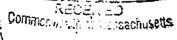
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JUN 1 8 2004

DEP/60STON' 2nd floor Recention

RESPONSE ACTION OUTCOME

Prepared for: Speedy Lube, Inc. 633 North Main Street, Randolph, MA 3-15188

Prepared by: Decoulos & Company

Date: June 18, 2004

ENVIRONMENTAL ENGINEERING & LAND PLANNING

VIA HAND DELIVERY

Friday, June 18, 2004

Bureau of Waste Site Cleanup DEP – Northeast Region 205 Lowell Street Wilmington, MA 01887 JUN 1 8 2004

DEPARTMENT OF TON

2nd Secretarion

RE: 633 North Main Street, Randolph, MA; DEP RTNs 3-15188 and 3-15653; NON-NE-03-3A108

Dear Sir or Madam:

On behalf of Speedy Lube, Inc., Decoulos & Company is pleased to submit this Response Action Outcome (RAO) Report for the above referenced property. The property is closed out under a Class A-3 RAO. The property has been impacted by two separate releases and both releases have been assessed and monitored in this RAO.

The Risk Characterization in the RAO has determined that there is No Significant Risk to public health, safety, welfare or the environment from the remaining constituents within the groundwater on the Site. There is however a potentially Significant Risk to public health, safety, welfare or the environment from the remaining petroleum constituents within the soil on the Site.

As a result of the risk characterization, an Activity and Use Limitation was recorded at the Norfolk Registry of Deeds on June 14, 2002 in Book 16737, Page 300 to limit the use of the Site to commercial or industrial uses.

On November 6, 2003, the Department issued a Notice of Noncompliance (NON) to Speedy Lube relative to the submission of an RAO on June 18, 2002. The NON alleges that the original RAO failed to consider an upward trend in groundwater concentrations and suggested that the underground piping or dispenser islands were a likely source of petroleum that the RAO failed to consider.

Additional groundwater and soil gas data, together with line testing results, support the original conclusions and opinion reached in filing the RAO on June 18, 2002. The latest information is incorporated in this RAO.

We appreciate your cooperation and support in addressing the risk characterization issues. Please feel free to call or email if you have any questions or concerns. Thank you.

Verly truly yours,

James J. Decoulos, PE, LSP jamesj@decoulos.com

cc:

Speedy Lube, Inc.

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC104 g. H.

RESPONSE ACTION OUTCOME (RAO) STATEMENT Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number

3	-	15188

•	
A. SITE LOCATION:	
1. Site Name/Location Aid: Speedy Lube, Inc.	· · · · · · · · · · · · · · · · · · ·
2. Street Address: 633 North Main Street	
3. City/Town: Randolph	4. ŻIP Code:
5. Check here if a Tier Classification Submittal has been provided a. Tier 1A b. Tier 1B c. Tier 1C d.	
6. If a Tier I Permit has been issued, provide Permit Number:	
 B. THIS FORM IS BEING USED TO: (check all that apply) 1. List Submittal Date of RAO Statement (if previously submitted): 2. Submit a Response Action Outcome (RAO) Statement 	06/18/2002 mm/dd/yyyy
 a. Check here if this RAO Statement covers additional Release previously linked to a Primary Tier Classified RTN do not need 	
 b. Provide additional Release Tracking Number(s) covered by this RAO Statement. 	3 - 15653 -
3. Submit a Revised Response Action Outcome Statement	
a. Check here if this Revised RAO Statement covers additiona RAO Statement or previously submitted Revised RAO Stateme Primary Tier Classified RTN do not need to be listed here.	
 b. Provide additional Release Tracking Number(s) covered by this RAO Statement. 	
4. Submit a Response Action Outcome Partial (RAO-P) Statemer	nt
Check above box, if any Response Actions remain to be taken to having the Primary RTN listed in the header section of this transm RAO-Partial Statement for that RTN. A final RAO Statement will no Statements and, if applicable, covers any remaining conditions no	nittal form. This RAO Statement will record only an eed to be submitted that references all RAO-Partial
5. Submit an optional Phase I Completion Statement supporting a	n RAO Statement
6. Submit a Periodic Review Opinion evaluating the status of a To (Section E is optional)	emporary Solution for a Class C RAO Statement
7. Submit a Retraction of a previously submitted Response Actio are not required)	n Outcome Statement (Sections D & E
(All sections of this transmittal form must be filled	RECEIVED
	JUN 18 2004
-	DEP

NORTHEAST REGIONAL OFFICE age 1 of 7

Revised: 06/27/2003

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

RESPONSE ACTION OUTCOME (RAO) STATEMENT

BWSC104

Release Tracking Number

3 - 15188

DESCRIPTION OF RESPONSE ACTIONS: (check	call that apply, for volumes list cumulative amo	unts)
1. Assessment and/or Monitoring Only 3. Deployment of Absorbent or Containment Ma 5. Structure Venting System 7. Product or NAPL Recovery 9. Groundwater Treatment Systems 11. Bioremediation 13. Removal of Contaminated Soils a. Re-use, Recycling or Treatment i. On Sii. Off	6. Temporary Evacuati 8. Fencing and Sign Pencing and Sign Pencing and Sign Pencing and Sign Pencing and Soil Vapor Extraction 12. Air Sparging Site Estimated volume in cubic yards	upplies on or Relocation of Residents osting on
iia. Facility Name:	Town:	State:
iib. Facility Name:	Town:	State:
iii. Describe:		
b. Landfill	yards	
b. Landfill i. Cover Estimated volume in cubic		State:
b. Landfill i. Cover Estimated volume in cubic	yards Town:	State:
b. Landfill i. Cover Estimated volume in cubic Facility Name: ii. Disposal Estimated volume in cubic y	yards Town:	
b. Landfill i. Cover Estimated volume in cubic Facility Name: ii. Disposal Estimated volume in cubic y	yardsTown:	
b. Landfill i. Cover Estimated volume in cubic Facility Name: ii. Disposal Estimated volume in cubic y Facility Name: 14. Removal of Drums, Tanks or Containers:	yardsTown:	State:
b. Landfill i. Cover Estimated volume in cubic Facility Name: ii. Disposal Estimated volume in cubic y Facility Name: 14. Removal of Drums, Tanks or Containers:	yardsTown: yardsTown:	State:

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

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RESPONSE ACTION OUTCOME (RAO) STATEMENT

Release Tracking Number

3 - 15188

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

C. D	ESCRIPTION OF RESPONSE ACTIONS (cont.): (che	eck all that apply, for volumes list cumulative amounts)	
	15. Removal of Other Contaminated Media:		
-	a. Specify Type and Volume:		
	b. Facility Name:	Town:	State:
	c. Facility Name:	Town:	State:
	16. Other Response Actions:		
	Describe:	· · · · · · · · · · · · · · · · · · ·	
	17. Use of Innovative Technologies:		
	Describe:		
_			
•			
), R	ESPONSE ACTION OUTCOME CLASS:		•
	ify the Class of Response Action Outcome that applient ONLY one Class.	es to the disposal site, or site of the Threat of Release.	
	1. Class A-1 RAO: Specify one of the following:		
	a. Contamination has been reduced to background	und levels. b. A Threat of Release has been elim	ninated.
	2. Class A-2 RAO: You MUST provide justification the infeasible.	at reducing contamination to or approaching background	l levels is
	3. Class A-3 RAO: You MUST provide an implemente contamination to or approaching background levels i	ed Activity and Use Limitation (AUL) and justification that is infeasible.	reducing
	background levels is infeasible, and justification that (UCLs) 15 feet below ground surface or below an en	ed AUL, justification that reducing contamination to or a preducing contamination to less than Upper Concentration gineered barrier is infeasible. If the permanent solution is likely in the selection of the engineered barrier.	on Limits relies upon an

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC104

Release Tracking Number

RESPONSE ACTION OUTCOME (RAO) STATEMENT

3 - 15188

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

D. RESPONSE ACTION OUTCOME CLASS (cont.):
5. Class B-1 RAO: Specify one of the following:
a. Contamination is consistent with background levels b. Contamination is NOT consistent with background
levels. 6. Class B-2 RAO: You MUST provide an implemented AUL.
7. Class B-3 RAO: You MUST provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasable.
8. Class C RAO:Specify one:
a. Monitoring b. Passive Operation and Maintenance
c. Active Operation and Maintenance (defined at 310 CMR 40.0006)
E. RESPONSE ACTION OUTCOME INFORMATION:
Specify the Risk Characterization Method(s) used to achieve the RAO described above:
a. Method 1 b. Method 2 c. Method 3
d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated
 Specify all Soil and Groundwater Categories. More than one Soil Category and more than one Groundwater Category may apply at a Site. Be sure to check off all APPLICABLE categories. a. Soil Category(ies) Applicable:
☐ i. S-1/GW-1 ☐ iv. S-2/GW-1 ☐ vii. S-3/GW-1
☐ ii. S-1/GW-2
☐ iii. S-1/GW-3
b. Groundwater Category(ies) Impacted:
i. GW-1 ii. GW-2 iii. GW-3 iii. GW-3 iv. No Groundwater Impacted
3. Specify remediation conducted.
a. Check here if soil remediation was conducted.
b. Check here if groundwater remediation was conducted.
4. Estimate the number of acres this RAO Statement applies to:
·

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Release Tracking Number

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

3 - 15188

F. LSP SIGNATURE AND STAMP:	
	In my professional opinion and judgment based upon application provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and
> if Section B indicates that either an RAO Statement, Phase I provided, the response action(s) that is (are) the subject of this accordance with the applicable provisions of M.G.L. c. 21E and accomplish the purposes of such response action(s) as set for 40.0000, and (iii) comply(ies) with the identified provisions of all	310 CMR 40.0000, (ii) is (are) appropriate and reasonable to th in the applicable provisions of M.G.L. c. 21E and 310 CMR
I am aware that significant penalties may result, including, but r information which I know to be false, inaccurate or materially in	
1. LSP#:	
2. First Name: James	3. Last Name: Decoulos
4. Telephone: (617) 489-7795 5. Ext.:	6. FAX: (<u>877)</u> 842-9629
Signature: Hullah	
8. Date: 06/18/2004 mm/dd/yyyy	9. LSP Stamp: JAMES DECOULOS No. 9360 No. 9360
G. PERSON MAKING SUBMITTAL:	
Check all that apply: a. change in contact name Name of Organization: Speedy Lube, Inc.	b. change of address c. change in the person undertaking response actions
	A Badawi
633 North Main Street	4. Last Name: Badawi 6. Title: Treasurer & Clerk
5. Street.	
7. City/Town: Randolph	8. State: MA 9. ZIP Code: 02368-0000
.s. Telephone: (781) 961-4881	12. FAX:

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

RESPONSE ACTION OUTCOME (RAO) STATEMENT

BWSC104.

Release Tracking Number

15188

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J) H. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL: a. Owner b. Operator c. Generator e. Other RP or PRP Specify: 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2) 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j)) Specify Relationship: 4. Any Other Person Making Submittal REQUIRED ATTACHMENT AND SUBMITTALS: 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof. 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of an RAO Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL. 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a RAO Statement with instructions on how to obtain a full copy of the report. 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site subject to this RAO Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site. 5. Check here if required to submit one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for Classi A-3, A-4, B-2, B-3 RAO Statements) a. Notice of Activity and Use Limitation b. Number of Notices submitted: 1 c. Grant of Environmental Restriction d. Number of Grants submitted: 6. If an RAO Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that an RAO Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211. 7. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office. 8. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC104

Release Tracking Number

3

15188

RESPONSE ACTION OUTCOME (RAO) STATEMENT Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

J. CERTIFICATION OF PERSON MAKING SUBMITTAL: 1.1, Eyad Badawi , attest under the pains a examined and am familiar with the information contained in this submittal, incl transmittal form, (ii) that, based on my inquiry of those individuals immediately material information contained in this submittal is, to the best of my knowledge that I am fully authorized to make this attestation on behalf of the entity legally rentity on whose behalf this submittal is made am/is aware that there are significantly possible fines and imprisonment, for willfully submitting false, inaccurate, or in	uding any and a responsible for e and belief, true responsible for the ficant penalties, incomplete inform	Il documents accompanying this obtaining the information, the , accurate and complete, and (iii) nis submittal. I/the person or including, but not limited to, nation.
2. By: Signature	3. Title:	Treasurer & Clerk
4. For: Speedy Lube, Inc. (Name of person or entity recorded in Section G)	5. Date:	06/18/2004 mm/dd/yyyy
6. Check here if the address of the person providing certification is differe 7. Street: 8. City/Town: 9. State: 12. Ext.: 13.	:	
YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIO RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBI MAY BE PENALIZED FOR MISSING A REQU	WIT AN INCOMPL	ETE FORM, YOU
Date Stamp (DEP USE ONLY:)		



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-113

Release Tracking Number

${\bf ACTIVITY~\&~USE~LIMITATION~(AUL)~TRANSMITTAL~FORM}\\$

Pursuant to 310 CMR 40.1056 and 40.1070 - 40.1084 (Subpart J)

3 - 15188

	- · (p	
A. LOCATION OF DISPOSAL SITE AND PROPERTY SUBJECT TO AUL Disposal Site Name: Speedy Lube	:	
633 North Wain Street	Location	
Daniel Lab	_ Location	02368
City/Town: Randolph	_ ZIP Code:	-
Address of property subject to AUL, if different than above. Street:		
City/Town:	ZIP Code:	
Check here if this Disposal Site is Tier Classified.		
f the Disposal Site subject to the AUL is also subject to a Tier I Permit, provide the	he Permit Numb	er:
Related Release Tracking Numbers affected by this AUL:		
3. THIS FORM IS BEING USED TO: (check one)		
Submit a certified copy of a Notice of Activity and Use Limitation, pursuant	t to 310 CMR 40	.1074 (complete all sections of this form).
Submit a certified copy of an Amended Notice of Activity and Use Limitatic (complete all sections of this form).	on, pursuant to 3	310 CMR 40.1081(4)
Submit a certified copy of a Termination of a Notice of Activity and Use Lift (complete all sections of this form).	mitation, pursua	nt to 310 CMR 40.1083(3)
Submit a certified copy of a Grant of Environmental Restriction, pursuant (to 310 CMR 40.1	1071, (complete all sections of this form).
Submit a certified copy of an Amendment of Environmental Restriction, pu	ursuant to 310 C	MR 40.1081(3) (complete all sections of this form).
Submit a certified copy of a Release of Environmental Restriction, pursua	nt to 310 CMR 4	0.1083(2) (complete all sections of this form).
You must attach all supporting documentation for the any Legal Notices and Notices to Public Office		
2. AUL INFORMATION:	· · · · · · · · · · · · · · · · · · ·	
Date AUL was recorded and/or registered with Registry of Deeds and/or Land Re	gistration Office:	
ame of Registry of Deeds and/or Land Registration Office where AUL was record	ed and/or regist	ered: Norfolk
ook and Page Number and/or Document Number of recorded and/or registered /	AUL:	
). PERSON SUBMITTING AUL TRANSMITTAL FORM:		
Name of Organization: Speedy Lube, Inc.		
Name of Contact: Eyad Badawi	Title:Vi	ce President and Treasurer
Street 633 North Main Street	_	
City/Town: Randolphj	_ State: M	IA ZIP Code:02368
Telephone 781-961-4881 Ext:	FAX: (option	nal)
. OWNER OF PROPERTY, IF NOT PERSON SUBMITTING AUL TRANS	MITTAL FORM	A:
Provide a mailing address for the owner of the property if that Provide addresses for additional o		
		tschment.
Name of Organization:		
Name of Contact:		
Street:		
City/Town:		
Telephone Ext.:	_ FAX: (option	nal)
		·

D E P

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-113

Release Tracking Number

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

3 - 15188

Pursuant to 310 CMF	R 40.1056 and 40.1070 - 40.10	084 (Subpar	1 J)	3 - 12100
F. RELATIONSHIP TO DISPOSAL SITE	OF PERSON SUBMITTING AU	L TRANSMIT	TAL FORM: (che	ck one)
RP or PRP Specify: Owner C	Operator O Generator O	Transporter	Other RP or PRP:	
Fiduciary, Secured Lender or Municipal	ity with Exempt Status (as defined	by M.G.L. c.	21E, s. 2)	
Agency or Public Utility on a Right of W.	ay (as defined by M.G.L. c. 21E, s.	. 5(j))		
Any Other Person Submitting AUL	Specify Relationship	p:		
G. CERTIFICATION OF PERSON SUBMI	TTING AUL TRANSMITTAL FO	RM:		
Lyad Badawi and am familiar with the information contain based on my inquiry of those individuals imm submittal is, to the best of my knowledge and behalf of the entity legally responsible for thi significant penalties, including, but not limite	nediately responsible for obtaining d belief, true, accurate and comple is submittal. I/the person or entity and to possible fines and imprison	r and all docur g the informat ete, and (iii) th on whose beh nent for willfu	ments accompanying to ion, the material informaterial at I am fully authorize alf this submittal is ma ally submitting false, in	his transmittal form, (ii) that, mation contained in this d to make this attestation on ade am/is aware that there are laccurate, or incomplete
By: Esst	- 1	Title:	Vice Presiden	and Treasurer
(signature) Speedy Lube, Inc			June 14, 200	
(print name of person or entity recorded	in Section D)			
Enter address of person providing certificatio	n, if different from address recorde	d in Section		
Street:	· · · · · · · · · · · · · · · · · · ·	_	,	
City/Town:		State:	ZIP Code	e:
Telephone	Ext.:	FAX: (op	tional)	
	TAN INCOMPLETE FORM, YOU DEADLINE, AND YOU MAY INC			
				FEES.

2.0 BACKGROUND

2.1 Site Description

The property is described by the Town of Randolph Assessors as on Map 30, Block C, Lot 6.1A and is recorded at the Norfolk Registry of Deeds in Book 9310, Page 747 (the Site) (see locus on Figure 1).

The U.S. Geological Survey (USGS) map of Norwood, Massachusetts dated 1985 shows the Site located approximately 54 meters above the National Geodetic Vertical Datum of 1929. Horizontal coordinates within the Universal Transverse Mercator (UTM) system are 4,671,450 mN, and 330,450 mE.

The Site fronts on both North Main Street and Orchard Street. Entrance onto the Site from North Main Street is from two curb cut openings, one lying on the northerly portion of the Site and the other on the southerly. Entrance onto the Site from Orchard Street is predominately from one curb cut opening.

The land is improved by a one story wood framed commercial building on a concrete slab (see Figure 2). The commercial building has a postal address of 633 North Main Street.

The Site lies within a residential zoning district as shown on the current Zoning Map of the Town of Randolph. On January 21, 1993, the Randolph Zoning Board of Appeals approved an upgraded commercial use for the Site and the plan accepted for this approval was recorded at the Norfolk Registry as Number 124-1993 in Plan Book 412.

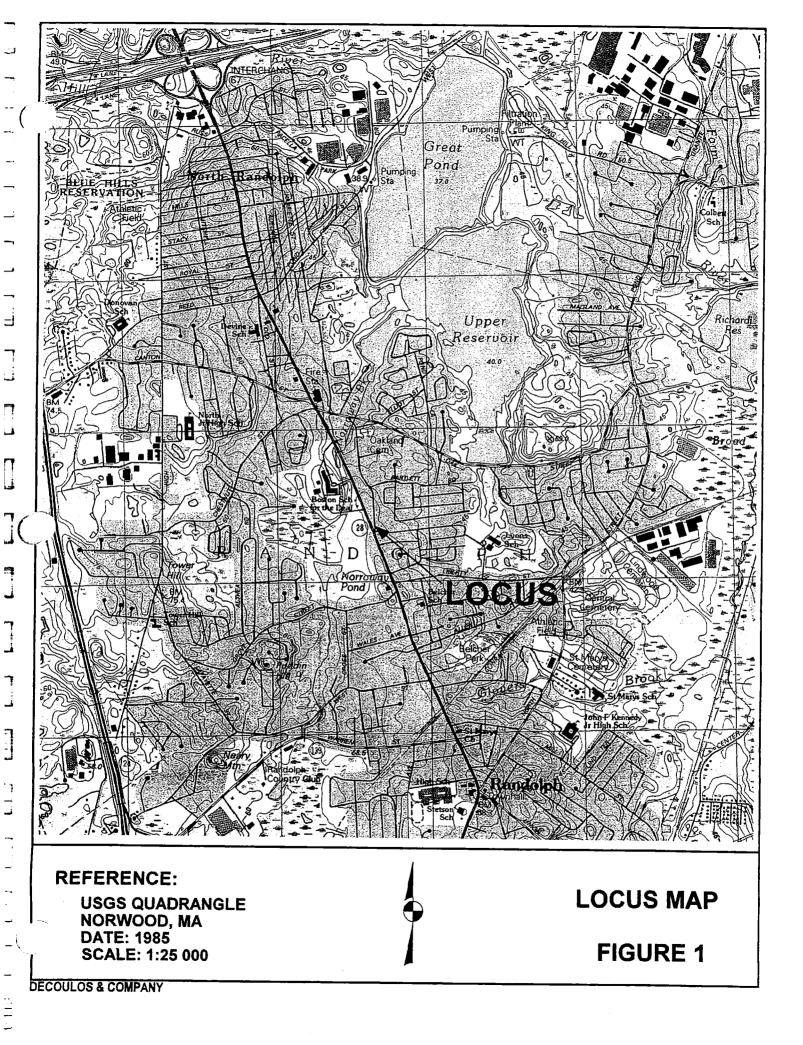
2.2 Current Use

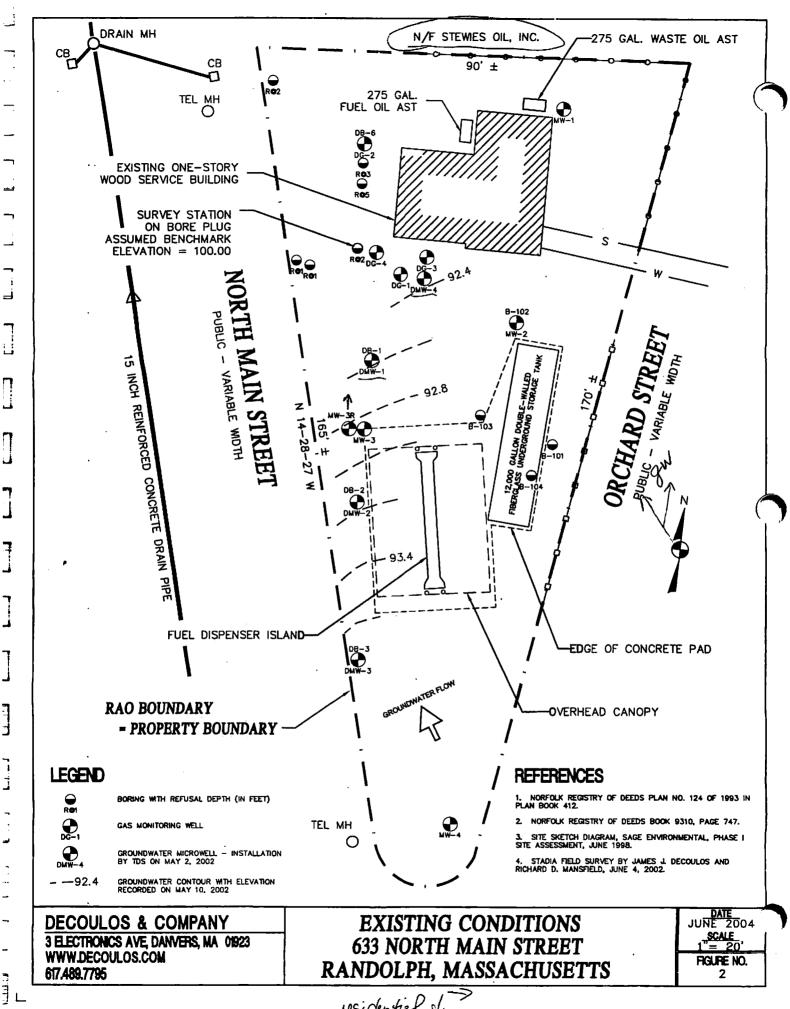
The Site is currently used for retail vehicle fueling and light automotive repair. The vehicle fueling operation utilizes one 12,000 gallon double-walled fiberglass underground storage tank (UST) for fuel storage. The UST is split to provide storage for 9,000 gallons of regular fuel and 3,000 gallons of premium gasoline. Double-walled fiberglass piping distributes fuel product to the fuel dispenser pumps as shown on Figure 2. The fuel dispenser island is covered by an overhead canopy. The entire UST system is monitored and automatically gauged by a Veeder-Root TLS-350 Monitoring System. Recent line testing of the UST system is provided in Appendix A.

The automotive repair shop conducts very general mechanical automotive repair. The repairs primary include tire replacement and oil changes. No body work or painting is conducted on Site.

The Site is nearly all paved. Areas that are not part of traffic flow for fueling or repair are used to store vehicles on a temporary basis.

The building is serviced by underground town water and sewer service and is heated by fuel oil. Electric and telephone utilities are serviced by overhead wiring from Orchard Street. Two 275 gallon fuel oil tanks are located outside the commercial building on the west side of the building as shown in Figure 2. The fuel tanks appeared in good condition with no evidence of tank or piping failure.





residential of

2.3 Current Abutting Uses

The site is abutted to the north by a commercial business known as Stewies Oil, Inc. Stewies distributes heating oil and sells diesel fuel from the location. The fuel is stored in an above ground storage tank.

Remaining abutting uses to the east, south and west are the public ways of North Main Street and Orchard Street.

3.0 UST AND MCP COMPLIANCE

Since approximately 1935, the Site has been used as a retail gasoline filling station. On June 11, 1997, a release of petroleum was reported to the Massachusetts Department of Environmental Protection (DEP) pursuant to G.L. c.21E and the Massachusetts Contingency Plan (MCP). The release was assigned tracking number 3-15188 by DEP and apparently associated with a 2,000 gallon underground storage tank (UST) removed by RC Construction in June of 1997. According to Captain Rogers of the Randolph Fire Department, no records or disposal receipts are available.

On October 27, 1997, another release of petroleum was reported to DEP as a result of the removal of two 6,000 gallon USTs. DEP assigned tracking number 3-15653 to the release. A total of 275.05 tons of petroleum contaminated soil from the release was recycled at Bardon Trimount in Stoughton, MA.

SAGE Environmental, Inc. of Pawtucket, RI (SAGE) oversaw the work related to the second reported release. SAGE conducted subsurface investigations on February 13, 1998 to evaluate the extent of the releases and subsequently submitted the following reports to DEP: an Immediate Response Action Plan on December 17, 1997; an Immediate Response Action Outcome Statement in May of 1998; and, a Phase I Initial Site Investigation and Tier Classification in June of 1998. Documentation regarding the disposal of contaminated soil and the USTs is included in these reports.

In the Phase I report dated June of 1998, SAGE tier classified the Site as Tier II with a score of 171.

4.0 SOIL AND GROUNDWATER SAMPLING

Due to the need for additional downgradient groundwater data, additional soil borings and monitoring wells were advanced by Technical Drilling Services, Inc. of Sterling, MA (TDS) on May 8, 2002. Decoulos & Company personnel oversaw the operation of a GeoProbeTM 54DT direct push probing machine. Eleven borings were advanced and four were completed as micromonitoring wells. Soil was screened with a Thermo-Electron 580B photo-ionization detector (PID) calibrated that morning by Spectra Environmental of Reading, MA. Logs from the soil investigation are provided in Appendix B. Positive PID readings are presented in the logs on the right side of each page.

Based upon PID readings, soil samples from the boring investigation were collected for laboratory analysis. The samples with the highest PID readings were collected and analyzed for volatile petroleum hydrocarbons (VPHs) (see Table 1 and Laboratory Certificates of Analysis in Appendix B).

Borings in the northwestern portion of the Site were unable to penetrate the groundwater table. Refusal was encountered by bedrock from depths ranging between one and five feet below grade. The borings are identified on Figure 2 with their respective refusal depths.

Two of the borings were completed as gas monitoring wells DG-1 and DG-2 as shown on Figure 2. The wells were set to provide soil gas data points if necessary.

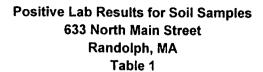
Pre-existing monitoring well MW-3 was without a cover. Soil had been placed within the well frame and the soil filled the well to the top of the casing. Due to its location, stormwater runoff from the concrete pad was likely to flow directly into MW-3 from the surface. As a result of this potential source point, the top three inches of the well were cleaned out and concrete was set to the top of the frame.

The downgradient location of MW-3R (from MW-3) created a potential unreliable groundwater point. Two of the micro-wells set on May 8th (DMW-1 and DMW-2) were designed to provide more representative groundwater conditions at this location on Site.

Groundwater samples were collected from new micro-wells DMW-1, DMW-2, DMW-3 and DMW-4 and existing micro-well MW-3R on May 10, 2002. The depth to the static groundwater interface and total well depth were measured to the nearest 0.01 foot with an Environmental Instruments groundwater interface probe prior to sampling activities. The groundwater depth measurement, as well as a description of the odor and appearance of the groundwater, was logged in the field. A slight sheen was noted in the groundwater from DMW-2 with gray/brown sediment and a slight/mild petroleum odor observed in all the wells sampled.

Each well was purged with a GeoPump 2 low flow peristaltic pump equipped with dedicated polyethylene tubing until approximately three well volumes were removed. The wells were allowed to recharge and stabilize prior to sample collection. The groundwater samples were filtered with dedicated Waterra 0.45 micron filters due to the sediment withdrawn with the water. The samples were collected in properly preserved, laboratory prepared containers, placed in an ice chest and delivered to the GeoLabs, Inc. certified laboratory on May 13, 2002. The groundwater samples were analyzed for volatile petroleum hydrocarbons (VPHs) according to DEP protocols on a standard two-week turn-around.

A level survey was conducted on the Site and elevations established for the top of the well casings on June 4, 2002. It was determined that groundwater flow was in a <u>north-northwesterly</u> direction based on the survey and groundwater depth data collected. Local groundwater flow direction will likely be influenced by surface and subsurface structures and utilities in and adjacent to the Site.



										Method 1				Upper
_	_	_	-			_				S-1	Soil	S-2	Soil	Conc.
Sample ID:	B-101/S-3	B-102/S-3	B-103/S-3	B-104/S-3	DB-1/S-2	DB-2/S-1	DB-3/S-3	DB-6/S-1	Average	GW 2	GW 3	GW 2	GW 3	Limit
Date:	2/13/1998	2/13/1998	2/13/1998	2/13/1998	5/8/2002	5/8/2002	5/8/2002	5/8/2002	Soil					
Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Depth (ft):	8-12	8-12	8-12	8-12	4-8	0-4	8-12	0-4						
VPHs			<u>-</u>									•		
C5-C8 Aliphatics	36	38	36	36	61.9	56.6	3,612	1.8	76	100	100	500	500	5,000
C9-C12 Aliphatics	18	14	17	14	51.6	72.9	138	ND	41	1,000	1,000	2,500	2,500	20,000
C9-C10 Aromatics	S 76400 J	1 (hule)	(7.50)	l'elu)	23.9	58.1	86.2	ND	75	100	100	500	500	5,000
VPH Target Analytes														
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	0.2	40	40	60	60	2,000
Ethylbenzene	1.5	1.6	1.9	1.2	1.43	1.03	2.32	ND	1	500	500	1,000	500	10,000
MTBE	ND	ND	ND	ND	0.868	ND	ND	ND	0.2	100	100	200	200	5,000
Naphthalene	2	1.6	1.8	1.7	1.93	4.02	3.56	ND	2	100	100	1,000	1,000	10,000
Toluene	ND	ND	0.29	ND	ND	ND	ND	ND	0.2	500	500	500	1,000	10,000
m-,p-Xylenes	8.8	8.4	9.3	8.2	2.56	7.92	12.6	ND	7	500	500	500	1,000	10,000
o-Xylene	3.5	3.3	3.4	2.9	ND	3.96	4.14	ND	3	500	500	500	1,000	10,000

NOTES

Non detects set at one half of reportable limit

The elevation data from the new micro-wells was as follows:

Groundwater Elevation Data Table 2

	Well Casing <u>Elevation</u>	Total Well <u>Depth</u>	Groundwater Depth <u>05/10/02</u>	Groundwater Elevation <u>05/10/02</u>
DMW-1	100:25	14.20	7.72	92.53
DMW-2	100.64	13.30	7.44	93.20
DMW-3	101.04	12.10	7.30	93.74
DMW-4	100.25	14.08	7.90	92.35

Confirmatory groundwater samples were collected from the previously sampled on-site microwells DMW-1, DMW-2, DMW-3, DMW-4 and MW-3R on June 4, 2002. Groundwater depth measurements were not collected since dedicated tubing was present in each of the micro-wells. A description of the odor and appearance of the groundwater, was logged in the field prior to sample collection. A gray/ brown sediment and a slight/mild petroleum odor was observed in all the wells sampled.

Each well was purged with a GeoPump 2 low flow peristaltic pump equipped with previously installed, dedicated polyethylene tubing until approximately three well volumes were removed. The wells were allowed to recharge and stabilize prior to sample collection. The groundwater samples were filtered with dedicated Waterra 0.45 micron filters due to the sediment withdrawn with the water. The samples were collected in properly preserved, laboratory prepared containers, placed in an ice chest and delivered to the GeoLabs, Inc. on June 5, 2002. The groundwater samples were analyzed for VPHs according to DEP protocols on a standard two-week turn-around.

Two additional rounds of groundwater samples were collected on November 12, 2003 and March 15, 2004. All of the groundwater analytical data is presented in Table 3 with the Laboratory Certificates of Analysis in Appendix C.

Positive Lab Results for Groundwater Samples 633 North Main Street Randolph, MA Table 3

													MCP Method 1 Standards		Upper						
						AVG					AVG						AVG				Conc.
Sample ID:	DMW-1	DMW-1	DMW-1	DMW-Y	DMW-1	DMW-1	DMW-2	DMW-2	DMW-2	DMW-2	DMW-2	DMW-3	DMW-3	DMW-3	DMW-3	DMW-3	DMW-3	GW 1	GW 2	GW 3	Limit
Date:	5/10/02	6/4/02	11/12/03	11/12/03	3/15/04		5/10/02	6/4/02	11/12/03	3/15/04		5/10/02	6/4/02	6/4/02	11/12/03	3/15/04					
Units:	μg/L	μg/L	μg/L	μg/L	μg/L		μg/L	μg/L	μg/L	μg/L		μg/L	μg/L	μg/L	μg/L	μg/L		μg/L	μg/L	μg/L	μg/L
VPH Target Analytes																					
Benzene	2,220	5,970	3,750	2,860	2,000	3,360	780	735	935	421	718	ND	ND	6	ND	ND	3	5	2,000	7,000	70,000
Ethylbenzene	655	1,510	1,990	815	1,610	1,316	834	794	1,280	674	896	112	44	51	ND	7	43	700	30,000	4,000	100,000
MTBE	2,550	19,300	5,760	4,500	2,340	6,890	111	64	ND	182	120	22	ND	ND	ND	ND	6	70	50,000	50,000	100,000
Naphthalene	246	327	ND	ND	465	408	404	183	ND	718	451	ND	22	35	ND	ND	17	20	6,000	6,000	60,000
Toluene	2,190	1,940	1,250	1,040	2,330	1,750	4,090	7,000	4,400	2,430	4,480	38	42	32	ND	ND	23	1,000	6,000	50,000	100,000
m-,p-Xylenes	3,750	5,910	6,220	2,870	5,230	4,796	4,250	12,900	6,590	3,950	6,923	523	376	423	14	16	271	10,000	6,000	6,000	100,000
o-Xylene	1,250	1,350	1,660	830	1,480	1,314	1,860	5,910	3,500	2,230	3,375	256	201	204	17	20	140	10,000	6,000	50,000	100,000
VPHs																					
C5-C8 Aliphatics	ND	ND	ND	ND	ND	1,040	ND	4,100	2,670	ND	1,843	921	928	1,310	185	95	688	400	1,000	4,000	100,000
C9-C12 Aliphatics	ND	ND	ND	ND	ND	390	ND	ND	ND	ND	338	ND	ND	ND	ND	ND	41	4,000	1,000	20,000	100,000
C9-C10 Aromatics	ND	ND	6,620	3,540	4,510	3,759	3,070	6,720	7,720	5,670	5,795	827	ND	1,770	436	308	723	200	5,000	4,000	100,000

													MCP Method 1 Standards			Upper
_	_					AVG						AVG				Conc.
Sample ID:	DMW-4	DMW-4	DMW-4	DMW-X	DMW-4	DMW-4	MW-3R	MW-3R	MW-3R	MW-3R	MW-X	MW-3R	GW 1	GW 2	GW 3	Limit
Date:	5/10/02	6/4/02	11/12/03	11/12/03	3/15/04		5/10/02	6/4/02	11/12/03	3/15/04	3/15/04					
Units:	μg/L	μg/L	μg/L	μg/L	μg/L		μg/L	μg/L	μg/L	μg/L	μg/L		μg/L	μg/L	μg/L	μg/L
VPH Target Analytes																
Benzene	1,500	968	157	172	434	646	2,350	4,240	3,020	1,600	1,650	2,572	5	2,000	7,000	70,000
Ethylbenzene	183	24	ND	ND	98	66	673	2,590	1,800	1,220	1,280	1,513	700	30,000	4,000	100,000
MTBE	34,200	69,800	6,670	8,390	5,050	24,822	698	778	ND	97	103	360	70	50,000	50,000	100,000
Naphthalene	34	ND	ND	ND	40	37	136	453	ND	426	451	393	20	6,000	6,000	60,000
Toluene	221	ND	ND	ND	57	61	11,800	19,200	7,900	5,480	5,380	9,952	1,000	6,000	50,000	100,000
m-,p-Xylenes	594	31	91	91	204	202	10,700	15,700	7,900	5,290	5,690	9,056	10,000	6,000	6,000	100,000
o-Xylene	181	10	ND	ND	46	52	4,290	6,750	3,310	2,430	2,590	3,874	10,000	6,000	50,000	100,000
VPHs																
C5-C8 Aliphatics	ND	ND	ND	ND	ND	880	ND	ND	ND	1,340	1,860	1,440	400	1,000	4,000	100,000
C9-C12 Aliphatics	ND	ND	ND	ND	ND	168	ND	ND	ND	ND	ND	330	4,000	1,000	20,000	100,000
C9-C10 Aromatics	544	59	ND	3,690	294	972	6,940	7,640	8,110	4,540	4,790	6,404	200	5,000	4,000	100,000

NOTES Non detects set at one half of reportable limit Method 1 GW-2 or GW-3 Exceedance

5.0 SOIL GAS SAMPLING

A soil gas investigation was conducted by Decoulos & Company personnel on June 4, 2002 due to the exceedance of Method 1 GW-2 groundwater standards for various parameters in the on-site micro-wells. The gas samples were collected from overburden gas wells DG-1 and DG-2 installed by TDS on May 8, 2002. The boreholes had been installed with 0.75 inch PVC slotted screen to grade and completed with a roadbox cemented in place atop the wells (see logs in Appendix B).

Sample DG-2 was collected on the western side of the building on Site. The location of the sample is directly beneath an area where vehicles are intermittently parked. The paved surface in this area is stained as seen in Photograph B of Figure 3.

Dedicated polyethylene tubing was installed to the bottom of each gas well with a tight rubber stopper seal between the well and tubing prior to sampling. The seal was installed prior to sample collection to prevent a short circuit with ambient air. Six liter, non-regulated, Summa canisters were then connected to the tubing and grab samples collected from each boring for two minutes. The canisters were shipped to GeoLabs, Inc. of Braintree, MA the following day to be analyzed for APHs according to MA DEP protocols.

On June 9, 2004, two additional soil gas samples were collected in front of the Speedy Lube building. The soil gas was collected from 18 inch deep bore holes that were approximately one inch in diameter. The bores were established with a Hitachi hammer drill model no. 38YE.

Polyethylene tubing was installed to the bottom of each gas well with a tight rubber stopper seal between the well and tubing prior to sampling. Six liter, non-regulated, Summa canisters were then connected to the tubing and grab samples collected from each boring for two minutes. The canisters were shipped to GeoLabs, Inc. of Braintree, MA the same day to be analyzed for APHs.

The samples are identified as DG-3 and DG-4 as shown on Figure 2 (the field samples were identified as SLGA-1 and SLGA-2, respectively). After the soil gas sample collection, the wells were backfilled with the bored debris and secured from surface infiltration with a plumbers epoxy sealant.

6.0 RISK CHARACTERIZATION

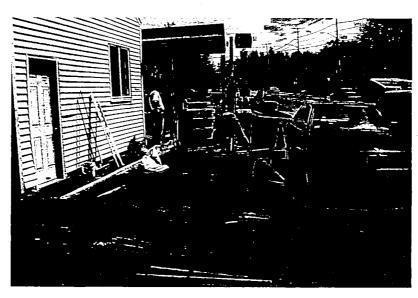
A Method 1 and Method 2 Risk Characterization was used to characterize the risk to human health, safety, welfare and the environment at the disposal site defined by RTNs 3-15188 and 3-15653 in accordance with the Massachusetts Contingency Plan, 310 CMR 40.0980. The Site includes the area defined by the property boundaries. The Method 2 Risk Characterization included modification of selected Method 1 Standards according to procedures outlined in DEP Policy WSC #02-411: Characterizing Risks posed by Petroleum Contaminated Sites: Implementation of MADEP VPH/EPH Approach, Final Draft, October, 2002.

The risk characterization determined that a condition of No Significant Risk exists for the entire Site when conditions are applied limiting the Site to its current or similar commercial uses. The Application of Activity and Use Limitation was conducted in accordance with the Massachusetts Contingency Plan, 310 CMR 40.1012. This Method 2 Risk Characterization therefore supports a Class A-3 Response Action Outcome. Steps in the characterization of risk follow.



WEST SIDE OF SPEEDY LUBE BUILDING LOOKING NORTH

PHOTOGRAPH A



WEST SIDE OF SPEEDY LUBE BUILDING LOOKING SOUTH

PHOTOGRAPH B

REFERENCE:

PHOTOGRAPHS SHOT ON APRIL 17, 2002 AND MAY 8, 2002 SPEEDY LUBE PHOTOGRAPHS

FIGURE 3

DECOULOS & COMPANY

6.1 Current and Foreseeable Site Uses

The Site is currently used for retail automotive repair service and the retail dispensing of gasoline. Groundwater contamination originating at the Site appears to be limited to the Site. For purposes of this risk characterization, we consider the Site as the disposal site. Because of the good commercial location and business zoning, foreseeable site uses include its existing use and continued commercial development. A change in the use of the Site would potentially result in increased risks of exposure to impacted soil and groundwater during construction activities and through modified use of the Site and buildings. The application of an Activity Use Limitation on the Site ensures review of the potential risks of exposure to the levels of impacted soil and groundwater then present at the Site. The review would be conducted by a Licensed Site Professional prior to development of the Site to evaluate the risks of exposure during construction and following modification of the Site to its proposed uses. The Activity and Use Limitation will, therefore, be applied and recorded in accordance with the Massachusetts Contingency Plan, 310 CMR 40.1012 and 40.1074, respectively.

6.2 Nature and Extent of Contamination

Contamination with petroleum hydrocarbons has been identified in the soil and groundwater at the Site. These residuals are believed to have originated from the storage of gasoline on Site.

Decoulos & Company conducted field inspections and investigations from April, 2002 to June, 2004 to characterize the current nature and extent of the contamination. As described previously in this report, the field investigation studies included the collection of groundwater samples from both a pre-existing monitoring well and new monitoring wells; the collection of soil samples; and, the collection of soil gas samples adjacent to the Site building. Four soil gas samples have been collected within thirty feet of the commercial Site building.

Soil sample analysis results recorded in previous reports for the Site and recent field activities are presented in Table 1. The February 13, 1998 (from SAGE) and May 8, 2002 results conclude that concentrations for most VPH target analytes were below applicable S1, GW-2 standards. The VPH range C₉-C₁₀ Aromatics detected in the February 13, 1998 soil samples were slightly above the S1, GW2 soil standard of 100 milligrams per kilogram (mg/kg). The most recent soil sample analysis results conclude that the concentrations of C₅-C₈ Aliphatics, C₉-C₁₂ Aliphatics, and C₉-C₁₀ Aromatics were below the applicable S1, GW-2 standards of 100, 1,000 and 100 mg/kg, respectively, with the exception of the 342 mg/kg concentration detected in sample DB-3/S-3.

Groundwater sample analysis results from four rounds of field activities conducted on May 10, 2002; June 4, 2002; November 12, 2003; and, March 15, 2004; along with the applicable Method 1 standards, are presented in Table 3. These results show that the concentrations of the VPH target analyte benzene detected in DMW-1 from all four rounds exceeded the applicable Method 1, GW-2/GW-3 groundwater standard. Monitoring well MW-3R showed an exceedance of benzene in the first three rounds of sampling. The MTBE concentration detected in the DMW-4 groundwater sample collected on June 4, 2002 exceeded the applicable Method 1, GW-2/GW-3 standard. This MTBE reading was the only exceedance of GW-2/GW-3 for all groundwater samples collected. The average MTBE concentration at DMW-4 is 24,822 ug/l (the GW-2/GW-3 standard is 50,000 ug/l).

Toluene and m,p-xylene concentrations from DMW-2 and MW-3R also exceeded the Method 1, GW-2/GW-3 standards for these constituents. The last round of samples collected on March 15, 2004 however showed these concentrations below the GW-2/GW-3 standards.

The average concentrations of VPH range C₅-C₈ Aliphatics detected in the DMW-1, DMW-4 and DMW-3R samples exceeded applicable Method 1, GW-2/GW-3 standards possibly due to elevated reporting limits (RLs) from the laboratory. The Method 1, GW-2 standard for the C₅-C₈ Aliphatics and the C₉-C₁₀ Aromatics were exceeded in the average concentrations of samples collected form DMW-2 and DMW-3R.

The soil gas analysis results of the samples collected on June 4, 2002 and June 9, 2004 are presented in Table 4 along with the development of site specific Method 2, GW-2/GW-3 standards.

6.3 Background Conditions and Contaminants of Concern

The Site is a suburban property in a residential zone located along a business secondary state highway. According to Randolph Fire Department records, it has been used as an automotive fueling station since approximately 1935. The Site, therefore, has a long history of automotive use and surficial soils would be expected to be impacted with pyrogenic polynuclear aromatic hydrocarbons (PAHs) associated with automotive exhaust residuals. Subsurface soils would also be expected to be contaminated with pyrogenic PAHs in areas where asphalt, urban fill, or surface soils have become intermixed. Background conditions on the Site would therefore be expected to include pyrogenic PAHs and other petroleum residuals.

Site-specific background values were not determined during this study. As a default, background concentrations of PAHs cited by MADEP as "Urban Background" in draft guidance (MADEP: Draft *Proposed Changes: Guidance for Disposal Site Risk Characterization*, February 1997), will be used instead. In the absence of default background concentrations for petroleum fractions in soil and groundwater, and as a conservative measure, background for the petroleum fractions is assumed to be non-detect.

Based upon the field activities of both SAGE and Decoulos, contaminants of concern identified at the Site include petroleum residuals associated with gasoline: benzene, toluene, MTBE, xylenes and the VPH fractions.

6.4 Applicability of Method 2

A Method 2 Risk Characterization is appropriate for characterization of the risk of harm to human health, safety, public welfare and the environment for exposure to petroleum constituents identified at this Site because:

- The contamination is limited to soil and groundwater,
- · There are no contaminants that bioaccumulate within the top two feet of soil, and
- Method 1 Standards have been promulgated by MADEP for the contaminants of concern.

6.5 Applicable Soil and Groundwater Categories

6.5.1 Groundwater Categories

Under the MCP, groundwater is categorized as GW-1, GW-2 and GW-3. GW-1 addresses groundwater as a potential drinking water source. GW-2 addresses the potential for volatilization and entrainment of contaminants into occupied buildings and is applicable within 30 feet of occupied buildings where the average depth to groundwater is 15 feet or less. GW-3 addresses the potential for discharge of groundwater to surface water.

GW-1 is not applicable at this Site since the area is not categorized as a current or potential drinking water resource area and the Site is located within 500 feet of a known private drinking water supply well. GW-2 is applicable as the Site is occupied by a commercial building and within 30 feet of an adjacent commercial building. GW-3 is applicable throughout the Site since GW-3 is applicable at all locations due to the potential for groundwater to enter a surface water body.

In accordance with the Massachusetts Contingency Plan, 310 CMR 40.0980, a Method 2 Risk Characterization was used to characterize the risk to human health, safety, welfare and the environment at the disposal site defined by RTN 3-14992. The Site includes the area defined by the property boundaries. The Method 2 Risk Characterization included modification of selected Method 1 Standards according to procedures outlined in MADEP, Characterizing Risks posed by Petroleum Contaminated Sites: Implementation of MADEP VPH/EPH Approach, Final Draft, June, 2001.

The risk characterization determined that a condition of *No Significant Risk* exists for portions of the Site and that restrictions on future uses are required. This Method 2 Risk Characterization therefore supports a Class A-3. Response Action Outcome. Steps in the characterization of risk follow.

6.5.2 Soil Categories

MCP soil standards consider the direct effects of contact exposure to contaminants in the soil as well as the leaching potential and impact upon groundwater quality. Method 1 soil standards have been promulgated for nine categories corresponding to three degrees of soil exposure and three types of groundwater exposure: S-1/GW-1, S-1/GW-2, S-1/GW-3; S-2/GW-1, S-1/GW-2, S-2/GW-3; S-2/GW-1, S-2/GW-2, S-2/GW-3. The soil categories (S-1, S-2, and S-3) are based on exposure as a function of the type of receptor, the frequency and intensity of exposure, and the accessibility of the contaminated soil.

The MCP requires that the soil category be evaluated for a Site based on the current and foreseeable uses of the property. The Site is currently a commercial vehicle service station and retail fuel dispensing facility. The Site is in an area accepted by the Randolph Zoning Board of Appeals for commercial use and located on a busy secondary state highway. There are residential properties located in the vicinity of the Site to the east and south. It is likely that the Site will be used as it is now or further developed for commercial use. The development of the

Site may or may not entail construction or use of the property which may pose an increased risk of exposure to impacted soil and groundwater. For this reason, an Activity and Use Limitation has been applied and recorded for the Site. This allows the Site soils to be evaluated relative to the MCP Method 1 soil standards for S2 soils in GW-2/GW-3 groundwater areas for preparation of this RAO.

6.6 Exposure Points and Exposure Point Concentrations

6.6.1 Soil

Under the MCP, the exposure point for contact with contaminated soil is defined as the average concentration in the area of the contamination. If all detected concentrations are less than the applicable Method 1 or 2 Standards, however, calculation of an average is not required and the result at each individual sampling point can be compared directly with the applicable standard. Table 1 presented the soil sample results compiled from a recent investigation by Decoulos and previous data presented by SAGE in 1998. There were no VPH target analytes detected in samples analyzed in February 1998 or May 2002 in concentrations which exceeded MCP Method 1 standards for S-2 soils in GW2/GW-3 groundwater areas. The analytical results of all four soil samples collected on February 13, 1998 equaled or slightly exceeded Method 1, S-2 soil in GW-2/GW-3 groundwater standards for VPH range C₉-C₁₀ Aromatics. The concentrations of this VPH range were lower in the May 8, 2002 soil sample round and the average was well below the applicable standard. The concentration of C₅-C₈ Aliphatics detected in May 8, 2002 sample DB-3/S-3 exceeded the Method 1, S-1 in GW-2/GW-3 standard, however, when this sample is averaged with the previous and recent sample analyses the result is well below the applicable standard.

6.6.2 Groundwater

Exposure point concentrations for groundwater under Method 1 or Method 2 Risk Characterizations are defined as the concentration of contaminants detected at each individual monitoring point. However, GW-2 Standards are only applicable where the average depth to groundwater is less than 15 feet and at points within 30 feet of an occupied building. GW-2 standards are applicable at DMW-1 and DMW-4.

Where GW-2 concentrations are exceeded, the MCP allows for Method 2 modifications using directly measured soil gas concentrations. Because the soil gas results were measured for the VPH ranges and target analytes range rather than modeled from groundwater, they more directly represent the exposure point concentrations for entrainment of soil vapors into an occupied building. Soil gas results adjacent to the commercial Site building are presented in Table 4.

6.7 Comparison with Method 1 Standards

6.7.1 Soil

Method 1 S2/GW2 and S2/GW3 Soil Standards are met for all the Contaminants of Concern when averaged over the Site and two rounds of soil sample collection as shown in Table 1. An Activity and Use Limitation has been applied and recorded for the Site. The Activity and Use Limitation allows for the evaluation of Contaminants of Concern using Method 1 S1/GW2 and S1/GW3 standards. Based on a comparison with the Method 1 S2/GW2 and S2/GW3 Soil Standards, a condition of No Significant Risk exists for soil exposure under current uses of the Site. The results from the soil investigation represent the exposure point concentrations for the soil points.

6.7.2 Groundwater

Applicable Method 1 GW2 and GW3 Standards are met for many Contaminants of Concern as shown on Table 3. However, the Method 1 Groundwater Standards are exceeded for the following contaminants:

Method 1 GW2 Exceedance:

- C5-C8 Aliphatics in DMW-1, DMW-2, MW-3R
- C9-C10 Aromatics in DMW-2, MW-3R
- Benzene in DMW-1, MW-3R
- Toluene in MW-3R
- m-,p-Xylenes in DMW-2, MW-3R

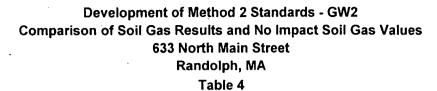
The only Method 1 GW2 standard exceedance within 30 feet of the commercial building was at DMW-1. This exceedance was not based upon detectable levels of the C_5 - C_8 Aliphatic range but by averaging one half of the detectable levels from each round of analysis.

6.8 Development of Method 2 Standards for Groundwater

To more accurately evaluate site-specific risks, we developed a Method 2 Standard for the VPH fractions and target analytes that exceeded the applicable Method 1 Standard. Development of the Method 2 Standard was conducted according to guidance provided in DEP Policy WSC #02-411: Characterizing Risks posed by Petroleum Contaminated Sites: Implementation of MADEP VPH/EPH Approach, Final Draft, October, 2002.

6.8.1 Method 2 GW-2 Standards

Table 4 presents development of the Method 2 GW-2 Standard for the C5-C8 aliphatic range and the C9-C10 Aromatic range. Air data is not currently available for characterizing site specific risks of exposure to MTBE using the Method 2 procedure. The risks associated with MTBE will be evaluated assumed to be incorporated into the C9-C10 Aromatics analysis (the only MTBE exceedance of the Method 1 GW-2 Standard occurred on June 4, 2002).



Calculated Method 2 Standard

									Calculated I	neciloa z otalii	uu.u
						MADEP No Impact ¹	Maximum	Average	Calculated ^{2,3}	Calculated 4	Ceiling
	Date Collected:	6/5/2002	6/5/2002	6/9/2004	6/9/2004	Soil Gas	GW	GW	Method 2	Method 2	Concentration
	Sample ID:	DG-1	DG-2	DG-3	DG-4	Estimate	Result	Result	GW2	GW2	GW2
Parameter	Units:	ug/m³	ug/m²	ug/m³	ug/m³	ug/m ³	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene		ND	2,880	5	10		Day (KO)	1,501			
Ethylbenze	ne	ND	NĐ	4	5		2,590	767			
MTBE		ND	29,200	106	53		, sist ite	6,440			100,000
Naphthalen	ne	ND	ND	ND	ND		· 718	261			
Toluene		ND	ND	16	17		C HIMO	3,253			
m-,p-Xylene	es	3,25	390	13	21		。 特别的	4,249			
o-Xylene		ND	ND	· 5	9		2.55	1,751			
C5-C8 Alipi	hatic	1,630	239,000	2,056	1,267	170,000)) (0)	1,178	48,748	62,963	50,000
C9-C12 Ali	phatic	1,880	6.090	ND	ND	180,000	563	253	23,590	55,385	50,000
C9-C10 Arc	omatic	ND	181	1,630	1,670	160,000	Programme .	3,531	253,704	9,696,970	50,000

NOTES

Maltod Egyle Exceedance

¹ Based upon: MADEP Background Documentation for the Development of the MCP Numerical Standards 1994 and Implementation of MADEP VPH/EPH Approach Oct 1997

² Results from DG-2 were not factored. See discussion in Section 6.8.1.

Assume gas transport coefficient = average gw concentration divided by average soil gas concentration. Multiply this coefficient by MADEP "no impact" soil gas value to calculate Method 2 GW2 Standard. Then default to 50,000 ppb where calculated GW2 > 50,000 ppb.

⁴ Using equation from 310 CMR 40.0983(2)(C)

Soil gas samples were obtained and analyzed to rule out the impact to indoor air at the building on the Site. Samples DG-1 and DG-2 were collected from a depth of approximately 36 inches below grade and samples DG-3 and DG-4 were collected from a depth of approximately 18 inches below grade. Each soil gas sample was analyzed for Air-Phase Petroleum Hydrocarbons (APHs) as described earlier in this report. Detected concentrations were then compared with "No Impact" soil gas concentrations estimated by DEP based on background considerations. Averaged site concentrations for DG-1, DG-3 and DG-4 are less than the estimated "No Impact" concentrations and a condition of *No Significant Risk* with respect to vapor entrainment is demonstrated.

After an examination of the soil gas locations and the APH results from the four samples it was decided to eliminate sample DG-2 from analysis. The sample was collected from underneath an area that is used frequently to park and store vehicles for repair. As can be seen from Photograph B in Figure 3, the general area of DG-2 is heavily stained with vehicle drippings. The results from DG-2 are more indicative of the localized condition of vehicle storage rather than an indicator of underground hydrocarbon migration from the former source of the release on Site.

Using the "No Impact" concentrations for soil gas, we back-calculated to Method 2 GW2 Standards. For the contaminants of concern, the calculated Method 2 GW2 Standards were as follows:

Con	taminant of Concern	Most Conservative <u>Calculated Method 2 Standard</u>
=	C5-C8 Aliphatics C9-C10 Aromatics	48,748 ug/l 50,000 ug/l

Groundwater concentrations on the Site are less than the Method 1 GW2 Standards and the calculated Method 2 GW2 Standards. These results confirm that a condition of *No Significant Risk* exists with respect to vapor entrainment.

6.8.2 Method 2 GW-3 Standards

Ξ

Groundwater concentrations of VPH ranges and target analytes at the Site are all less than the Method 1 standards for GW3 with the exception of the m,p-xylenes and C9-C10 Aliphatics.

The GW3 discharge point is a stormwater outfall into Norroway Brook along Chestnut Street. The distance from the Site, assuming that the groundwater is being "short-circuited" along a 15 inch reinforced concrete drain pipe, is approximately 900 feet. Norroway Brook discharges into a public drinking water supply reservoir.

According to Randolph Engineer Stephen P. Levreault, the drainage line was installed in the 1930s. Backfill material would not be expected to be unusually pervious, as the reinforced concrete pipe was capable of withstanding large backfill forces during construction.

The Method 2 Standards for GW-3 developed for the m,p-xylenes and C9-C10 Aliphatics are presented in Table 5. Based on the analysis presented in the table, the results demonstrate that a condition of *No Significant Risk* exists with respect to surface water discharge.

6.9 Summary of Characterization of Risk to Public Health and the Environment

This risk characterization has demonstrated that site conditions poses No Significant Risk to human health or the environment for the foreseeable period of time. The following specific criteria are presented:

Characterization of Risk due to Soil Exposure

• The average soil concentrations on the Site are less than Method 1 S1/GW2 and S1/GW3 Soil Standards for all Contaminants of Concern. Therefore, a condition of No Significant Risk exists for soil exposure under all potential future uses of the Site and it is not necessary to implement any use restrictions.

Characterization of Risk to Human Health from Exposure to Groundwater

- GW1 Standards are not applicable to the Site.
- Method 1 GW2 Standards are met within 30 feet of the commercial building for all parameters.
- Calculated Method 2 GW2 Standards are met for all wells on Site.
- Therefore, a condition of *No Significant Risk* exists with respect to human health for any foreseeable period of time.

Characterization of Risk to the Environment from Discharge of Groundwater

- Groundwater concentrations are less than Method 1 Standards for all parameters.
- Since all concentrations are less than Method 1 Standards, a condition of *No Significant Risk* exists with respect to surface water discharge from the Site.

6.10 Characterization of Risk to Public Welfare

As required by the MCP, we also evaluated the risk of harm to public welfare. Site conditions do not represent nuisance conditions, nor will they result in a loss of property value or a restriction of use of either building on the Site. In addition, concentrations of contaminants are less than Upper Concentration Limits for both soil and groundwater. Thus, a level of *No Significant Risk* to public welfare exists under current and foreseeable future conditions.

Development of Method 2 Standards - GW3

Method 2 Calculations for Groundwater Discharge Concentrations at Surface Water Discharge Point 900 feet from Source Area

633 North Main Street

Randolph, MA

Table 5

	· Lab ID:		Calc. Conc. ff. transport	MW-3R Average	Calc, Conc.			Method 1		MADEP Discharge Concen. Guideline	Calculated Method 2 Standard for discharge 900 feet	UCL-Default Method 2 GW3
	Sample ID:		900 feet	·	900 feet	UCLs	GW1	GW2	GW3		from source	Standard
Paramete	r Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
m-,p-Xylenes		15,000	120		156	100,000	10,000	6,000	6,000	400	231,486	100,000
C9-C10 A	romatics	177.05	100		111	100,000	200	5,000	4,000	400	231,486	100,000

C5-C8 Aliphatics and C9-C10 Aromatics calculated dilution factors for transport 1000 feet = 0.0160 (Figure 4-1, *Implementation of MADEP VPH/EPH Approach*, October 1997).

Assume 100% discharge without further dilution by receiving water.

la response a community and object employe

6.11 Characterization of Risk to Public Safety

The risk of harm to public safety, as described in 310 CMR 40.0960, was evaluated for the disposal site. The Site does not contain the following items related to a release of oil or hazardous materials:

- There are no rusted or corroded drums or containers, open pits or lagoons on the Site.
- There is no threat of fire or explosion, or the presence of explosive vapors on the Site.
- There are no uncontainerized materials exhibiting the characteristics of corrosivity, reactivity or flammability on the Site.

Based on the foregoing, a condition of No Significant Risk with respect to Public Safety exists.

7.0 FEASIBILITY OF RESTORATION TO BACKGROUND

A review of the residual groundwater contamination indicates that background levels have not been achieved. However, the source of the elevated constituents, the former USTs and the petroleum contaminated soil have all been removed. Additional remedial activities to remove further soil and treat groundwater contamination would be the primary alternative. The benefit to be achieved would be a slow and gradual restoration of groundwater quality. However, no benefit would be achieved in terms of risk reduction. The additional cost of further soil removal and groundwater remedial actions does not justify the incremental benefit of risk reduction, environmental restoration and monetary and non-pecuniary values, pursuant to 310 CMR 40.860(6)(a).

Given that groundwater concentrations are expected to decrease over time through natural attenuation, the costs of additional remedial actions far outweigh the benefit of achieving background at the location. Therefore, the achievement of background is not considered feasible and the levels of residual contamination have been reduced to levels approaching background to the most practical extent feasible.

8.0 SUMMARY AND CONCLUSIONS

The property is described by the Town of Randolph Assessors as on Map 30, Block C, Lot 6.1A and is recorded at the Norfolk Registry of Deeds in Book 9310, Page 747. The Site fronts on both North Main Street and Orchard Street.

The land is improved by a one story wood framed commercial building on a concrete slab. The commercial building has a postal address of 633 North Main Street. On January 21, 1993, the Randolph Zoning Board of Appeals approved an upgraded commercial use for the Site and the plan accepted for this approval was recorded at the Norfolk Registry as Number 124-1993 in Plan Book 412.

Since approximately 1935, the Site has been used as a retail gasoline filling station. On June 11, 1997, a release of petroleum was reported to the Massachusetts Department of Environmental Protection (DEP) pursuant to G.L. c.21E and the Massachusetts Contingency Plan (MCP). The release was assigned tracking number 3-15188 by DEP and apparently associated with a 2,000 gallon underground storage tank (UST) removed by RC Construction in June of 1997.

On October 27, 1997, another release of petroleum was reported to DEP as a result of the removal of two 6,000 gallon USTs. DEP assigned tracking number 3-15653 to the release. A total of 275.05 tons of petroleum contaminated soil from the release was recycled at Bardon Trimount in Stoughton, MA.

The Site is currently used for retail vehicle fueling and light automotive repair. The vehicle fueling operation utilizes one 12,000 gallon double-walled fiberglass underground storage tank (UST) for fuel storage. The UST is split to provide storage for 9,000 gallons of regular fuel and 3,000 gallons of premium gasoline. Double-walled fiberglass piping distributes fuel product to the fuel dispenser pumps as shown on Figure 3. The fuel dispenser island is covered by an overhead canopy. The entire UST system is monitored and automatically gauged by a Veeder-Root TLS-350 Monitoring System.

Full documentation on the Site history and compliance with the MCP was documented in reports prepared by SAGE. Additionally, soil, groundwater and soil gas data was collected by Decoulos & Company personnel.

The site investigations and risk characterization have determined that there is No Significant Risk to public health, safety, welfare or the environment from the remaining petroleum constituents within groundwater on the Site and a <u>potentially Significant Risk</u> to public health, safety, welfare or the environment from the remaining petroleum constituents within the soil on the Site.

): 2. 2. As a result of the risk characterization, an Activity and Use Limitation was recorded at the Norfolk Registry of Deeds on June 14, 2002 in Book 16737, Page 300 to limit the use of the Site to commercial or industrial uses.

9.0 REFERENCES

Background Documentation for the Development of the MCP Numerical Standards, MADEP Bureau of Waste Site Cleanup and Office of Research and Standards, April, 1994.

DEP Policy WSC #02-411: Characterizing Risks posed by Petroleum Contaminated Sites: Implementation of MADEP VPH/EPH Approach, Final Draft, October, 2002.

Guidance for Disposal Site Risk Characterization, MADEP Bureau of Waste Site Cleanup and Office of Research and Standards, July, 1995.

Immediate Response Action Plan, SAGE Environmental, Inc., December, 1997

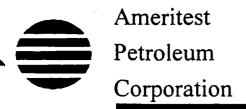
Immediate Response Action Outcome Statement, SAGE Environmental, Inc., May, 1998

Massachusetts Contingency Plan, 310 CMR 40.0000

Phase I Initial Site Investigation, SAGE Environmental, Inc., June, 1998

Standard References for Monitoring Wells, MADEP

APPENDIX A UST TIGHTNESS TESTING

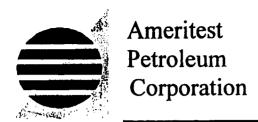


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PROVIDENCE, RI 02940 - 1628
1-888-980-TEST
Phone 401-725-0981 Fax 401-726-4518
www.ameritestpetroleum.com

PRODUCT LINE TEST CERTIFICATION

TEST LOCATION: SPEEDY LUBE	CERTIFIED TECHNICIANS:					
633 MAIN STREET	MARK B. HAWKINS: AL/TX243					
RANDOLPH, MA 02363	RAY COTHRUM: 071098U1033					
CONTACT:	PHONE: 781-961-4881					
OWNER: EYAD BADAWI	FAX:					
TEST DATE: 2/24/2004 TIME: 9 AM	FACILITY UST ID: UNKNOWN					
TEST TYPE: PETRO-TITE	LINE ONE	LINE TWO	LINE THREE			
LINE CONSTRUCTION	ENVIRON FLEX	ENVIRON FLEX				
WEATHER /TEMP	COOL	COOL				
PUMP TYPE SUBMERSIBLE	SUBMERSIBLE	SUBMERSIBLE				
COVER ABOVE LINES	CONCRETE	CONCRETE				
DEPTH OF LINES FROM GRADE	36 INCHES	36 INCHES				
TEST RESULTS (PASS OR FAIL):	PASS	PASS				

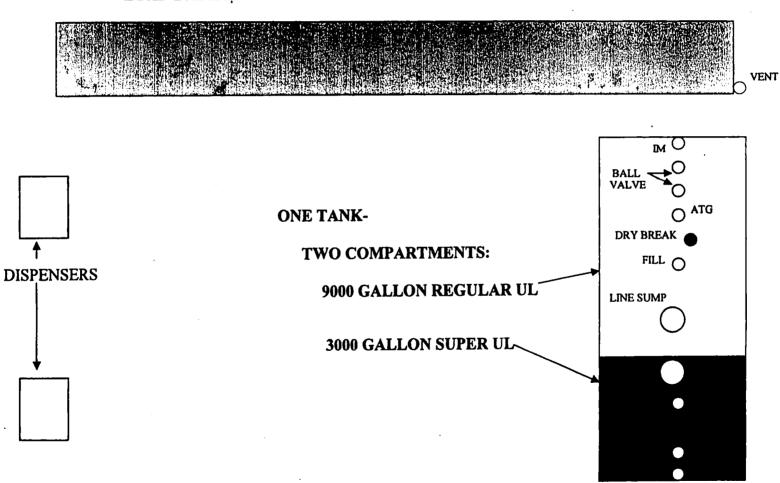
LINE <u>IDENTIFICATION</u>	TIME	START TEST	PRESSURIZE <u>LINE TO</u>		VOLUME READING		NET CHANGE	BLEED BACK
LINE ONE: REGULAR UL 9000GALLON	MILITARY		BEFORE	AFTER	BEFORE	AFTER		
						.270		
	1030	START TEST	60.0	60.0	.270	.270	+.000	
	1045		60.0	60.0	.270	.270	+.000	
	1100		60.0	60.0	.270	.270	+.000	
	1115	END TEST	60.0	60.0	.270	.270	+.000	
	1130	BLEED BACK	60,0	0.0	.270	.305	+.035	O.K.
LINE TWO: SUPER UL 3000 GAL	MILITARY		BEFORE	AFTER	BEFORE	AFTER		
						.230		
	1030	START TEST	60,0	60.0	.230	.230	+.000	
	1045		60.0	60.0	.230	.230	+.000	
	1100		60.0	60.0	.230	.230	+.000	
	1115	END TEST	60.0	60.0	.230	.230	+.000	
	1130	BLEED BACK	60.0	0.0	.230	.262	+.032	ок
LINE IDENTIFICATION:		MEETS CRITERIA	NET VOLU HOU		DA' TEST		PASS OR FAIL	
ONE: 9000 GAL REG UL		YES	+.00)0	2/24/	2004	PASS	
TWO: 3000 GAL SUPER UL		YES	+.00	00	2/24/	2004	PASS	



1 1 1 1 Land L 7 Limit

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1-888-980-TEST
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www.ameritestpetroleum.com

LOCATION MAP: SPEEDY LUBE 633 MAIN ST, RANDOLPH MA 02363 EYAD BADAWI 781-961-4881



NEXTEST

P.O. BOX 67, MANVILLE, RI 02838 Ph. (401) 723-0247 Fax (401) 723-0248

ANNUAL LINE LEAK DETECTOR TEST FORM FOR UNDERGROUND STORAGE TANK SYSTEMS

Facility Address: 633 Worth	- 0	_^	્લ	'itv'	Ran	2	lah	MA	Zip: <u></u>	23
racinty Address	<u> </u>		<u> </u>	,,,,,	100		1/213	1	-,	
-							•			
			,							
Test Information and Results	,								,	
Tank Number: (for split tanks use 1(a), (b))	Tank #	la	Tank #	d	Tank#		Tank #		Tank #	
Product Stored: (gos, diesel, etc.)	Regu	yar	54	ec	۲.,					
Capacity: (gallons)	900	<u> </u>	30	Ò						
LLD Manufacturer:	Redz	acke	-169.	Societ	et					
LLD Model Number:	EXI	<u> </u>	FX	<u></u>			<u> </u>			
Tested Leak Rate: (gallons per hour)	2.<	3O_	<u> </u>	90			ļ		ļ	
Results:	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fa
Complete following only if any of the above LLDs have fail	ed and repl	aced with	NEW LLD	5.		,	, -			
REPLACED LLD Manufacturer:	↓		ļ				<u> </u>			-
LLD Model Number:	ļ						ļ			
Tested Leak Rate: (3 gallous per hour max.)	<u> </u>		ļ					** ''		
Results:	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass .	Fa
If a failed LLD test was reported and not	t repaire	d, des	cribe h)w an	d wher	detec	tor wil	l be co	rected	•
						•				
•							to conf	irm th	at they a	ire
Verification - I, hereby, verify that the	e autom:	atic lin	e leak d	etector	rs were	tested	TO COM		•	
Verification - I, hereby, verify that the operating according to manufacturers' re				etecto	rs were	testea	to com			
	commer	ndatio	ns.		rs were /	tested	to com			
operating according to manufacturers' re LLD Manufacturer / Tester Certification Number	commer er: <u>Rec</u>	ndation	ns. acke	f	/				_ []	x
operating according to manufacturers' re LLD Manufacturer / Tester Certification Number	commer er: Rec	dation Testin	ns. acker ng Compa	ny Nar	/_ ne:	'nΕ			[] []	x
operating according to manufacturers' re LLD Manufacturer / Tester Certification Number Technician Name (print):	comments Recommended	Testin	ns. acke	ny Nar	ne:	NE.	XTI	ēs ox	-35 38:38	<u>r</u>

NEXTEST

P.O. BOX 67, MANVILLE, RI 02838 Ph. (401) 723-0247 Fax (401) 723-0248

	y Name: Deby Lors Loc	_		•		2			
Facili	Facility Address: 633 North Main St. City: Randolph, MA Zip: 02368								
A. Results of Annual Leak Monitoring Test Complete the following checklist using: Y=yes, N=no, N/A=not applicable									
If your answer is No, then describe on the reverse side of this form how and when these items will be corrected.									
1. Leak monitor manufacturer's name and model number:									
	Tank #:		a						
2.	Leak monitor console assignments are correctly programmed and labeled for all sensors.	Y	Y						
3.	<u>Tank</u> secondary containment sensor is positioned per manufacturers recommendation.	N	V						
4.	<u>Piping</u> secondary containment (piping, intermediate, and or dispenser sump) sensors are positioned per manufacturer recommendation.	N	V						
5.	Brine level of the tank interstitial space is within the manufacturers operating range.	पं	V						
6.	The secondary containment and the piping sumps are free of liquid.	V	1						
7.	All sensors were visually inspected, manually tested, and confirmed operational.	V	V						
8.	The leak monitor console audible alarm is operational.	V							
9.	The leak monitor console visual alarms are operational.	V	1						
10.	The communication equipment (e.g. modem) is operational for leak monitoring systems and will relay alarms to a remote station.	1	j.						
11.	The leak monitoring console and sensors are in proper operation.		1						
l her desig	B. Verification I hereby verify that the equipment identified in this document was tested for proper operation in performance of the original design function in accordance with the manufacturers' requirements. Attached to this form is information (if available, system set-up reports) necessary to verify that this information is correct.								
Tech	nician Name (print): Bryon Course FC Testing Company Name: WEX	Ţ	<u>:</u> S	T	<u>EU</u>	<u>C</u>			
Testi	ing Co. Address / State / Zip: P.O. Box 67 Manuilla, RT C	≥ ≥	33	S					
Sign	Phone No.: (401) 733-0247	Date:	<u>_</u>	-2[04				
	• 0								

NEXTEST

P.O. BOX 67, MANVILLE, RI 02838 Ph. (401) 723-0247 Fax (401) 723-0248

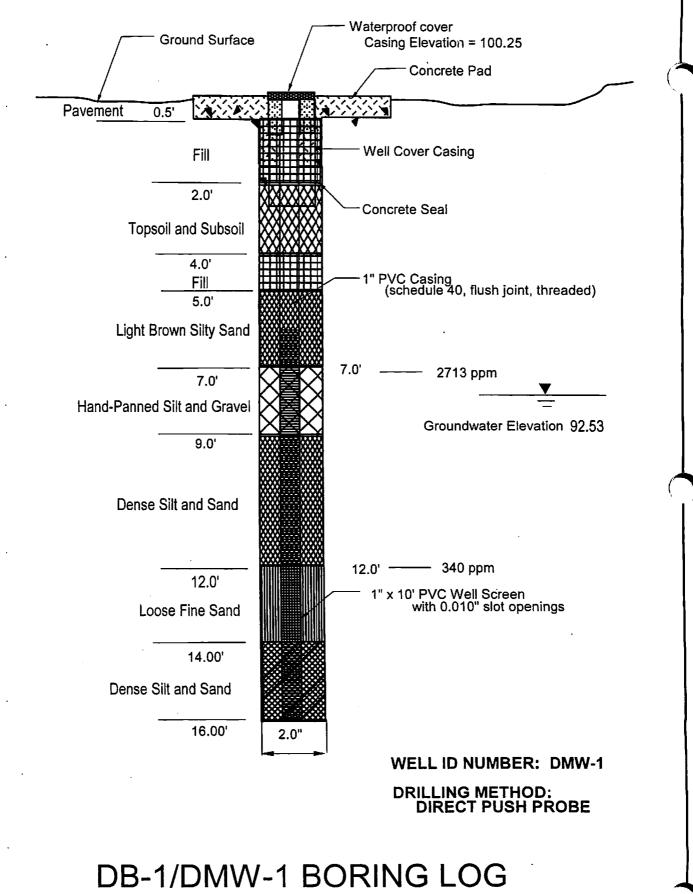
Stage II Vapor Recovery Test

1. Petrol Gas	ISPEEDY LUBE	2. /0	-X)-UZ
Name of Gas Station	INC	Date	of Test
3. 633 North (Main St.		
4. Randolph	State	<u>0</u> 33 Zip Code	68
5. Ed Babai. Stage Il Responsible Official	6. Phone Number of S	961-48 Stage II Responsible	C Official
7. Were all tests observed by a D.E.P. Of8. Are the test results attached to this for			
TEST CON	CLUSIONS (circle one for ea	ch test)	********
PASS FAIL NOT APP PASS FAIL NOT APP PASS FAIL NOT APP	PLICABLE Pressure II PLICABLE Dynamic II PLICABLE Air / Liquid Blo PLICABLE Vapor Tie PLICABLE P/V Relies	ockage Test (We Backpressure Te id Volume Ratio Test	et Test) est (Dry Test)
The undersigned certifies that he/she is an duly authorized representative of such agen submitted in this document and all attachm inquiry of those individuals responsible for complete to the best of my knowledge and hattachments may be punishable as a crimin	nt. "I have personally examined and are tents and certify that based on a reason obtaining the information, the submi- pelief, and I understand that any false:	n familiar with the nable investigation, tted information is	information including my true, accurate and
Signature	and Address of Authorized	Agent	
Bryn Courn	m Bago	2 Cover	apec.
Sign Name TC-034 Certificate Number	NEXTI		<u> </u>
P.O. BOX 67	Company MANVILLE	Name RI	02838 .
Mailing Address	City	State	Zip Code

SUMMARY OF PRESSURE DECAY TEST RESULTS

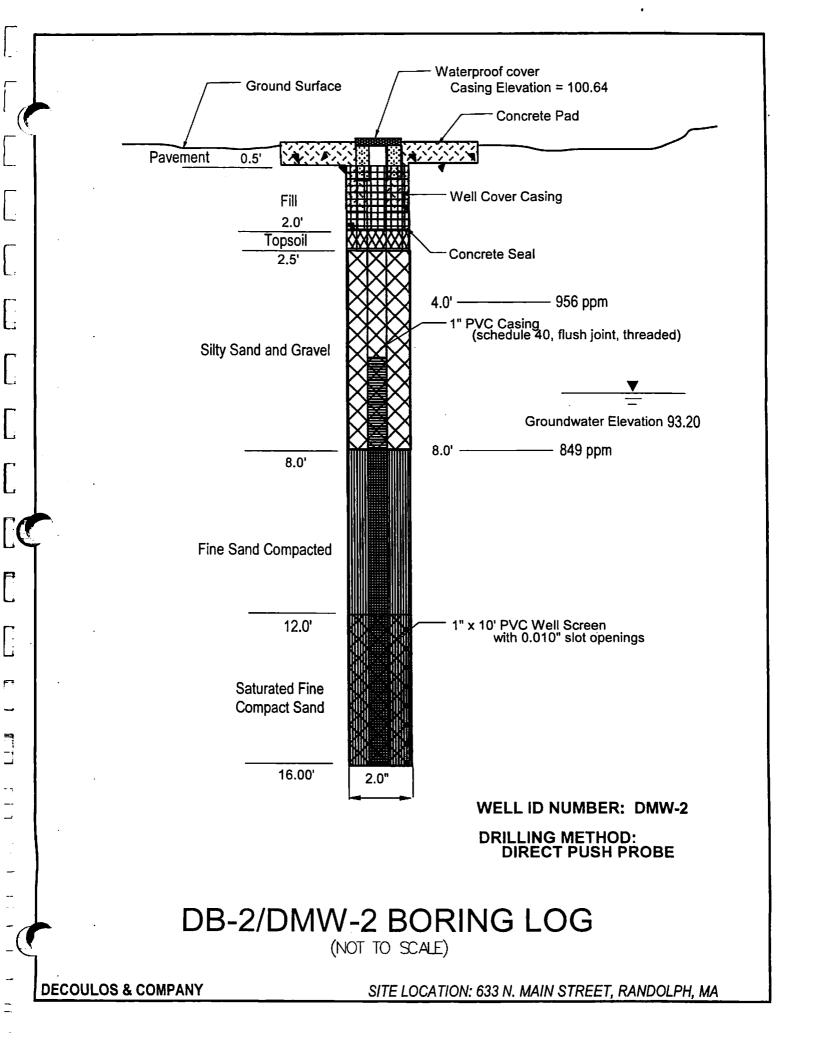
Gas Main St. ph, MA 02368	- -	NEXTEST P.O. BOX 67 MANVILLE,		
-	-			
ph, MA 02368	-	MANVILLE,	RI 02838	
		MANVILLE, RI 02838		
stem Tvne	Ston	/e-∏ System Evec	ntive Order # C	-70-52-AM
Jp-	្តាស	•	•	
		rest Date:	10/20/03	
		Test Times:		
X		Run A:	10:30	
		Run B:	10:55	•
YES		Run C:		
		Test F	Results	··
	1	2	3 ;	,4
	Regular	Super		·
pacity (gallons)	9,000	3,000		
ne (gallons)	2,657	1,665		
T= 7,636	6,268	1,368		•
(inches H2O)	10.00			
min., in. H ₂ O	10.00			
2 min., in. H ₂ O	9.90			
3 min., in. H ₂ O	9.80			
min., in. H ₂ O	9.70	·		
Pressure after 5 min., in. H ₂ O				
	YES apacity (gallons) ne (gallons) T= 7,636 (inches H2O) min., in. H ₂ O min., in. H ₂ O min., in. H ₂ O min., in. H ₂ O	X YES 1 Regular 1 Regular 9,000 10 10 10 10 10 10 10 10 10 10 10 10	Test Date: X	Test Date: 10/20/03 X Test Times: Run A: 10:30 Run B: 10:55 YES Test Results 1 2 3 Regular Super Apacity (gallons) 9,000 3,000 De (gallons) 2,657 1,665 T= 7,636 6,268 1,368 (inches H2O) 10.00 I min., in. H ₂ O 9.90 S min., in. H ₂ O 9.80 A min., in. H ₂ O 9.70

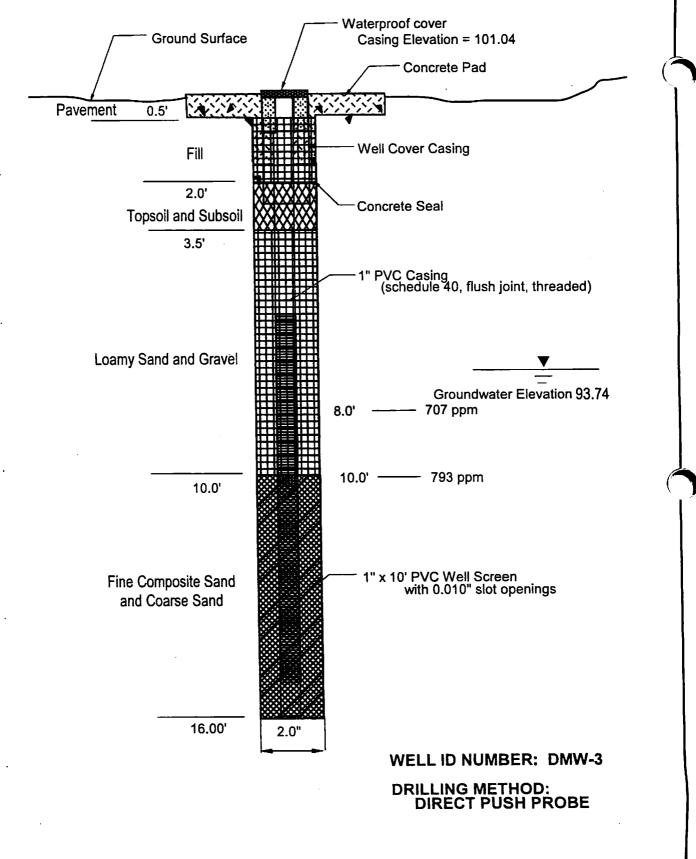
APPENDIX B MONITORING WELL BORING LOGS



(NOT TO SCALE)

DECOULOS & COMPANY

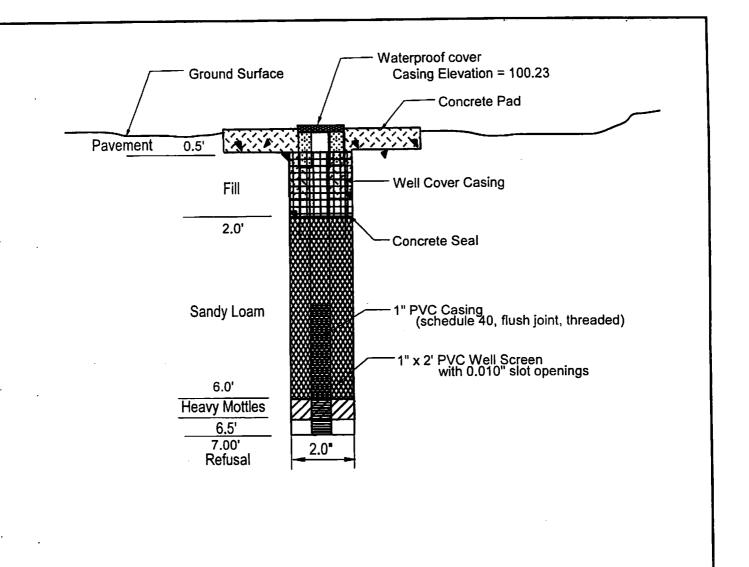




DB-3/DMW-3 BORING LOG

(NOT TO SCALE)

DECOULOS & COMPANY



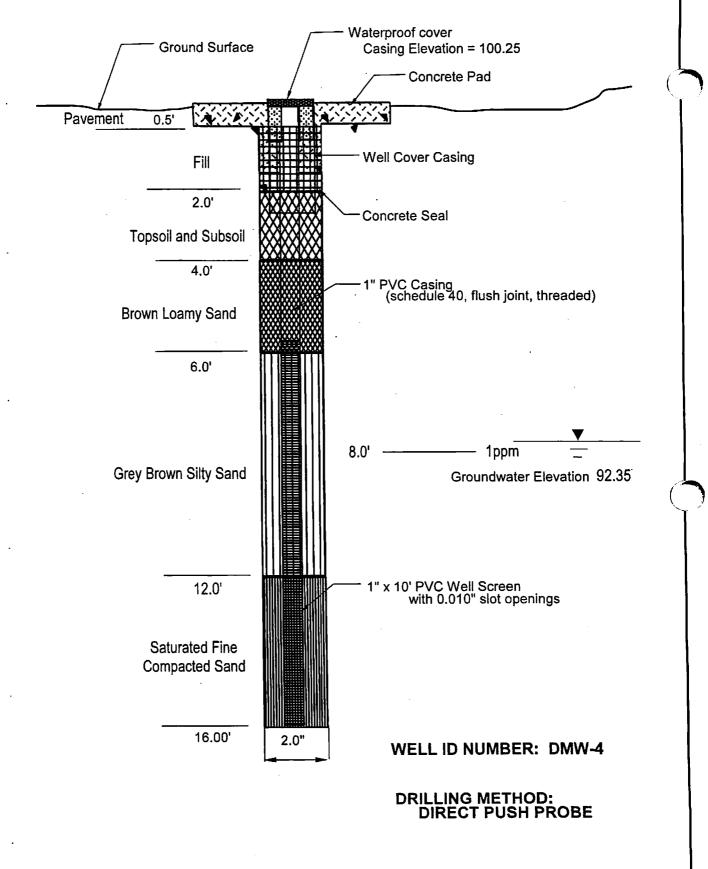
WELL ID NUMBER: DG-1

DRILLING METHOD:
DIRECT PUSH PROBE

DB-4/DG-1 BORING LOG

(NOT TO SCALE)

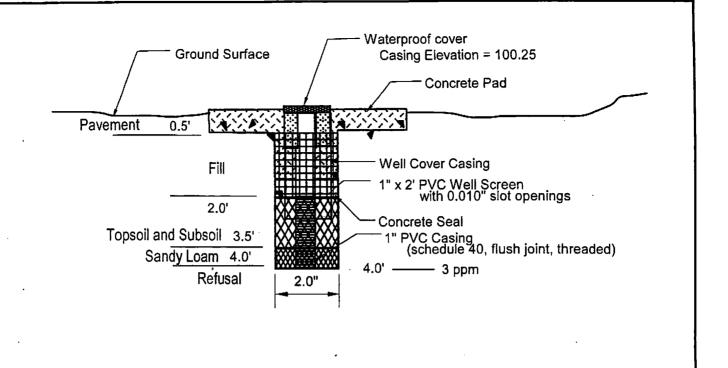
DECOULOS & COMPANY



DB-5/DMW-4 BORING LOG

(NOT TO SCALE)

DECOULOS & COMPANY



WELL ID NUMBER: DG-2

DRILLING METHOD: DIRECT PUSH PROBE

DB-6/DG-2 BORING LOG

(NOT TO SCALE)

DECOULOS & COMPANY

APPENDIX C LABORATORY CERTIFICATES OF ANALYSIS

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREPARED FOR:

Decoulos & Company 248 Andover Street Peabody, MA 01960

Attn: Jim Decoulos

PROJECT ID:

608

633 North Main

Randolph

GEOLABS CERTIFICATION #:

M-MA015

SAMPLE NUMBER:

122620 - 122624

DATE PREPARED:

May 15, 2002

PREPARED BY:

Christine Johnson

APPROVED BY:

Jim Chen, Laboratory Director/Date

Land Com

Location: 45 Johnson Lane

Braintree, MA 02184

Phone: (781) 848-7844

Fax: (781) 848-7811

SAMPLE INFORMATION	SA	MP	IF	INF	OR	MA	TI	O	١
--------------------	----	----	----	-----	-----------	----	----	---	---

German LL II									
Matrix	☐ Aque		oil 🗆 Sedin		Other				
Containers	☑ Satisfa		Broken 🗆 L			·			
	Aqueous			pH > 2 Com					
Sample	Soil or		Samples NC				ners	ml MeOH	
Preservative	Sediment		s received in I		Covering s	oil ? 🗆 Not		区1:1 <u>+</u> 25%	
			ed in air tight c					□ Other	
Temperature	Recei	ved on ice	☐ Receiv	ed at 4° C	1 Other				
VPH ANAL	VPH ANALYTICAL RESULTS								
Method for R	anges: MADI	EP VPH GC/N	MS		Client ID:	DB-1/S-2	DB-2/S-1	DB-3/S-3	
	arget Analyte:				Lab ID:	122620	122621	122622	
VPH Surroga	ate Standards			Dat	e Collected:	05/08/02	05/08/02	05/08/02	
		2,5-Dibromot	toluene	Dat	e Received:	05/09/02	05/09/02	05/09/02	
1		1,2-DCE	,		e Analyzed:	05/10/02	05/10/02	05/10/02	
Toluene-d8				Dilu	ition Factor:	1.0	1.0	1.0	
BFB				Tota	l solids (%):	91	91	90	
Range/Target Analyte Elut. Range			RL	Units					
Unadjusted C5-C8 Aliphatics1 N/A				1.50	mg/Kg	66.8	65.5	357	
Unadjusted C9-C12 Aliphatics1 N/A			0.50	mg/Kg	75.5	135	228		
Benzene C5-C8 Aliph			0.50	mg/Kg	ND	ND	ND		
Ethylbenze			C5-C8 Aliph	0.50	mg/Kg	1.43′	1.03	2.32	
Methyl-tert			C5-C8 Aliph	0.25	mg/Kg	0.868	ND	ND	
Naphthaler	ne		N/A	1.00	mg/Kg	1.93	4.02	3.56	
Toluene			C5-C8 Aliph	0.50	mg/Kg	ND	ND	ND	
m-,p-Xylen	es		C5-C8 Aliph	0.50	mg/Kg	2.56	7.92	12.6	
o-Xylene			C9-C12 Aliph.	0.50	mg/Kg	ND	3.96	4.14	
C5-C8 Alip			N/A	1.50	mg/Kg	61.9	56.6	342	
C9-C12 Ali			N/A	0.50	mg/Kg	51.6	72.9	138	
	omatic Hydr		N/A	0.50	mg/Kg	23.9	58.1	86.2	
	irrogate Rec					39. 93% 🤋		35/110%	
	Surrogate %						会 100% 建		
BFB Surrog							104%		
	otoluene Sur		ecovery				₩ 105%		
Surrogate A						70-130%	70-130%	70-130%	
			s of any surroga				range .		
² C ₅₋ C ₈ Aliphatic	c Hydrocarbons	exclude conce	entrations of Ta	rget Analytes e	luting in that ra	nge			
³ C ₉₋ C ₁₂ Aliphat	ic HCs exclude	concentrations	of Target Anal	ytes AND C ₂ .C	10 Aromatic Hy	drocarbons elui	ting in that rang	e	

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method Were all QA/QC performance /acceptance standards achieved	followed? ☒ Yes ☐ No - Details attached d? ☒ Yes ☐ No - Details attached							
Were any significant modifications made to the VPH method?	□ No ⊠ Yes - Details below							
Aromatic and aliphatic ranges are quantitated by GC/MS Total Ion Chromatogram and all targets are quantitated by GC/MS Selected Ion Measurements.								
I attest under the pains and penalties of perjury that, based up immedately responsible for obtaining the information, the mate the best of my knowledge, accurate and complete.	oon my inquiry of those individuals erial contained in this report is, to							
SIGNATURE: WAR CENTER	POSITION: Lab Director							
PRINTED NAME: Jim Chen	DATE: 05/15/02							
_								

SAMPLE INFORMATIO	SA	۱,	Λl	ы	LE	IN	FΟ	R	M	٩Т	10	ì
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IFURIVIA LIC	NN .						
x 🔲 Aqueous 🗵 Soil 🗆 Sediment 🗅 Other							
Containers ☐ Satisfactory ☐ Broken ☐ Leaking							
Soil or						ners	ml MeOH
Sediment	Sample	s received in l	MeOH E	Covering s	oil? 🗆 Not		国1:1 <u>+</u> 25%
	□ Receive						□ Other
⊠ Recei	ved on ice	☐ Receiv	ed at 4°C E] Other			
					-		
YTICAL RE	SULTS						
anges: MAD	EP VPH GC/I	MS					
arget Analyte	s: MA VPH -	GC/MS		Lab ID:	122623		-
ite Standards			Dat	e Collected:	05/08/02		
		toluene	Dat	e Received:	05/09/02		-
	1,2-DCE		Dat	e Analyzed:	05/10/02		
Toluene-d8				ition Factor:	1.0		
BFB				l solids (%):	91		
Range/Target Analyte Elut			RL	Units			
Unadjusted C5-C8 Aliphatics1			1.50	mg/Kg	1.80		
C9-C12 Alip	hatics1	N/A	0.50	mg/Kg	ND		
		C5-C8 Aliph		mg/Kg	ND	<u>. </u>	
ne		C5-C8 Aliph		mg/Kg	ND'		
		C5-C8 Aliph			ND		
е							
s							
						_	
		1					
					ND		
		N/A	0.50	mg/Kg	ND		
					106%营		
Surrogate %	Recovery						
		ecovery					
cceptance F	Range				70-130%		
	Aqueous Soil or Sediment Recei YTICAL REsanges: MAD arget Analyte ate Standards et Analyte C9-C12 Alip C9-C12 Alip C9-C12 Alip contaits Hydro matic Hydro	E Satisfactory Aqueous Soil or Sediment E Sample Received on ice YTICAL RESULTS anges: MADEP VPH GC// arget Analytes: MA VPH- ate Standards 2,5-Dibromod 1,2-DCE Toluene-d8 BFB et Analyte I C5-C8 Aliphatics1 C9-C12 Aliphatics1 ne butyl ether e butyl ether e ss hatic Hydrocarbons2 chatic Hydrocarbons3 matic Hydrocarbons irrogate Recovery Surrogate % Recovery ate % Recovery	□ Aqueous ☑ Soil □ Sedim	□ Aqueous ☑ Soil □ Sediment □ Queous ☑ N/A □ pH ≤ 2 □ pH > 2 Commod Soil or □ N/A □ Samples NOT preserved	Aqueous	Aqueous	Aqueous

CERTIFICATION

Worse Clifford Control of Control								
Were all QA/QC procedures REQUIRED by the VPH Method follows	ed? 🗵 Yes 🛛 No - Details attached							
Were all QA/QC performance /acceptance standards achieved?								
Were any significant modifications made to the VPH method?								
Were any significant modifications made to the VPH method?	□ No ☑ Yes - Details below							
Aromatic and alighatic ranges are quantitated by CC/MS Total Ion C	Shromotoprom and all toronto are							
Aromatic and aliphatic ranges are quantitated by GC/MS Total Ion C	oniomatogram and all targets are							
quantitated by GC/MS Selected Ion Measurements.								
I all and the state of the stat								
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals								
immedately responsible for obtaining the information, the material contained in this report is, to								
the heat of my knowledge accounts and complete	omanica in tino report io, to							
the best of my knowledge, accurate and complete.								
SIGNATURE: MANY (- Home.								
SIGNATURE: MANY ASSOCIATION	POSITION: Lab Director							
CIGINATURE. The state of the st	POSITION. Lab Director							
• /								
PRINTED NAME: Jim Chen	DATE: 05/15/02							
1	DATE. USITSIUZ							
l 🗸								

Hydrocarbon ranges exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

 $^{^2\}text{C}_5.\text{C}_8$ Aliphatic Hydrocarbons exclude concentrations of Target Analytes eluting in that range

³C_{P-}C₁₂ Aliphatic HCs exclude concentrations of Target Analytes AND C_{P-}C₁₀ Aromatic Hydrocarbons eluting in that range

CLIENT NAME:

DECOULOS & COMPANY

PROJECT ID:

633 NORTH MAIN

SAMPLE TYPE:

SOIL

REPORT DATE:

05/15/02

COLLECTION DATE:

05/08/02

ANALYZED BY:

AS 05/14/02

REC'D BY LAB:

05/09/02 CLIENT EXTRACTION DATE:

N/A

COLLECTED BY: CLI

DIGESTION DATE:

N/A

TOTAL SOLIDS

SAMPLE NUMBER

SAMPLE LOCATION

TOTAL SOLIDS (%)

DETECTION LIMIT
(%)

(,,,

122624

633 NORTH MAIN

91.0

1.0

Method Reference:

EPA Method

160.3 (1)

1) U.S. EPA 1983. "Methods for Chemical Analysis of Water and Wastes." EPA-600/4-79-020, EPA, EMSL, Cincinnati, Ohio 45268.

4 of 6

GEOLABS, INC. 45 JOHNSON LANE BRAINTREE, MA 02184 M-MA015

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using_accepted QA/QC procedures. All QA/QC meets acceptable limits unless otherwise noted. The information contained in this report is, to the best of my knowledge, accurate and complete.

Any and all subsequent pages of this report are chain(s) of custody.

GeoLa	bs, I	nc.				Ì		Turi	nard	oun	id 1	Γime					Page		of			
Environ		l Lat	orate	ories		RUS	H:	24hrs			ST	'ANDARD: 🦯			SI	PECIA	L INS	TRUC	CTION	S		
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Braintree,								72hrs]	Rus			Re	<i>'</i>	01	, ,	~		01	//0	
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Fax:	781-8	348-7	B11			<u> </u>							4									
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Phone:	91	8 13	532	8159					_		•]									
Fax:	978	3 . 3	59.	6034	,	Purcl	nase O	rder #:														
Contact:	JU	4	DECC	MOS			cted B	y:	$\exists \mathcal{I}$	J	> .			1								
E-mail:	JAN	155	10	DECOVO	س کار پون	<u> </u>									Α	NALY	SES	REQU	ESTE	D		_
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B-1/5-2	5/8	1030	JID			V	ı	5	X			122620	X								140	
13.2/5-1		1100					1	i	1			122621	X									
13-3/5-3		1201							П			122622	X									
136/5-1		1300	À				У	V	W			122623	又								L	
% 50403												122624		11.54	. 0	3	70	sole	10			
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CONTAINE	R COD	EC.		MATRIX CO	ODES:		PRESI	ERVATI	VF C	ODES	ş.	Relinquished By:	Di	ite/Tijh	ne	Roșe	ived.	Bv:	1	hale	Time	<u> </u>
A = Amber		_0.		GW = Gro		er i	1 = H(7 = 1		•	MULL	5/9/0		830		511	$\mathcal{N}_{\mathcal{N}}$	ىرللى	dale/	90	ن (
3 = Bag				WW = Wa			2 = H1		• - •	[Dhlinguighad River] . Deschied		ived l	איז. הידרה	7			7					
G = Glass				1	: Drinking Water 3 = H₂SO₄			1		\$191023:50 Can MALING			519	(-=								
P = Plastic				SL = Sludg	•		4 = Na		Relinquished By: Received By GeoLabs:				15	5								
S = Sum	\Cani	ster		S = Soil	A = Air		5 = Na			_	_				ı			-,		- بسر		
O = Oth				0 = 0il	OT = Ot		6 = Me						GEOL	ARC	CHA	INO	E CI	icto	DV	- })	_

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREPARED FOR:

Decoulos & Company 248 Andover Street Peabody, MA 01960

Attn: Jim Decoulos

PROJECT ID:

608

633 North Main Street

Randolph, MA

GEOLABS CERTIFICATION #:

M-MA015.

SAMPLE NUMBER:

122715-122719

DATE PREPARED:

May 17, 2002

PREPARED BY:

Christine Johnson

APPROVED BY:

Jim Chen, Laboratory Director/Date

Location:

45 Johnson Lane

Braintree, MA 02184

Phone: (781) 848-7844

1 of 8

Fax: (781) 848-7811

SAMPLE INFORMATION

I.

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· · · · · · · · · · · · · · · · · · ·									
Matrix ☑ Aqueous □ Soil □ Sediment □ Other									
Containers ■ Satisfactory □ Broken □ Leaking									
	Aqueous	□ N/A □	☑ pH <u><</u> 2 □	pH > 2 Com	ment:				
Sample	Soil or	□ N/A □	Samples NC	T preserved i	n MeOH or ai	r-tight contair	ners	ml MeOH	
Preservative	Sediment	☐ Sample	s received in I	MeOH □	Covering soil	? 🗆 Not		□1:1 <u>+</u> 25%	
1	ļ	☐ Receive	ed in air tight o	ontainer				□ Other	
Temperature	⊠ R	Received on ic	e □ Re	eceived at 4°	Other				
VPH ANAL	YTICAL RE	SULTS			Client ID:	DMW4-101			
Method for R	Ranges: MAD	EP VPH			Lab ID:	122715			
	arget Analyte		PH	Dat	e Collected:	05/10/02			
	ate Standards			Dat	e Received:	05/13/02			
]		bromotoluen	e)	Dat	e Analyzed:	05/17/02			
[• •	bromotoluen	-		ition Factor:	1.0 / 100*			
Total solids (%): N/A									
Range/Target Analyte Elut. Range RL Units									
	d C5-C8 Alip	hatics ¹	N/A	4000*	ug/L	21500			
	C9-C12 Alip		N/A	1500*	ug/L	ND		 	
	-butyl ether		C ₅ -C ₈ Aliph.	500*	ug/L	34200	-	 	
Benzene			C ₅ -C ₈ Aliph.	500*	ug/L	1500		†	
Toluene			C ₅ -C ₈ Aliph.	5	ug/L	221		 	
Ethylbenze	ene		C ₉ -C ₁₂ Aliph.	5	ug/L	183			
m&p-Xyler			C ₉ -C ₁₂ Aliph.	5	ug/L	594		 	
o-Xylene			C ₉ -C ₁₂ Aliph.	5	ug/L	181		 	
Naphthale	ne		N/A	20	ug/L	33.6		†	
	atic Hydroca	arbons ^{1,2}	N/A	4000*	ug/L	ND			
	hatic Hydrod		N/A	1500*	ug/L	ND		 	
	matic Hydro		C ₉ -C ₁₂ Aliph.	55.0	ug/L	544			
2.5-Dibrom	otoluene (Pl	D) Surrogate	Recovery			105%		-1	
	otoluene (FI					₹ 105%		<u> </u>	
	Acceptance f		T	 		70-130%		 	
	Range data ex		ations of any su	rrogate(s) and/	or internal stand	dards eluting in	that range	<u> </u>	
· ·	ic Hydrocarbon						•		
	-				_	_	f C ₉ -C ₁₀ Aroma	atic Hydrocarbor	
									
CERTIFICA	ATION								
Were all Q	VQC proced	lures REQU	IRED by the	VPH Method	d followed?	⊠ Yes □	No - Deta	ils attached	
	VQC perforr		•						
	ignificant mo		•						
I attest und	ler the pains	and penaltie	es of periury	that, based	upon mv ina	uiry of those	individuals		
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to									
	my knowled		-						
	,	90, 2002/20							
1 '8	IGNATURE:		11. 1.66	. ומינעל		POSITION	: Lab Direct	tor	
ľ	IGNATURE:	- KIND	- 7115 Q	-				·= *	
PRIN	PRINTED NAME; Jim'Chen DATE: 05/17/02								
]		. /						_	
-									

SAMPLE INFORMA	١T	ION
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	Agued		oil 🗆 Sedim	ent 🗆 (Other				
Matrix Containers									
Containers	Aqueous				ment:				
Comple	Soil or				in MeOH or ai	r-tight contain	ers	ml MeOH	
Sample Preservative	1		s received in N		Covering soil			□1:1 <u>+</u> 25%	
Preservative:	Sediment		d in air tight c		Coremig con			☐ Other	
T	I ⊠ R	eceived on ic			C Other	-			
Temperature	YTICAL RES		e Line	CCIVE G BI 4		DMW3-102		<u> </u>	
					Lab ID:	122716	, 		
	Ranges: MADE		pu l	Dat	e Collected:	05/10/02			
	arget Analytes ate Standards	S. WADEP VI	rn		e Received:	05/13/02		1	
VPH Surroga	e Standards PID (2,5-Dib	romotoluen.	۵)		te Analyzed:	05/17/02		 	
	FID (2,5-Dib		· .		ution Factor:	1.0 / 5.0*		1	
	FID (2,5-DID) or locoloen	e)		al solids (%):	N/A		 	
Departure.	not Analysta		Flut Banca	RL	Units	14//		-	
Range/Targ	d C5-C8 Alip	hatian ¹	Elut. Range	40		980		-	
	d C9-C12 Alip		N/A N/A	75*	ug/L	367		 	
				5	ug/L	21.5		 	
	-butyl ether		C ₅ -C ₈ Aliph.	5	ug/L	ND ND			
Benzene			C ₅ -C ₈ Aliph.	5	ug/L	37.5		 	
Toluene			C ₅ -C ₈ Aliph.	5	ug/L	112		+	
Ethylbenze			C ₉ -C ₁₂ Aliph.	5	ug/L			 	
m&p-Xylen	ies	· · · · · · · · · · · · · · · · · · ·	C ₉ -C ₁₂ Aliph.		ug/L	523		 	
0-Xylene								 	
Naphthalene N/A 20 ug/L ND C5-C8 Aliphatic Hydrocarbons N/A 40 ug/L 921									
			N/A	40	ug/L	921			
	hatic Hydroc matic Hydro		N/A C ₉ -C ₁₂ Aliph.	75 55	ug/L	ND 827			
				- 55	ug/L		<u> </u>	<u> </u>	
	otoluene (PII				 	*. 99% <u>*</u> .		<u> </u>	
	otoluene (FIE		Recovery		<u> </u>	96% 70-130%			
	Acceptance F					ł	<u> </u>		
	Range data exc						that range		
	ic Hydrocarbons						(O. O. A	atta beraria a	
Cg-C ₁₂ Alipna	tic Hydrocarbon	s exclude conc	of larget Analy	res eluting in t	nat range AND (concentration of	C ₉ -C ₁₀ Aroma	atic Hydrocarbon	
CERTIFICA	TION						•		
CERTIFICA		una DEOIII	DED by About	\/D \A-ab	d & 11 - 1 - 10	fen V E	3 No. 6 iii	*** - **	
	VQC procedi								
	VQC perform								
vvere any s	ignificant mo	difications n	nade to the \	/PH method	i, as specified	o in Sect 11.	3.? E N)	
	46 !								
B .	er the pains a								
	responsible		-		aterial contai	ned in this re	eport is, to		
the best of	my knowledg	ge, accurate	and comple	te.					
c	ICNIATI IDE:		11/40	ai.		DOCITION.	I mb Dissas		
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FRIN	TED MANIE.	/ Chen				DATE:	05/17/0	۷	
	· •	-							

SAMPLE INFORMATION

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Matrix	Matrix ☑ Aqueous ☐ Soil ☐ Sediment ☐ Other								
Containers	Satisfactory □ Broken □ Leaking								
	Aqueous	□ N/A !	ĭ pH ≤ 2 🗆	pH > 2 Com	ment:				
Sample	Soil or	□ N/A □	3 Samples NC	OT preserved	in MeOH or ai	r-tight contair	ners	ml MeOH	
Preservative	Sediment	☐ Sample	s received in l	MeOH □	Covering soil	? 🗆 Not		□1:1 <u>+</u> 25%	
		☐ Receive	ed in air tight o	container				☐ Other	
Temperature		Received on ic	e □ Re	eceived at 4°	C 🗆 Other				
ľ	YTICAL RE				Client ID:	DMW2-103			
1	anges: MAD				Lab ID:	122717			
Method for T			PH	Dat	e Collected:	05/10/02			
VPH Surroga	ite Standards		•	Dat	e Received:	05/13/02			
	PID (2,5-Dil	bromotoluen	e)	Dat	e Analyzed:	05/17/02			
	FID (2,5-Dil	promotoluen	e)		ition Factor:	20 / 1.0*			
				Tota	l solids (%):	N/A			
Range/Target Analyte Elut. Range RL Units									
	C5-C8 Alip		N/A	800	ug/L	3650			
Unadjusted	C9-C12 Ali	phatics ¹	N/A	300	ug/L	7140			
Methyl tert-	butyl ether		C ₅ -C ₈ Aliph.	5.0*	ug/L	111			
Benzene			C ₅ -C ₈ Aliph.	5.0*	ug/L	780			
Toluene			C ₅ -C ₈ Aliph.	100	ug/L	4090			
Ethylbenze	ne		C ₉ -C ₁₂ Aliph.	5.0*	ug/L	834			
m&p-Xylen	es		C ₉ -C ₁₂ Aliph.	100	ug/L	4250			
o-Xylene	•		C ₉ -C ₁₂ Aliph.	100	ug/L	1860			
Naphthaler	ie		N/A	20*	ug/L	404	_		
C5-C8 Aliph	atic Hydroca	arbons ^{1,2}	N/A	800	ug/L	ND			
C9-C12 Alipl	natic Hydroc	arbons ^{1,3}	N/A	300	ug/L	ND			
C9-C10 Aro	matic Hydro	ocarbons'	C ₉ -C ₁₂ Aliph.	1100	ug/L	3070			
2,5-Dibromo	toluene (PII	D) Surrogate	Recovery		_	101%			
2,5-Dibromo	toluene (FI	D) Surrogate	Recovery			95%			
Surrogate A	cceptance F	Range				70-130%			
¹ Hydrocarbon I	Range data exc	clude concentra	itions of any sui	rrogate(s) and/	or internal stand	ards eluting in	that range		
² C ₅ -C ₈ Aliphati	c Hydrocarbons	s exclude the c	oncentration of	Target Analyte	s eluting in that	range			
							C ₉ -C ₁₀ Aroma	tic Hydrocarbon:	
·									
CERTIFICA	TION								
Were all QA	VQC proced	ures REQUI	RED by the	VPH Method	followed?	⊠ Yes □	No - Deta	ils attached	
Were all QA	VQC perforn	nance /acce	ptance stand	lards achiev	ed? 🗵 Ye	es 🗆 No-	Details atta	ched	
Were any si	gnificant mo	difications n	nade to the V	/PH method	, as specified	in Sect 11.	3.? ⊠ No	,	
					•				
l attest unde	er the pains	and penaltie	s of perjury t	that, based ι	ıpon my inqu	iry of those	individuals		
					terial contair	•			
			and comple				•		
SI	GNATURE:	كبيميم لام	1.1. France	;		POSITION:	Lab Directo	or	
				•					
PRIN [*]	TED NAME:	Jim Chen				DATE:	05/17/02	<u>></u>	
) ONTE. 00/1/102								

SAMPLE INFORMATION

Matrix	☑ Aqueous □ Soil □ Sediment □ Other									
Containers	☑ Satisfactory ☐ Broken ☐ Leaking									
	Aqueous	□ N/A □	B pH ≤ 2 □	pH > 2 Com	ment:					
Sample	Soil or	□ N/A C	I Samples NC	T preserved	in MeOH or a	ir-tight contair	ners	ml MeOH		
Preservative	Sediment	☐ Sample	s received in	MeOH □	Covering soil	? □ Not		□1:1 <u>+</u> 25%		
		☐ Receive	d in air tight o	container				☐ Other		
Temperature	× F	Received on ic		eceived at 4°	C D Other					
VPH ANAL					-	DMW1-104				
Method for R					Lab ID:	122718				
		s: MADEP VI	ÞН	Dat	e Collected:	05/10/02	<u> </u>			
VPH Surroga			••		e Received:	05/13/02				
VI II Odinogo		bromotoluen	e)		e Analyzed:	05/17/02				
1	•	bromotoluen	•		ition Factor:	50 / 1.0*				
	1 10 (2,0-01	DI OTTIOLOIGETT	=)	L	solids (%):	N/A				
Popac/Tora	ot Apolyto		Elia Bassa	RL	Units	14/7				
Range/Targ		h-4in-1	Elut. Range			4700				
Unadjusted			N/A	2000	ug/L	4700				
Unadjusted			N/A	750	ug/L	4820				
Methyl tert-	-butyi etner	'	C ₅ -C ₈ Aliph.	250	ug/L	2550				
Benzene			C ₅ -C ₈ Aliph.	250	ug/L	2220,	•			
Toluene			C ₅ -C ₈ Aliph.	250	ug/L	2190				
Ethylbenze			C ₉ -C ₁₂ Aliph.	250 250	ug/L	655				
	m&p-Xylenes C ₉ -C ₁₂ /				ug/L	3750				
o-Xylene			C ₉ -C ₁₂ Aliph.	250	ug/L	1250		·		
Naphthalen			N/A	20*	ug/L	246				
C5-C8 Aliphatic Hydrocarbons ^{1,2} N/A				2000	ug/L	ND				
C9-C12 Aliph			N/A	750	ug/L	ND				
C9-C10 Aror			C ₉ -C ₁₂ Aliph.	2750	ug/L	ND				
		D) Surrogate				3106%				
		D) Surrogate	Recovery			104%				
Surrogate A						70-130%				
¹ Hydrocarbon F	Range data exc	clude concentra	tions of any sui	rrogate(s) and/o	or internal stand	lards eluting in	that range			
² C ₅ -C ₈ Aliphatic	: Hydrocarbons	s exclude the co	encentration of	Target Analyte:	s eluting in that	range				
3C ₉ -C ₁₂ Aliphati	c Hydrocarbon	s exclude conc	of Target Analy	rtes eluting in th	at range AND o	concentration of	C ₉ -C ₁₀ Aromat	ic Hydrocarbon:		
CERTIFICA	TION									
Were all QA	/QC proced	ures REQUI	RED by the	VPH Method	followed?	⊠ Yes □	No - Detail	s attached		
Were all QA	/QC perform	nance /accep	otance stand	lards achieve	ed? ⊠ Ye	es 🗆 No-	Details attac	hed		
Were any si	gnificant mo	difications m	ade to the V	/PH method,	as specified	in Sect 11.	3.? ⊠ No			
ľ										
1					·					
I attest unde	I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals									
immedately										
the best of n							,,			
1										
Sid	GNATURE:	2/1	11, 1130	ANI-		POSITION:	Lab Directo	ır l		
	•	· · · · · ·		•						
PRINT	PRINTED NAME: Jim Chen DATE: 05/17/02									
}	Sixte. Out the									

SAMPLE INFORMATION

Matrix ☑ Aqueous ☐ Soil ☐ Sediment ☐ Other									
Containers	☑ Satisfactory ☐ Broken ☐ Leaking								
	Aqueous	□ N/A □	pH ≤ 2 □	pH > 2 Com	ment:				
Sample	Soil or	D N/A C	Samples NC	T preserved i	n MeOH or ai	r-tight contair	ners	ml MeOH	
Preservative	Sediment	☐ Sample	s received in l	MeOH 🗆	Covering soil	? □ Not		□1:1 <u>±</u> 25%	
		☐ Receive	ed in air tight o					□ Other	
Temperature		Received on ic	e 🗆 Re	ceived at 4° (
	YTICAL RE				Client ID:	MW-34			
	anges: MAD			Lab ID: 122719					
I .	arget Analyte		PH		e Collected:	05/10/02			
_	ite Standards				e Received:	05/13/02			
Ĭ	• •	bromotoluen	•		e Analyzed:	05/17/02			
l	FID (2,5-Dil	promotoluen	e)		tion Factor:	50 / 1.0*			
					solids (%):	N/A		<u> </u>	
Range/Targ			Elut. Range	RL	Units				
Unadjusted			N/A	2000	ug/L	9530			
Unadjusted			N/A	750	ug/L	17200			
Methyl tert-	butyl ether		C ₅ -C ₈ Aliph.	250	ug/L	698			
Benzene			C ₅ -C ₈ Aliph.	250	ug/L	2350			
Toluene			C ₅ -C ₈ Aliph.	250	ug/L	11800		 	
Ethylbenze			C ₉ -C ₁₂ Aliph.	5.0*	ug/L	673			
m&p-Xylen	es		C ₉ -C ₁₂ Aliph.	250	ug/L	10700	·'		
o-Xylene			C ₉ -C ₁₂ Aliph.	250	ug/L	4290			
Naphthalen		. 17	N/A	20*	ug/L	136		<u> </u>	
	atic Hydroca		N/A	2000	ug/L	ND			
	natic Hydroc		N/A	750	ug/L	ND			
C9-C10 Arol			C ₉ -C ₁₂ Aliph.	2750	ug/L	6940	•		
2,5-Dibromo						110%		ļ	
2,5-Dibromo			Recovery			107%			
Surrogate A			<u></u>			70-130%			
			itions of any sui				that range	l l	
C ₅ -C ₈ Aliphatic	c Hydrocarbons	s exclude the co	oncentration of	Target Analytes	s eluting in that	range			
C ₀ -C ₁₂ Aliphati	C Hydrocarbon	s exclude conc	of Target Analy	tes eluting in th	at range AND c	concentration of	C ₉ -C ₁₀ Aroma	tic Hydrocarbon:	
CERTIFICA	TION								
Were all QA	/QC proced	ures REQUI	RED by the	VPH Method	followed?	X Yes C	No - Detai	is attached	
			ptance stand						
			nade to the V						
					•				
l attest unde	er the pains	and penaltie	s of perjury t	hat, based u	ıpon my inqu	iry of those	individuals		
	immedately responsible for obtaining the information, the material contained in this report is, to								
			and comple				•		
SI	GNATURE:	·	11.63	,ve		POSITION:	Lab Directo	or	
			12000 20					1	
PRINT	TED NAME:	Jim Chen				DATE:	05/17/02	<u> </u>	
ł									

GEOLABS, INC. 45 JOHNSON LANE BRAINTREE, MA 02184 M-MA015

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. All QA/QC meets acceptable limits unless otherwise noted. The information contained in this report is, to the best of my knowledge, accurate and complete.

Any and all subsequent pages of this report are chain(s) of custody.

GeoLabs, Inc. **Turnaround Time** Page_ RUSH: **Environmental Laboratories** STANDARD: SPECIAL INSTRUCTIONS 24hrs 45 Johnson Lane 5 Days 48hrs lec'd on ia in 5/13/02 Braintree, MA 02184 Rush 72hrs Approved by: Office: 781-848-7844 Fax: 781-848-7811 DECOULUS +CO Project Number: Client: Address: 248 ANDOVER ST Project Location: 633 North MAIN ST. PEABODY, MA 01960 978-532-8154 RANDOLPH Phone: Fax: Purchase Order #: Contact: RICKMANSTICIO JIM DECOULOS Collected By: E-mail: JAMESTO DECOUSE COM **ANALYSES REQUESTED** CONTAINER COLLECTION TEMPERATURE Q С G T **GEOLABS** T OR SAMPLE SAMPLE Υ SAMPLE LY ID LOCATION NUMBER X DMW4-1015/10/120854 マ 122715 DMW4 6W DMWB-WZ 1227/6 0940 MW3 DMW2-103 DMW 2 1010 122717 DMW 1 DMW1-104 1115 122718 MW3R 127719 MW-3/2/07 1120 PRESERVATIVE CODES: Relinquished By: Date/Time Received By: MATRIX CODES: Date/Time: **CONTAINER CODES:** 11 = HCI 102 0930 GW = Ground Water A = Amber Received By: 3-13-07 Rel napished By $2 = HNO_3$ WW = Wastewater B = BagRelinquished By: 3 - 13-0 2 Received By: GeoLabs: 5/13/07 **DW** = Drinking Water $3 = H_2SO_4$ G = GlassSL = Sludge $4 = Na_2S_2O_3$ P = Plastic S = Soil A = Air5 = NaOHC.C (mm):40 S = Surma Canister $\mathbf{O} = \mathbf{Oil}$ OT = Other | 6 = MeOH $O = C \bigvee V = VOA$ GEOLABS CHAIN OF CUSTODY

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREP	ARED	FOR:
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Decoulos & Company 248 Andover Street Peabody, MA 01960

Attn: Jim Decoulos

PROJECT ID:

608

Speedy Lube

633 N. Main Street Randolph, MA

GEOLABS CERTIFICATION #:

M-MA015

SAMPLE NUMBER:

123449 - 123456

DATE PREPARED:

June 13, 2002

PREPARED BY:

Christine Johnson

APPROVED BY:

Jim Chen, Laboratory Director/Date

Location:

45 Johnson Lane

Braintree, MA 02184

Phone: (781) 848-7844

Fax: (781) 848-7811

	IFORMATIC				·					
Matrix	BupA 🗵	ous 🗆 S	oil 🛛 Sedin		Other					
Containers		atisfactory	□ Broken							
	Aqueous	□ N/A □	9 pH <u><</u> 2 □	pH > 2 Соп	ment:					
Sample	Soil or					ir-tight contain	ners	ml MeOH		
Preservative	Sediment		s received in l		Covering soil	7 🗆 Not		□1:1±25%		
			d in air tight o					□ Other		
Temperature		Received on ic	e Re	eceived at 4°	C Other					
VPH ANAL			ļ		Client ID:	DMW-4				
Method for F					Lab ID:	123449		ļ		
		s: MADEP V	PH		Collected:	06/04/02				
VPH Surroga	ate Standards				Received:	06/05/02				
		bromotoluen			e Analyzed:	06/11/02				
	FID (2,5-Di	bromotoluen	e)		tion Factor:	1.0 / 100*				
					solids (%):	N/A				
Range/Target Analyte Elut. Range RL Units										
Unadjusted C5-C8 Aliphatics N/A 4000 ug/L 36100										
	d C9-C12 Ali		N/A	15	ug/L	125				
Methyl tert	-butyl ethe		C ₅ -C ₆ Aliph.	500*	ug/L	69800		ļ		
Benzene			C ₅ -C ₈ Aliph.	5	ug/L_	968				
Toluene			C ₅ -C ₈ Aliph.	5	ug/L	ND		<u> </u>		
Ethylbenze	ene		C ₀ -C ₁₂ Aliph.	5	ug/L	23.7				
m&p-Xyler	nes		C ₉ -C ₁₂ Aliph.	5	ug/L	30.5				
o-Xylene			C ₉ -C ₁₂ Aliph.	5	ug/L	9.80				
Naphthalen			N/A	20	ug/L	ND				
	natic Hydroc		N/A	4000°	ug/L	ND				
C9-C12 Alip	hatic Hydro	carbons ^{1,3}	N/A	15	ug/L	ND		<u> </u>		
	matic Hydr		C ₉ -C ₁₂ Aliph.	55	ug/L	58.9		<u> </u>		
2,5-Dibrom	otoluene (P	ID) Surrogat	e Recovery			3.4103%鞍		1		
		D) Surrogat	e Recovery			≉ €103%				
	Acceptance					70-130%		<u> </u>		
	-					lards eluting in t	hat range			
		s exclude the co								
3C9-C12 Alipha	tic Hydrocarbor	ns exclude conc	of Target Anal	ytes eluting in t	hat range AND	concentration o	-C ₁₀ Aromatic	Hydrocarbon:		
CERTIFICA	ATION			· · · · · · · · · · · · · · · · · · ·						
Were all Q	A/QC proce	dures REQU	IRED by the	VPH Metho	od followed?	Yes Yes	□ No - De	tails attache		
						Yes □ No				
						ed in Sect 1				
1					_, op oom					
Í										
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals										
						ained in this				
					a.c.a.com		. sport 10, tt	-		
the best of my knowledge, accurate and complete.										
s	IGNATURE:	:				POSITION:	Lab Direct	tor		
				-						
PRIN	TED NAME:	: Jim Chen				DATE:	06/13/0	2		

SAMPLE INFORMATION

	T = -							
Matrix			Soil D Sedi		Other			
Containers		Satisfactory		☐ Leaking				
!	Aqueous] pH > 2 Con		<u> </u>		
Sample	Soil or			OT preserved			iners	ml MeOH
Preservative	Sediment		es received in		Covering soi	il? □ Not		□1:1±25%
	<u> </u>		ed in air tight o					☐ Other
Temperature		Received on i	ice 🗆 R	Received at 4°				·
	YTICAL RE				Client ID:			
	Ranges: MAD		,		Lab ID:			
		es: MADEP V	/PH	Date	e Collected:	06/04/02		
VPH Surroga	ate Standards		1	Date	e Received:	06/05/02		
	PID (2,5-Di	ibromotoluer			e Analyzed:			
1		ibromotoluen		Dilu	tion Factor:	100 / 1.0°		
	·		'		l solids (%):			
Range/Targ	et Analyte		Elut. Range	RL	Units			
	d C5-Ca Alip	ohatics'_	N/A	4000	ug/L	18100		†
	d C9-C12 Ali		N/A	1500	ug/L	8920		
	t-butyl ether		C ₅ -C _a Aliph.	500	ug/L	19300		1
Benzene			C ₅ -C _a Aliph.	500	ug/L	5970		
Toluene			C ₅ -C _a Aliph.	500	ug/L	1940		
Ethylbenze	ene		C ₉ -C ₁₂ Aliph.	500	ug/L	1510		
m&p-Xylenes C ₉ -C ₁₂ Ali				500	ug/L	5910		
o-Xylene C ₉ -C ₁₂ Ali				500	ug/L	1350		
Naphthaler			N/A	20*	ug/L	327		
	natic Hydroca	athons ^{1,2}	N/A N/A	4000	ug/L	ND ND		
	hatic Hydroc		N/A	1500	ug/L	ND		
C9-C10 Aro	matic Hydrod	carbons'	C ₀ -C ₁₂ Aliph.	5500	ug/L	ND ND		
		ID) Surrogate		1		110%		
		ID) Surrogate		 		*:4108%		
	Acceptance I		I HECOVELY			70-130%		
		clude concentra	tions of any sill	to/e) and/c	- internal stand		that range	<u> </u>
		ciude concentra: is exclude the co					yar tan Ae	
		ns exclude conc					·-C Aromatic	- Lluckonarhons
Op 012	70117====	18 CALLES	01 100 300,000,	/000 01001.7	di laige	JOHOUR	0.010	riyarooa so
CERTIFICA	ATION							
		dures REQU	IDED by the	VDU Metho	d followed?	. I⊠ Vae	TI NO - DO	taile etteche
		mance /acce						
Were any a	Ignincare ne	odifications r	nade to the	VPH metro	J, as specim	ea in Secri	1.3.7 LZI I	NO
1								
 	·	· #1	*i		<i>t</i>		· · · · · · · · · · · · · · · · · · ·	-
I aπest unu	er the pairis	s and penaltic	as of perjury	that, baseu	upon my inc	quiry of thos	e individuai	s
		e for obtainin			ateriai conta	ained in this	report is, to	,
the best of t	my knowied:	ige, accurate	and complete	ete.				
SI	GNATURE:	:		•		POSITION:	Lab Directo	or
PRINTED NAME: Jim Chen DATE: 06/13/02								

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Matrix	E Aque		oil 🛭 Sedir	nent 🗆	Other					
Containers		atisfactory	☐ Broken							
	Aqueous	□ N/A S		pH > 2 Cor	nment:					
Sample	Soil or	□ N/A □	Samples NC	T preserved	in MeOH or a	ir-tight contain	ers	ml MeOH		
Preservative	Sediment	☐ Sample	s received in I	MeOH 🗆	Covering soi	? □ Not		□1:1±25%		
,		☐ Receive	d in air tight o	ontainer	- 			□ Other		
Temperature	23 F	Received on it	e 🗆 Re	eceived at 4°	C D Other					
	YTICAL RE	SULTS			Client ID:	MW-3R		1		
Method for R	langes: MAD	EP VPH			Lab ID:	123451				
		s: MADEP V	'PH [Dat	e Collected:	06/04/02				
VPH Surroga	ate Standards	;	[Date	e Received:	06/05/02				
	PID (2,5-Dil	bromotoluer	ie)	Dat	e Analyzed:	06/11/02				
	FID (2,5-Dil	bromotoluen	e)	Dilt	tion Factor:	100 / 1.0*				
Total solids (%): N/A										
Range/Target Analyte Elut. Range RL Units										
	C5-C8 Alip		N/A	4000	ug/L	20900				
	C9-C12 Ali		N/A	1500	ug/L	23700				
	-butyl ethei	r	C ₅ -C ₈ Aliph.	5.0°	ug/L	778				
Benzene			C ₆ -C ₈ Aliph.	500	ug/L	4240				
Toluene			C ₅ -C ₈ Aliph.	500	ug/L	19200				
Ethylbenze			C ₉ -C ₁₂ Aliph.	500	ug/L	2590				
m&p-Xylen	es		C ₈ -C ₁₂ Aliph,	500	ug/L	15700				
o-Xylene			C ₉ -C ₁₂ Aliph.	500	ug/L	6750				
Naphthale			N/A	20*	ug/L	453				
	atic Hydroca		N/A	4000	ug/L	ND				
	hatic Hydrod		N/A	1500	ug/L	ND				
	matic Hydr		C ₀ -C ₁₂ Aliph.	5500	ug/L	7640				
		D) Surrogat				基 103% 數				
		D) Surrogate	e Recovery			三卤102%多				
	Acceptance					70-130%				
Hydrocarbon I	Range data exc	clude concentra	tions of any sur	rogate(s) and/o	or internal stand	ards eluting in th	at range			
			oncentration of							
C ₉ -C ₁₂ Aliphat	ic Hydrocarbon	s exclude conc	of Target Analy	tes eluting in t	hat range AND	concentration o	-C ₁₀ Aromatic	Hydrocarbon:		
0EDT:5104	71011									
CERTIFICA		5560	IDEN II	1/5) () (12.11					
						⊠ Yes [
						Yes □ No-				
were any s	ignificant mo	odifications i	nade to the	VPH metho	d, as specifi	ed in Sect 11	.3.7 🗵	No		
lottost	a= tha ==!==	. and ===#!								
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to										
ırımedately the best st	responsible	e ior odiainir	ig the intorm	ation, the n	nateriai conta	ained in this i	report is, to	•		
ine dest of	my knowied	ge, accurate	and comple	ere.						
SI	GNATURF:					POSITION:	l ah Direct	OF		
OI.	CITTI ONE.			•		i OSITION.		.OI		
PRINT	TED NAME:	Jim Chen				DATE:	06/13/0	2		
	PRINTED NAME: Jim Chen DATE: 06/13/02									

Aqueous	SAMPLE IN	NFORMATION		 = -	Oth						
Aqueous D N/A B PH S D PH S Comment:	Matrix				Other						
Sample Soil or Samples NOT preserved in MeOH or air-tight containers ml MeOH Samples received in MeOH Covering soil ? Not Samples Not	Containers										
Preservative Sediment											
Preservative Sediment	Sample						ners				
Received in air tight container					Covering soil	1? □ Not _					
Wethod for Ranges: MADEP VPH Lab ID: 123452 Method for Ranges: MADEP VPH Date Collected: 06/04/02 Date Received: 06/04/02 Date Received: 06/04/02 Date Ranges Range Rill Date Received: 06/04/02 Date Range Rill Date Received: 06/05/02 Date Range Rill Date Received: 06/05/02 Date Range Rill Date Range Rill Date Received: 06/05/02 Date Range Rill Date Range Rill Date Received: 06/05/02 Date Range Rill Date Range Rill Date Received: 06/05/02 Date Range Rill Date Range Ri	1							□ Other			
VPH ANALYTICAL RESULTS Client ID: DMW-2	Temperature	Received on it	ce 🗆 Re	eceived at 4°							
Method for Ranges: MADEP VPH Method for Target Analytes: MADEP VPH Method for Target Analytes: MADEP VPH PSUrrogate Standards PID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) Date Raceived: 06/05/02 Date Analyzed: 06/11/02 Dilution Factor: 100 / 1.0* Total solids (%): N/A Method C5-C6 Aliphatics' N/A 4000 ug/L 11900 Unadjusted C5-C6 Aliphatics' N/A 1500 ug/L 19800 Methyl tert-butyl ether C5-C6, Aliph. 5.0* ug/L 63.9 Benzene C5-C6, Aliph. 5.0* ug/L 735 Toluene C5-C7, Aliph. 5.0* ug/L 735 Toluene C5-C7, Aliph. 5.0* ug/L 794 m&p-Xylenes C5-C7, Aliph. 500 ug/L 12900 C5-Xylene C5-C7, Aliph. 500 ug/L 12900 C5-Xylene C5-C7, Aliph. 500 ug/L 12900 C5-Xylene C5-C7, Aliph. 500 ug/L 183 C5-C6 Aliphatic Hydrocarbons 1** N/A 4000 ug/L 4100 C5-C12 Aliphatic Hydrocarbons 1** N/A 4000 ug/L 4100 C5-C12 Aliphatic Hydrocarbons 1** N/A 4000 ug/L 4100 C5-C12 Aliphatic Hydrocarbons 1** N/A 1500 ug/L 183 C5-C6 Aromatic Hydrocarbons 1** N/A 1500 ug/L 183 C5-C7, Aliphatic Hydrocarbons 1** N/A 1500 ug/L 183 C5-C6 Aromatic Hydrocarbons 2** N/A 1500 ug/L 183 C5-C6 Aromatic Hydrocarbons 2** N/A 1500 ug/L 183 C5-C7, Aliphatic Hydrocarbons 2** N/A 1500 ug/L 183 C5-C6 Aromatic Hydrocarbons 2** N/A 1500 ug/L	VPH ANAL	YTICAL RESULTS									
Method for Target Analytes: MADEP VPH VPH Surrogate Standards PID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) Range/Target Analyte Ditution Factor: 100 / 1.0° Total solids (%): N/A Range/Target Analyte Unadjusted Cs-Cs Aliphatics¹ N/A 1000 Unadjusted Cs-Cs Aliphatics¹ N/A 1500 Unadjusted Cs-Cs Aliphatics¹ N	Method for R	Ranges: MADEP VPH	Ī								
Date Received: 06/05/02 Date Analyzed: 06/11/02 Dilution Factor: 100 / 1.0° Dilution Factor: 100 / 1.0° Dilution Factor: 100 / 1.0° Total solids (%): N/A N/A A000 ug/L 19800 Methyl tert-butyl ether C ₂ -C ₄ Aliph. 5.0° ug/L 63.9 Benzene C ₂ -C ₄ Aliph. 5.0° ug/L 735 Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 794 Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 794 Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 19800 Delta Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 735 Delta Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 7000 Delta Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 7000 Delta Toluene C ₂ -C ₄ Aliph. 5.0° ug/L 794 Delta Toluene C ₂ -C ₄ Aliph. 5.0° ug/L Toluene C ₂ -C ₄ Aliphatic Hydrocarbons C ₂ -C ₄ -Aliphatic Hydrocarbons C ₂ -C ₄ -Al			/PH [
PID (2,5-Dibromotoluene) FID (2,5-Dibromotoluene) PID (2,5-Dibromotoluene) Date Analyzed: 06/11/02 Dilution Factor: 100 / 1.0° Total solids (%): N/A A 000 ug/L 11900 Unadjusted Cs-Cs Aliphatics' N/A 4000 ug/L 11900 Unadjusted Cs-C12 Aliphatics' N/A 1500 ug/L 19900 Methyl tert-butyl ether C ₅ -C ₅ Aliph. 5.0° ug/L 63.9 Benzene C ₅ -C ₅ Aliph. 5.0° ug/L 735 Toluene C ₇ -C ₆ Aliph. 5.0° ug/L 794 Toluene C ₇ -C ₁ Aliph. 500 ug/L 7900 Ethylbenzene C ₇ -C ₁ Aliph. 500 ug/L 794 m&p-Xylenes C ₇ -C ₁₂ Aliph. 500 ug/L 12900 C-Xylene C ₇ -C ₁₂ Aliph. 500 ug/L 5910 NAPhthalene N/A 20° ug/L 183 Cs-Cs Aliphatic Hydrocarbons 1-2 N/A 4000 ug/L 4100 Cs-C12 Aliphatic Hydrocarbons 1-3 N/A 4000 ug/L 4100 Cs-C12 Aliphatic Hydrocarbons 1-3 N/A 4000 ug/L ND Cs-C10 Aromatic Hydrocarbons 1-3 N/A 1500 ug/L ND Cs-C10 Aromatic Hydrocarbons 1-4 N/A 1500 ug/L ND Cs-C10 Aromatic Hydrocarbons 1-5 N/A 1500 ug/L ND		ate Standards									
Dilution Factor: 100 / 1.0° Total solids (%): N/A	1		ne) [
Total solids (%): N/A Range/Target Analyte	1										
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	91	GNATURE:				POSITION-	Lab Directo	or			
PRINTED NAME: Jim Chen DATE: 06/13/02				-				= •			
with william	PRINT	TED NAME: Jim Chen				DATF.	06/13/02	?			
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SAMPLE INFORMATION

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Matrix	☑ Aque	ous 🗆 S	oil 🗆 Sedir	ment 🗆	Other			
Containers	<u>⊠</u> S	atisfactory	☐ Broken					
	Aqueous	□ N/A □	pH ≤ 2 □	pH > 2 Con	nment:			
Sample	Soil or					ir-tight contai	ners	ml MeOH
Preservative	Sediment	☐ Sample:	s received in	MeOH 🗆	Covering soi	? □ Not		□1:1±25%
		☐ Receive	d in air tight o	container			•	☐ Other
Temperature	Ø F	Received on ic	e 🗆 R	eceived at 4°	C D Other			
VPH ANAL	YTICAL RE	SULTS			Client ID:	DMW-3		
Method for F	Ranges: MAD	EP VPH			Lab ID:	123453		
Method for T	arget Analyte	s: MADEP V	PH	Date	e Collected:	06/04/02		
VPH Surroga	ate Standards	1	ĺ	Date Received: 06/05/0				
	PID (2,5-Dil	bromotoluen	ie) [Date Analyzed:		06/11/02		
	FID (2,5-Dil	promotoluen	e)			1.0 / 10.0*		
	•		Ĩ	Tota	l solids (%):	N/A		
Range/Targ	get Analyte		Elut. Range	RL	Units			
	d C5-C8 Alip	hatics1	N/A	40	ug/L	970		
	d C9-C12 Ali		N/A	150°	ug/L	619		
Methyl tert-			C ₅ -C ₈ Aliph.	5	ug/L	ND		
Benzene		_	C ₅ -C ₈ Aliph.	5	ug/L	ND		
Toluene			C ₅ -C ₆ Aliph.	5	ug/L	42.0		
Ethylbenze	ene		C _p -C ₁₂ Aliph.	5	ug/L	43.8		
m&p-Xyler			C ₉ -C ₁₂ Aliph.	5	ug/L	376		
o-Xylene			C ₉ -C ₁₂ Aliph.	5	ug/L	201		
Naphthale	ne		N/A	20	ug/L	21.9		
	hatic Hydro	carbons1,2	N/A	40	ug/L	928		
	hatic Hydrod		N/A	150°	ug/L	ND		
	matic Hydro		C ₉ -C ₁₂ Aliph.	550*	ug/L	ND		
2.5-Dibrom	otoluene (Pl	D) Surrogat	e Recovery			*3103% ***		
2,5-Dibromotoluene (FID) Surrogate Recovery					× 97%			
Surrogate Acceptance Range			1	1		70-130%		
¹ Hydrocarbon	Range data exc	lude concentra	tions of any sur	rogate(s) and/o	or internal stanc	ards eluting in t	hat range	
² C ₅ -C ₈ Aliphat	ic Hydrocarbons	s exclude the co	oncentration of	Target Analyte:	s eluting in that	range		
3C9-C12 Alipha	itic Hydrocarbon	is exclude conc	of Target Analy	ytes eluting in t	hat range AND	concentration o	p-C ₁₀ Aromati	c Hydrocarbons
			-					•
CERTIFICA						_		
Were all Q	A/QC proced	dures REQU	IRED by the	VPH Meth	od followed?	Yes Yes	□ No - De	tails attached
Were all Q	A/QC perfor	mance /acce	eptance stan	ndards achie	ved? 🗵	Yes 🗆 No	- Details at	ttached
Were any s	significant m	odifications	made to the	VPH metho	d, as specifi	ied in Sect 1	1.3.? 🖾	No
ļ								
l attest und	der the pains	and penalti	es of perjury	/ that, based	d upon my in	quiry of thos	se individua	ıls
immedatel	y responsible	e for obtainii	ng the inforn	nation, the n	naterial cont	ained in this	report is, to	0
the best of	my knowled	ige, accurate	e and compl	lete.				
SIGNATURE:			POSITION: Lab Director					
DD	TED NAME:	lim Char				DATE	06/49/0	10
I PRIN	TED NAME:	Jim Chen				DATE	06/13/0	12

SAMPLE INFORMATION

i. -

The state of the s	-11 E C -11:		Other			
	Soil D Sedir		Other		-	
Containers Satisfactory	☐ Broken					
	図 pH ≤ 2 □			 		
1 · 1				air-tight contain	ners	ml MeOH
V 10001100110	s received in		Covering soi	! ? □ Not		□1:1±25%
	ed in air tight o					□ Other
Temperature 🗵 Received on i	ce 🗆 R	eceived at 4°	C D Other			
VPH ANALYTICAL RESULTS			Client ID:			
Method for Ranges: MADEP VPH			Lab ID:	123454		
Method for Target Analytes: MADEP V	'PH		Collected:			
VPH Surrogate Standards		Date	Received:	06/05/02		
PID (2,5-Dibromotoluer		Date Analyzed:		06/11/02		
FID (2,5-Dibromotoluen	ıe)			1.0 / 10.0*		
		Tota	solids (%):	N/A		
Range/Target Analyte	Elut. Range	RL	Units			
Unadjusted C5-C8 Aliphatics1	N/A	400*	ug/L	1350		
Unadjusted C9-C12 Aliphatics	N/A	150*	ug/L	2300		
Methyl tert-butyl ether	C ₅ -C ₈ Aliph.	5	ug/L	ND	_	
Benzene	C ₅ -C ₈ Aliph.	5	ug/L	5.60		
Toluene	C ₅ -C ₈ Aliph.	5	ug/L_	32.2		
Ethylbenzene	C ₉ -C ₁₂ Aliph.	5	ug/L	51.0		
m&p-Xylenes	C ₉ -C ₁₂ Aliph.	5	ug/L	423		
o-Xylene	C ₉ -C ₁₂ Aliph.	5	ug/L	204		
Naphthalene	N/A	20	ug/L	35.0		
C5-C8 Aliphatic Hydrocarbons ^{1,2}	N/A	400°	ug/L	1310		
C9-C12 Aliphatic Hydrocarbons 1.3	N/A	150*	ug/L	ND		
C9-C10 Aromatic Hydrocarbons'	C ₉ -C ₁₂ Aliph.	550*	ug/L	1770		
2,5-Dibromotoluene (PID) Surrogat	e Recovery			義司04%條		
2,5-Dibromotoluene (FID) Surrogat			學自07%			
Surrogate Acceptance Range			70-130%			
¹ Hydrocarbon Range data exclude concentra	itions of any sur	rogate(s) and/o	r internal stand	lards eluting in th	nat range	
² C ₅ -C ₈ Aliphatic Hydrocarbons exclude the co	oncentration of	Target Analytes	eluting in that	range		
³ C ₉ -C ₁₂ Aliphatic Hydrocarbons exclude cond	of Target Analy	ytes eluting in t	nat range AND	concentration o	-C ₁₀ Aromatic	Hydrocarbons
CERTIFICATION						
Were all QA/QC procedures REQU	IRED by the	VPH Metho	od followed?	∑ Yes [□ No - Det	ails attache
Were all QA/QC performance /acce						
Were any significant modifications						
viole any oignment means and			-,,			
I attest under the pains and penalti	es of periury	that based	upon my in	auiry of those	e individual	s
immedately responsible for obtaining	na the inform	nation, the n	naterial cont	ained in this i	report is. to	,
the best of my knowledge, accurate			,			
SIGNATURE:	POSITION: Lab Director					
PRINTED NAME: Jim Chen				DATE:	06/13/02	2

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Matrix ☐ Aqueous ☐	Soil o Sedi		Other-Air		. <u> </u>	
Containers Satisfactory	□ Broken					
Aqueous NA	pH ≤ 2 □ pH	> 2 Comme	nt:			
Sample Soil or D N/A	☐ Samples NC	T preserved	in MeOH or a	ir-tight contai	ners	mi MeOH
Preservative Sediment	es received in	MeOH 🗆	Covering soil	? □ Not		□1:1±25%
Receiv	ed in air tight o	ontainer-Sur	nma Canister			☐ Other
Temperature □ Received on ice		ed at 4° C				
APH ANALYTICAL RESULTS				Client ID: Lab ID:	DG2-101 123455	
Method for Ranges: MADEP APH 97						
APH Surrogate Standards 2,5-Dibro	motoluene		06/04/02			
1,2-DCE			Date	Received:	06/05/02	-
Toluene	-d8	D	ate Fraction	s Analyzed:	06/11/02	
BFB		-		ts Analyzed:		
Method for Target Analytes: EPA-TO1	44		Ranges Dilu			
Wild to Talgot Allayton El A-101	• • •		Targets Dilu	tion Factor:		
Range/Target Analyte	Elut. Range	RL (ppbv)	RL (ug/m3)	Units		
Unadjusted C5-Cs Aliphatic Hyd	r N/A	· ·= (PP-1)	85.0	ug/m³	271000	
Unadjusted Cs-C12 Aliphatic Hyd	il N/A		90.0	ug/m³	6270	
Benzene	C5-C8 Aliph	81.00	258.30	ppbv/ug/m3	900 / 2880	
1.3-Butadiene*	N/A	1800.0	4140.0	ppbv/ug/m3	ND	
Ethylbenzene	C5-C8 Aliph	48.60	210.6	Su/bn/Addd	ND	-
Methyl-tert-butyl ether*	C5-C8 Aliph	900.0	3240.0	ppbv/ug/m3	8100 / 2920	lo -
2-Methylnaphthalene'	N/A	1800.0	10620	bbps/ng/w3	ND	
Naphthalene*	N/A	1800.0	9540	ppbv/ug/m3	ND	
Toluene	C5-C8 Aliph	85.50	322.2	ppbv/ug/m3	ND	
m-,p-Xylenes	C5-C8 Aliph	34.20	148.5	ppbv/ug/m3	90.07390	
o-Xylene	C9-C12 Aliph.	41.40	180.00	bbpA/nd/w3	ND	
Cs-Cs Aliphatic Hydrocarbons	N/A	41.40	85.0	ug/m²	239000	
C9-C12 Aliphatic Hydrocarbons*	N/A		90.0	ug/m³	6090	
C9-C10 Aromatic Hydrocarbons	 NA		80.0	ug/m²	181	-
2,5-Dibromotoluene Surrogate Re			50.0		-25 99% - SE	
1,2-DCE Surrogate Recovery	1		-		₩ 59% www.	
Toluene-d8 Surrogate % Recover		 		102%		
BFB Surrogate % Recovery	-				98% AND	
Surrogate Acceptance Range	 				70-130%	
'C ₅ C ₆ Aliphatic Hydrocarbons exclude con-	entrations of Tar	net Analytes e	uting in that ran	<u> </u>	70-10078	<u> </u>
*C ₂ -C ₁₂ Aliphatic HCs exclude concentration	s of Target Anal	vtes AND v.C.	Aromatic Hydro	ocarbons elutin	a in that rance	
*Compounds quantitated by TICS		,			5	
CEHTIFICATION	*Matrix int	errerence c	ontirmed b	v re-run		
Were all QA/QC procedures REQUIR	FI) by the APF	Method toll	owed? X Ye	s L No - De	ails attached	
Were all QA/QC performance /accept	ance standard	s achieved?	☐ Yes 🗵	No - Details	attached *	
Were any significant modifications ma	de to the APH	method??	□ No 図 Yes	- Details be	low	
Aliphatic ranges quantitated by GC/M	S Total Ion Ch	romatogram	and all targets	s and Aromat	lic ranges wei	e e
quantitated by GC/MS Selected Ion N	leasurements.	•	•		•	
, ,						
I attest under the pains and penal	ties ot perjury	that, based	d upon my in	quiry of thos	se individual	S
immedately responsible for obtain	ing the inform	nation, the n	naterial cont	ained in this	report is, to	
the best of my knowledge, accura	te and compl	ete.			-	
•	•					
SIGNATUHE:		_		POSITION	: Lab Direct	or
		-				_
PRINTED NAME: Jim Chen			DATE	: 06/13/02	2	

PHINTED NAME: Jim Chen

SAMPLE INFORMATION Other-Air Aqueous D Soil o Sediment Matrix ☐ Broken ☐ Leaking Containers Satisfactory N/A □ pH ≤ 2 □ pH > 2 Comment: Aqueous ☐ Samples NOT preserved in MeOH or air-tight containers ml MeOH Soil or N/A Sample Samples received in MeOH ☐ Covering soil? ☐ Not □1:1±25% Preservative Sediment Received in air tight container-Summa Canister ☐ Other ☐ Received at 4° C ☐ Other Temperature D Received on ice APH ANALYTICAL RESULTS Client ID: DG1-102 Method for Ranges: MADEP APH 97-12 GC/MS Lab ID: 123456 Date Collected: 06/04/02 APH Surrogate Standards 2,5-Dibromotoluene 1,2-DCE Date Received: 06/05/02 Date Fractions Analyzed: 06/11/02 Toluene-d8 **BFB** Date Targets Analyzed: 06/12/02 Method for Target Analytes: EPA-TO14A Ranges Dilution Factor: 1.0 1.0 Targets Dilution Factor: RL (ppbv) RL (ug/m3) Units Range/Target Analyte Elut. Range Unadjusted C5-C8 Aliphatic Hydro 1630 N/A 85.0 ug/m³ 90.0 1880 Unadjusted C9-C12 Aliphatic Hydi N/A ug/m³ ND 0.90 2.87 bbpv/nd/w3 Benzene C5-C8 Aliph 46.0 ND 1,3-Butadiene' 20.0 N/A ppbv/ug/m3 2.34 ND C5-C8 Aliph 0.54 Ethylbenzene ppbv/ug/m3 36.0 ND Methyl-tert-butyl ether C5-C8 Aliph <u> 10.0</u> ppbv/ug/m3 2-Methylnaphthalene 20.0 118 DDN/A ppbv/ug/m3 20.0 Naphthalene* 106 ND N/A ppbv/ug/m3 3.58 0.95 ND Toluene C5-C8 Aliph ppbv/ug/m3 m-,p-Xylenes C5-C8 Aliph 0.38 1.65 ppbv/ug/m3 | 0.75 / 3.25 0.46 2.00 o-Xylene C9-C12 Aliph. ppbv/ug/m3 ND C5-C8 Aliphatic Hydrocarbons'
C9-C12 Aliphatic Hydrocarbons' N/A 85.0 1630 ug/m³ N/A 90.0 ug/m 1880 C9-C10 Aromatic Hydrocarbons N/A 80.0 ug/m³ ND 2,5-Dibromotoluene Surrogate Recovery ₩¥88%×× 1,2-DCE Surrogate Recovery 61% A Toluene-d8 Surrogate % Recovery ----98%### **BFB Surrogate % Recovery** 102% Surrogate Acceptance Hange 70-130% C. C. Aliphatic Hydrocarbons exclude concentrations of Target Analytes eluting in that ran °C_s.C₁₂ Aliphatic HCs exclude concentrations of Target Analytes AND _{b.}C₁₀ Aromatic Hydrocarbons eluting in that range *Compounds quantitated by TICS CEHTIFICATION *Matrix interference confirmed by re-run Were all QA/QC procedures REQUIRED by the APH Method followed? ☑ Yes ☐ No - Details attached Were all QA/QC performance /acceptance standards achieved?

Yes
No - Details attached * Were any significant modifications made to the APH method?? ☐ No ☒ Yes - Details below Aliphatic ranges quantitated by GC/MS Total Ion Chromatogram and all targets and Aromatic ranges were quantitated by GC/MS Selected Ion Measurements. I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge, accurate and complete. SIGNATURE: POSITION: Lab Director

DATE:

06/13/02

PRINTED NAME: Jim Chen

GEOLABS, INC. 45 JOHNSON LANE BRAINTREE, MA 02184 M-MA015

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. All QA/QC meets acceptable limits unless otherwise noted. The information contained in this report is, to the best of my knowledge, accurate and complete.

Any and all subsequent pages of this report are chain(s) of custody.

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREPARED FOR:

Decoulos & Company 3 Electronics Avenue Danvers, MA 01923 ·

Attn: Jim Decoulos

PROJECT ID:

608

633 N. Main Street

Randolph, MA

GEOLABS CERTIFICATION #:

M-MA015

SAMPLE NUMBER:

141658 - 141664

DATE PREPARED:

November 24, 2003

PREPARED BY:

Christine Johnson

APPROVED BY:

Jiza Chen, Laboratory Director/Date

Location: .45 Johnson Lane

Braintree, MA 02184

Phone: (781) 848-7844

Fax: (781) 848-7811

MADEP MCP Response Action Analytical Report Certification Form

Laboratory Project Loc		GeoLabs, Inc. 633 N. Main Street		Project #: MADEP RT		608			
		035 14. Main Otreet	<u> </u>		· · · · · · · · · · · · · · · · · · ·				
This form p	orovides cert	ifications for the following	ng data set:	141658 - 14	11664				
Sąmple ma	atrices:	Groundwater (x)	Soil / Sedi	ment ()	Drinking Wa	ater ()	Other ()		
MCP SW-8	346	8260B() 8151A()	8330 ()	6010B ()	7470/1A ()	Other: ()	-		
Methods \	Jsed	8270C() 8081A() 8082 () 8021B()		6020 () 7000 S ³ ()	9014M ² ()	<u>-</u>			
As specified	I in MADEP	1- List Release Tracking	Number (RTI	N), if known					
Compendiu		2- M - SW-846 Method 9			-		Method		
Analytical M		3- S - SW-846 Methods	7000 Series	(List individual	method and a	analyte)	1		
(Check all the	nat apply)								
An affirma	tive respon	se to questions A, B,	and C is req	wired for "Pi	resumptive	Certainty" s	tatus		
All dillillie	itive respon	ise to questions A, B,	4114 0 10 109	14.104.101					
А		mples received by the lab				Yes (x)	No ¹ ()		
В		VQC procedures required				Yes(x)	No ¹ ()		
l	1	this report followed, includ	•	-					
	discuss in a	narrative QC data that di	id not meet ap	propriate perfo	rmance				
		or guidelines?				<u> </u>			
С		nalytical data included in t	•			Yes (x)	No¹ ()		
		nptive Certainty", as descr							
		CAM VII A, "Quality Assu		-	Jidelines				
	nor the Acqu	uisition and Reporting of A	Analytical Data			!			
A respons	se to questi	ons D and E below is	required for	"Presumpti	ve Certainty	" status			
D		C performance standards	and recomme	ndations for th	е	Yes(x)	No ¹ ()		
ļ		ethods achieved?				 	1		
E	Were resulting method(s)	ts for all analyte-list compreported?	ounds/elemen	ts for the spec	ified	Yes (x)	No¹()		
	¹ All NO an	swers must be address	ed in an atta	ched Environ	mental Labo	ratory case n	arrative.		
inquiry of	those resp	ttest under the pains a onsible for obtaining of my knowledge and	the informat	tion, the mat	erial contair				
Signature		am C	him	Position:	Lab Direct	0.5			
Signature:		/		FUSILIUIT.	Lab Direct	<u> </u>	•		
Printed Na	ame:	Jim Chen		Date:	November	24, 2003	•		
							• 		

15 181 313

GeoLabs, Inc.

Environmental Laboratories

Case Narrative

Project ID: 608

Client Name: Decoulos & Company

Sample Number: 141658 - 141664

Received: 11/24/03

Physical Condition of Samples

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these sample(s).

	FORWATIO								
Matrix	☑ Aqueo		oil 🗆 Sedim		Other				
Containers			□ Broken						
				pH > 2 Com					
Sample	[- L				n MeOH or air		ers	mi MeOH	
Preservative	-		received in I		Covering soil	? Not		□1:1 <u>+</u> 25%	
			d in air tight c					☐ Other	
Temperature		ceived on ic	e □ Re	ceived at 4° (
1	YTICAL RES				Client ID:	DMW-1	DMW-2		
Method for R	anges: MADE	P VPH			Lab ID:	141658	141659		
Method for T	arget Analytes:	: MADEP VE	PH	Date	e Collected:	11/12/03	11/12/03		
VPH Surroga	ite Standards			Dat	e Received:	11/13/03	11/13/03		
	PID (2,5-Dibi	romotoluen	e)	Dat	e Analyzed:	11/21/03	11/21/03		
İ	FID (2,5-Dibr	romotoluen	e)	Dilu	ition Factor:	50	50_		
				Tota	l solids (%):	N/A	N/A		
Range/Targ	et Analyte		Elut. Range	RL	Units				
Unadjusted	C5-C8 Aliph	atics ¹	N/A	2000	ug/L	10900	8000		
	C9-C12 Alip		N/A	750	ug/L	3030	3070		
Methyl tert	-butyl ether		C ₅ -C ₈ Aliph.	250	ug/L	5760	ND		
Benzene			C ₅ -C ₈ Aliph.	250	250 ug/L		935		
Toluene			C ₅ -C ₈ Aliph.	250	ug/L	1250	4400		
Ethylbenze	ne		C ₉ -C ₁₂ Aliph.	250	ug/L	1990	1280		
m&p-Xylen	es		C ₉ -C ₁₂ Aliph.	250	ug/L	6220	6590		
o-Xylene			C ₉ -C ₁₂ Aliph.	250	ug/L	1660	3500		
Naphthalen	е		N/A	1000	ug/L	ND	ND		
C5-C8 Aliph	natic Hydroc	arbons ^{1,2}	N/A	2000	ug/L	ND	2670		
C9-C12 Alip	hatic Hydroca	arbons ^{1,3}	N/A	750	ug/L	ND	ND		
C9-C10 Aro	matic Hydro	carbons	C _g -C ₁₂ Aliph.	2750	ug/L	6620	7720		
2,5-Dibrom	otoluene (PID) Surrogate	Recovery			© 21%;	\$4°%		
2,5-Dibrom	otoluene (FID) Surrogate	Recovery			\$77%	2(8)%	<u> </u>	
	Surrogate Acceptance Range 70-130% 70-130%								
	Range data exc						that range		
20 C Alimber	a Undrageboog	avaluda tha a	totion of	Torget Analyte	a alutina in that	range			

CERTIFICATION	
Were all QA/QC procedures REQUIRED by the VPH Method	followed? ☑ Yes ☐ No - Details attached
Were all QA/QC performance /acceptance standards achieve	
Were any significant modifications made to the VPH method,	as specified in Sect 11.3.? ☒ No
I attest under the pains and penalties of perjury that, based up immedately responsible for obtaining the information, the mat the best of my knowledge, accurate and complete.	
SIGNATURE:	POSITION: Lab Director
PRINTED NAME: Jim Chen	DATE: 11/24/03

⁴C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C₉-C₁₀ Aromatic Hydrocarbon:

SAMPL	E INF	ORM/	ATION
-------	-------	------	-------

SAMELL INFORMATION											
	oil 🛘 Sedim	nent 🔲 (Other								
Containers Satisfactory		□ Leaking				-					
	pH ≤ 2 □										
'	Samples NC				ers	ml MeOH					
	s received in I		Covering soil	? 🗆 Not		□1:1 <u>+</u> 25%					
	d in air tight c										
Temperature Received on ic	e LI Re	ceived at 4° C Other									
VPH ANALYTICAL RESULTS			Client ID:	DMW-3							
Method for Ranges: MADEP VPH			Lab ID:	141660							
Method for Target Analytes: MADEP VI	PH	Dat	e Collected:	11/12/03							
VPH Surrogate Standards		Dat	e Received:	11/13/03							
PID (2,5-Dibromotoluen	e)	Dat	e Analyzed:	11/21/03							
FID (2,5-Dibromotoluen	e)	Dilu	ition Factor:	1.0							
Total solids (%): N/A											
Range/Target Analyte	Elut. Range	RL	Units								
Unadjusted C5-C8 Aliphatics ¹	N/A	40	ug/L	185							
Unadjusted C9-C12 Aliphatics ¹	N/A	15	ug/L	88.1							
Methyl tert-butyl ether	C ₅ -C ₈ Aliph.	5	ug/L	ND							
Benzene	C ₅ -C ₈ Aliph.	5	ug/L	ND							
Toluene	C ₅ -C ₈ Aliph.	5	ug/L	ND							
Ethylbenzene	C ₉ -C ₁₂ Aliph.	5	ug/L	ND		Ţ <u></u>					
m&p-Xylenes	C ₉ -C ₁₂ Aliph.	5	ug/L	14.3							
o-Xylene	C ₉ -C ₁₂ Aliph.	5	ug/L	16.6							
Naphthalene	N/A	20	ug/L	ND							
C5-C8 Aliphatic Hydrocarbons 1,2	N/A	40	ug/L	185							
C9-C12 Aliphatic Hydrocarbons ^{1,3}	N/A	15	ug/L	ND							
C9-C10 Aromatic Hydrocarbons	C ₉ -C ₁₂ Aliph.	55	ug/L	436							
2,5-Dibromotoluene (PID) Surrogate	Recovery	-		(1) (1)							
2,5-Dibromotoluene (FID) Surrogate											
Surrogate Acceptance Range				70-130%							
¹ Hydrocarbon Range data exclude concentra	tions of any sur	rogate(s) and/o	or internal stand	ards eluting in	that range						
$^2\mathrm{C}_5 ext{-}\mathrm{C}_8$ Aliphatic Hydrocarbons exclude the \propto	oncentration of	Target Analyte:	s eluting in that	range							
³ C ₉ -C ₁₂ Aliphatic Hydrocarbons exclude conc	of Target Analy	tes eluting in th	at range AND	concentration o	f C ₉ -C ₁₀ Aroma	tic Hydrocarbon					
CERTIFICATION					·· · ····						
Were all QA/QC procedures REQUI											
Were all QA/QC performance /acce											
Were any significant modifications n	nade to the \	/PH method	, as specme	d in Sect 11.	.3.? 🗵 No)					
I attest under the pains and penaltie	e of porium i	that bacadi	inon my inai	in of those	individuale						
immedately responsible for obtaining											
the best of my knowledge, accurate			iteriai contaii	iou iii tiiis ie	sport is, to						
	=	~ •									
SIGNATURE:	m C	han		POSITION:	Lab Directo	ЭГ					
		. •									
PRINTED NAME: Jim Chen				DATE:	11/24/03	3					
1											

GeoLabs, Inc.

Environmental Laboratories SAMPLE INFORMATION Soil

Sediment Other Matrix Aqueous 図 Satisfactory □ Broken □ Leaking Containers N/A pH ≤ 2 □ pH > 2 Comment: Aqueous ☐ Samples NOT preserved in MeOH or air-tight containers ml MeOH N/A Sample Soil or Samples received in MeOH ☐ Covering soil? ☐ □1:1<u>+</u>25% Preservative Sediment Other Received in air tight container □ Received at 4° C □ Other Temperature × Received on ice Client ID: DMW-4 VPH ANALYTICAL RESULTS Method for Ranges: MADEP VPH Lab ID: 141661 Method for Target Analytes: MADEP VPH Date Collected: 11/12/03 Date Received: 11/13/03 VPH Surrogate Standards 11/21/03 PID (2,5-Dibromotoluene) Date Analyzed: Dilution Factor: 10 / 20* FID (2,5-Dibromotoluene) Total solids (%): N/A Range/Target Analyte Elut. Range RL Units Unadjusted C5-C8 Aliphatics N/A 400 ug/L 6670 Unadjusted C9-C12 Aliphatics¹ N/A 150 ug/L ND 100* ug/L 6670 Methyl tert-butyl ether C5-C8 Aliph. Benzene 50 ug/L 157 C5-C8 Aliph. ug/L Toluene 50 ND C₅-C₈ Aliph. 50 ug/L ND Ethylbenzene C₉-C₁₂ Aliph. 50 ug/L 91.0 m&p-Xylenes C₉-C₁₂ Aliph. 50 ug/L ND o-Xylene C9-C12 Aliph. Naphthalene 200 ug/L ND N/A C5-C8 Aliphatic Hydrocarbons 1,2 ND 400 ug/L N/A C9-C12 Aliphatic Hydrocarbons 1,3 150 ug/L ND N/A C9-C10 Aromatic Hydrocarbons Cg-C₁₂ Aliph. 550 ug/L ND 2,5-Dibromotoluene (PID) Surrogate Recovery 2,5-Dibromotoluene (FID) Surrogate Recovery Surrogate Acceptance Range 70-130% Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range ²C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C₉-C₁₀ Aromatic Hydrocarbons

CERTIFICATION Were all QA/QC procedures REQUIRED by the VPH Met	hod followed? ⊠ Yes □ No - Details attached
Were all QA/QC performance /acceptance standards ach	
Were any significant modifications made to the VPH metr	nod, as specified in Sect 11.3.? 区 No
I attest under the pains and penalties of perjury that, base immedately responsible for obtaining the information, the the best of my knowledge, accurate and complete.	
SIGNATURE:	POSITION: Lab Director
PRINTED NAME: Jim Chen	DATE: 11/24/03

SAMPLE INFORMATION

Matrix	☑ Aque	eous 🗆 Sc	oil 🗆 Sedim	nent 🗆 C	Other									
Containers	⊠ S			☐ Broken ☐ Leaking pH ≤ 2 ☐ pH > 2 Comment:										
	Aqueous						.							
Sample	Soil or				n MeOH or air Covering soil '		iers	ml MeOH						
Preservative	Sediment		s received in M		□1:1 <u>+</u> 25%									
ļ!	<u> </u>		d in air tight c			☐ Other								
Temperature		Received on ico	e 🗆 Ke	eceived at 4° (1						
1	YTICAL RE		!		Client ID:	MW-3R_		 						
Method for R	Ranges: MAD	ÆP VPH		<u> </u>	Lab ID:	141662		 						
Method for T	arget Analyte	es: MADEP VF	거		e Collected:	11/12/03	<u> </u>							
VPH Surroga	ate Standards	\$		Date	e Received:	11/13/03	<u> </u>							
	PID (2,5-Di	ibromotoluene	e)		e Analyzed:	11/21/03								
	FID (2,5-Di	bromotoluene	e)	Dilu	ition Factor:	50								
	<u> </u>			Tota	l solids (%):	N/A								
Range/Targ	get Analyte		Elut. Range	RL	Units									
	d C5-C8 Alip	ohatics ¹	N/A	2000	ug/L	12500								
	d C9-C12 Ali		N/A	750	ug/L	3550								
Methyl tert-l			C ₅ -C ₈ Aliph.	250	ug/L	ND								
Benzene			C ₅ -C ₈ Aliph.	250	ug/L	3020								
Toluene			C ₅ -C ₈ Aliph.	250	ug/L	7900								
Ethylbenze	-ne		C ₉ -C ₁₂ Aliph.	250	ug/L	1800								
m&p-Xylen			C ₉ -C ₁₂ Aliph.	250	ug/L	7900	† · · · · · · · ·							
o-Xylene	100		C ₉ -C ₁₂ Aliph.	250	ug/L	3310	†							
Naphthalen	<u> </u>		N/A	1000	ug/L	ND	 							
	natic Hydroca	arhons ^{1,2}	N/A	2000	ug/L	ND	—	 						
Co-C12 Alic	hatic Hydrod	carbons 1,3	N/A	750	ug/L	ND	 	 						
C9-C10 Aro	matic Hydro	ocarbons	Cg-C ₁₂ Aliph.	2750	ug/L	8110	 							
		ID) Surrogate				\$572,		 						
		ID) Surrogate		-	<u> </u>		!	+						
	Acceptance		1100010.7			70-130%	†	 						
		cdude concentra	tions of any su	rrogate(s) and/	or internal stance		that range							
1 '	~	ns exclude the co					U10.1							
		ns exclude conc					of C ₉ -C ₁₀ Aroma	atic Hydrocarbon						
														
CERTIFICA														
	•	dures REQU	•											
		mance /acce												
Were any s	ignificant m	odifications n	nade to the	VPH method	l, as specifie	d in Sect 11	1.3.? 🗵 No	o						
1														
l														
	•	and penaltie			•	-								
immedately responsible for obtaining the information, the material contained in this report is, to														
the best of my knowledge, accurate and complete														
,	NONATI IDE	· Comment	2010	has		DOSITION	l: Lab Direct	·^*						
)	SIGNATURE	:: <i>[[</i>		-		POSITION	. Lab Duece	or						
PRIN	ITED NAME	· lim Chen				DATE	: 11/24/03	3						
1 1303	ILD MAINE	Jilli Olieli				<i>-</i>	111461744	,						

SAMPLE INFORMATION

Matrix	☑ Aqueous ☐ Soil ☐ Sediment ☐ Other												
Containers	× S	,	□ Broken □ Leaking □ pH ≤ 2 □ pH > 2 Comment:										
	Aqueous												
Sample	Soil or				n MeOH or ai		ners	ml MeOH					
Preservative	Sediment		s received in I		Covering soil	? 🗆 Not		□1:1 <u>±</u> 25%					
				air tight container									
Temperature		Received on ic	e 🗆 Re	ceived at 4° (1								
VPH ANAL	YTICAL RE	SULTS			Client ID:								
Method for R	langes: MAD	EP VPH			Lab ID:	141663							
Method for T	arget Analyte	s: MADEP V	PH	Dat	e Collected:	11/12/03							
VPH Surroga	ate Standards	:		Dat	e Received:	11/13/03	_						
	PID (2,5-Di	bromotoluen	e)	Dat	e Analyzed:	11/21/03							
1	FID (2,5-Di	bromotoluen	e)	Dilu	ition Factor:	5.0 / 20*							
			<u> </u>	Tota	l solids (%):	N/A							
Range/Targ			Elut. Range	RL	Units								
Unadjusted	d C5-C8 Alip	hatics ¹	N/A	200	ug/L	8390							
Unadjusted	d C9-C12 Ali	phatics ¹	N/A	75	ug/L	79.5							
Methyl tert	-butyl ether		C ₅ -C ₈ Aliph.	100*	ug/L	8390							
Benzene		-	C ₅ -C ₈ Aliph.	25	ug/L	172							
Toluene			C ₅ -C ₈ Aliph.	25	ug/L	ND							
Ethylbenzer	ne		C ₉ -C ₁₂ Aliph.	25	ug/L	ND							
m&p-Xylen	es		C ₉ -C ₁₂ Aliph.	25	ug/L	90.5							
o-Xylene			C ₉ -C ₁₂ Aliph.	25	ug/L	ND							
Naphthalen	е		N/A	100	ug/L	ND							
C5-C8 Aliph	atic Hydroca	arbons ^{1;2}	N/A	200	ug/L	ND							
	hatic Hydro		N/A	75	ug/L	ND							
C9-C10 Aro	matic Hydr	ocarbons'	C ₉ -C ₁₂ Aliph.	275	ug/L	3690	ĺ						
2,5-Dibrom	otoluene (PI	D) Surrogate	Recovery			(9) 61%							
2,5-Dibrom	otoluene (FI	D) Surrogate	Recovery			1 16W							
Surrogate A	Acceptance	Range				70-130%							
¹ Hydrocarbon	Range data ex	clude concentra	tions of any su	rrogate(s) and/o	or internal stand	lards eluting in	that range						
		s exclude the o											
C ₉ -C ₁₂ Alipha	tic Hydrocarbo	ns exclude cond	of Target Anal	ytes eluting in th	nat range AND	concentration o	of C ₉ -C ₁₀ Aroma	tic Hydrocarbon					
CERTIFICA	ATION												
		dures REQU	IRFD hythe	VPH Metho	followed?	X Yes F	No - Detai	s attached					
		mance /acce											
		odifications r											
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1								'					
I attest und	er the pains	and penaltie	s of perjury	that, based i	upon my inat	uiry of those	individuals						
immedately responsible for obtaining the information, the material contained in this report is, to													
the best of my knowledge, accurate and complete.													
s	IGNATURE	a	me			POSITION	: Lab Directo	or					
ľ		1	- 6 -	- Industry	•	. 00///014	05 _5110010						
PRIN	TED NAME	: Jim Chen				DATE	11/24/03	} .					
ł													

Matrix	IFORMATION ☑ Aqueous □	Soil Sedim	nent 🗆 (Other		-	
Containers	☑ Satisfactory		☐ Leaking				
Containore	Aqueous D N/A		pH > 2 Com	ment:			
Sample	Soil or □ N/A	☐ Samples NO	T preserved i	n MeOH or air	-tight containe	ers	ml MeOH
Preservative		les received in I	MeOH □	Covering soil '	? □ Not		□1:1 <u>+</u> 25%
		ived in air tight c					□ Other
Temperature	Received or	ice 🗆 Re	ceived at 4° (Other			
VPH ANAL	YTICAL RESULTS	i a		Client ID:	DMW-Y		
Method for R	langes: MADEP VPH			Lab ID:	141664		
Method for T	arget Analytes: MADEP	VPH	Dat	e Collected:	11/12/03		
VPH Surroga	ate Standards		Dat	e Received:	11/13/03		
	PID (2,5-Dibromotolu	ene)	Dat	e Analyzed:	11/21/03		
	FID (2,5-Dibromotolu	ene)	Dilu	ıtion Factor:	50		
			Tota	l solids (%):	N/A		
Range/Targ	get Analyte	Elut. Range	RL	Units	l		
	d C5-C8 Aliphatics ¹	N/A	2000	ug/L	9760	_	
Unadjuste	d C9-C12 Aliphatics ¹	N/A	750	ug/L	1800		
Methyl tert	-butyl ether	C ₅ -C ₈ Aliph.	250	ug/L	4500		
Benzene		C ₅ -C ₈ Aliph.	250	ug/L	2860		
Toluene	_	C ₅ -C ₈ Aliph.	250	ug/L	1040		<u> </u>
Ethylbenze	ene	C ₉ -C ₁₂ Aliph.	250	ug/L	815		
m&p-Xyler	ies	C ₉ -C ₁₂ Aliph.	250	ug/L	2870	_	
o-Xylene	_	C ₈ -C ₁₂ Aliph.	250	ug/L	830		
Naphthalen		N/A	1000	ug/L	ND		
C5-C8 Aliph	natic Hydrocarbons ^{1,2}	N/A	2000	ug/L	ND .		
C9-C12 Alip	hatic Hydrocarbons ^{1,3}	N/A	750	ug/L	ND		
C9-C10 Aro	matic Hydrocarbons	C ₉ -C ₁₂ Aliph.	2750	ug/L	3540		
2,5-Dibrom	otoluene (PID) Surrog	ate Recovery			(QS)1),		
2,5-Dibrom	otoluene (FID) Surrog	ate Recovery			(§) %.		
Surrogate A	Acceptance Range				70-130%		
-	Range data exclude concer	-				that range	
	ic Hydrocarbons exclude th						
C ₉ -C ₁₂ Alipha	tic Hydrocarbons exclude o	onc of Target Anal	ytes eluting in t	hat range AND	concentration of	f C ₉ -C ₁₀ Aroma	etic Hydrocart
CERTIFICA		NUE PER LOCAL	1451111	1611 10		5 (-	•1. 4. 1
	A/QC procedures REC						
	A/QC performance /ac significant modification						
vvere any s	agnilicant modification	s made to the	ven memod	ı, as specille	d in Sect 11.	,ט.ן ובו ז.כ.	J
l attest und	ler the pains and pena	lties of nerium	that based	unon my ina	uiry of those	individuals	
	responsible for obtail				-		
	my knowledge, accura						
S	IGNATURE:	me C	he		POSITION:	Lab Direct	or
DDIN	TED NAME: Jim Che	n			DATE:	11/24/0	3

Matrix:	Water	μ g/L	LCS %	Limit	BLANK
MTBE	_		111%	70-130%	ND
Benzene			99%	70-130%	ND
Toluene			119%	70-130%	ND
Ethyl Benze	ene		111%	70-130%	ND
m,p-xylene			128%	70-130%	ND
o-xylene			119%	70-130%	ND
Naphthaler	ne	· · · · · · · · · · · · · · · · · · ·	112%	70-130%	ND
Surrogate	Recoveries:				
2,5-Dibrom	otoluene (PID)	101%		
2,5-Dibrom	otoluene (FiD)	103%		

GEOLABS, INC. 45 JOHNSON LANE BRAINTREE, MA 02184 M-MA015

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. All QA/QC meets acceptable limits unless otherwise noted. The information contained in this report is, to the best of my knowledge, accurate and complete.

This lab report meets all requirements of NELAC unless otherwise noted.

Any and all subsequent pages of this report are chain(s) of custody.

GeoLabs, Environmen 45 Johnson L	tal Lai	orato	ories		RUSH: 24ths Svawazar 48ths Svawazar 48ths Svawazar 72ths Rust Approved By:						PageofC SPECIAL INSTRUCTIONS										
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SAMPLE A	T I	S A M P L E D		MPLE ATION	T Y P E	Q U A N T	M A T R I X	COMP	G R A B	P R E S	GEOLABS SAMPLE NUMBER	HON								TEMPERATURE	1 1
DMW-1 11/	12/64	Jon	p		\vee	2	6W		X	1/1	141658	X								37.	
DMW-2	140	4 1			1	1	1			,	141659	X								T	
DMW-3	131								П	П	141660	X								71	
MW-4	152			-							141661	X								\prod	
MW-3R	160										141662	V								\top	
DWM-X		1									141663	V								\prod	_
DMW-Y V		 			V	A	A		V	Ý	141664	X								\Box	
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CONTAINER CO A = Amber	DDES:	<u></u>	MATRIX (GW = Gr	CODES:	er	<i>PRESI</i> 1 = H0	ERVATI Cl	VE C		S:	Reinhuistled By:		te/Tim	e F	Receip	yed B	y:	11-	Bate/1	ime,	<u>-</u> خ
B = Bag				astewater		2 = H1	~				Relinquished By:	11-1	3-0	3 5	Receiv	ved _, B	y:		117	,	
G = Glass			1	nking Wat		3 = H ₂				V	16.6 onnor	_ / 5	7:30		<u>J </u>			(-13		<u>(2:</u>	:3
P = Plastic			SL = Sluc	•		4 = Na					Relinquished By:			ĮF	Receiv	ved B	y Ged	oLabs:	;		
S = Summa Ca O = Other	nister VOA		S = Soil O = Oil	A = Air $OT = Ot$		5 = Na 6 = Ma			•		<u> </u>	FOL	ABSC	HAI	NO	: כוו	STO	7	_''_		_

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREPARED FOR:

Decoulos & Company 3 Electronics Avenue Danvers, MA 01923

Attn: Jim Decoulos

PROJECT ID:

Petrol Gas Station

Randolph, MA

GEOLABS CERTIFICATION #:

M-MA015

SAMPLE NUMBER:

146540 - 146545

DATE PREPARED:

March 22, 2004

PREPARED BY:

Christine Johnson

APPROVED BY:

Jim Chen, Laboratory Director

Location:

45 Johnson Lane

Braintree, MA 02184

Phone: (781) 848-7844

1 of 12

Fax: (781) 848-7811

MADEP MCP Response Action Analytical Report Certification Form

Laboraton Project Lo		GeoLabs, Inc. Randolph, MA	-	Project #: MADEP RT	N:	Petrol Gas S	Station
This form	provides certi	fications for the following	g data set:	146540 - 14	16545	-	
Sample m	atrices:	Groundwater (x)	Soil / Sedin	nent()	Drinking W	ater()	Other ()
MCP SW- Methods		8260B() 8151A() 8270C() 8081A() 8082 () 8021B()	8330 () VPH (x) EPH ()	6010B () 6020 () 7000 S ³ ()	7470/1A () 9014M ² ()	Other: ()	
As specifie Compendiu Analytical M (Check all I	Methods	1- List Release Tracking I 2- M - SW-846 Method 90 3- S - SW-846 Methods 7	014 or MADE	Physiologica) Method
An affirm	ative respon	se to questions A, B, a	nd C is requ	ired for "Pr	esumptive	Certainty" s	tatus
Α		nples received by the labored on the Chain-of-Custody	-			Yes(x)	No ¹ ()
В	included in t	/QC procedures required for his report followed, includir narrative QC data that did quidelines?	ng the require	ment to note a	and	Yes (x)	No ¹ ()
С	Does the an for "Presump documents (alytical data included in thi otive Certainty", as describ CAM VII A, "Quality Assura isition and Reporting of An	ed in Section ance and Qua	2.0 of the MA lity Control Gu	DEP	Yes(x)	No ¹ ()
A respon	se to questio	ns D and E below is re	equired for '	Presumptiv	ve Certainty	" status	
D		performance standards authods achieved?	nd recommen	dations for the	÷	Yes (x)	No ¹ ()
E	method(s) re				-	Yes (x)	
	'All NO ans	swers must be addresse	d in an attac	hed Environ	mental Labo	ratory case n	arrative.
inquiry of report is,	f those respo to the best o	test under the pains ar onsible for obtaining the of my knowledge and b	ne informati pelief, accur	on, the mate ate and con Position:	erial contain nplete. Lab Direct	ned in this a	
Printed N	ame:	Jim Chen	-	Date:	March 22,	2004	- -

GeoLabs, Inc.

Environmental Laboratories

Case Narrative

Project ID: Petrol Gas Station
Client Name: Decoulos & Company

Sample Number: 146540 - 146545

Received: 03/15/04

Physical Condition of Samples

This project was received by the laboratory in satisfactory condition. The sample (s) were received undamaged, in appropriate containers with the correct preservation, with the following exceptions.

1. Samples received with temperatures at 11° C

Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these sample(s).

SA	М	PL	E.	IN	FΟ	RI	M/	١T١	0	N

Matrix E		الما الما الما	nont D (7th or			
Matrix Example Containers	Aqueous Satisfactory	Soil □ Sedin □ Broken	nent 🗆 (Leaking	Other	-		
	eous D N/A	Broken B pH ≤ 2 □		ment:			
Sample Soil		☐ Samples NC			r-tight contain		ml MeOH
Preservative Sed		es received in I		Covering soil		1013	□1:1 <u>+</u> 25%
i reservative Sea	<u></u>	ed in air tight o		Covering son	: 🚨 1100		☐ Other
Temperature	Received on		eceived at 4° (C Other	•		La Calei
VPH ANALYTIC			<u> </u>	Client ID:	DMW-1		
Method for Range				Lab ID:	146540		
_	t Analytes: MADEP \	/PH	Date	e Collected:	03/15/04		
VPH Surrogate St	-			e Received:	03/15/04		·
_	(2,5-Dibromotolue	ne)		e Analyzed:	03/19/04		
	(2,5-Dibromotolue			ition Factor:	10	-	
110	(2,0-2)010111010100			l solids (%):	N/A		
Range/Target A	nalyte	Elut Bango	RL	Units	14/74		-
Unadjusted C5-		Elut. Range N/A	400	ug/L	7780		-
	-C12 Aliphatics ¹	N/A	150	ug/L ug/L	3220		
		- 					1
Methyl tert-but	yi etner	C ₅ -C ₈ Aliph.	50	ug/L	2340		1
Benzene		C ₅ -C ₈ Aliph.	50	ug/L	3030		
Toluene		C ₅ -C ₈ Aliph.	50	ug/L	2330	<u> </u>	
Ethylbenzene		C ₉ -C ₁₂ Aliph.	50	ug/L	1610		
m&p-Xylenes		C ₉ -C ₁₂ Aliph.	50	ug/L	5230		
o-Xylene		C ₉ -C ₁₂ Aliph.	50	ug/L	1480		+
Naphthalene	12	N/A	200	ug/L	465		
C5-C8 Aliphatic	Hydrocarbons ^{1,2}	N/A	400	ug/L	ND		
C9-C12 Aliphatic	Hydrocarbons ^{1,3}	N/A	150	ug/L	ND		
	ic Hydrocarbons'	Cg-C ₁₂ Aliph.	550	ug/L	4510		+
	iene (PID) Surroga		<u> </u>		24		ļ
	uene (FID) Surroga	te Recovery			70.40004		<u> </u>
Surrogate Acce		4		<u> </u>	70-130%		
_	e data exclude concent					that range	
C ₅ -C ₈ Aliphatic Hyd	drocarbons exclude the drocarbons exclude cor	concentration of	Target Analyte	s eluting in that	range concentration	of CC Arom:	atic Hydrocarbor
Cg-C12 Aliphatic Hy	diocalbons exclude cor	ic or raiget Allai	ytes ending in a	lat range AND	CONCENTE BUON	71 Og-O10 7 COIII	·
CERTIFICATIO	N.						
	C procedures REQ	JIRED by the	VPH Metho	d followed?	⊠ Yes [No - Deta	ils attached
	C performance /acc						
Were any signif	ficant modifications	made to the	VPH method	i, as specifie	d in Sect 11	.3.? 🗵 N	
, , , , , ,				•			
	ne pains and penalt						
	ponsible for obtaini			aterial contai	ined in this r	eport is, to	
	knowledge, accurat						
SIGN	ATURE:	2000	hu	-	POSITION	: Lab Direc	tor
ł			_				
PRINTED	NAME: Jim Chen				DATE	: 03/22/0	4

SAMPLE IN	FORMATION					-			
Matrix		oil 🗆 Sedin		Other					
Containers	☑ Satisfactory	☐ Broken							
		pH ≤ 2 □	` 						
Sample		Samples NC				ers	ml MeOH		
Preservatives	, , , , , , , , , , , , , , , , , , ,	s received in		Covering soil	? Not		□1:1 <u>+</u> 25%		
		d in air tight o					☐ Other		
Temperature		e LI Re	eceived at 4° (-	DMMO	···			
1	YTICAL RESULTS	:		Client ID:	DMW-3				
	Ranges: MADEP VPH		<u> </u>	Lab ID:	146541				
	arget Analytes: MADEP VI	PH		e Collected:	03/15/04		_		
VPH Surroga	ate Standards			e Received:	03/15/04				
	PID (2,5-Dibromotoluen	•		e Analyzed:	03/19/04				
İ	FID (2,5-Dibromotoluen	e)		ition Factor:	1.0	-			
				l solids (%):	N/A				
Range/Targ		Elut. Range	RL	Units					
	d C5-C8 Aliphatics1	N/A	40	ug/L	95.3				
Unadjusted	d C9-C12 Aliphatics ¹	N/A	15	ug/L	89.3				
Methyl tert-l	butyl ether	C ₅ -C ₈ Aliph.	5	ug/L	ND		ļ		
Benzene		C ₅ -C ₈ Aliph.	5	ug/L	ND		<u> </u>		
Toluene		C ₅ -C ₈ Aliph.	5	ug/L	ND				
Ethylbenze	ene	C ₉ -C ₁₂ Aliph.	5	ug/L	6.80				
m&p-Xylen	ies	C ₉ -C ₁₂ Aliph.	5	ug/L	16.3				
o-Xylene		C ₉ -C ₁₂ Aliph.	5	ug/L	20.2				
Naphthalen		N/A	20	ug/L	ND				
C5-C8 Aliph	natic Hydrocarbons ^{1,2}	N/A	40	ug/L	95.3		<u> </u>		
C9-C12 Alip	hatic Hydrocarbons ^{1,3}	N/A	15	ug/L	ND				
C9-C10 Aro	matic Hydrocarbons	C ₉ -C ₁₂ Aliph.	55	ug/L	308				
2,5-Dibrom	otoluene (PID) Surrogate	Recovery			77.7%				
2,5-Dibrom	otoluene (FID) Surrogate	Recovery			13.5%				
Surrogate A	Acceptance Range				70-130%				
¹ Hydrocarbon	Range data exclude concentra	tions of any su	rrogate(s) and/o	or internal stanc	lards eluting in	that range			
	ic Hydrocarbons exclude the o								
C ₉ -C ₁₂ Alipha	tic Hydrocarbons exclude conc	of Target Anal	ytes eluting in th	nat range AND	concentration o	f C ₉ -C ₁₀ Aroma	tic Hydrocarbo		
CERTIFICA	ATION								
	VQC procedures REQU								
	A/QC performance /acce	•							
Were any s	ignificant modifications r	nade to the '	VPH method	l, as specifie	d in Sect 11	.3.? ⊠ No	כ		
.									
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to									
•	•	-		neriai contai	riea in this re	aport is, to			
ine pest of	my knowledge, accurate	anu comple	7 / P		•				
s	IGNATURE:	200	ha		POSITION:	: Lab Direct	or		
PRIN'	TED NAME: Jim Chen				DATE	: 03/22/04	4		
1									

SAMPLE INFORMATION

14.19

SAMELL INFORM							
		oil 🗆 Sedim		Other			·
Containers 🗵		☐ Broken I	<u>_</u>			 	
Aqueou		3 pH ≤ 2 □	·				1
Sample Soil or		Samples NO				ers	ml MeOH
Preservative Sedime	· · ·	s received in M		Covering soil	? ⊔ Not		□1:1 <u>±</u> 25%
		d in air tight c			-		☐ Other
Temperature 🗵	Received on ic	e LI Re	ceived at 4° (
VPH ANALYTICAL				Client ID:	DMW-4		
Method for Ranges:	MADEP VPH			Lab ID:	146542		
Method for Target Ar	nalytes: MADEP VI	PH	Dat	e Collected:	03/15/04		
VPH Surrogate Stand	dards		Dat	e Received:	03/15/04]
PID (2,	5-Dibromotoluen	e)	Dat	e Analyzed:	03/19/04		
FID (2,	5-Dibromotoluen	e)	Dilu	ition Factor:	1.0 / 10*		
-			Tota	l solids (%):	N/A		
Range/Target Anal	yte	Elut. Range	RL	Units			
Unadjusted C5-C8		N/A	400*	ug/L	5050		1
Unadjusted C9-C1		N/A	15	ug/L	133		Ţ
Methyl tert-butyl		C ₅ -C ₈ Aliph.	50*	ug/L	5050		
Benzene		C ₅ -C ₈ Aliph.	5	ug/L	434		
Toluene		C ₅ -C ₈ Aliph.	5	ug/L	57.1		-
Ethylbenzene		C ₉ -C ₁₂ Aliph.	5	ug/L	98.4		
m&p-Xylenes		C ₉ -C ₁₂ Aliph.	5	ug/L	204		
o-Xylene			5	ug/L	45.8		
		C ₉ -C ₁₂ Aliph.	20		39.7		
Naphthalene C5-C8 Aliphatic Hy	draggrhans ^{1,2}	N/A	400*	ug/L		 	
Co-Co Alimbatic Hy	urocarbons	N/A	 	ug/L	ND ND	-	
C9-C12 Aliphatic H	yurocarbons -	N/A	15	ug/L	ND	<u> </u>	-
	<u> </u>	C ₉ -C ₁₂ Aliph.	55	ug/L	294		
2,5-Dibromotoluen					£7%.		
2,5-Dibromotoluen		Recovery	<u> </u>		107%		
Surrogate Accepta		<u> </u>	<u> </u>		70-130%		<u> </u>
¹ Hydrocarbon Range da						that range	
² C ₅ -C ₈ Aliphatic Hydrod							- 4 - 1 1 - dua
³ C ₉ -C ₁₂ Aliphatic Hydro	carbons exclude cond	or rarget Anal	ytes eluting in t	nat range AND	concentration t	or Cg-C ₁₀ Arom	auc nydrocarbo
CERTIFICATION							
Were all QA/QC pr	rocedures PEOU	IRED by the	VPH Metho	d followed?	⊠ Vec F	7 No - Deta	alls attached
Were all QA/QC p							
Were any significa							
Word arry significa	in modifications i			i, do opocino	.a 000: 1 .		
I attest under the p	pains and penaltie	s of periury	that, based	upon mv ina	uiry of those	individuals	
immedately respon							
the best of my kno		_					
SIGNAT	URE:		- Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie M -	-	POSITION	l: Lab Direc	tor
]	0		-				
PRINTED N	AME: Jim Chen				DATE	: 03/22/0	4
			_				

SAMPLE IN	FORMATION						_		
Matrix		oil 🗆 Sedin		Other					
Containers	☑ Satisfactory		☐ Leaking						
	, ,q=====		pH > 2 Com						
Sample	<u> </u>		T preserved i			iers	ml MeOH		
Preservative		s received in I		Covering soil '	? D Not		□1:1 <u>+</u> 25%		
		d in air tight o					□ Other		
Temperature	^	e D Re	eceived at 4° (- 1			
	YTICAL RESULTS			Client ID:	DMW-2				
Method for F	Ranges: MADEP VPH			Lab ID:	146543				
Method for T	arget Analytes: MADEP VI	PH	Date	e Collected:	03/15/04				
VPH Surroga	ate Standards		Date	e Received:	03/15/04				
	PID (2,5-Dibromotoluen	e)	Dat	e Analyzed:	03/19/04				
	FID (2,5-Dibromotoluen	e)	Dilu	ition Factor:	10				
			Tota	l solids (%):	N/A				
Range/Targ	get Analyte	Elut. Range	RL	Units					
	d C5-C8 Aliphatics ¹	N/A	400_	ug/L	2390				
	d C9-C12 Aliphatics ¹	N/A	150	ug/L	3000				
	-butyl ether	C ₅ -C ₈ Aliph.	5.0*	ug/L	182	* no dilution			
Benzene		C ₅ -C ₈ Aliph.	5.0*	ug/L	421	* no dilution	1		
Toluene		C ₅ -C ₈ Aliph.	50	ug/L	2430				
Ethylbenze	ene	C ₉ -C ₁₂ Aliph.	50	ug/L	674				
m&p-Xyler		C ₉ -C ₁₂ Aliph.	50	ug/L	3950				
o-Xylene		C ₉ -C ₁₂ Aliph.	50	ug/L	2230				
Naphthale	ne	N/A	200	ug/L	718				
C5-C8 Aliph	natic Hydrocarbons ^{1,2}	N/A	400	ug/L	ND				
C9-C12 Alip	hatic Hydrocarbons ^{1,3}	N/A	150	ug/L	ND				
	matic Hydrocarbons'	C ₉ -C ₁₂ Aliph.	550	ug/L	5670				
2,5-Dibrom	otoluene (PID) Surrogate	Recovery			7/44/				
2,5-Dibrom	otoluene (FID) Surrogate	Recovery	1		1721%				
Surrogate A	Acceptance Range				70-130%				
¹ Hydrocarbon	Range data exclude concentra	tions of any su	rrogate(s) and/o	or internal stand	lards eluting in	that range			
² C ₅ -C ₈ Aliphat	ic Hydrocarbons exclude the o	oncentration of	Target Analyte	s eluting in that	range				
C ₉ -C ₁₂ Alipha	tic Hydrocarbons exclude cond	of Target Anal	ytes eluting in the	nat range AND	concentration of	of C ₉ -C ₁₀ Aroma	ic Hydrocarbo		
CERTIFICA									
	A/QC procedures REQU								
were all Q	A/QC performance /acce	ptance stand	dards achiev	ed? 🗵 Ye	es □ No-	Details attac			
vvere any s	ignificant modifications r	nade to the	VPH method	, as specifie	d in Sect 11	.3.? ⊠ No			
immedately	I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge, accurate and complete.								
s	IGNATURE:	20-7 C	he		POSITION	: Lab Directo	or		
PRIN	TED NAME: Jim Chen				DATE	: 03/22/04			

SAMPLE INFORMATION

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ب

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Matrix	Aque	ous 🗆 So	oil 🛛 Sedim	nent 🗆 (Other	_							
Containers		Satisfactory □ Broken □ Leaking											
	Aqueous		DH ≤ 2 □		ment:								
Sample	Soil or				n MeOH or air	r-tight contair	ers	ml MeOH					
Preservative	}				Covering soil		.0.0	□1:1 <u>+</u> 25%					
			d in air tight c		<u>-</u>			□ Other					
Temperature	⊠ R	Received on ic		ceived at 4° (C □ Other								
	YTICAL RES	SULTS			Client ID:	MW-3R							
	anges: MAD				Lab ID:	146544							
	-	s: MADEP VE	эн .	Date	e Collected:	03/15/04							
l.	ate Standards				e Received:	03/15/04							
, vi i canoga		bromotoluen	e)		e Analyzed:	03/19/04							
	•	promotoluen	•		tion Factor:	10.0							
	1 10 (2,0-01	Jiomoloidem	5)		solids (%):	N/A							
Dengo/Toro	rot Apolido		Flut Bases	RL	Units	14/74							
Range/Targ	d C5-C8 Alip	hatics ¹	Elut. Range N/A	400		8520							
	d C9-C12 Ali		N/A N/A	150	ug/L ug/L	3440	 						
							* no dilution						
	-butyl ether		C ₅ -C ₈ Aliph.	5.0*	ug/L	97.2	* no dilution						
Benzene			C ₅ -C ₈ Aliph.	50	ug/L	1600							
Toluene			C ₅ -C ₈ Aliph.	50	ug/L	5480							
Ethylbenze			C ₉ -C ₁₂ Aliph.	50	ug/L	1220							
m&p-Xyler	ies		C ₉ -C ₁₂ Aliph.	50	ug/L	5290							
o-Xylene			C ₉ -C ₁₂ Aliph.	50	ug/L	2430							
Naphthale			N/A	20.0*	ug/L	426	* no dilution						
C5-C8 Alipl	hatic Hydro	carbons ^{1,2}	N/A	400	ug/L	1340	ļ						
C9-C12 Alip	hatic Hydrod	carbons 1/2	N/A	150	ug/L	ND							
C9-C10 Aro	matic Hydro	ocarbons'	C _g -C ₁₂ Aliph.	550	ug/L	4540		<u> </u>					
2,5-Dibrom	otoluene (Pl	D) Surrogate	Recovery			\$(E)/:							
2,5-Dibrom	otoluene (FI	D) Surrogate	Recovery			1106194	<u> </u>						
Surrogate /	Acceptance I	Range	_	<u> </u>		70-130%	<u> </u>	L					
	_	clude concentra					that range	l					
² C ₅ -C ₈ Aliphat	ic Hydrocarbon	s exclude the c	oncentration of	Target Analyte	s eluting in that	range							
C ₉ -C ₁₂ Alipha	itic Hydrocarbor	ns exclude cond	of Target Anal	ytes eluting in t	nat range AND	concentration	of C ₉ -C ₁₀ Aroma	tic Hydrocarbon					
OFFICIO	TION					•							
CERTIFICA		tures DEOLI	IDED by the	VDU Motho	d followed?	∇ Voc Γ	J No - Deta	le attached					
Were all Q	A/QC proced	mance /acce	ntance stan	ven ivieu io darde achiev	ado ka v	Les II No.	- Details atta	ns allacrieu ched					
							1.3.? ⊠ No						
vvere any s	signineant m	ounications i	nade to the	VI II III CUIOC	i, as specific		1.0.1 122 140						
1													
Lattest und	ler the pains	and penaltie	s of periury	that, based	upon mv ina	uiry of those	individuals						
		for obtainin											
		lge, accu <u>ra</u> te	and comple	ete.			•						
	•	/E	1										
S	GNATURE		200	A CALLERY	^	POSITION	I: Lab Direct	or					
		0											
PRIN	ITED NAME	: Jim Chen				DATE	: 03/22/04	4					
1													

SAMPLE IN	IFORMATION								
Matrix		oil 🗆 Sedim		Other					
Containers		☐ Broken							
	Aqueous N/A		pH > 2 Com						
Sample				n MeOH or air		ers	ml MeOH		
Preservative				Covering soil	? ⊔ Not		1:1 <u>+</u> 25%		
		d in air tight o		2 0 04			□ Other		
Temperature		e LI Re	eceived at 4° (AAIA/ S/				
	YTICAL RESULTS			Client ID:	MW-X		.		
	Ranges: MADEP VPH			Lab ID:	146545				
1	arget Analytes: MADEP VF	PH		e Collected:	03/15/04				
VPH Surroga	ate Standards		}	e Received:	03/15/04				
	PID (2,5-Dibromotoluen	•		e Analyzed:	03/19/04				
	FID (2,5-Dibromotoluen	e)		ition Factor:	10				
<u></u>	·		Tota	l solids (%):	N/A				
Range/Targ		Elut. Range	RL	Units					
Unadjusted	d C5-C8 Aliphatics ¹	N/A	400	ug/L	8990				
	d C9-C12 Aliphatics ¹	N/A	150	ug/L	3610				
	-butyl ether	C ₅ -C ₈ Aliph.	5.0*	ug/L	103	* no dilution			
Benzene		C ₅ -C ₈ Aliph.	50	ug/L	1650				
Toluene		C ₅ -C ₈ Aliph.	50	ug/L	5380				
Ethylbenze	ene	C ₉ -C ₁₂ Aliph.	50	ug/L	1280				
m&p-Xylen		C ₉ -C ₁₂ Aliph.	50	ug/L	5690				
o-Xylene		C ₉ -C ₁₂ Aliph.	50	ug/L	2590				
Naphthalei	ne	N/A	20.0*	ug/L	451	* no dilution			
	natic Hydrocarbons ^{1,2}	N/A	400	ug/L	1860-				
C9-C12 Alip	hatic Hydrocarbons ^{1,3}	N/A	150	ug/L	ND				
	matic Hydrocarbons	C ₉ -C ₁₂ Aliph.	550	ug/L	4790	-	<u> </u>		
2,5-Dibrom	otoluene (PID) Surrogate				77.81%	<u> </u>			
	otoluene (FID) Surrogate		<u> </u>		1 518174				
	Acceptance Range		†		70-130%	9			
	Range data exclude concentra	tions of any su	rrogate(s) and/o	or internal stand		that range	<u> </u>		
	ic Hydrocarbons exclude the co								
3Cg-C12 Alipha	tic Hydrocarbons exclude conc	of Target Anal	ytes eluting in th	nat range AND	concentration of	of C ₉ -C ₁₀ Aroma	tic Hydrocarbo		
							-		
CERTIFICA									
Were all Q	VQC procedures REQU	RED by the	VPH Method	followed?	⊠ Yes C	No - Detai	ls attached		
Were all QA	A/QC performance /acce	ptance stand	dards achiev	ed? ⊠ Ye	es 🗆 No-	Details attac	ched		
Were any s	ignificant modifications n	nade to the '	VPH method	, as specifie	d in Sect 11	.3.? ⊠ No)		
j									
.		_							
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals									
immedately responsible for obtaining the information, the material contained in this report is, to									
the best of	my knowledge, accurate	and comple	ţe.						
_	ICNATURE:	and C	han		DOCITION	. I al Di	_		
S	IGNATURE:		-		POSITION	: Lab Directo	or		
PRIN'	TED NAME: Jim Chen				DATE	: 03/22/04			
	2 TW WIL. OILL OHOL		•		DATE	. 03/22/04	•		

Matrix:	Water	μ g/L	LCS %	Limit	BLANK
MTBE			86%	70-130%	ND
Benzene			85%	70-130%	ND
Toluene		· · ·	102%	70-130%	ND
Ethyl Ben	zene		93%	70-130%	ND
m,p-xylen	е	•	116%	70-130%	ND
o-xylene			99%	70-130%	ND
Naphthale	ene		101%	70-130%	ND
Surrogate	e Recoveries:				
2,5-Dibro	motoluene (PIE	0)	89%		
2,5-Dibro	motoluene (FID))	110%		

3 (5) (1)

GEOLABS, INC. 45 JOHNSON LANE BRAINTREE, MA 02184 M-MA015

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. All QA/QC meets acceptable limits unless otherwise noted. The information contained in this report is, to the best of my knowledge, accurate and complete.

This lab report meets all requirements of NELAC unless otherwise noted.

Any and all subsequent pages of this report are chain(s) of custody.

GeoLat	-						A. A. A.					Time				Pag	ge <u>/</u>	of /	<u> </u>		
Environm 45 Johnso Braintree, Phone: 78 Fax: 78	n Lan MA 02	e 2184 7844		ries		RUSH: 24hrs STAINGAIRD 48hrs 1 S Days 72hrs 1 Rush: Approved By:								SPEC	IAL IN	ISTRU	ICTION	IS		_	
Client: Address:)ec			+00		Project Number: Project Location: Petrol Gas Station Randolph, Ma															
	617 87) - (189 892 1eS	-779 -962	9	-1		order #:				ovs	ANALYSES REQUESTED								
	CO	LEC	TION			CONT	FAINER	Γ	Ĭ	<u> </u>		<u> </u>				T	T	T	ŤΠ		Г
SAMPLE ID	D A T E	T I M E	S A M B P L E D	SAN LOCA	IPLE ATION	T Y P E	Q U A N T	M A T R I	COMP	G R A B	PRES	GEOLABS SAMPLE NUMBER	HUN							TEMPERATURE	1 1
DMW-1	3/15/03		MC			V	2	GW			FH	146540								110	
DMW-3						V	2			/	f+\	146541								\prod	
)mw-4						V	2			/	1+7	146543	V								
1-0m						V	1			/	1+7	146 543								П	
nw.3R						V	کا				1+7	146544	1								
MW-X	+		1			V	2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			1+7	146545	/							V	_
																				4	_
																					_
ONTAINER	COD	ES:		MATRIX C				ERVATI): 	Relifiquished By:	2 Pa	te/Time	Rec	eived	Ву:		Date/T	ime	:
\ = Amber I = Bag				GW = Gro WW = Wa			1 = H0 2 = H1		7 = 1	UE		Relinquished By:	25.72	104	Pos	nivod i	By:		 .		
i = вад i = Glass				DW = Drir			3 = H ₂	_				Relinquished By: Received B			oy.		_	_			
= Plastic				SL = Slud	_			a ₂ S ₂ O ₃			ı	Relinquished By:			Rece	eived i	By Ge	oLabs.	:3/13	124	_
s = Summa	Canis	ster		S = Soil	A = Air		5 = Na	HO		_			(Na MAK -13"		50	<i>;</i>					
Other): V0	AC		o = Oil	OT = O	ther	6 = M	HOe	_			G	EOL	ABSCI	HAIMA	of Ci	JSTO	DY			

GeoLabs, Inc.

Environmental Laboratories

LABORATORY REPORT

PREPARED FOR:

Decoulos & Company 3 Electronics Avenue Danvers, MA 01923

Attn: Jim Decoulos

PROJECT ID:

633 Main Street

Randolph,

GEOLABS CERTIFICATION #:

M-MA015

SAMPLE NUMBER:

150258-150259

DATE PREPARED:

June 15, 2004

PREPARED BY:

Karen Mullally

APPROVED BY:

Jim Chen, Laboratory Director

☐ Heceived at 4° C ☐ Other ☐ enperature ☐ Received on ice □ Ofher Received in air tight container-Summa Canister Samples received in MeOH

Covering soil?

Not %SZ#1:1□ Preservative Sediment ☐ Samples NOT preserved in MeOH or air-tight containers Sample HO9M Im TO HOS A/N NA DPH & D PH > 2 Comment: Aqueous ≥ tnemibe2 o lio2 gnikss □ nexion8 □ Containers Satisfactory VIA-19rtIO хідвМ ☐ suceupA SAMPLE INFORMATION

		- 95u	an tarit ni gnitule	setvlenA tegr	aT to anoitating	¹ C _E C ₈ Aliphatic Hydrocarbons exclude conce		
40-130%	%0E1-04					Surrogate Acceptance Range		
##220U	45752634				Иесолегу	2,5-Dibromotoluene (FID) Surrogate		
	E SOFT				romotoluene (PID) Surrogate Recovery			
1670	1630	² ш/ 6 ц	0,87		Α/N	Ce-C10 Aromatic Hydrocarbone		
ND	ΠN	cm/gu	0.87		A/N	Ce-C12 Aliphatic Hydrocarbons ²		
1267	2026	_ε ш/\$n	0.87		Α/N	Cs-Ca Aliphatic Hydrocarbons		
43,8\7e,1	1.17/5.07	£m\pu\vdqq	2.00	94.0	CB-C12 Allph.	o-XAjene		
8.02/27.4	1,61\60.6	Ст/д и/уdqq	39.1	86.0	CS-C8 Aliph	sanelyX-q,-m		
1.71/48.4	8.31\31.A	Em\gu\vdqq	3.58	96.0	C5-C8 Allph	Toluene		
GN	ďΝ	Sm\gu\vdqq	00.3	046.0	V/N	*anelanthqaN		
ND	ØΝ	ет\gu\vdqq	20.0	2.38	A/N	Z-Methylnaphthalene"		
14,6/52.5	29,6/106	em/en/vdqq	00.2	1.39	CE-C8 Aliph	Methyl-teri-butyl ether*		
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*Compounds quantitated by TICS

CERTIFICATION

Were all CAVCC procedures HEQUINED by the APH Method rollowed? 区 Yes □ No - Details attached Were ati OA/QC performance /acceptance standards achieved? 区 Yes □ No - Details attached Were any significant modifications made to the APH method?? □ No 区 Yes - Details below

Aliphatic and Aromatic ranges quantitated by GC PID/FID.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immedately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge, accurate and complete.

SIGNATURE: PRINTED NAME: Jim Chen

2014

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POSITION: Lab Director

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APPENDIX D
ACTIVITY AND USE LIMITATION

NOTICE OF ACTIVITY AND USE LIMITATION M.G.L. c. 21E, §6 and 310 CMR 40.0000

Disposal Site Name: Speedy Lube, 633 North Main Street, Randolph

This Notice of Activity and Use Limitation ("Notice") is made as of this 14th day of June, 2002, by Speedy Lube, Inc., a Massachusetts corporation, together with their successors and assigns (collectively, "Owner").

WITNESSETH:

WHEREAS, Speedy Lube, Inc., a Massachusetts corporation, is the owner in fee simple of that certain parcel of land located in Randolph, Norfolk County, Massachusetts, with the buildings and improvements thereon ("Property");

WHEREAS, said parcel of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof is subject to this Notice of Activity and Use Limitation. The deed for the Property is recorded with the Norfolk Registry of Deeds in Book 9310, Page 747. The Property is shown on a plan recorded at said Registry as No. 124-1993 in Plan Book 412 to which plan reference can be made for a more particular description.

WHEREAS, the entire Property is subject to this Notice of Activity and Use Limitation.

WHEREAS, the Property comprises a Disposal Site as the result of a release of petroleum. Exhibit B is a sketch plan showing the Property which is subject to this Notice of Activity and Use Limitation. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Disposal Site in accordance with G.L. c.21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil or hazardous material in soil and (b) the restriction of certain activities occurring in, on, through, over or under the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion" dated June 14, 2002, (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

- 1. Permitted Activities and Uses Set Forth in the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:
 - (i) Commercial or industrial uses and activities associated therewith, including, but not limited to, pedestrian or vehicular traffic, landscaping, and routine maintenance of landscaped areas, which do not cause or result in the disturbance or the relocation of contaminated soil located at 3 to 15 feet below surface grade;
 - (ii) Short-term (three months or less) underground utility or construction activities including, but not limited to, excavation (including emergency repair of underground utility lines), which are likely to disturb contaminated soil located at 3 to 15 feet below surface grade, provided that such activities are conducted in accordance with Obligations/Conditions (i) and (ii) in Section 3 of this Activity and Use Limitation Opinion ("Opinion"), the soil management procedures of the MCP cited at 310 CMR 40.0030, and all applicable worker health and safety practices pursuant to 310 CMR 40.0018;
 - (iii) Activities and uses which are not identified in this Opinion as being inconsistent with maintaining a condition of No Significant Risk; and
 - (iv) Such other activities and uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this Paragraph.
- 2. <u>Activities and Uses Inconsistent with the AUL Opinion</u>. Activities and uses which are inconsistent with the objectives of this Notice, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:

(i) Use of the portion of the property as a residence, school (with the exception of adult education), daycare, nursery, recreational area (such as a park or athletic fields), or any other use at which a child's presence is likely;

- (ii) Any activity including, but not limited to, excavation which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade associated with underground utility or construction work, without prior development and implementation of a Soil Management Plan and a Health and Safety Plan in accordance with Obligations (I) and (ii) of Section 3 of the AUL;
- (ii) Any activity which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade for a period of time greater than three months, unless such activity is first evaluated by an LSP who renders an Opinion stating that such activity is consistent with maintaining a condition of No Significant Risk and that such activity is conducted in accordance with Obligations (i) and (ii) of Section 3 of this AUL; and
- (iii) Relocation of contaminated soil located at 3 to 15 feet below surface grade, unless such relocation is first evaluated by an LSP who renders an Opinion stating that such relocation is consistent with maintaining a condition of No Significant Risk.
- 3. Obligations and Conditions Set Forth in the AUL Opinion. If applicable, obligations or conditions to be undertaken or maintained at the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

- (i) A Soil Management Plan must be prepared by a Licensed Site Professional (LSP) prior to the commencement of any activity which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade. The Soil Management Plan should describe appropriate soil management characterization storage, transport and disposal procedures in accordance with the provisions of the MCP cited at 310 CMR 40.0030 et seq. Workers who may come in contact with the contaminated soil should be appropriately trained on the requirements of the Plan, and the Plan must remain available on-site throughout the course of the project;
- (ii) A Health and Safety Plan must be prepared and implemented prior to the commencement of any activity which may result in the disturbance of contaminated soil located at 3 to 15 feet below surface grade. The Health and Safety Plan should be prepared by a Certified Industrial Hygienist or other qualified individual appropriately trained in worker health and safety procedures and requirements. The Plan should specify the type of personal protection, engineering controls, and environmental monitoring necessary to prevent worker and other potential receptor exposures to contaminated soil through ingestion, dermal contact, and inhalation. Workers who may come in contact with the contaminated soil should be appropriately trained on the requirements of the Plan, and the Plan must remain available on-site throughout the course of the project; and

- (iii) The contaminated soil located at 3 to 15 feet below surface grade must remain at depth and may not be relocated, unless such activity is first evaluated by an LSP who renders an Opinion which states that such activity poses no greater risk of harm to health, safety, public welfare, or the environment and ensures that a condition of No Significant Risk is maintained.
- 4. Proposed Changes in Activities and Uses, Any proposed changes in activities and uses at the Property which may result in higher levels of exposure to oil or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 et seq., as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare or the environment. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

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5. <u>Violation of a Response Action Outcome</u>. The activities, uses or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 et seq., and without additional response actions, if necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 et seq., the owner or operator of the Property subject to this Notice at the time that the activities, uses or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. <u>Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer.</u> This Notice shall be incorporated either in full or by reference into all deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation or registration of this Notice, said Notice to become effective when executed under seal by the undersigned LSP, and recorded or registered with the appropriate Registry of Deeds and Land Registration Office.

WITNESS the execution hereof under seal this 14th day of June, 2002.

Eyad Badawi, Vice-President and Treasurer

Speedy Lube, Inc.

COMMONWEALTH OF MASSACHUSETTS

NORFOLK, SS

June 14, 2002

Then personally appeared the above named Eyad Badawi and acknowledged the foregoing instrument to be their free act and deed before me

Notary Public

My Commission Expires My Commission Expires: May 15, 2003

The undersigned LSP hereby certifies that he executed the aforesaid Activity and Use Limitation attached hereto as Exhibit C and made a part hereof and that in his Opinion this Notice of Activity and Use Limitation is consistent with the terms set forth in said Activity and Use Limitation Opinion.

J./Decoulos, LSP

COMMONWEALTH OF MASSACHUSETTS

NORFOLK, SS

June 14, 2002

Then personally appeared the above named James J. Decoulos and acknowledged the foregoing instrument to be his free act and deed before me,

Notary Public

My Commission Expires:

My Commission Expires May 15, 2003

EXHIBIT A

(Description of Parcel of Land Containing Area Subject to AUL)

The land in Randolph, with the buildings thereon, bounded and described as set forth in a deed recorded at the Norfolk Registry of Deeds in Book 9310, Page 747.

Containing approximately 10,019 square feet of land as shown on plan entitled "Plan of Land showing existing conditions and proposed improvements, 633 North Main Street, Randolph, Massachusetts, Scale: 1"= 20', Date: 11-13-92, by Don Rosa, Professional Land Surveyor, 54 Liberty Street, Randolph, MA", recorded with Norfolk Registry of Deeds as No. 124-1993 in Plan Book 412.

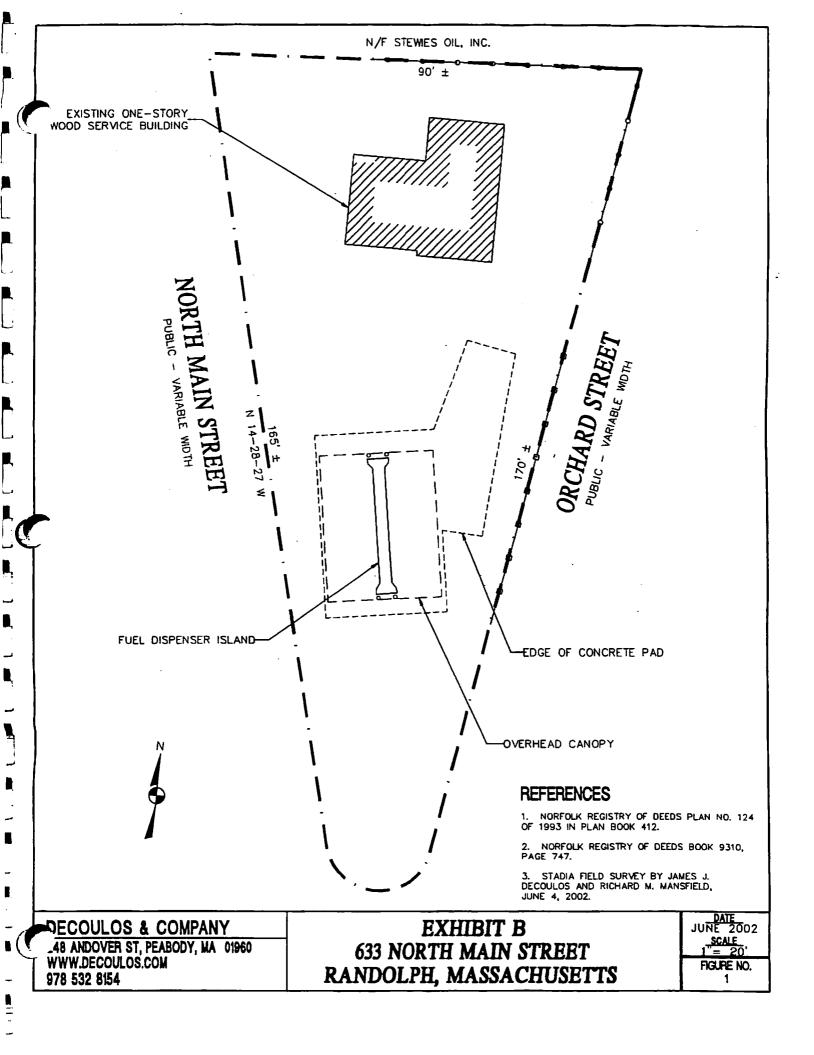


EXHIBIT C

ACTIVITY AND USE LIMITATION OPINION

In accordance with the requirements of 310 CMR 40.1074, this Activity and Use Limitation Opinion has been prepared for a parcel of land owned by Speedy Lube, Inc., a Massachusetts corporation, located at 633 North Main Street, Randolph, Norfolk County, Massachusetts. The land is defined on a plan recorded at the Norfolk Registry of Deeds as No. 124-1993 in Plan Book 412 (the Site). As of the date of this Activity and Use Limitation Opinion, the property is zoned for residential use and has been granted a variance by the Randolph Zoning Board of Appeals to conduct its commercial operation. The Site remains completely paved with a building and improvements thereon.

Site History

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The Site has been used for commercial purposes. A one story commercial building lies on the northern portion of the Site as shown on Exhibit B. The commercial building is currently used for automotive service and the retail sale of gasoline and conveniences.

According to the Sanborn Fire Insurance Maps, the property has been used as a gasoline filling station since at least 1948. Prior to 1919, the Site was vacant.

[Note: The "MCP" is the Commonwealth of Massachusetts' code of regulations for the notification, assessment and cleanup of disposal sites where a release of oil or hazardous materials has occurred]

Field investigations have been conducted at the Site between 1997 and 2002. The results of the investigations indicate that volatile petroleum hydrocarbon levels exceed the MCP Method 1 S-1 Soil Standards in soil located at 3 to 15 feet below the surface in the portion of the property surrounding the fuel dispenser island (See Exhibit B, Sketch Plan). Volatile petroleum hydrocarbons were also detected in groundwater samples collected from on-site monitoring wells during various sampling events between 1997 and 2002. The groundwater contaminants are not considered a risk to human health, safety, welfare or the environment.

[Note: The "MCP Method I Cleanup Standards", refer to numerical standards for chemical contaminants in soil and groundwater which are published in the MCP. The soil standards are broken into three soil categories: S-l, S-2, and S-3. The S-1 Soil Standards are the most strict, or lowest, numerical values since they were derived to be protective of a residential exposure scenario by considering a receptor's incidental ingestion and dermal contact exposures to soil while gardening and playing. The S-2 and S-3 numerical standards are less strict and therefore higher, having been developed using passive recreational and construction-related exposure scenarios, respectively.]

Reason for Activity and Use Limitation

A Method 1 Risk Characterization was conducted to evaluate the risk posed by contamination remaining in soil at the Site. Using the Method 1 approach, concentrations of volatile petroleum hydrocarbons remaining in soil were compared to the MCP Method 1 Soil Standards to determine if the Site poses a risk for current and future activities and uses.

The Method 1 Risk Characterization concluded that the site poses No Significant Risk to health, safety, public welfare or the environment for current conditions of commercial use on the property because contaminant concentrations remaining in soil met the applicable Method 1, S-2 and S-3 Soil Standards for the Site.

However, since levels of volatile petroleum hydrocarbons in soil located at 3 to 15 feet below surface grade on the Site exceeded their respective Method 1 S-1 Standards, an unacceptable risk exists should future activities and uses of the Site result in unrestricted human exposure to the soil, such as those associated with a child's exposure through direct contact or ingestion. Therefore, in order to ensure that such exposures do not occur and that a condition of No Significant Risk be maintained for future activities and uses, an Activity and Use Limitation is required to restrict certain activities and uses of the Site.

Permitted Activities and Uses

- (i) Commercial or industrial uses and activities associated therewith, including, but not limited to, pedestrian or vehicular traffic, landscaping, and routine maintenance of landscaped areas, which do not cause or result in the disturbance or the relocation of contaminated soil located at 3 to 15 feet below surface grade;
- (ii) Short-term (three months or less) underground utility or construction activities including, but not limited to, excavation (including emergency repair of underground utility lines), which are likely to disturb contaminated soil located at 3 to 15 feet below surface grade, provided that such activities are conducted in accordance with Obligations/Conditions (i) and (ii) in Section 3 of this Activity and Use Limitation Opinion ("Opinion"), the soil management procedures of the MCP cited at 310 CMR 40.0030, and all applicable worker health and safety practices pursuant to 310 CMR 40.0018:
- (iii) Activities and uses which are not identified in this Opinion as being inconsistent with maintaining a condition of No Significant Risk; and
- (iv) Such other activities and uses which in the Opinion of an LSP, shall present no greater risk of harm to health safety, public welfare, or the environment than the activities and uses set forth in this Paragraph.

Activities and Uses Inconsistent with AUL Opinion

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- (i) Use of the Site as a residence, school (with the exception of adult education), daycare, nursery, recreational area (such as a park or athletic fields), or any other use at which a child's presence is likely;
- (ii) Any activity on the Site including, but not limited to, excavation, which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade associated with underground utility or construction work, without prior development and implementation of a Soil Management Plan and a Health and Safety Plan in accordance with Obligations (i) and (ii) of Section 3 of the AUL;
- (iii) Any activity on the Site which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade for a period of time greater than three months, unless such activity is first evaluated by an LSP who renders an Opinion stating that such activity is consistent with maintaining a condition of No Significant Risk and that such activity is conducted in accordance with Obligations (i) and (ii) of Section 3 of this AUL; and

(iv) Relocation of contaminated soil located at 3 to 15 feet below surface grade on the Site, unless such relocation is first evaluated by an LSP who renders an Opinion stating that such relocation is consistent with maintaining a condition of No Significant Risk.

Obligations and Conditions

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- (i) A Soil Management Plan must be prepared by a Licensed Site Professional (LSP) prior to the commencement of any activity which is likely to disturb contaminated soil located at 3 to 15 feet below surface grade on the Site. The Soil Management Plan should describe appropriate soil management, characterization, storage, transport and disposal procedures in accordance with the provisions of the MCP cited at 310 CMR 40.0030 et seq. Workers who may come in contact with the contaminated soil should be appropriately trained on the requirements of the Plan, and the Plan must remain available on-site throughout the course of the project;
- (ii) A Health and Safety Plan must be prepared and implemented prior to the commencement of any activity which may result in the disturbance of contaminated soil located at 3 to 15 feet below surface grade on the Site. The Health and Safety Plan should be prepared by a Certified Industrial Hygienist or other qualified individual appropriately trained in worker health and safety procedures and requirements. The Plan should specify the type personal protection, engineering controls, and environmental monitoring necessary to prevent worker and other potential receptor exposures to contaminated soil through ingestion, dermal contact, and inhalation. Workers who may come in contact with the contaminated soil should be appropriately trained on the requirements of the Plan, and the Plan must remain available on-site throughout the course of the project; and
- (iii) The contaminated soil located at 3 to 15 feet below surface grade on the Site must remain at depth and may not be relocated, unless such activity is first evaluated by an LSP who renders an Opinion which states that such activity poses no greater risk of harm to health, safety, public welfare, or the environment and ensures that a condition of No Significant Risk is maintained.

James I. Decoulos, Licensed Site Professional

DATE: June 14, 2002



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-114

Release Tracking Number

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1070 - 40.1084 (Subpart J)

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COMPLETE THIS FORM AND ATTACH AS AN EXHIBIT TO THE AUL DOCUMENT TO BE RECORDED AND/OR REGISTERED WITH THE REGISTRY OF DEEDS AND/OR LAND REGISTRATION OFFICE.
A. LOCATION OF DISPOSAL SITE AND PROPERTY SUBJECT TO AUL: Speedy Lube
Disposal Site Name.
Street: 633 North Main Street Location
City/Town: Randolph ZIP Code: 02368
Address of property subject to AUL, if different than above. Street:
City/Town: ZIP Code:
B. THIS FORM IS BEING USED TO: (check one)
Provide the LSP Opinion for a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1074 (complete all sections of this form).
Provide the LSP Opinion for an Amended Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1081(4) (complete all sections of this form).
Provide the LSP Opinion for a Termination of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1083(3) (complete all sections of this form).
Provide the LSP Opinion for a Grant of Environmental Restriction, pursuant to 310 CMR 40.1071, (complete all sections of this form).
Provide the LSP Opinion for an Amendment of Environmental Restriction, pursuant to 310 CMR 40.1081(3) (complete all sections of this form).
Provide the LSP Opinion for a Release of Environmental Restriction, pursuant to 310 CMR 40.1083(2) (complete all sections of this form).
C. LSP OPINION:
I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge,
> if Section B indicates that a Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1074(1)(b);
> if Section B indicates that an Amended Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080(1) and 40.1081(1);
> if Section B indicates that a Termination of a Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083(3)(a);
> if Section B indicates that a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071(1)(b);
> if Section B indicates that an Amendment to a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080(1) and 40.1081(1);
> if Section B indicates that a Release of Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083(3)(a).
I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.
Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
SECTION C IS CONTINUED ON THE NEXT PAGE.



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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC-114

Release Tracking Number

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