	50
trans-1,3 Dichloropropene	BD	50
Ethylbenzene	BD	50
Hexachlorobutadiene	BD	100
Isopropylbenzene	BD	50



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:12

Sample 15465

Page 2

Project = 391993A GATEWAY MOTORS
Location = GSC-2

Matrix = Soil

Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	50
Methylene Chloride	BD	100
Naphthalene	BD	100
n-Propylbenzene	BD	50
Styrene	BD	50
1,1,1,2 Tetrachloroethane	BD	50
1,1,2,2 Tetrachloroethane	BD	50
Tetrachloroethene	BD	50
Toluene	BD	50
1,2,3 Trichlorobenzene	BD	50
1,2,4 Trichlorobenzene	BD	50
1,1,1 Trichloroethane	BD	50
1,1,2 Trichloroethane	BD	50
Trichloroethene	BD	50
Trichlorofluoromethane	BD	100
1,2,3 Trichloropropane	BD	50
1,2,4 Trimethylbenzene	BD	50
1,3,5 Trimethylbenzene	BD	50
Vinyl Chloride	BD	100
o-Xylene	BD	50
m&p-Xylene	69	50
Ethyl Ether	BD	750
Acetone	BD	5000
Methylethylketone MEK	BD	1250
Methylisobutylketone	BD	1250
Tetrahydrofuran	BD	1250
Methyl-t-butyl ether	BD	50
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	99.0	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report 09-15-94, 16:12 Sample 15466

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:10 Location = GSC-3
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	50
Bromobenzene	BD	50
Bromodichloromethane	BD	50
Bromoform	BD	50
Bromomethane	BD	50
n-Butylbenzene	BD	50
sec-Butylbenzene	BD	50
tert-Butylbenzene	BD	50
Carbon-Tetrachloride	BD	50
Chlorobenzene	BD	50
Chloroethane	BD	100
Chloroform	BD	50
Chloromethane	BD	50
2-Chlorotoluene	BD	50
4-Chlorotoluene	BD	50
Dibromochloromethane	BD	50
1,2 Dibromo-3-Chloropropane	BD	100
1,2 Dibromoethane	BD	100
Dibromomethane	BD	50
1,2 Dichlorobenzene	BD	50
1,3 Dichlorobenzene	BD	50
1,4 Dichlorobenzene	BD	50
Dichlorodifluoromethane	BD	100
1,1 Dichloroethane	BD	50
1,2 Dichloroethane	BD	100
1,1 Dichloroethene	BD	50
cis-1,2 Dichloroethene	BD	50
trans-1,2 Dichloroethene	BD	50
1,2 Dichloropropane	BD	100
1,3 Dichloropropane	BD	50
2,2 Dichloropropane	BD	50
1,1 Dichloropropene	BD	50
cis-1,3 Dichloropropene	BD	50
trans-1,3 Dichloropropene	BD	50
Ethylbenzene	BD	50
Hexachlorobutadiene	BD	100
Isopropylbenzene	BD	50



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:12

Sample 15466

Page 2

Project = 391993A GATEWAY MOTORS
Location = GSC-3

Matrix = Soil

Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	50
Methylene Chloride	BD	100
Naphthalene	BD	100
n-Propylbenzene	BD	50
Styrene	BD	50
1,1,1,2 Tetrachloroethane	BD	50
1,1,2,2 Tetrachloroethane	BD	50
Tetrachloroethene	BD	50
Toluene	BD	50
1,2,3 Trichlorobenzene	BD	50
1,2,4 Trichlorobenzene	BD	50
1,1,1 Trichloroethane	BD	50
1,1,2 Trichloroethane	BD	50
Trichloroethene	BD	50
Trichlorofluoromethane	BD	100
1,2,3 Trichloropropane	BD	50
1,2,4 Trimethylbenzene	BD	50
1,3,5 Trimethylbenzene	BD	50
Vinyl Chloride	BD	100
o-Xylene	BD	50
m&p-Xylene	BD	50
Ethyl Ether	BD	750
Acetone	BD	5000
Methylethylketone MEK	BD	1250
Methylisobutylketone	BD	1250
Tetrahydrofuran	BD	1250
Methyl-t-butyl ether	BD	50
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	BD	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report
09-15-94, 16:12
Sample 15467

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:10 Location = GSC-4
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	20
Bromobenzene	BD	20
Bromodichloromethane	BD	20
Bromoform	BD	20
Bromomethane	BD	20
n-Butylbenzene	BD	20
sec-Butylbenzene	BD	20
tert-Butylbenzene	BD	20
Carbon-Tetrachloride	BD	20
Chlorobenzene	BD	20
Chloroethane	BD	40
Chloroform	BD	20
Chloromethane	BD	20
2-Chlorotoluene	BD	20
4-Chlorotoluene	BD	20
Dibromochloromethane	BD	20
1,2 Dibromo-3-Chloropropane	BD	40
1,2 Dibromoethane	BD	40
Dibromomethane	BD	20
1,2 Dichlorobenzene	BD	20
1,3 Dichlorobenzene	BD	20
1,4 Dichlorobenzene	BD	20
Dichlorodifluoromethane	BD	40
1,1 Dichloroethane	BD	20
1,2 Dichloroethane	BD	40
1,1 Dichloroethene	BD	20
cis-1,2 Dichloroethene	BD	20
trans-1,2 Dichloroethene	BD	20
1,2 Dichloropropane	BD	40
1,3 Dichloropropane	BD	20
2,2 Dichloropropane	BD	20
1,1 Dichloropropene	BD	20
cis-1,3 Dichloropropene	BD	20
trans-1,3 Dichloropropene	BD	20
Ethylbenzene	BD	20
Hexachlorobutadiene	BD	40
Isopropylbenzene	BD	20



AQUARIAN ANALYTICAL INC.

Laboratory Services

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P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:12

Sample 15467

Project = 391993A GATEWAY MOTORS
Location = GSC-4

Matrix = Soil

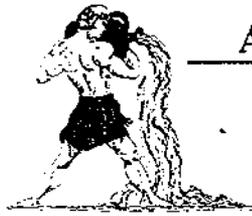
Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	20
Methylene Chloride	BD	40
Naphthalene	BD	40
n-Propylbenzene	BD	20
Styrene	BD	20
1,1,1,2 Tetrachloroethane	BD	20
1,1,2,2 Tetrachloroethane	BD	20
Tetrachloroethene	BD	20
Toluene	32	20
1,2,3 Trichlorobenzene	BD	20
1,2,4 Trichlorobenzene	BD	20
1,1,1 Trichloroethane	BD	20
1,1,2 Trichloroethane	BD	20
Trichloroethene	BD	20
Trichlorofluoromethane	BD	40
1,2,3 Trichloropropane	BD	20
1,2,4 Trimethylbenzene	38	20
1,3,5 Trimethylbenzene	BD	20
Vinyl Chloride	BD	40
o-Xylene	BD	20
m&p-Xylene	44	20
Ethyl Ether	BD	300
Acetone	BD	2000
Methylethylketone MEK	BD	500
Methylisobutylketone	BD	500
Tetrahydrofuran	BD	500
Methyl-t-butyl ether	BD	20
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	BD	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report
09-15-94, 16:12
Sample 15468

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:10 Location = GSC-5
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	15
Bromobenzene	BD	15
Bromodichloromethane	BD	15
Bromoform	BD	15
Bromomethane	BD	15
n-Butylbenzene	BD	15
sec-Butylbenzene	BD	15
tert-Butylbenzene	BD	15
Carbon-Tetrachloride	BD	15
Chlorobenzene	BD	15
Chloroethane	BD	30
Chloroform	BD	15
Chloromethane	BD	15
2-Chlorotoluene	BD	15
4-Chlorotoluene	BD	15
Dibromochloromethane	BD	15
1,2 Dibromo-3-Chloropropane	BD	30
1,2 Dibromoethane	BD	30
Dibromomethane	BD	15
1,2 Dichlorobenzene	BD	15
1,3 Dichlorobenzene	BD	15
1,4 Dichlorobenzene	BD	15
Dichlorodifluoromethane	BD	30
1,1 Dichloroethane	BD	15
1,2 Dichloroethane	BD	30
1,1 Dichloroethene	BD	15
cis-1,2 Dichloroethene	BD	15
trans-1,2 Dichloroethene	BD	15
1,2 Dichloropropane	BD	30
1,3 Dichloropropane	BD	15
2,2 Dichloropropane	BD	15
1,1 Dichloropropene	BD	15
cis-1,3 Dichloropropene	BD	15
trans-1,3 Dichloropropene	BD	15
Ethylbenzene	BD	15
Hexachlorobutadiene	BD	30
Isopropylbenzene	BD	15



AQUARIAN ANALYTICAL INC.

Laboratory Services

Page 2

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:12

Sample 15468

Project = 391993A GATEWAY MOTORS
Location = GSC-5

Matrix = Soil

Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	15
Methylene Chloride	BD	30
Naphthalene	BD	30
n-Propylbenzene	BD	15
Styrene	BD	15
1,1,1,2 Tetrachloroethane	BD	15
1,1,2,2 Tetrachloroethane	BD	15
Tetrachloroethene	BD	15
Toluene	30	15
1,2,3 Trichlorobenzene	BD	15
1,2,4 Trichlorobenzene	BD	15
1,1,1 Trichloroethane	BD	15
1,1,2 Trichloroethane	BD	15
Trichloroethene	BD	15
Trichlorofluoromethane	BD	30
1,2,3 Trichloropropane	BD	15
1,2,4 Trimethylbenzene	60	15
1,3,5 Trimethylbenzene	21	15
Vinyl Chloride	BD	30
o-Xylene	15	15
m&p-Xylene	32	15
Ethyl Ether	BD	225
Acetone	BD	1500
Methylethylketone MEK	BD	375
Methylisobutylketone	BD	375
Tetrahydrofuran	BD	375
Methyl-t-butyl ether	BD	15
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	52.0	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
603-783-9097

Volatile Organic Report 09-15-94, 16:12 Sample 15469

Project = 391993A GATEWAY MOTORS Matrix = Soil
Date Sampled = 09-08-94 Sampler = T. MCNAMARA
Date Logged In = 09-09-94, 15:11 Location = GSC-6
Date of Analysis = 09-13-94 Town = HARTFORD

Organic Compound	Result ug/kg	Det. Lim. ug/kg
Benzene	BD	25
Bromobenzene	BD	25
Bromodichloromethane	BD	25
Bromoform	BD	25
Bromomethane	BD	25
n-Butylbenzene	165	25
sec-Butylbenzene	BD	25
tert-Butylbenzene	BD	25
Carbon-Tetrachloride	BD	25
Chlorobenzene	BD	25
Chloroethane	BD	50
Chloroform	BD	25
Chloromethane	BD	25
2-Chlorotoluene	BD	25
4-Chlorotoluene	BD	25
Dibromochloromethane	BD	25
1,2 Dibromo-3-Chloropropane	BD	50
1,2 Dibromoethane	BD	50
Dibromomethane	BD	25
1,2 Dichlorobenzene	BD	25
1,3 Dichlorobenzene	BD	25
1,4 Dichlorobenzene	BD	25
Dichlorodifluoromethane	BD	50
1,1 Dichloroethane	BD	25
1,2 Dichloroethane	BD	50
1,1 Dichloroethene	BD	25
cis-1,2 Dichloroethene	BD	25
trans-1,2 Dichloroethene	BD	25
1,2 Dichloropropane	BD	50
1,3 Dichloropropane	BD	25
2,2 Dichloropropane	BD	25
1,1 Dichloropropene	BD	25
cis-1,3 Dichloropropene	BD	25
trans-1,3 Dichloropropene	BD	25
Ethylbenzene	BD	25
Hexachlorobutadiene	BD	50
Isopropylbenzene	BD	25



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

09-15-94, 16:12

Sample 15469

Page 2

Project = 391993A GATEWAY MOTORS
Location = GSC-6

Matrix = Soil

Organic Compound	Result ug/kg	Det. Lim. ug/kg
p-Isopropyltoluene	BD	25
Methylene Chloride	BD	50
Naphthalene	BD	50
n-Propylbenzene	BD	25
Styrene	BD	25
1,1,1,2 Tetrachloroethane	BD	25
1,1,2,2 Tetrachloroethane	BD	25
Tetrachloroethene	BD	25
Toluene	BD	25
1,2,3 Trichlorobenzene	BD	25
1,2,4 Trichlorobenzene	BD	25
1,1,1 Trichloroethane	BD	25
1,1,2 Trichloroethane	BD	25
Trichloroethene	BD	25
Trichlorofluoromethane	BD	50
1,2,3 Trichloropropane	BD	25
1,2,4 Trimethylbenzene	37	25
1,3,5 Trimethylbenzene	BD	25
Vinyl Chloride	BD	50
o-Xylene	BD	25
m&p-Xylene	33	25
Ethyl Ether	BD	375
Acetone	BD	2500
Methylethylketone MEK	BD	625
Methylisobutylketone	BD	625
Tetrahydrofuran	BD	625
Methyl-t-butyl ether	BD	25
Total Pet. Hydrocarbons Method = EPA-8100 (mod.)	31.0	10.0 Results for TPH are expressed in mg/kg (ppm)

Comments:

TPH was performed with motor oil as the standard.

Method of Analyses = EPA-8260

BD = Below Detection Limit - Results are in parts per billion (ppb) unless noted.

AQUARIAN ANALYTICAL, INC.

PO Box 186, Morrill Road

Canterbury, NH 03224

Phone: (603) 783-9097

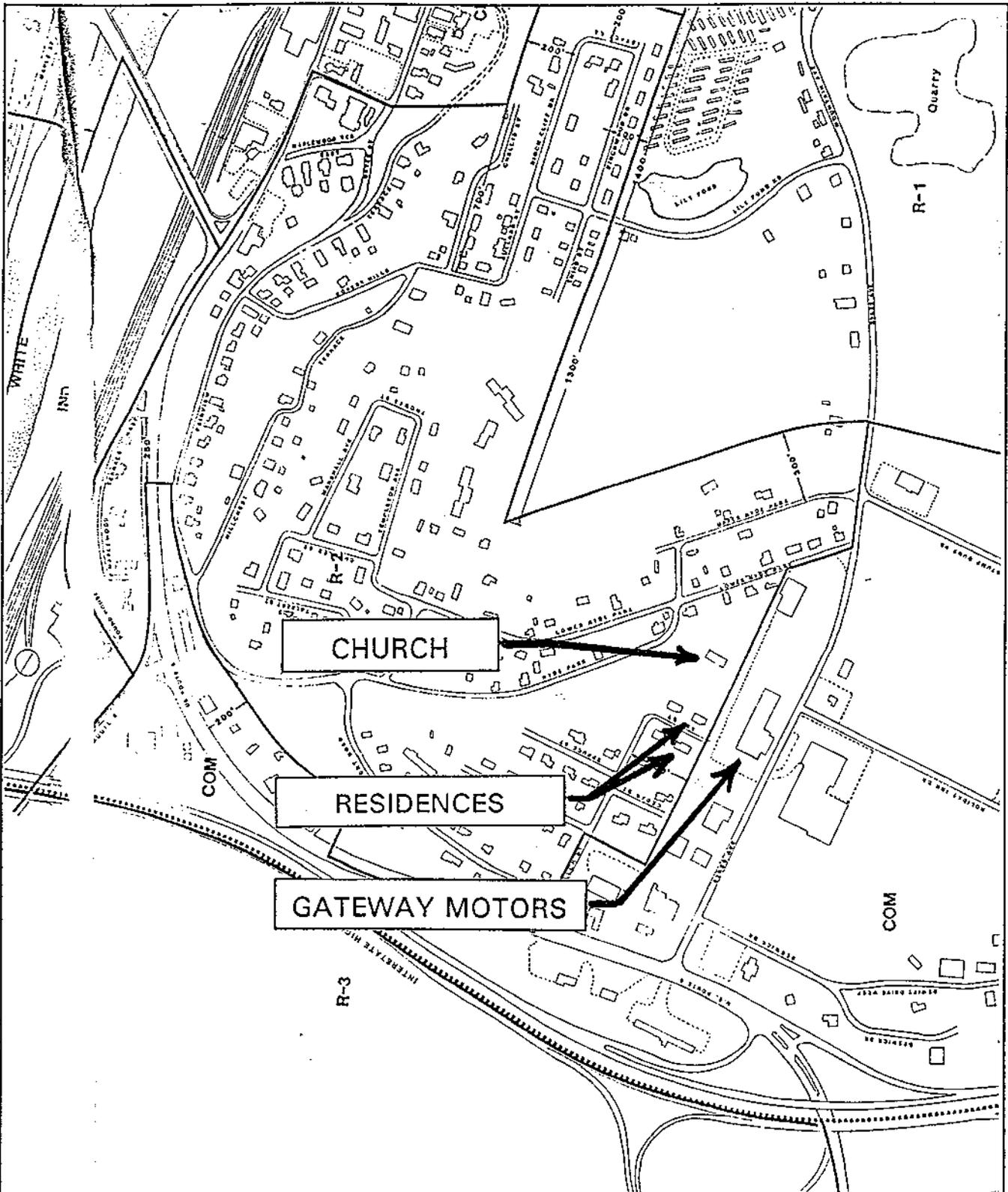
FAX: (603) 783-0360

Project Number 391993A	Project Name Gateway Motors	Town/Site Hartford, VT
Project Engineer T. McNamara	Phone (603) 448-1295	Reports and Invoice To: T: M
Company T: M Assoc.	FAX (603) 448-2965	

SAMPLE DESCRIPTION					TEST DESCRIPTION											NOTES	
AAI ID#	Sample ID	Date/Time	Sample Matrix	Number of Containers	EPA 524.2/8260	EPA 624/8240	BTEX/MTBE	TPH (Gasoline)	TPH (CUSTOM) WASTE OIL	Acid/Base/Neutrals	Metals (RCRA 8)	Flashpoint/Ignitability	pH/Corrosivity	Herbicides	Pesticides/PCES		Other
1																	
15464	GSC-1	9/8/94	Soil	1	X				X								
15465	GSC-2	" "	"	1	X				X								
15466	GSC-3	" "	"	1	X				X								
15467	GSC-4	" "	"	1	X				X								
15468	GSC-5	" "	"	1	X				X								
15469	GSC-6	" "	"	1	X				X								

Relinquished By Sampler 	Date/Time 9/8/94	Received By W M Rice	Comments:
Relinquished By	Date/Time	Received By	
Relinquished By	Date/Time	Received By	

E. FIGURE 3: LAND USE MAP



<p>T & M ASSOCIATES, INC. HCR 63, BOX 9-A, ROUTE 4 LEBANON, NH 03766 (603) 448-1295</p>	<p>FIGURE 3</p>	<p>LAND USE MAP GATEWAY MOTORS, VICINITY HARTFORD, VERMONT</p>
<p>DESIGNED BY: TJM</p>	<p>DRAWN BY: TJM</p>	<p>DATE: 9/28/94</p>
		<p>JOB#: 391993</p>

F. LABORATORY REPORTS: SOIL SAMPLE GATEWAY C-1



317 Elm Street
Milford, N.H. 03055
(603) 673-5440
FAX (603) 673-0366

July 13, 1994

Mr. Tim McNamara
T & M Associates
HCR 63 Box 9A
Lebanon, NH 03766

Job Name	: Gateway Motors Inc	Laboratory #	: G01-94-03
Job Number	: N/A	Purchase Order #	: N/A
Location	: White River Jct, VT	Control #	: 10741

Dear Mr McNamara,

Enclosed please find the laboratory results for the above referenced samples which were received, by the Chemserve sample custodian, under chain of custody control number 10741 on July 1, 1994. Samples were collected by T. McNamara on June 30, 1994. Any abnormalities to the samples would be noted on the enclosed chain of custody document or laboratory report form. Chemserve follows protocols for analysis corresponding to the methods referenced unless a modification is noted. Unless otherwise stated, all holding times, preservation techniques and container types are analogous with those outlined by the U.S. EPA.

A formal quality assurance/quality control QA/QC program is maintained and updated by Chemserve on a routine basis. This QA/QC manual is available upon request.

If you have questions or concerns regarding this analysis, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michelle R. Cohen".

Michelle R. Cohen
Inorganics Supervisor

Enclosures

T & M ASSOCIATES

LABORATORY #: G01-94-03
CONTROL #: 10741

JOB NAME : GATEWAY MOTORS, INC
JOB NUMBER : N/A
LOCATION : WHITE RIVER JCT, VT

<u>TEST PARAMETER</u>	<u>RESULTS</u>	<u>DATE COMPLETED</u>	<u>EPA METHOD #</u>	<u>DETECTION LIMIT</u>	<u>ANALYST</u>
---------------------------	----------------	---------------------------	---------------------	----------------------------	----------------

SAMPLE IDENTITY: GATEWAY - C1

COMPOSITE

CORROSIVITY (pH)	7.99	07/05/94	9045	0-14	DR
FLASHPOINT	>160oF	07/07/94	Modified 1010	40°F	DR
REACTIVITY:					
CYANIDE (mg/Kg)	<25.	07/11/94	SW846 7.3.3.2	25. (mg/Kg)	CL
SULFIDE (mg/Kg)	<50.	07/11/94	SW846 7.3.4.1	50. (mg/Kg)	CL

TOXIC CHARACTERIZATION LEACHATE PROCEDURE (TCLP METHOD 1311)

ARSENIC	<0.100	07/08/94	6010	0.100	CL
BARIUM	0.528	07/08/94	6010	0.010	CL
CADMIUM	0.010	07/08/94	6010	0.010	CL
CHROMIUM	<0.010	07/08/94	6010	0.010	CL
LEAD	<0.050	07/08/94	6010	0.050	CL
MERCURY	<0.0005	07/13/94	7470	0.0005	CL
SELENIUM	<0.100	07/08/94	6010	0.100	CL
SILVER	<0.010	07/08/94	6010	0.010	CL

ALL RESULTS ARE IN (mg/L) EXCEPT AS NOTED.

DATE : 07/13/94

LABORATORY #: G01-94-03

CUSTOMER: T & M ASSOCIATES

CONTROL # : 10741

INORGANIC QUALITY CONTROL INFORMATION

Chemserve minimum quality control requires matrix or duplicate analysis every ten samples analyzed. In addition, all samples are compared to a minimum of a three point calibration curve and a reagent blank. Any digestion or extraction requires a method blank or equipment blank to verify no presence of cross contamination or carry-over. Matrix spike recoveries are generally required to be within plus or minus 25%. Extensive QC data is available for this project at our facility.

CERTIFICATION:

I certify that all quality control measures were within specification guidelines with the exception of noted deviation. (if any)

Certified by _____



MICHELLE R. COHEN - INORGANICS SUPERVISOR

A detailed QA/QC manual is available upon request.



VOLATILE ORGANIC ANALYSIS
EPA METHOD 8260

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

REC'D: 7/01/94

DATE ANALYZED: 7/05/94

COMPOUND	MATRIX: SOLID CONCENTRATION (UG/KG)	PERCENT MOISTURE: 5.63% DETECTION LIMIT MULTIPLIER: (UG/KG) X 25
BENZENE	BDL	1
BROMOBENZENE	BDL	1
BROMOCHLOROMETHANE	BDL	1
BROMODICHLOROMETHANE	BDL	1
BROMOFORM	BDL	1
BROMOMETHANE	BDL	1
CARBON TETRACHLORIDE	BDL	1
CHLOROBENZENE	BDL	1
CHLOROETHANE	BDL	1
CHLOROFORM	BDL	1
CHLOROMETHANE	BDL	1
2-CHLOROTOLENE	BDL	1
4-CHLOROTOLENE	BDL	1
DIBROMOCHLOROMETHANE	BDL	1
1,2-DIBROMO-3-CHLOROPROPANE	BDL	1
1,2-DIBROMOETHANE	BDL	1
DIBROMOETHANE	BDL	1
1,2-DICHLOROBENZENE	BDL	1
1,3-DICHLOROBENZENE	BDL	1
1,4-DICHLOROBENZENE	BDL	1
DICHLORODIFLUOROMETHANE	BDL	1
1,1-DICHLOROETHANE	BDL	1
1,2-DICHLOROETHANE	BDL	1
1,1-DICHLOROETHENE	BDL	1
CIS-1,2-DICHLOROETHENE	BDL	1
TRANS-1,2-DICHLOROETHENE	BDL	1
1,2-DICHLOROPROPANE	BDL	1
1,3-DICHLOROPROPANE	BDL	1
2,2-DICHLOROPROPANE	BDL	1
1,1-DICHLOROPROPENE	BDL	1
CIS-1,3-DICHLOROPROPENE	BDL	1
TRANS-1,3-DICHLOROPROPENE	BDL	1
ETHYLBENZENE	BDL	1
METHYLENE CHLORIDE	BDL	1
STYRENE	BDL	1
1,1,1,2-TETRACHLOROETHANE	BDL	1
1,1,2,2-TETRACHLOROETHANE	BDL	1
TETRACHLOROETHENE	BDL	1
TOLUENE	BDL	1
1,1,1-TRICHLOROETHANE	BDL	1

CONTINUED: 1 OF 2 PAGES

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03*

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

REC'D: 7/01/94

DATE ANALYZED: 7/05/94

COMPOUND	MATRIX: SOLID CONCENTRATION (UG/KG)	PERCENT MOISTURE: 5.63% DETECTION LIMIT MULTIPLIER: (UG/KG) X 25
1,1,2-TRICHLOROETHANE	BDL	1
TRICHLOROETHENE	BDL	1
TRICHLOROFLUOROMETHANE	BDL	1
1,2,3-TRICHLOROPROPANE	BDL	1
VINYL CHLORIDE	BDL	1
TOTAL XYLENES	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
CARBON DISULFIDE	BDL	1
n-BUTYLBENZENE	BDL	1
sec-BUTYLBENZENE	BDL	1
tert-BUTYLBENZENE	BDL	1
ISOPROPYLBENZENE	BDL	1
4-ISOPROPYLTOLUENE	BDL	1
n-PROPYLBENZENE	BDL	1
1,2,3-TRICHLOROBENZENE	BDL	1
1,2,4-TRICHLOROBENZENE	BDL	1
1,2,4-TRIMETHYLBENZENE	BDL	1
1,3,5-TRIMETHYLBENZENE	BDL	1
NAPHTHALENE	BDL	1
HEXACHLOROBUTADIENE	BDL	1
2-HEXANONE	BDL	10
4-METHYL-2-PENTANONE	BDL	10
2-BUTANONE	BDL	10
ACETONE	BDL	15
ACROLEIN	BDL	50
ACRYLONITRILE	BDL	50
2-CHLOROETHYL VINYL ETHER	BDL	50

SURROGATE	PERCENT RECOVERY	ACCEPTANCE LIMITS
TOLUENE-D8	92%	74-111%
4-BROMOFLUOROBENZENE	86%	77-109%
DIBROMOFLUOROMETHANE	102%	76-110%

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT
CERTIFIED BY: *Cu*

CUSTOMER: T + M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

REC'D: 7/01/94

DATE ANALYZED: 7/13/94

DATE EXTRACTED: 7/05/94

MATRIX: SOLID

PERCENT MOISTURE: 5.63%

COMPOUND	CONCENTRATION (UG/KG)	DETECTION LIMIT MULTIPLIER: (UG/KG) X 1000
2-Chlorophenol	BDL	10
2-Chloronaphthalene	BDL	10
4-Chlorophenyl-phenyl-ether	BDL	10
1,4-Dichlorobenzene	BDL	10
1,3-Dichlorobenzene	BDL	10
1,2-Dichlorobenzene	BDL	10
bis(2-chloroethoxy)methane	BDL	10
bis(2-chloroisopropyl)ether	BDL	10
bis(2-chloroethyl)ether	BDL	10
n-Nitroso-di-n-propylamine	BDL	10
2-Methylnaphthalene	BDL	10
2,4-Dimethylphenol	BDL	10
2,4-Dichlorophenol	BDL	10
4-Chloroaniline	BDL	10
4-Chloro-3-methylphenol	BDL	10
Hexachlorobutadiene	BDL	10
Hexachlorocyclopentadiene	BDL	10
2,4,5-Trichlorophenol	BDL	10
2,4,6-Trichlorophenol	BDL	10
2-Nitroaniline	BDL	10
Acenaphthylene	BDL	10
3-Nitroaniline	BDL	10
Acenaphthene	BDL	10
4-Nitrophenol	BDL	10
2,4-Dinitrotoluene	BDL	10
2,6-Dinitrotoluene	BDL	10
4-Nitroaniline	BDL	10
4,6-Dinitro-2-methylphenol	BDL	10
n-Nitrosodiphenylamine	BDL	10
4-Bromophenyl-phenylether	BDL	10
Hexachlorobenzene	BDL	10
Hexachloroethane	BDL	10
Pentachlorophenol	BDL	10
Phenanthrene	BDL	10
Anthracene	BDL	10
Di-n-butylphthalate	BDL	10
Fluoranthene	BDL	10
Pyrene	BDL	10
Butylbenzylphthalate	BDL	10

CONTINUED:1 OF 2 PAGES

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

RECD: 7/01/94

DATE ANALYZED: 7/13/94

DATE EXTRACTED: 7/05/94

MATRIX: SOLID

PERCENT MOISTURE: 5.63%

COMPOUND

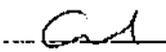
CONCENTRATION
(UG/KG)DETECTION LIMIT MULTIPLIER:
(UG/KG) X 1000

Benzo[a]anthracene	BDL	10
3,3'-Dichlorobenzidene	BDL	10
Chrysene	BDL	10
bis(2-Ethylhexyl)phthalate	BDL	10
Di-n-octylphthalate	BDL	10
Dimethylphthalate	BDL	10
Diethylphthalate	BDL	10
Flourene	BDL	10
2-Methylphenol	BDL	10
4-Methylphenol	BDL	10
Phenol	BDL	10
Nitrobenzene	BDL	10
1,2,4-Trichlorobenzene	BDL	10
Dibenzofuran	BDL	10
Benzo[b]fluoranthene	BDL	10
Benzo[k]fluoranthene	BDL	10
Benzo[a]pyrene	BDL	10
Indeno[1,2,3-cd]pyrene	BDL	10
Dibenz[a,h]anthracene	BDL	10
Benzo[g,h,i]perylene	BDL	10

SURROGATES DILUTED BELOW DETECTION

NOTE: NON-TARGET COMPOUNDS PRESENT

BDL=BELOW DETECTION LIMIT

CERTIFIED BY: 

PCB SCAN
EPA METHOD 8080

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

RECD: 7/01/94

DATE ANALYZED: 7/07/94

DATE EXTRACTED: 7/05/94

MATRIX: SOLID

PERCENT MOISTURE: 5.63%

COMPOUND

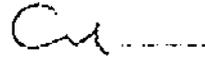
CONCENTRATION
(UG/KG)
BDL

DETECTION LIMIT MULTIPLIER:
(UG/KG) X 200
10

TOTAL AROCLORS

BDL=BELOW DETECTION LIMIT

CERTIFIED:





TOXIC CHARACTERIZATION LEACHATE PROCEDURE (TCLP)
HERBICIDES
EPA METHOD 1311/8150

CUSTOMER: T + M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

RECD: 7/01/94

DATE ANALYZED: 7/12/94

DATE EXTRACTED: 7/08/94

MATRIX: SOLID

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 2
2,4-D	BDL	10
SILVEX	BDL	10

BDL = BELOW DETECTION LIMIT

CERTIFIED: Carl



TOTAL PETROLEUM HYDROCARBONS
EPA MODIFIED METHOD 8100

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

JOB#: N/A

SAMPLE IDENTITY: GATEWAY-C1

CONTROL#: 10741

DATE SAMPLED: 6/30/94

RECD: 7/01/94

DATE ANALYZED: 7/11/94

DATE EXTRACTED: 7/05/94

MATRIX: SOLID

PERCENT MOISTURE: 5.63%

COMPOUND

CONCENTRATION
(MG/KG)
300

DETECTION LIMIT MULTIPLIER:
(MG/KG) X 1
10

TOTAL PETROLEUM
HYDROCARBONS AS
FUEL CONSTITUENTS

SURROGATE
M-TERPHENYL

PERCENT RECOVERY
78%

ACCEPTANCE LIMITS
60-120%

BDL = BELOW DETECTION LIMIT

CERTIFIED BY: _____



T & M ASSOCIATES

LABORATORY #: G01-94-03
CONTROL #: 10741

JOB NAME : GATEWAY MOTORS, INC
JOB NUMBER : N/A
LOCATION : WHITE RIVER JCT, VT

STANDARD TCLP DATA PACKAGE

MATRIX SPIKE RECOVERY FORM

SPIKE SAMPLE ID: 8596

MERCURY SPIKE ID: 9933

<u>PARAMETER</u>	<u>SPIKE CONCENTRATION</u>	<u>SAMPLE CONCENTRATION</u>	<u>CONCENTRATION RECOVERED</u>	<u>% RECOVERY</u>
ARSENIC	1.00	<0.100	0.896	90
BARIUM	2.00	0.203	1.574	79
CADMIUM	1.00	0.010	0.842	84
CHROMIUM	2.00	<0.010	1.586	79
LEAD	2.00	<0.050	1.627	81
MERCURY	0.0030	<0.0005	0.0030	100
SELENIUM	1.00	<0.100	0.843	84
* SILVER	2.00	<0.010	0.244	12

DUPLICATE SAMPLE ID: 9292
MERCURY DUP SAMPLE ID: 10605

METHOD BLANK RESULTS

DUPLICATE SAMPLE RESULTS

<u>PARAMETER</u>	<u>RESULTS</u>	<u>ORIGINAL</u>	<u>RESULTS DUPLICATE</u>	<u>RPD</u>
ARSENIC	<0.100	<0.100	<0.100	0
BARIUM	0.011	0.025	0.025	0
CADMIUM	<0.010	<0.010	0.011	10
CHROMIUM	<0.010	<0.010	<0.010	0
LEAD	<0.050	<0.050	<0.050	0
MERCURY	<0.0005	<0.0005	<0.0005	0
SELENIUM	<0.100	<0.100	<0.100	0
SILVER	<0.010	<0.010	<0.010	0

* LOW SILVER SPIKE RECOVERY

VOA SPIKE RECOVERY FORM
EPA METHOD 8260

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

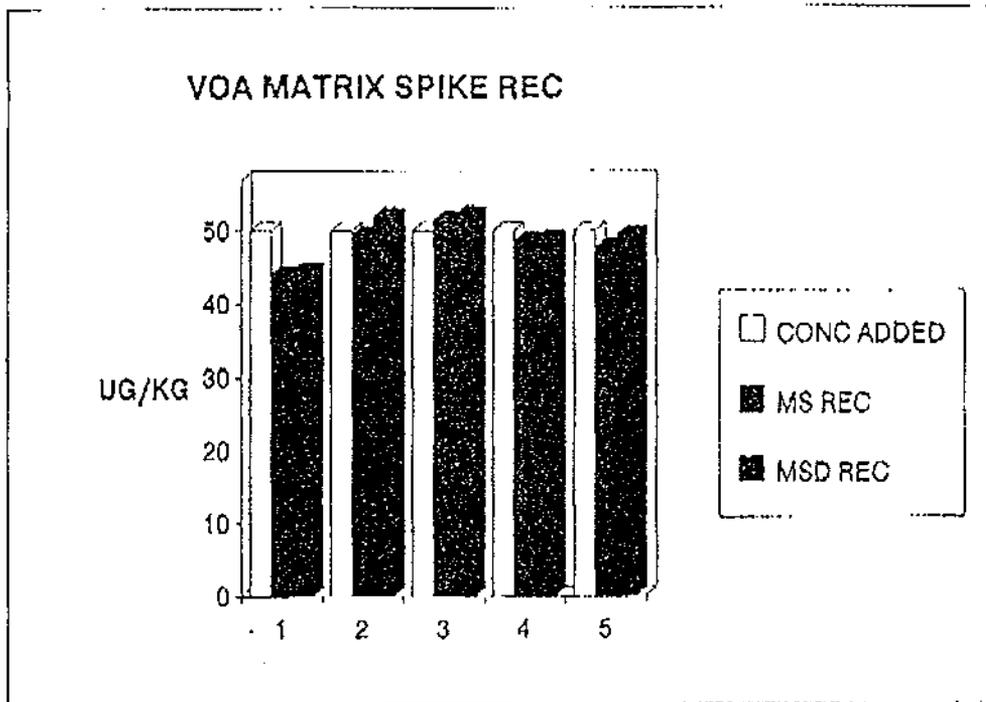
JOB#: N/A

SAMPLE IDENTITY: QC SPIKES/10445

CONTROL#: 10741

DATE ANALYZED: 7/05/94

COMPOUND	CONC ADDED UG/KG	AMT REC UG/KG	DUP AMT REC UG/KG	%REC	DUP % REC	%DIFF
1,1-DICHLOROETHENE	50	43.95	44.46	88%	89%	1%
TRICHLOROETHENE	50	49.42	51.90	99%	104%	5%
BENZENE	50	51.45	52.14	103%	104%	1%
TOLUENE	50	48.52	48.80	97%	98%	1%
CHLOROBENZENE	50	47.66	49.38	95%	99%	3%



SPIKE RECOVERY LIMITS
 1,1-DICHLOROETHENE 74-113%
 TRICHLOROETHENE 72-111%
 BENZENE 76-115%
 TOLUENE 75-117%
 CHLOROBENZENE 75-112%



BNA SPIKE RECOVERY FORM
EPA METHOD 8270

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

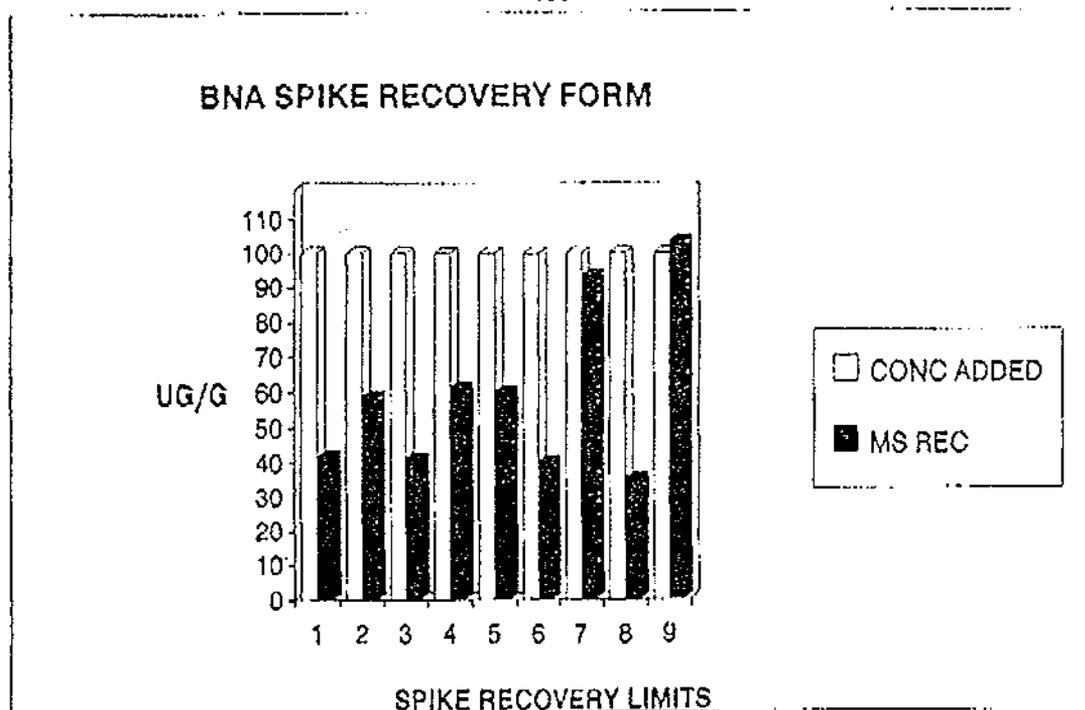
JOB#: N/A

SAMPLE IDENTITY: QC SPIKE/9932

CONTROL#: 10741

DATE ANALYZED: 7/13/94

COMPOUND	CONC ADDED UG/G	AMT REC UG/G	%RECOVERY
2-CHLOROPHENOL	100	41.62	42%
PHENOL	100	58.60	59%
1,4-DICHLOROBENZENE	100	41.11	41%
4-CHLORO-3-METHYLPHENOL	100	61.20	61%
ACENAPHTHENE	100	59.89	60%
4-NITROPHENOL	100	40.39	40%
2,4-DINITROTOLUENE	100	93.29	93%
PENTACHLOROPHENOL	100	35.21	35%
PYRENE	100	103.33	103%



SPIKE RECOVERY LIMITS

- 2-CHLOROPHENOL 25-102%
- PHENOL 26-100%
- 1,4-DICHLOROBENZENE 28-104%
- 4-CHLORO-3-METHYLPHENOL 29-107%
- ACENAPHTHENE 31-137%
- 4-NITROPHENOL 27-104%
- 2,4-DINITROTOLUENE 28-109%
- PENTACHLOROPHENOL 11-101%
- PYRENE 35-142%

**PESTICIDES
SPIKE RECOVERY FORM
EPA METHOD 8080**

CUSTOMER: T+M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

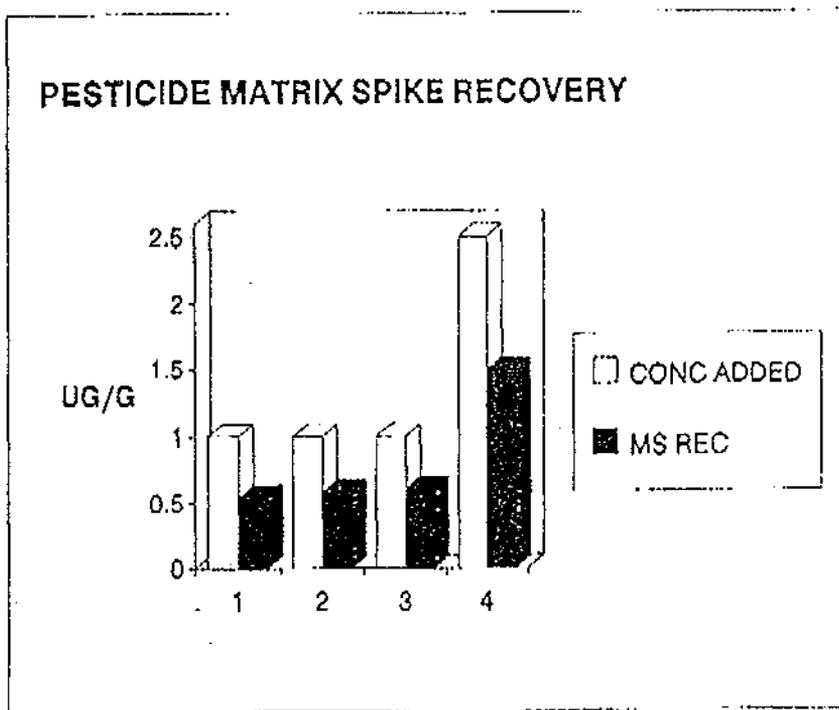
JOB#: N/A

SAMPLE IDENTITY: QC SPIKE/10605

CONTROL#: 10741

DATE ANALYZED: 7/07/94

COMPOUND	CONC ADDED UG/G	AMT REC UG/G	%RECOVERY
LINDANE	1	0.54	54%
HEPTACHLOR	1	0.58	58%
ALDRIN	1	0.61	61%
ENDRIN	2.5	1.49	60%



SPIKE RECOVERY LIMITS

LINDANE 46-127%

HEPTACHLOR 35-130%

ALDRIN 40-130%

ENDRIN 42-139%

TCLP HERBICIDE SPIKE RECOVERY FORM EPA METHOD 8160

CUSTOMER: T + M ASSOC., INC.

LAB#: G01-94-03

SAMPLE LOCATION: GATEWAY MOTORS WHITE RIVER JCT., VT

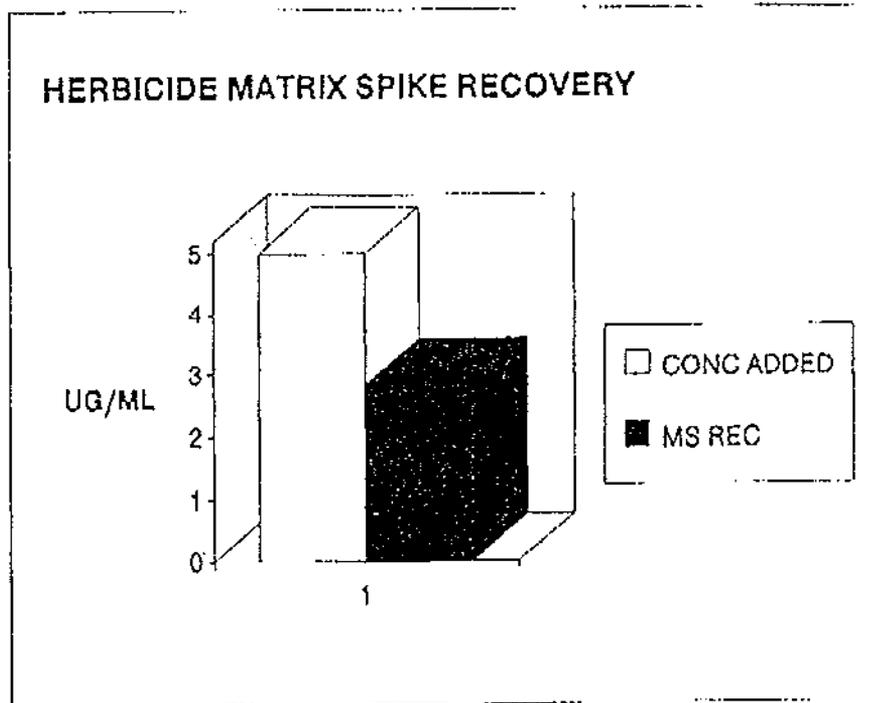
JOB#: N/A

SAMPLE IDENTITY: QC SPIKE/10605

CONTROL#: 10741

DATE ANALYZED: 7/12/94

COMPOUND	CONC ADDED UG/ML	AMT REC UG/ML	%RECOVERY
SILVEX	5	2.81	56%



CONTROL LIMITS \pm 50%