

Appendix	Lab	Lab ID	Sample Date	Description	CAM Form Included	Lab Presumptive Certainty?	QC Performance Standards Met	CAM COMPLIANCE	ESM QAQC doc	Result?
D	GWA	84427	06/01/05	Soil - Test Pits/PT spl	Yes	NO	No	CAM Non-Compliant	Completed	Data Not Compromised - Tank 1 data not utilized other than identification of tank contents.
D	GWA	85632	07/13/05	Soil - Wells	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
D	GWA	87113	08/30/05	Soil Grid Locations/TCLP	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
D	GWA	87813	08/31/05	Soil Grid Locations	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
D	GWA	96205	06/21/06	Asbestos	No	No	N/A	NON-CAM	Completed	Data Not Compromised
E	RC	10061	03/23/06	Packer Testing	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	10068	03/23/06	Packer Testing	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
E	RC	10070	03/24/06	Packer Testing	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
E	RC	10079	03/27/06	Packer Testing	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	10088	03/28/06	Packer Testing	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
E	RC	10094	03/29/06	Packer Testing	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
E	RC	10103	03/30/06	Packer Testing	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	10105	03/31/06	Packer Testing	Yes	Yes	Yes	CAM-Compliant	Completed	Data Not Compromised
E	RC	10154	04/06/06	GW - wells	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	10170	04/10/06	GW - PZ-1 - PZ-3	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	10171	04/10/06	GW - wells	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
E	RC	11371	11/15/06	PZ-4 - PZ-7	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
F	RC	10426	05/30/06	SW / Sed	Yes	Yes	No	CAM-Compliant	Completed	Data Not Compromised
G	ALPHA	L0604251	03/29/06	Soil Gas	No	No	N/A	NON-CAM	Completed	Data Not Compromised

## ES&M LAB RESULTS QUALITY REVIEW

<b>Site:</b>	DND Lewis Chemical		
<b>Lab:</b>	Groundwater Analytical	<b>Lab ID:</b>	84427
<b>Job #:</b>	2004-301	<b>Sample Collection Date:</b>	6/1/2005
<b>Were sampling and analytical methods requirements met?</b>			
Correct containers used?	Yes		
Preservation requirements met?	Yes		
Holding time requirements met?	Yes*		
*Note Groundwater Analytical's SOP for EPH misstates that extraction must be done within 7 days, this has been changed by MassDEP to 14 days.			
Correct # of dupes, matrix spikes and matrix spike dupes, trip blanks (based on number of samples)?	None used		
Field Dup(s) vs. Environmental Sample:	RPD <51%?		
**RPD Calc: $100 * (\text{diff btwn sample \& dup}) / (\text{average of sample \& dup})$			
<b>Were the following analytical precision and accuracy requirements met?</b>			
Detection Limits	Yes		
Reporting Limits	Yes		
Action Limits	Yes*		
*RLs are higher than action limits on 4 analytes with very low action limits: Vinyl chloride, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2,2-tetrachloroethane.			
<b>Review lab QC reports and project narrative.</b>			
Lab Data Certification indicates that presumptive certainty has not been met. The project narrative explained all non-conformances, see below:			
<b>Describe Non-Conformances</b>			
<ol style="list-style-type: none"> <li>1. Tank-1 8021 analysis – Volatile Aromatics and Halocarbons. The lab is required to report that the identification of analytes detected is tentative based on the MassDEP CAM's requirements for presumptive certainty. The data reported is not bad, it however does not meet presumptive certainty requirements.</li> <li>2. PCB analysis of TP-4, 1B, and 6. The first sample results for selected analytes exceeded the calibration curve so the sample was re-analyzed at a higher dilution and results are reported with all analytes within calibration.</li> <li>3. Also note, PCBs are analyzed on a dual column gas chromatograph so we will always see the results of both columns, the higher being the result reported.</li> <li>4. 8260 analysis of TP-4, 1B, 3, and 6, 1,4-Dioxane was reported over the recommended recovery limits in a laboratory control sample used with this batch; therefore if this analyte was present in field samples it may be reported high. There was no detection of this analyte in any field samples so it is not an issue.</li> <li>5. TP-6, vph analysis, surrogate recovery was below recommended limits due to matrix interference. The sample was re-analyzed and the low recovery was duplicated; confirming the interference. Detections in this sample were found during analysis for PCBs, EPH range analytes, VOCs (TCE), and lead.</li> </ol>			
<b>Observations?</b>			
All notes were reviewed and do not indicate compromised data.			

## ES&M LAB RESULTS QUALITY REVIEW

<b>Site:</b>	DND Lewis Chemical		
<b>Lab:</b>	Groundwater Analytical	<b>Lab ID:</b>	85632
<b>Job #:</b>	2004-301	<b>Sample Collection Date:</b>	7/14/2005
<b>Were sampling and analytical methods requirements met?</b>			
Correct containers used?	<u>Yes</u>		
Preservation requirements met?	<u>Yes</u>		
Holding time requirements met?	<u>Yes</u>		
Correct # of dupes, matrix spikes and matrix spike dupes, trip blanks (based on number of samples)? Yes (1 trip blank and 1 Field Dup - 8260 only)			
Field Dup(s) vs. Environmental Sample:	RPD <51%?	<u>Yes</u>	
<small>**RPD Calc: 100*(diff btwn sample &amp; dup)/(average of sample &amp; dup)</small>			
<b>Were the following analytical precision and accuracy requirements met?</b>			
Detection Limits	<u>Yes</u>		
Reporting Limits	<u>Yes</u>		
Action Limits	<u>Yes</u>		
<b>Review lab QC reports and project narrative.</b>			
Lab Data Certification indicates that presumptive certainty has been met. The project narrative explained all non-conformances, see below:			
<b>Describe Non-Conformances</b>			
<p>1. Project narrative lists ESM-14 (7-9') PCB surrogate recovery as outside of recommended limits due to required sample dilution. Results page notes that surrogate recovery was not measurable due to required sample dilution. Email sent to Karyn Raymond for explanation. Response stated "Those notations are both saying the same thing, they are just using slightly different language. The surrogates were diluted out so we were not able to measure them., because we were not able to measure the surrogates we did not meet the required 30-150% recovery."</p> <p>2. Laboratory Control Sample (LCS) analyte 1,4-Dioxane was above the recommended limits for QC batch. This indicates that the lab machinery may be over-reporting this concentration; however, there were no detections of this analyte in field samples.</p>			
<b>Observations?</b>			
All notes were reviewed and do not indicate compromised data.			

## ES&M LAB RESULTS QUALITY REVIEW

<b>Site:</b>	DND Lewis Chemical		
<b>Lab:</b>	Groundwater Analytical	<b>Lab ID:</b>	87113
<b>Job #:</b>	2004-301	<b>Sample Collection Date:</b>	08/30/05 - 09/01/05
<b>Were sampling and analytical methods requirements met?</b>			
Correct containers used?	Yes		
Preservation requirements met?	Yes		
Holding time requirements met?	Yes		
Correct # of dupes, matrix spikes and matrix spike dupes, trip blanks (based on number of samples)?			
Yes. Matrix spike and Matrix spike duplicate analysis came back within acceptable range.			
Field Dup(s) vs. Environmental Sample:	RPD <51%?	Sample I B 05 D and its dup hits were above 51%; however, well below s1 standards so it is not considered an issue.	
**RPD Calc: 100*(diff btwn sample & dup)/(average of sample & dup)			
<b>Were the following analytical precision and accuracy requirements met?</b>			
Detection Limits	Yes		
Reporting Limits	Yes		
Action Limits	Yes		
<b>Review lab QC reports and project narrative.</b>			
Lab Data Certification indicates that presumptive certainty has been met. The project narrative explained all non-conformances, see below:			
<b>Describe Non-Conformances</b>			
<ol style="list-style-type: none"> <li>1. PCB analysis IA03S, IA03M, IB05M, IIA09S, IIA03S, IIA03M, IIA07S, IIIF03S – 1ST Results outside calibration curve. 2nd Results within range. PCB analysis IB05S, IIA01S – surrogate recoveries outside limits due to necessary dilution.</li> <li>2. QC batch vm2-2773-s above limits for 2 analytes – indicates a possible high bias.</li> <li>3. QC batch vm1-1659-e above limits for 1,2-dichloroethane above limits.</li> </ol>			
<b>Observations?</b>			
All notes were reviewed and do not indicate compromised data.			

## ES&M LAB RESULTS QUALITY REVIEW

<b>Site:</b>	DND Lewis Chemical		
<b>Lab:</b>	Groundwater Analytical	<b>Lab ID:</b>	87813
<b>Job #:</b>	2004-301	<b>Sample Collection Date:</b>	8/31/2005
<b>Were sampling and analytical methods requirements met?</b>			
Correct containers used?	Yes		
Preservation requirements met?	Yes		
Holding time requirements met?	Yes		
Correct # of dupes, matrix spikes and matrix spike dupes, trip blanks (based on number of samples)?			
Yes. Matrix spike and Matrix spike duplicate analysis came back within acceptable range.			
Field Dup(s) vs. Environmental Sample:	RPD <51%?	RPD = 2%	
**RPD Calc: $100 * (\text{diff btwn sample \& dup}) / (\text{average of sample \& dup})$			
<b>Were the following analytical precision and accuracy requirements met?</b>			
Detection Limits	Yes		
Reporting Limits	Yes		
Action Limits	Yes		
<b>Review lab QC reports and project narrative.</b>			
Lab Data Certification indicates that presumptive certainty has been met. All QC performances standards and recommendations for the methods were achieved.			
<b>Describe Non-Conformances</b>			
No method modifications, non-conformances or analytical issues were noted.			
<b>Observations?</b>			
All notes were reviewed and do not indicate compromised data.			

## ES&M LAB RESULTS QUALITY REVIEW

<b>Site:</b>	DND Lewis Chemical		
<b>Lab:</b>	Groundwater Analytical	<b>Lab ID:</b>	96205
<b>Job #:</b>	2006-056	<b>Sample Collection Date:</b>	6/21/2006
<b>Were sampling and analytical methods requirements met?</b>			
Correct containers used?	_____ n/a _____		
Preservation requirements met?	_____ n/a _____		
Holding time requirements met?	_____ n/a _____		
Correct # of dupes, matrix spikes and matrix spike dupes, trip blanks (based on number of samples)?			
_____ n/a _____			
Field Dup(s) vs. Environmental Sample:	RPD <51%? _____		
<small>**RPD Calc: 100*(diff btwn sample &amp; dup)/(average of sample &amp; dup)</small>			
<b>Were the following analytical precision and accuracy requirements met?</b>			
Detection Limits	_____ n/a _____		
Reporting Limits	_____ n/a _____		
Action Limits	_____ n/a _____		
<b>Review lab QC reports and project narrative.</b>			
Sample analyzed for asbestos, which is not a CAM Method. Method reference (Method for the Determination of Asbestos in Bulk Building Materials, US EPA, EPA-600/R-93-116 (1993).			
<b>Describe Non-Conformances</b>			
No method modifications, non-conformances or analytical issues were noted.			
<b>Observations?</b>			

# GROUNDWATER ANALYTICAL

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June 17, 2005

Mr. Joe Callahan  
Environmental Strategies & Management, Inc.  
184 West Main Street  
Norton, MA 02766

## **LABORATORY REPORT**

Project: **Lewis Chemical/2004-301**  
Lab ID: **84427**  
Received: **06-03-05**

Dear Joe:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

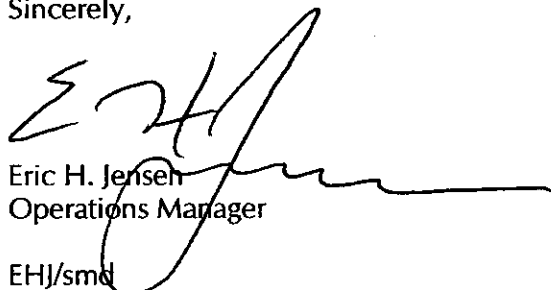
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen  
Operations Manager

EHJ/smd  
Enclosures

## Sample Receipt Report

Project: **Lewis Chemical/2004-301**

Delivery: **GWA Courier**

Temperature: **2.0°C**

Client: **Environmental Strategies & Management, Inc.**

Airbill: **n/a**

Chain of Custody: **Present**

Lab ID: **84427**

Lab Receipt: **06-03-05**

Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-1	TP-4		Soil	6/1/05 13:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581873	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		
C673006	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C673016	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612977	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-2	TP-2		Soil	6/1/05 11:20	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C599066	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C599054	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C599053	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C581849	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-3	TP-1B		Soil	6/1/05 10:20	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C599041	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C599040	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C599039	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a		
C632433	40 mL VOA Vial	Proline	BX16319	Methanol	R-4367F	04-27-05	05-13-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-4	TP-3		Soil	6/1/05 12:15	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581867	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		
C673026	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C673025	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612991	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-5	TP-6		Soil	6/2/05 10:10	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581847	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		
C673002	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C673011	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C673010	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-6	TP-4		Soil	6/1/05 13:30	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632443	40 mL VOA Vial	Proline	BX16319	Methanol	R-4367F	04-27-05	05-13-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-7	TP-2		Soil	6/1/05 11:20	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632434	40 mL VOA Vial	Proline	BX16319	Methanol	R-4367F	04-27-05	05-13-05		

## Sample Receipt Report (Continued)

Project: Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 84427

Lab Receipt: 06-03-05

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-8	TP-1B		Soil	6/1/05 10:20	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581858	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-9	TP-3		Soil	6/1/05 12:15	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C632432	40 mL VOA Vial	Proline	BX16319	Methanol	R-4367F	04-27-05	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-10	TP-6		Soil	6/2/05 10:10	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C632444	40 mL VOA Vial	Proline	BX16319	Methanol	R-4367F	04-27-05	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-11	Tank 1		Oil	6/1/05 9:57	EPA 6010B As Cd Ba Cr Pb Se Ag Total EPA 7471A Hg EPA 8021B Volatile Aromatics and Halocarbons EPA 8082 PCBs ASTM D3328-00 Mod TPH by GC - ID Only EPA 1010 Mod Ignitability EPA 9045C				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C620621	250 mL Glass	Proline	BX16666	None	n/a	n/a	05-13-05		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-12	TP-4		Soil	6/1/05 13:30	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C620583	250 mL Glass	Proline	BX16663	None	n/a	n/a	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-13	TP-2		Soil	6/1/05 11:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C620612	250 mL Glass	Proline	BX16666	None	n/a	n/a	05-13-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-14	TP-1B		Soil	6/1/05 10:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C620616	250 mL Glass	Proline	BX16666	None	n/a	n/a	05-13-05		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-15	TP-3		Soil	6/1/05 12:15	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C620587	250 mL Glass	Proline	BX16663	None	n/a	n/a	05-13-05	

## Sample Receipt Report (Continued)

Project: Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 84427

Lab Receipt: 06-03-05

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-16	TP-6		Soil	6/2/05 10:20	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C620579	250 mL Glass	Proline	BX16663	None	n/a	n/a	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-17	TP-4		Soil	6/1/05 13:30	MA DEP EPH with PAHs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C621337	120 ml. Amber Glass	Proline	BX16633	None	n/a	n/a	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-18	TP-2		Soil	6/1/05 11:20	MA DEP EPH with PAHs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C621341	120 mL Amber Glass	Proline	BX16633	None	n/a	n/a	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
84427-19	TP-1B		Soil	6/1/05 10:20	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C621345	120 mL Amber Glass	Proline	BX16633	None	n/a	n/a	05-13-05		

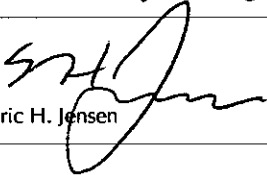
Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-20	TP-3		Soil	6/1/05 12:15	MA DEP EPH with PAHs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C621353	120 mL Amber Glass	Proline	BX16633	None	n/a	n/a	05-13-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
84427-21	TP-6		Soil	6/2/05 10:10	MA DEP EPH with PAHs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C621338	120 mL Amber Glass	Proline	BX16633	None	n/a	n/a	05-13-05	

## Data Certification

Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Lab ID: 84427  
Received: 06-03-05 19:30

MA DEP Compendium of Analytical Methods					
Project Location:	n/a		MA DEP RTN:	n/a	
This Form provides certifications for the following data set:					
EPA 8260B:	84427-01,-02,-03,-04,-05				
EPA 8082:	84427-11,-12,-13,-14,-15,-16				
EPA 8021B:	84427-11				
MA DEP VPH:	84427-06,-07,-08,-09,-10				
MA DEP EPH:	84427-17,-18,-19,-20,-21				
EPA 6010B:	84427-11,-12,-13,-14,-15,-16				
EPA 7470A/1A:	84427-11				
Sample Matrices:	Groundwater ( )	Soil/Sediment (X)	Drinking Water ( )	Other (X)	Organic Liquid
MCP SW-846	8260B (X)	8151A ( )	8330 ( )	6010B (X)	7470A/1A (X)
Methods Used	8270C ( )	8081A ( )	VPH (X)	6020 ( )	9012A <sup>2</sup> ( )
As specified in MA DEP Compendium of Analytical Methods.	8082 (X)	8021B (X)	EPH (X)	7000 S <sup>3</sup> ( )	Other ( )
(check all that apply)	1. List Release Tracking Number (RTN), if known. 2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method 3. S - SW-846 Methods 7000 Series. List individual method and analyte.				
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.					
A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?				Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, <i>Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data</i> ?				No
D.	<u>VPH and EPH methods only:</u> Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?				Yes
A response to questions E and F below is required for "Presumptive Certainty" status.					
E.	Were all QC performance standards and recommendations for the specified methods achieved?				No
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?				No
All No answers are addressed in the attached Project Narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:			Position:	Operations Manager	
Printed Name:	Eric H. Jensen		Date:	06-17-05	

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **TP-4**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**

Laboratory ID: **84427-01**  
Sampled: **06-01-05 13:30**  
Received: **06-03-05 19:30**  
Analyzed: **06-08-05 11:31**  
Analyst: **LMG**

QC Batch ID: **VM1-1591-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **10 g**  
Final Volume: **15 mL**  
% Solids: **86**  
Dilution Factor: **4**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	3,500
74-87-3	Chloromethane	BRL		ug/Kg	3,500
75-01-4	Vinyl Chloride	BRL		ug/Kg	3,500
74-83-9	Bromomethane	BRL		ug/Kg	3,500
75-00-3	Chloroethane	BRL		ug/Kg	3,500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	3,500
60-29-7	Diethyl Ether	BRL		ug/Kg	3,500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	1,800
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	18,000
67-64-1	Acetone	BRL		ug/Kg	18,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	18,000
75-09-2	Methylene Chloride	BRL		ug/Kg	7,100
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	1,800
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	1,800
75-34-3	1,1-Dichloroethane	40,000		ug/Kg	1,800
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	1,800
156-59-2	cis- 1,2-Dichloroethene	63,000		ug/Kg	1,800
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	18,000
74-97-5	Bromochloromethane	BRL		ug/Kg	1,800
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	18,000
67-66-3	Chloroform	BRL		ug/Kg	1,800
71-55-6	1,1,1-Trichloroethane	15,000		ug/Kg	1,800
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	1,800
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	1,800
71-43-2	Benzene	BRL		ug/Kg	1,800
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	1,800
79-01-6	Trichloroethene	39,000		ug/Kg	1,800
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	1,800
74-95-3	Dibromomethane	BRL		ug/Kg	1,800
75-27-4	Bromodichloromethane	BRL		ug/Kg	1,800
123-91-1	1,4-Dioxane	BRL		ug/Kg	1,800,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	1,800
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	18,000
108-88-3	Toluene	BRL		ug/Kg	1,800
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	1,800
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	1,800
127-18-4	Tetrachloroethene	11,000		ug/Kg	1,800
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	1,800
591-78-6	2-Hexanone	BRL		ug/Kg	18,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	1,800
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	1,800
108-90-7	Chlorobenzene	BRL		ug/Kg	1,800
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	1,800
100-41-4	Ethylbenzene	BRL		ug/Kg	1,800
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	1,800
95-47-6	ortho- Xylene	BRL		ug/Kg	1,800

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-4  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-01  
Sampled: 06-01-05 13:30  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 11:31  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 15 mL  
% Solids: 86  
Dilution Factor: 4

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit
100-42-5	Styrene	BRL		ug/Kg	1,800
75-25-2	Bromoform	BRL		ug/Kg	1,800
98-82-8	Isopropylbenzene	BRL		ug/Kg	1,800
108-86-1	Bromobenzene	BRL		ug/Kg	1,800
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	1,800
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	1,800
103-65-1	n-Propylbenzene	BRL		ug/Kg	1,800
95-49-8	2-Chlorotoluene	BRL		ug/Kg	1,800
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	1,800
106-43-4	4-Chlorotoluene	BRL		ug/Kg	1,800
98-06-6	tert-Butylbenzene	BRL		ug/Kg	1,800
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	1,800
135-98-8	sec-Butylbenzene	BRL		ug/Kg	1,800
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	1,800
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	1,800
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	1,800
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	1,800
104-51-8	n-Butylbenzene	BRL		ug/Kg	1,800
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	1,800
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	1,800
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	1,800
91-20-3	Naphthalene	BRL		ug/Kg	1,800
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	1,800
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	71,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	1,800
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	1,800
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	1,800

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	88 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,100	85 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-2  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-02  
Sampled: 06-01-05 11:20  
Received: 06-03-05 19:30  
Analyzed: 06-09-05 15:43  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool  
QC Batch ID: VM1-1592-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 6.5 g  
% Solids: 85  
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	21		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	11		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	5
95-47-6	ortho- Xylene	BRL		ug/Kg	5

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: TP-2  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-02  
Sampled: 06-01-05 11:20  
Received: 06-03-05 19:30  
Analyzed: 06-09-05 15:43  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool  
QC Batch ID: VM1-1592-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 6.5 g  
% Solids: 85  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	49	98 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	48	95 %	70 - 130 %
Toluene-d <sub>8</sub>	50	52	104 %	70 - 130 %
4-Bromofluorobenzene	50	58	116 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-18  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-03  
Sampled: 06-01-05 10:20  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 12:06  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 86  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	14,000
74-87-3	Chloromethane	BRL		ug/Kg	14,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	14,000
74-83-9	Bromomethane	BRL		ug/Kg	14,000
75-00-3	Chloroethane	BRL		ug/Kg	14,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	14,000
60-29-7	Diethyl Ether	BRL		ug/Kg	14,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	6,800
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	68,000
67-64-1	Acetone	BRL		ug/Kg	68,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	68,000
75-09-2	Methylene Chloride	BRL		ug/Kg	27,000
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	6,800
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	6,800
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	6,800
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	6,800
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	6,800
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	68,000
74-97-5	Bromochloromethane	BRL		ug/Kg	6,800
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	68,000
67-66-3	Chloroform	BRL		ug/Kg	6,800
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	6,800
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	6,800
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	6,800
71-43-2	Benzene	BRL		ug/Kg	6,800
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	6,800
79-01-6	Trichloroethene	23,000		ug/Kg	6,800
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	6,800
74-95-3	Dibromomethane	BRL		ug/Kg	6,800
75-27-4	Bromodichloromethane	BRL		ug/Kg	6,800
123-91-1	1,4-Dioxane	BRL		ug/Kg	6,800,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	6,800
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	68,000
108-88-3	Toluene	BRL		ug/Kg	6,800
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	6,800
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	6,800
127-18-4	Tetrachloroethene	73,000		ug/Kg	6,800
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	6,800
591-78-6	2-Hexanone	BRL		ug/Kg	68,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	6,800
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	6,800
108-90-7	Chlorobenzene	BRL		ug/Kg	6,800
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	6,800
100-41-4	Ethylbenzene	BRL		ug/Kg	6,800
106-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	6,800
95-47-6	ortho- Xylene	BRL		ug/Kg	6,800

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-1B  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-03  
Sampled: 06-01-05 10:20  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 12:06  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 86  
Dilution Factor: 20

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	6,800
75-25-2	Bromoform	BRL		ug/Kg	6,800
98-82-8	Isopropylbenzene	BRL		ug/Kg	6,800
108-86-1	Bromobenzene	BRL		ug/Kg	6,800
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	6,800
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	6,800
103-65-1	n-Propylbenzene	BRL		ug/Kg	6,800
95-49-8	2-Chlorotoluene	BRL		ug/Kg	6,800
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	6,800
106-43-4	4-Chlorotoluene	BRL		ug/Kg	6,800
98-06-6	tert-Butylbenzene	BRL		ug/Kg	6,800
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	6,800
135-98-8	sec-Butylbenzene	BRL		ug/Kg	6,800
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	6,800
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	6,800
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	6,800
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	6,800
104-51-8	n-Butylbenzene	BRL		ug/Kg	6,800
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	6,800
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	6,800
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	6,800
91-20-3	Naphthalene	BRL		ug/Kg	6,800
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	6,800
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	270,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	6,800
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	6,800
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	6,800

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	110 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,900	116 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-3  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-04  
Sampled: 06-01-05 12:15  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 12:42  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 14 g  
Final Volume: 15 mL  
% Solids: 92  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	580
74-87-3	Chloromethane	BRL		ug/Kg	580
75-01-4	Vinyl Chloride	BRL		ug/Kg	580
74-83-9	Bromomethane	BRL		ug/Kg	580
75-00-3	Chloroethane	BRL		ug/Kg	580
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	580
60-29-7	Diethyl Ether	BRL		ug/Kg	580
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	290
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,900
67-64-1	Acetone	BRL		ug/Kg	2,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,900
75-09-2	Methylene Chloride	BRL		ug/Kg	1,200
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	290
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	290
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	290
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	290
156-59-2	cis- 1,2-Dichloroethene	590		ug/Kg	290
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,900
74-97-5	Bromochloromethane	BRL		ug/Kg	290
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,900
67-66-3	Chloroform	BRL		ug/Kg	290
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	290
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	290
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	290
71-43-2	Benzene	BRL		ug/Kg	290
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	290
79-01-6	Trichloroethene	1,500		ug/Kg	290
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	290
74-95-3	Dibromomethane	BRL		ug/Kg	290
75-27-4	Bromodichloromethane	BRL		ug/Kg	290
123-91-1	1,4-Dioxane	BRL		ug/Kg	290,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	290
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,900
108-88-3	Toluene	BRL		ug/Kg	290
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	290
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	290
127-18-4	Tetrachloroethene	460		ug/Kg	290
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	290
591-78-6	2-Hexanone	BRL		ug/Kg	2,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	290
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	290
108-90-7	Chlorobenzene	BRL		ug/Kg	290
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	290
100-41-4	Ethylbenzene	BRL		ug/Kg	290
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	290
95-47-6	ortho- Xylene	BRL		ug/Kg	290

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-3  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-04  
Sampled: 06-01-05 12:15  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 12:42  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 14 g  
Final Volume: 15 mL  
% Solids: 92  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	290
75-25-2	Bromoform	BRL		ug/Kg	290
98-82-8	Isopropylbenzene	BRL		ug/Kg	290
108-86-1	Bromobenzene	BRL		ug/Kg	290
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	290
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	290
103-65-1	n-Propylbenzene	BRL		ug/Kg	290
95-49-8	2-Chlorotoluene	BRL		ug/Kg	290
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	290
106-43-4	4-Chlorotoluene	BRL		ug/Kg	290
98-06-6	tert-Butylbenzene	BRL		ug/Kg	290
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	290
135-98-8	sec-Butylbenzene	BRL		ug/Kg	290
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	290
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	290
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	290
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	290
104-51-8	n-Butylbenzene	BRL		ug/Kg	290
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	290
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	290
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	290
91-20-3	Naphthalene	BRL		ug/Kg	290
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	290
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	12,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	290
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	290
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	290

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,100	84 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,100	85 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	103 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	111 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-6  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-05  
Sampled: 06-02-05 10:10  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 13:19  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 11 g  
Final Volume: 15 mL  
% Solids: 84  
Dilution Factor: 100

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	76,000
74-87-3	Chloromethane	BRL		ug/Kg	76,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	76,000
74-83-9	Bromomethane	BRL		ug/Kg	76,000
75-00-3	Chloroethane	BRL		ug/Kg	76,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	76,000
60-29-7	Diethyl Ether	BRL		ug/Kg	76,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	38,000
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	380,000
67-64-1	Acetone	BRL		ug/Kg	380,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	380,000
75-09-2	Methylene Chloride	BRL		ug/Kg	150,000
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	38,000
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	38,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	38,000
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	38,000
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	38,000
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	380,000
74-97-5	Bromochloromethane	BRL		ug/Kg	38,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	380,000
67-66-3	Chloroform	BRL		ug/Kg	38,000
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	38,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	38,000
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	38,000
71-43-2	Benzene	BRL		ug/Kg	38,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	38,000
79-01-6	Trichloroethene	BRL		ug/Kg	38,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	38,000
74-95-3	Dibromomethane	BRL		ug/Kg	38,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	38,000
123-91-1	1,4-Dioxane	BRL		ug/Kg	38,000,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	38,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	380,000
108-88-3	Toluene	BRL		ug/Kg	38,000
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	38,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	38,000
127-18-4	Tetrachloroethene	360,000		ug/Kg	38,000
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	38,000
591-78-6	2-Hexanone	BRL		ug/Kg	380,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	38,000
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	38,000
108-90-7	Chlorobenzene	BRL		ug/Kg	38,000
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	38,000
100-41-4	Ethylbenzene	BRL		ug/Kg	38,000
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	38,000
95-47-6	ortho- Xylene	BRL		ug/Kg	38,000

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: TP-6  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 84427-05  
Sampled: 06-02-05 10:10  
Received: 06-03-05 19:30  
Analyzed: 06-08-05 13:19  
Analyst: LMG

QC Batch ID: VM1-1591-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 11 g  
Final Volume: 15 mL  
% Solids: 84  
Dilution Factor: 100

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	38,000
75-25-2	Bromoform	BRL		ug/Kg	38,000
98-82-8	Isopropylbenzene	BRL		ug/Kg	38,000
108-86-1	Bromobenzene	BRL		ug/Kg	38,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	38,000
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	38,000
103-65-1	n-Propylbenzene	BRL		ug/Kg	38,000
95-49-8	2-Chlorotoluene	BRL		ug/Kg	38,000
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	38,000
106-43-4	4-Chlorotoluene	BRL		ug/Kg	38,000
98-06-6	tert-Butylbenzene	BRL		ug/Kg	38,000
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	38,000
135-98-8	sec-Butylbenzene	BRL		ug/Kg	38,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	38,000
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	38,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	38,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	38,000
104-51-8	n-Butylbenzene	BRL		ug/Kg	38,000
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	38,000
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	38,000
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	38,000
91-20-3	Naphthalene	BRL		ug/Kg	38,000
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	38,000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	1,500,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	38,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	38,000
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	38,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	90 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	104 %	70 - 130 %
4-Bromofluorobenzene	2,500	3,200	126 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-4  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol/Cool

Laboratory ID: 84427-06  
Sampled: 06-01-05 13:30  
Received: 06-03-05 19:30  
Analyzed: 06-15-05 10:15  
Analyst: JDH

QC Batch ID: VG3-1735-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 10 g  
Final Volume: 15 mL  
% Solids: 86  
Dilution Factor: 2

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> ◊	81		mg/Kg	3.4
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	7.9		mg/Kg	3.4
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	3.4

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	81		mg/Kg	3.4
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	9.6		mg/Kg	3.4

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.34
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.34
108-88-3	Toluene <sup>⌘</sup>	0.39		mg/Kg	0.34
100-41-4	Ethylbenzene <sup>‡</sup>	BRL		mg/Kg	0.34
108-38-3 and 106-42-3	meta- Xylene and para- Xylene <sup>‡</sup>	0.48		mg/Kg	0.34
95-47-6	ortho- Xylene <sup>‡</sup>	BRL		mg/Kg	0.34
91-20-3	Naphthalene	BRL		mg/Kg	1.7

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	8.6	6.4	74 %	70 - 130 %
2,5-Dibromotoluene (FID)	8.6	7.2	85 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-2  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-07  
Sampled: 06-01-05 11:20  
Received: 06-03-05 19:30  
Analyzed: 06-13-05 12:28  
Analyst: JDH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VG3-1931-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 16 g  
Final Volume: 15 mL  
% Solids: 85  
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>◊</sup>	BRL		mg/Kg	1.1
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	BRL		mg/Kg	1.1
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.1

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.1
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.11
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.11
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.11
100-41-4	Ethylbenzene <sup>‡</sup>	BRL		mg/Kg	0.11
106-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>‡</sup>	BRL		mg/Kg	0.11
95-47-6	ortho-Xylene <sup>‡</sup>	BRL		mg/Kg	0.11
91-20-3	Naphthalene	BRL		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.5	4.5	81 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.5	4.5	80 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	TP-1B	Matrix:	Soil
Project:	Lewis Chemical/2004-301	Container:	40 mL VOA Vial
Client:	Environmental Strategies & Management	Preservation:	Methanol / Cool
Laboratory ID:	84427-08	QC Batch ID:	VG3-1931-E
Sampled:	06-01-05 10:20	Instrument ID:	GC-3 HP 5890
Received:	06-03-05 19:30	Sample Weight:	12 g
Analyzed:	06-13-05 13:09	Final Volume:	15 mL
Analyst:	JDH	% Solids:	86
		Dilution Factor:	1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊙</sup>	44		mg/Kg	1.4
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	21		mg/Kg	1.4
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	42		mg/Kg	1.4

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	44		mg/Kg	1.4
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	67		mg/Kg	1.4

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.14
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.14
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.14
100-41-4	Ethylbenzene <sup>‡</sup>	0.55		mg/Kg	0.14
108-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>‡</sup>	0.59		mg/Kg	0.14
95-47-6	ortho-Xylene <sup>‡</sup>	2.3		mg/Kg	0.14
91-20-3	Naphthalene	BRL		mg/Kg	0.71

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	7.1	5.3	74 %	70 - 130 %
2,5-Dibromotoluene (FID)	7.1	5.1	72 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ⊙ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: TP-3  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 84427-09  
Sampled: 06-01-05 12:15  
Received: 06-03-05 19:30  
Analyzed: 06-13-05 13:50  
Analyst: JDH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VG3-1931-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 12 g  
Final Volume: 15 mL  
% Solids: 92  
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> ⊙	4.4		mg/Kg	1.3
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	BRL		mg/Kg	1.3
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.3
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	4.4		mg/Kg	1.3
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.3

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.13
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.13
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.13
100-41-4	Ethylbenzene <sup>‡</sup>	BRL		mg/Kg	0.13
108-38-3 and 106-42-3	meta- Xylene and para -Xylene <sup>‡</sup>	BRL		mg/Kg	0.13
95-47-6	ortho- Xylene <sup>‡</sup>	BRL		mg/Kg	0.13
91-20-3	Naphthalene	BRL		mg/Kg	0.67

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	6.7	4.7	70 %	70 - 130 %
2,5-Dibromotoluene (FID)	6.7	4.7	71 %	70 - 130 %

QA/QC Certification				
1. Were all QA/QC procedures required by the method followed?				Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?				Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?				No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.				

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

⊙ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: **TP-6**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
  
Laboratory ID: **84427-10**  
Sampled: **06-02-05 10:10**  
Received: **06-03-05 19:30**  
Analyzed: **06-13-05 14:31**  
Analyst: **JDH**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**  
  
QC Batch ID: **VG3-1931-E**  
Instrument ID: **GC-3 HP 5890**  
Sample Weight: **13 g**  
Final Volume: **15 mL**  
% Solids: **84**  
Dilution Factor: **1**

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> ⊙	110		mg/Kg	1.3
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊙	2.0		mg/Kg	1.3
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.3
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	110		mg/Kg	1.3
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	3.3		mg/Kg	1.3

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.13
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.13
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.13
100-41-4	Ethylbenzene <sup>†</sup>	0.18		mg/Kg	0.13
108-38-3 and 106-42-3	meta- Xylene and para- Xylene <sup>†</sup>	0.33		mg/Kg	0.13
95-47-6	ortho- Xylene <sup>†</sup>	0.21		mg/Kg	0.13
91-20-3	Naphthalene	BRL		mg/Kg	0.67

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	6.7	3.5	53 % m	70 - 130 %
2,5-Dibromotoluene (FID)	6.7	3.6	53 % m	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	No
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

⊙ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊙ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

† Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

m Surrogate recovery outside recommended limits due to sample matrix interference.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	TP-6	Matrix:	Soil
Project:	Lewis Chemical/2004-301	Container:	40 mL VOA Vial
Client:	Environmental Strategies & Management, Inc.	Preservation:	Methanol/Cool
Laboratory ID:	84427-10RA1	QC Batch ID:	VG3-1735-E
Sampled:	06-02-05 10:10	Instrument ID:	GC-3 HP 5890
Received:	06-03-05 19:30	Sample Weight:	13 g
Analyzed:	06-15-05 10:56	Final Volume:	15 mL
Analyst:	JDH	% Solids:	84
		Dilution Factor:	1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊖</sup>	120		mg/Kg	1.3
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	BRL		mg/Kg	1.3
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.3
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	120		mg/Kg	1.3
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	2.6		mg/Kg	1.3

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.13
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.13
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.13
100-41-4	Ethylbenzene <sup>‡</sup>	0.23		mg/Kg	0.13
108-38-3 and 106-42-3	meta- Xylene and para- Xylene <sup>‡</sup>	0.43		mg/Kg	0.13
95-47-6	ortho- Xylene <sup>‡</sup>	0.23		mg/Kg	0.13
91-20-3	Naphthalene	BRL		mg/Kg	0.67

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	6.7	3.4	51 % m	70 - 130 %
2,5-Dibromotoluene (FID)	6.7	3.5	52 % m	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	No
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

⊖ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

m Surrogate recovery outside recommended limits due to sample matrix interference.

# GROUNDWATER ANALYTICAL

## EPA Method 8021B Aromatic and Halogenated Volatile Organics by GC/PID/ELCD

Field ID: Tank 1  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Organic Liquid  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 84427-11  
Sampled: 06-01-05 09:57  
Received: 06-03-05 19:30  
Analyzed: 06-09-05 22:27  
Analyst: JH

QC Batch ID: VG2-2871-S  
Instrument ID: GC-2 HP 5890  
Sample Weight: 0.1 g  
Final Volume: 10 mL  
% Solids: n/a  
Dilution Factor: 4

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	100,000
74-87-3	Chloromethane	BRL		ug/Kg	100,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	40,000
74-83-9	Bromomethane	BRL		ug/Kg	100,000
75-00-3	Chloroethane	BRL		ug/Kg	100,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	20,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	20,000
75-09-2	Methylene Chloride	BRL		ug/Kg	50,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	20,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	20,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	20,000
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	20,000
67-66-3	Chloroform	BRL		ug/Kg	20,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	20,000
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	20,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	20,000
71-43-2	Benzene	BRL		ug/Kg	20,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	20,000
79-01-6	Trichloroethene	BRL		ug/Kg	20,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	20,000
110-75-8	2-Chloroethyl Vinyl Ether	BRL		ug/Kg	100,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	20,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	20,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	20,000
108-88-3	Toluene	BRL		ug/Kg	20,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	20,000
127-18-4	Tetrachloroethene	BRL		ug/Kg	20,000
108-90-7	Chlorobenzene	BRL		ug/Kg	20,000
100-41-4	Ethylbenzene	BRL		ug/Kg	20,000
108-38-3 / 106-42-3	meta-Xylene and para-Xylene	36,000		ug/Kg	20,000
75-25-2	Bromoform	BRL		ug/Kg	20,000
95-47-6	ortho-Xylene	BRL		ug/Kg	20,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	20,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	20,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	20,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	20,000
91-20-3	Naphthalene	160,000		ug/Kg	100,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
a,a,a-Trifluorotoluene	500	510	101 %	70 - 130 %
1,2-Dichloroethane-d4	500	490	98 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## ASTM Method D3328-00 (Modified) Hydrocarbon Fingerprint by GC/FID

Field ID: Tank 1  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Organic Liquid  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 84427-11  
Sampled: 06-01-05 09:57  
Received: 06-03-05 19:30  
Extracted: 06-09-05 00:00  
Analyzed: 06-09-05 00:00  
Analyst: MJB

QC Batch ID: HF-0380-M  
Instrument ID: GC-4 HP 6890  
Sample Weight: 2 g  
Dilution Factor: 100

### Qualitative Identification

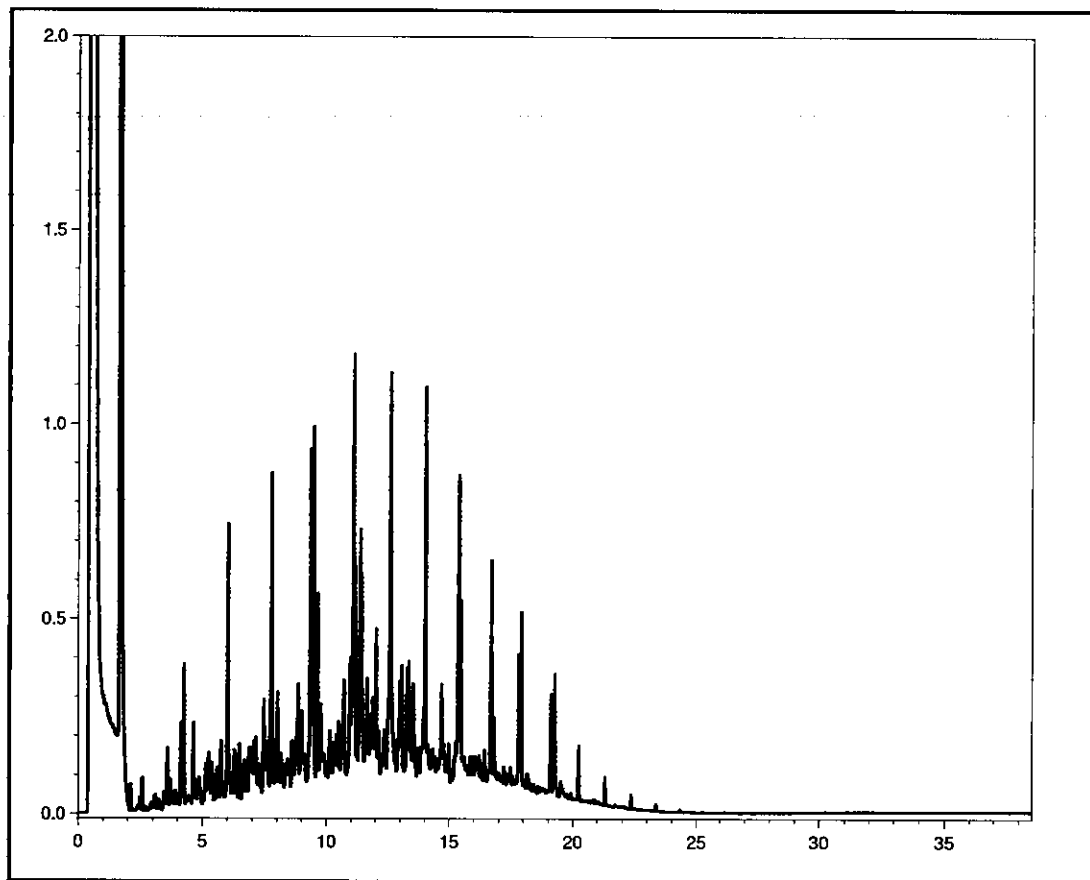
This sample has GC/FID characteristics that are similar to:

1. Fuel Oil No. 2/Diesel Fuel
2. Based on the distribution of isoprenoid hydrocarbons to the n-C Alkanes, the Fuel Oil #2 appears to be mildly weathered.

**Method Reference:** Comparison of Waterborne Petroleum Oils by Gas Chromatography, Annual Book of ASTM Standards, Volume 11.02, American Society for Testing and Materials (2000).  
Sample extraction performed by solvent dilution.

**Lab ID: 84427-11**

**Hydrocarbons Laboratory**



Retention Time (Minutes)

**Inorganic Chemistry**Field ID: **Tank 1**Project: **Lewis Chemical/2004-301**Client: **Environmental Strategies & Management, Inc.**Matrix: **Organic Liquid**Received: **06-03-05 19:30**Lab ID: **84427-11**Sampled: **06-01-05 09:57**% Solids: **n/a**Container: **250 mL Glass**Preservation: **Cool**

Analyte	Result	Units	RL	DF	Weight	Analyzed	QC Batch	Method	Inst	Analyst
Corrosivity (as pH)	6.1	pH	NA	1	20 g	06-09-05 10:00	PH-0612-S	EPA 9040B	1	JBW
Ignitability (as Flashpoint)	> 165	°F	70	1	100 g	06-09-05 10:00	FP-0612-S	EPA 1010 Mod	2	JBW

**Method Reference:** Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Accumet AR50

2 Instrument ID: Boekel 152800 Flash Point Tester

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: Tank 1  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 84427-11  
Sampled: 06-01-05 09:57  
Received: 06-03-05 19:30  
Extracted: 06-07-05 13:00  
Cleaned Up: 06-08-05 08:00  
Analyzed: 06-09-05 19:06  
Analyst: CRL

Matrix: Organic Liquid  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-0449-W  
Instrument ID: GC-6 HP 5890  
Sample Weight: 0.99 g  
Final Volume: 1 mL  
Percent Solids: n/a  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	mg/Kg	1.7
11104-28-2	Aroclor 1221		BRL	mg/Kg	1.7
11141-16-5	Aroclor 1232		BRL	mg/Kg	1.7
53469-21-9	Aroclor 1242		BRL	mg/Kg	1.7
12672-29-6	Aroclor 1248		BRL	mg/Kg	1.7
11097-69-1	Aroclor 1254		BRL	mg/Kg	1.7
11096-82-5	Aroclor 1260		BRL	mg/Kg	1.7
37324-23-5	Aroclor 1262		BRL	mg/Kg	1.7
11100-14-4	Aroclor 1268		BRL	mg/Kg	1.7

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	0.20	0.19	95 %
Column	Decachlorobiphenyl	0.20	0.23	116 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.16	80 %
Column	Decachlorobiphenyl	0.20	0.18	90 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3580A. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a wet weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: TP-4  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-12  
Sampled: 06-01-05 13:30  
Received: 06-03-05 19:30  
Extracted: 06-08-05 13:00  
Cleaned Up: 06-13-05 10:00  
Analyzed: 06-15-05 12:35  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2179-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 86  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	93
11104-28-2	Aroclor 1221	BRL		ug/Kg	93
11141-16-5	Aroclor 1232	BRL		ug/Kg	93
53469-21-9	Aroclor 1242	BRL		ug/Kg	93
12672-29-6	Aroclor 1248	4,400	e 1C (4,200)*	ug/Kg	93
11097-69-1	Aroclor 1254	BRL		ug/Kg	93
11096-82-5	Aroclor 1260	BRL		ug/Kg	93
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	93
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	93

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	15	12	77 %
Column	Decachlorobiphenyl	15	15	98 %
Second	Tetrachloro- <i>m</i> -xylene	15	11	70 %
Column	Decachlorobiphenyl	15	13	87 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **TP-4**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
  
Laboratory ID: **84427-12RA1**  
Sampled: **06-01-05 13:30**  
Received: **06-03-05 19:30**  
Extracted: **06-08-05 13:00**  
Cleaned Up: **06-13-05 10:00**  
Analyzed: **06-15-05 20:23**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 ml Glass**  
Preservation: **Cool**  
  
QC Batch ID: **PB-2179-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **86**  
Dilution Factor: **5**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	460
11104-28-2	Aroclor 1221	BRL		ug/Kg	460
11141-16-5	Aroclor 1232	BRL		ug/Kg	460
53469-21-9	Aroclor 1242	BRL		ug/Kg	460
12672-29-6	Aroclor 1248	5,400	1C (5,000)*	ug/Kg	460
11097-69-1	Aroclor 1254	BRL		ug/Kg	460
11096-82-5	Aroclor 1260	BRL		ug/Kg	460
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	460
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	460

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	12	76 %	30 - 150 %
Second Column	Decachlorobiphenyl	15	14	94 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	15	12	81 %	30 - 150 %
Second Column	Decachlorobiphenyl	15	15	100 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **TP-2**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management**  
 Laboratory ID: **84427-13**  
 Sampled: **06-01-05 11:20**  
 Received: **06-03-05 19:30**  
 Extracted: **06-08-05 13:00**  
 Cleaned Up: **06-13-05 10:00**  
 Analyzed: **06-15-05 13:10**  
 Analyst: **CRL**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 QC Batch ID: **PB-2179-P**  
 Instrument ID: **GC-6 HP 5890**  
 Sample Weight: **15 g**  
 Final Volume: **1 mL**  
 Percent Solids: **85**  
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	93
11104-28-2	Aroclor 1221		BRL	ug/Kg	93
11141-16-5	Aroclor 1232		BRL	ug/Kg	93
53469-21-9	Aroclor 1242		BRL	ug/Kg	93
12672-29-6	Aroclor 1248		BRL	ug/Kg	93
11097-69-1	Aroclor 1254		BRL	ug/Kg	93
11096-82-5	Aroclor 1260		BRL	ug/Kg	93
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	93
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	93

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	12	78 %	30 - 150 %
	Decachlorobiphenyl	15	15	100 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	11	73 %	30 - 150 %
	Decachlorobiphenyl	15	14	88 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
 Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **TP-1B**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
  
Laboratory ID: **84427-14**  
Sampled: **06-01-05 10:20**  
Received: **06-03-05 19:30**  
Extracted: **06-08-05 13:00**  
Cleaned Up: **06-13-05 10:00**  
Analyzed: **06-15-05 13:45**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
  
QC Batch ID: **PB-2179-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **86**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	90
11104-28-2	Aroclor 1221	BRL		ug/Kg	90
11141-16-5	Aroclor 1232	BRL		ug/Kg	90
53469-21-9	Aroclor 1242	BRL		ug/Kg	90
12672-29-6	Aroclor 1248	1,400	e 2C (1,300)*	ug/Kg	90
11097-69-1	Aroclor 1254	BRL		ug/Kg	90
11096-82-5	Aroclor 1260	BRL		ug/Kg	90
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	90
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	90

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	15	14	95 %	30 - 150 %
Column	15	17	113 %	30 - 150 %
Second	15	13	84 %	30 - 150 %
Column	15	15	100 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.  
  
\* Confirmatory column quantification.  
  
2C Concentration reported from second column.  
  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **TP-1B**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management**  
 Laboratory ID: **84427-14RA1**  
 Sampled: **06-01-05 10:20**  
 Received: **06-03-05 19:30**  
 Extracted: **06-08-05 13:00**  
 Cleaned Up: **06-13-05 10:00**  
 Analyzed: **06-15-05 20:58**  
 Analyst: **CRL**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 QC Batch ID: **PB-2179-P**  
 Instrument ID: **GC-6 HP 5890**  
 Sample Weight: **15 g**  
 Final Volume: **1 mL**  
 Percent Solids: **86**  
 Dilution Factor: **2**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	180
11104-28-2	Aroclor 1221		BRL	ug/Kg	180
11141-16-5	Aroclor 1232		BRL	ug/Kg	180
53469-21-9	Aroclor 1242		BRL	ug/Kg	180
12672-29-6	Aroclor 1248	1,500	2C (1,400)*	ug/Kg	180
11097-69-1	Aroclor 1254		BRL	ug/Kg	180
11096-82-5	Aroclor 1260		BRL	ug/Kg	180
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	180
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	180

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	15	14	92 %	30 - 150 %
Column	15	16	105 %	30 - 150 %
Second	15	13	86 %	30 - 150 %
Column	15	15	97 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.  
 \* Confirmatory column quantification.  
 2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: TP-3  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-15  
Sampled: 06-01-05 12:15  
Received: 06-03-05 19:30  
Extracted: 06-08-05 13:00  
Cleaned Up: 06-13-05 10:00  
Analyzed: 06-15-05 14:20  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2179-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 92  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	84
11104-28-2	Aroclor 1221		BRL	ug/Kg	84
11141-16-5	Aroclor 1232		BRL	ug/Kg	84
53469-21-9	Aroclor 1242		BRL	ug/Kg	84
12672-29-6	Aroclor 1248		BRL	ug/Kg	84
11097-69-1	Aroclor 1254		BRL	ug/Kg	84
11096-82-5	Aroclor 1260		BRL	ug/Kg	84
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	84
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	84

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	14	11	75 %	30 - 150 %
Column	14	13	92 %	30 - 150 %
Second	14	9	67 %	30 - 150 %
Column	14	11	77 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **TP-6**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **84427-16**  
Sampled: **06-02-05 10:20**  
Received: **06-03-05 19:30**  
Extracted: **06-08-05 13:00**  
Cleaned Up: **06-13-05 10:00**  
Analyzed: **06-15-05 14:55**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **PB-2179-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **84**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	95
11104-28-2	Aroclor 1221		BRL	ug/Kg	95
11141-16-5	Aroclor 1232		BRL	ug/Kg	95
53469-21-9	Aroclor 1242		BRL	ug/Kg	95
12672-29-6	Aroclor 1248	920	e 2C (850)*	ug/Kg	95
11097-69-1	Aroclor 1254		BRL	ug/Kg	95
11096-82-5	Aroclor 1260		BRL	ug/Kg	95
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	95
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	95

11100-14-4	Atoclor 1200				
QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	16	14	91 %	30 - 150 %
	Decachlorobiphenyl	16	15	94 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	16	13	81 %	30 - 150 %
	Decachlorobiphenyl	16	14	87 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
+ Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.  
e Indicates concentration exceeded calibration range for the analyte.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: TP-6  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 84427-16RA1  
Sampled: 06-02-05 10:20  
Received: 06-03-05 19:30  
Extracted: 06-08-05 13:00  
Cleaned Up: 06-13-05 10:00  
Analyzed: 06-15-05 21:33  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2179-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 84  
Dilution Factor: 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	190
11104-28-2	Aroclor 1221	BRL		ug/Kg	190
11141-16-5	Aroclor 1232	BRL		ug/Kg	190
53469-21-9	Aroclor 1242	BRL		ug/Kg	190
12672-29-6	Aroclor 1248	990	2C (900)*	ug/Kg	190
11097-69-1	Aroclor 1254	BRL		ug/Kg	190
11096-82-5	Aroclor 1260	BRL		ug/Kg	190
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	190
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	190

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	16	13	86 %	30 - 150 %
Column	Decachlorobiphenyl	16	15	98 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	16	13	83 %	30 - 150 %
Column	Decachlorobiphenyl	16	14	90 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **TP-4**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**  
  
Laboratory ID: **84427-17**  
Sampled: **06-01-05 13:30**  
Received: **06-03-05 19:30**  
Extracted: **06-09-05 07:00**  
Analyzed (AL): **06-15-05 14:26**  
Analyzed (AR): **06-15-05 15:10**  
Analyst: **MM**

Matrix: **Soil**  
Container: **120 mL Amber Glass**  
Preservation: **Cool**  
  
QC Batch ID: **EP-2072-M**  
Instrument ID: **GC-9 Agilent 6890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
% Solids: **86**  
Aliphatic Dilution Factor: **1**  
Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	78		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	280		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†‡</sup>	320		mg/Kg	34
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	340		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.57
91-57-6	2-Methylnaphthalene	0.66		mg/Kg	0.57
85-01-8	Phenanthrene	2.6		mg/Kg	0.57
83-32-9	Acenaphthene	1.1		mg/Kg	0.57
208-96-8	Acenaphthylene	BRL		mg/Kg	0.57
86-73-7	Fluorene	BRL		mg/Kg	0.57
120-12-7	Anthracene	BRL		mg/Kg	0.57
206-44-0	Fluoranthene	2.2		mg/Kg	0.57
129-00-0	Pyrene	2.1		mg/Kg	0.57
56-55-3	Benzo[a]anthracene	1.2		mg/Kg	0.57
218-01-9	Chrysene	2.1		mg/Kg	0.57
205-99-2	Benzo[b]fluoranthene	1.5		mg/Kg	0.57
207-08-9	Benzo[k]fluoranthene	1.1		mg/Kg	0.57
50-32-8	Benzo[a]pyrene	1.4		mg/Kg	0.57
193-39-5	Indeno[1,2,3-c,d]pyrene	0.64		mg/Kg	0.57
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.57
191-24-2	Benzo[g,h,i]perylene	1.2		mg/Kg	0.57

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.0	1.9	62 %	40 - 140 %
2-Bromonaphthalene	3.0	2.1	71 %	40 - 140 %
Extraction: Chloro-octadecane	3.0	1.8	60 %	40 - 140 %
ortho-Terphenyl	3.0	2.6	87 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: TP-2  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
  
Laboratory ID: 84427-18  
Sampled: 06-01-05 11:20  
Received: 06-03-05 19:30  
Extracted: 06-09-05 07:00  
Analyzed (AL): 06-16-05 21:23  
Analyzed (AR): 06-16-05 22:08  
Analyst: MM

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool  
  
QC Batch ID: EP-2072-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 15 g  
Final Volume: 1 mL  
% Solids: 85  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	35
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	35
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†‡</sup>	BRL		mg/Kg	35

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	35
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.59
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.59
85-01-8	Phenanthrene	BRL		mg/Kg	0.59
83-32-9	Acenaphthene	BRL		mg/Kg	0.59
208-96-8	Acenaphthylene	BRL		mg/Kg	0.59
86-73-7	Fluorene	BRL		mg/Kg	0.59
120-12-7	Anthracene	BRL		mg/Kg	0.59
206-44-0	Fluoranthene	BRL		mg/Kg	0.59
129-00-0	Pyrene	BRL		mg/Kg	0.59
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.59
218-01-9	Chrysene	BRL		mg/Kg	0.59
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.59
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.59
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.59
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.59
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.59
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.59

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.1	2.6	82 %	40 - 140 %
2-Bromonaphthalene	3.1	2.8	88 %	40 - 140 %
Extraction: Chloro-octadecane	3.1	1.9	60 %	40 - 140 %
ortho -Terphenyl	3.1	2.2	69 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>‡</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **TP-18**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**  
  
Laboratory ID: **84427-19**  
Sampled: **06-01-05 10:20**  
Received: **06-03-05 19:30**  
Extracted: **06-09-05 07:00**  
Analyzed (AL): **06-15-05 17:24**  
Analyzed (AR): **06-15-05 18:08**  
Analyst: **MM**

Matrix: **Soil**  
Container: **120 mL Amber Glass**  
Preservation: **Cool**  
  
QC Batch ID: **EP-2072-M**  
Instrument ID: **GC-9 Agilent 6890**  
Sample Weight: **16 g**  
Final Volume: **1 mL**  
% Solids: **86**  
Aliphatic Dilution Factor: **1**  
Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	150		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	410		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†‡</sup>	230		mg/Kg	33
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	260		mg/Kg	33

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.55
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.55
85-01-8	Phenanthrene	3.6		mg/Kg	0.55
83-32-9	Acenaphthene	BRL		mg/Kg	0.55
208-96-8	Acenaphthylene	BRL		mg/Kg	0.55
86-73-7	Fluorene	BRL		mg/Kg	0.55
120-12-7	Anthracene	0.82		mg/Kg	0.55
206-44-0	Fluoranthene	5.5		mg/Kg	0.55
129-00-0	Pyrene	4.8		mg/Kg	0.55
56-55-3	Benzo[a]anthracene	2.9		mg/Kg	0.55
218-01-9	Chrysene	3.4		mg/Kg	0.55
205-99-2	Benzo[b]fluoranthene	3.4		mg/Kg	0.55
207-08-9	Benzo[k]fluoranthene	3.4		mg/Kg	0.55
50-32-8	Benzo[a]pyrene	3.6		mg/Kg	0.55
193-39-5	Indeno[1,2,3-c,d]pyrene	2.5		mg/Kg	0.55
53-70-3	Dibenzo[a,h]anthracene	0.72		mg/Kg	0.55
191-24-2	Benzo[g,h,i]perylene	2.7		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.9	1.7	59 %	40 - 140 %
2-Bromonaphthalene	2.9	1.8	61 %	40 - 140 %
Extraction: Chloro-octadecane	2.9	1.6	56 %	40 - 140 %
ortho -Terphenyl	2.9	2.7	91 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>‡</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: TP-3  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 84427-20  
Sampled: 06-01-05 12:15  
Received: 06-03-05 19:30  
Extracted: 06-09-05 07:00  
Analyzed (AL): 06-15-05 18:52  
Analyzed (AR): 06-15-05 19:36  
Analyst: MM

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool  
QC Batch ID: EP-2072-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 15 g  
Final Volume: 1 mL  
% Solids: 92  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	64		mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup> <sup>◊</sup>	62		mg/Kg	32
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	83		mg/Kg	32

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.54
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.54
85-01-8	Phenanthrene	2.7		mg/Kg	0.54
83-32-9	Acenaphthene	BRL		mg/Kg	0.54
208-96-8	Acenaphthylene	BRL		mg/Kg	0.54
86-73-7	Fluorene	BRL		mg/Kg	0.54
120-12-7	Anthracene	0.60		mg/Kg	0.54
206-44-0	Fluoranthene	3.6		mg/Kg	0.54
129-00-0	Pyrene	3.0		mg/Kg	0.54
56-55-3	Benzo[a]anthracene	1.6		mg/Kg	0.54
218-01-9	Chrysene	1.9		mg/Kg	0.54
205-99-2	Benzo[b]fluoranthene	1.6		mg/Kg	0.54
207-08-9	Benzo[k]fluoranthene	1.3		mg/Kg	0.54
50-32-8	Benzo[a]pyrene	1.7		mg/Kg	0.54
193-39-5	Indeno[1,2,3-c,d]pyrene	0.97		mg/Kg	0.54
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.54
191-24-2	Benzo[g,h,i]perylene	1.2		mg/Kg	0.54

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.9	2.1	73 %	40 - 140 %
2-Bromonaphthalene	2.9	2.2	76 %	40 - 140 %
Extraction: Chloro-octadecane	2.9	1.7	58 %	40 - 140 %
ortho-Terphenyl	2.9	2.3	81 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>◊</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: TP-6  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 84427-21  
Sampled: 06-02-05 10:10  
Received: 06-03-05 19:30  
Extracted: 06-16-05 07:00  
Analyzed (AL): 06-21-05 22:35  
Analyzed (AR): 06-21-05 23:19  
Analyst: MM

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool  
QC Batch ID: EP-2080-M  
Instrument ID: GC-7 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
% Solids: 84  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	86		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons <sup>† 0</sup>	110		mg/Kg	34
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	140		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.56
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.56
85-01-8	Phenanthrene	2.1		mg/Kg	0.56
83-32-9	Acenaphthene	BRL		mg/Kg	0.56
208-96-8	Acenaphthylene	BRL		mg/Kg	0.56
86-73-7	Fluorene	BRL		mg/Kg	0.56
120-12-7	Anthracene	BRL		mg/Kg	0.56
206-44-0	Fluoranthene	4.6		mg/Kg	0.56
129-00-0	Pyrene	3.8		mg/Kg	0.56
56-55-3	Benzo[a]anthracene	2.9		mg/Kg	0.56
218-01-9	Chrysene	2.7		mg/Kg	0.56
205-99-2	Benzo[b]fluoranthene	3.6		mg/Kg	0.56
207-08-9	Benzo[k]fluoranthene	2.5		mg/Kg	0.56
50-32-8	Benzo[a]pyrene	3.3		mg/Kg	0.56
193-39-5	Indeno[1,2,3-c,d]pyrene	2.5		mg/Kg	0.56
53-70-3	Dibenzo[a,h]anthracene	0.58		mg/Kg	0.56
191-24-2	Benzo[g,h,i]perylene	2.2		mg/Kg	0.56

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.0	1.9	64 %	40 - 140 %
2-Bromonaphthalene	3.0	1.9	62 %	40 - 140 %
Extraction: Chloro-octadecane	3.0	1.8	59 %	40 - 140 %
ortho-Terphenyl	3.0	2.1	71 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
+ Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
0 n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: Tank 1  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 84427-11  
Sampled: 06-01-05 09:57  
Received: 06-03-05 19:30

Matrix: Organic Liquid  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: n/a

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB
EPA 7471 <sup>2</sup>	MP-1796-S	EPA 7471A	06-08-05 09:00	0.6 g	CVAA-1 PE FIAS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total		BRL	mg/Kg	1.1	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total		BRL	mg/Kg	23	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total		BRL	mg/Kg	0.57	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total		BRL	mg/Kg	11	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total		BRL	mg/Kg	0.046	1	06-08-05 15:25	EPA 7471 <sup>2</sup>
7782-49-2	Selenium, Total		BRL	mg/Kg	11	1	06-09-05 14:31	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total		BRL	mg/Kg	5.7	1	06-09-05 14:31	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: TP-4  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 86

Laboratory ID: 84427-12  
Sampled: 06-01-05 13:30  
Received: 06-03-05 19:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	280		mg/Kg	11	1	06-09-05 13:53	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: TP-2  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 85

Laboratory ID: 84427-13  
Sampled: 06-01-05 11:20  
Received: 06-03-05 19:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	76		mg/Kg	11	1	06-09-05 14:01	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: TP-1B  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 86

Laboratory ID: 84427-14  
Sampled: 06-01-05 10:20  
Received: 06-03-05 19:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	38		mg/Kg	11	1	06-09-05 14:04	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **TP-3**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **92**

Laboratory ID: **84427-15**  
 Sampled: **06-01-05 12:15**  
 Received: **06-03-05 19:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	4,800		mg/Kg	11	1	06-09-05 14:07	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: TP-6  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 84427-16  
Sampled: 06-02-05 10:20  
Received: 06-03-05 19:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 84

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0634-S	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	540		mg/Kg	12	1	06-09-05 14:10	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

**Project Narrative**

Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Lab ID: **84427**  
Received: **06-03-05 19:30**

**A. Documentation and Client Communication**

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. Analysis for BTU was cancelled , per Joe Callahan, 06-09-05.

**B. Method Modifications, Non-Conformances and Observations**

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 6010B Note: Samples 84427-11,-12,-13,-14,-15,-16. Samples were analyzed for selected target analytes, as requested by client.
2. EPA 8021B Non-conformance: Samples 84427-11. Identification of analytes detected is tentative. Confirmation by a secondary column, or GC/MS analysis, was not performed for positive results. Groundwater Analytical recommends utilizing EPA 8260B for definitive identification of any analytes detected.
3. EPA 8021B Note: Sample 84427-11. Non-target analyte(s) were present in the sample . Non-target analyte(s) had a peak height greater than 50% of the applicable surrogate.
4. EPA 8021B Note: Sample 84427-11. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
5. EPA 8082 Non-conformance: Samples 84427-12,-14,-16. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Samples were re-analyzed and reported with all analytes within calibration.
6. EPA 8082 Note: Samples 84427-12,-14,-16. Sample were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
7. EPA 8260B Non-conformance: Samples 84427-01, -03, -04, and -05. Laboratory control sample (LCS) analyte 1,4-Dioxane was above recommended recovery limits for QC batch VM1-1591-E.
8. MA DEP VPH Non-conformance: Sample 84427-10. Sample had surrogate recovery below recommended limits due to matrix interference. Sample was re-analyzed and reported for confirmation.

# GROUNDWATER ANALYTICAL

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www.groundwateranalytical.com

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Nº 107988

Project Name: **LEWIS CHEMICAL**  
Firm: **ESPM**  
Project Number: **2004-201**  
Address: **164 West Main St.**  
City / State / Zip: **Worcester MA 01706**  
Telephone: **(508) 265-4900**  
Project Manager: **Joe Calveran**

**TURNAROUND**  
☒ STANDARD (10 Business Days)  
☐ PRIORITY (5 Business Days)  
☐ RUSH (RAN - Rush requires Rush Authorization Number)  
Please Email to: \_\_\_\_\_  
Please FAX to: \_\_\_\_\_  
**BILLING**  
☐ Purchase Order No.: \_\_\_\_\_  
☐ Third Party Billing: \_\_\_\_\_  
☐ GWA Quote: \_\_\_\_\_

**ANALYSIS REQUEST**

Volatiles	Semivolatiles	Fixed Gases	Metals	Organic Compounds	Inorganic	General Chemistry	Other
<input type="checkbox"/> TIC Search <input type="checkbox"/> AOC Only <input type="checkbox"/> BPA Only <input type="checkbox"/> TIC Search	<input type="checkbox"/> 8200B TCL+MTBE <input type="checkbox"/> 8200B NH PETROLEUM <input type="checkbox"/> 8021B Aromatics <input type="checkbox"/> 8021B Halocarbons <input type="checkbox"/> 8021B <input type="checkbox"/> 8270C <input type="checkbox"/> 8270C PAHs only <input type="checkbox"/> 8081A Pesticides <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> 8151A Herbicides <input type="checkbox"/> 8011 EDG/ODCP <input type="checkbox"/> 808-808A <input type="checkbox"/> 8151A PCBs <input type="checkbox"/> 8011 PCBs	<input type="checkbox"/> 624 <input type="checkbox"/> 602+MTBE <input type="checkbox"/> 601 <input type="checkbox"/> 601/602+MTBE <input type="checkbox"/> 625 <input type="checkbox"/> 625 PAHs only <input type="checkbox"/> 608 Pesticides <input type="checkbox"/> 608 PCBs <input type="checkbox"/> 615 <input type="checkbox"/> 13 Priority Pollutants	<input type="checkbox"/> 524.2+MTBE <input type="checkbox"/> 525.2 <input type="checkbox"/> 505 <input type="checkbox"/> 508 <input type="checkbox"/> 531.1 <input type="checkbox"/> 515.1 <input type="checkbox"/> 504.1 EDG/ODCP <input type="checkbox"/> Lead and Copper	<input type="checkbox"/> 8200B TCL+MTBE <input type="checkbox"/> 8200B NH PETROLEUM <input type="checkbox"/> 8021B Aromatics <input type="checkbox"/> 8021B Halocarbons <input type="checkbox"/> 8021B <input type="checkbox"/> 8270C <input type="checkbox"/> 8270C PAHs only <input type="checkbox"/> 8081A Pesticides <input type="checkbox"/> 8082 PCBs <input type="checkbox"/> 8151A Herbicides <input type="checkbox"/> 8011 EDG/ODCP <input type="checkbox"/> 808-808A <input type="checkbox"/> 8151A PCBs <input type="checkbox"/> 8011 PCBs	<input type="checkbox"/> Diesel Range Organics (DRO) <input type="checkbox"/> ME DRO <input type="checkbox"/> ET EPH EPA DEP EPH volatiles targets <input type="checkbox"/> EPA Carbon Ranges only <input type="checkbox"/> EPA vol PAHs <input type="checkbox"/> Hydrocarbon Fingerprint (GC/MS by ASTM D3320-00 Mod.) <input type="checkbox"/> TPH by GC/MS (8015B Mod) Quantitative Only <input type="checkbox"/> Gasoline Range Organics (GRO) <input type="checkbox"/> ME GRO EPA DEP VPH volatiles targets <input type="checkbox"/> VPH Carbon ranges only <input type="checkbox"/> TCLP <input type="checkbox"/> SPLP <input type="checkbox"/> 8 Metals <input type="checkbox"/> Pb only <input type="checkbox"/> VOA <input type="checkbox"/> Semi VOA <input type="checkbox"/> Pesticides <input type="checkbox"/> Herbicides <input type="checkbox"/> Corrosivity (as pH) <input type="checkbox"/> Reactivity <input type="checkbox"/> Ignitability (as Flashpoint) <input type="checkbox"/> Pallet Filter <input type="checkbox"/> MA Basic Disposal Criteria: 8200B, TPH by GC, PCBs, S Metals, Corrosivity, Ignitability, Reactivity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Chloride <input type="checkbox"/> Fluoride <input type="checkbox"/> Sulfate <input type="checkbox"/> Dissolved Phosphorus <input type="checkbox"/> Ammonia <input type="checkbox"/> TRN <input type="checkbox"/> Total Phosphorus <input type="checkbox"/> Total N (as NO2/NO3/TKN) <input type="checkbox"/> Oil & Grease <input type="checkbox"/> COD <input type="checkbox"/> TOC <input type="checkbox"/> BOD <input type="checkbox"/> TDS <input type="checkbox"/> TSS <input type="checkbox"/> TS <input type="checkbox"/> Alkalinity <input type="checkbox"/> Cyanide, Total <input type="checkbox"/> Cyanide, Physiologically Available <input type="checkbox"/> pH <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Turbidity <input type="checkbox"/> Total Coliform <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC	<input type="checkbox"/> Use <input type="checkbox"/> Reagent 2500 Reagent Container Count: <b>30</b> Shipping/Refill Number: _____ Custody Seal Number: _____	<b>PCB, BIV, BCR, 8 metals, halogens run for solvents if halogens over 1,000 ppm</b>

DATE	TIME	SAMPLE IDENTIFICATION	Matrix	Type	Container(s)	Preservation	LABORATORY NUMBER (Lab Use Only)
6/1/05	13:30	TP-4	GROUNDWATER	COMPOSITE	7.5 L	23	8402
6/1/05	13:30	TP-1	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-2	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-3	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-4	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-5	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-6	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-7	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-8	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-9	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-10	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-11	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-12	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-13	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-14	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-15	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-16	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-17	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-18	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-19	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-20	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-21	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-22	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-23	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-24	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-25	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-26	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-27	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-28	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-29	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-30	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-31	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-32	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-33	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-34	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-35	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-36	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-37	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-38	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-39	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-40	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-41	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-42	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-43	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-44	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-45	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-46	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-47	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-48	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-49	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-50	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-51	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-52	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-53	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-54	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-55	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-56	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-57	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-58	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-59	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-60	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-61	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-62	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-63	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-64	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-65	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-66	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-67	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-68	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-69	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-70	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-71	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-72	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-73	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-74	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-75	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-76	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-77	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-78	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-79	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-80	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-81	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-82	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-83	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-84	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-85	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-86	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-87	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-88	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-89	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-90	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-91	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-92	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-93	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-94	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-95	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-96	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-97	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-98	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-99	GROUNDWATER	COMPOSITE	7.5 L	23	
6/1/05	13:30	TP-100	GROUNDWATER	COMPOSITE	7.5 L	23	

**REMARKS / SPECIAL INSTRUCTIONS**

**Regulatory Program**

MA DEP MCP Data Enhancement Affirmation  
☒ YES ☐ NO MCP Data Certification is required.  
☒ YES ☐ NO MCP Drinking Water Sample Required.  
 (Require collection of contingent duplicate sample.  
 Trip blanks are also required. If VOA sample collected)  
 Signature: **Joe Calveran**

**DATA QUALITY OBJECTIVES**

**Project Specific QC**

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.

**Regulatory Program**

State Standard Deliverables  
☐ CT ☐ QMCP GW-1/S-1 ☐ PWS Form  
☐ ME ☐ MCP GW-2/S-2 ☐ MWRA  
☐ PKMA ☐ NY STARS ☐ \_\_\_\_\_  
☐ NH ☐ Drinking Water  
☐ NY ☐ Wastewater  
☐ RI ☐ Waste Disposal  
☐ VT ☐ Dredge Material  
☐ \_\_\_\_\_

**Project Specific QC Required**

☐ Sample Duplicate  
☐ Matrix Spike  
☐ Matrix Spike Duplicate  
☐ Selection of QC sample  
☐ Please use sample: \_\_\_\_\_

**NOTE:** All samples submitted subject to Standard Terms and Conditions on reverse hereof.

**CHAIN-OF-CUSTODY RECORD**

Relinquished by Sampler:	Date	Time	Received by:	Date	Time	Relinquished by:	Date	Time	Received by:	Date	Time
<b>Joe Calveran</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30
<b>Alan Madrugue</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30	<b>Alan Madrugue</b>	6/1/05	13:30

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express  
☐ UPS ☐ Hand ☐ \_\_\_\_\_

## Quality Assurance/Quality Control

### A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

### B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

## Quality Control Report Laboratory Control Samples

Category:	MA DEP VPH	LCS	Instrument ID:	GC-3 HP 5890	LCS D	Instrument ID:	GC-3 HP 5890
QC Batch ID:	VG3-1735-E	Analyzed:	04-11-05 10:26	Analyzed:	04-11-05 21:43		
Matrix:	Soil	Analyst:	JDH	Analyst:	JDH		
Units:	mg/Kg						

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
109-66-0	n-Pentane	2.5	3.0	119 %	2.5	2.9	117 %	2 %	70 - 130 %	25 %
107-83-5	2-Methylpentane	2.5	2.8	111 %	2.5	2.8	112 %	0 %	70 - 130 %	25 %
540-84-1	2,2,4-Trimethylpentane	2.5	2.7	109 %	2.5	2.7	109 %	0 %	70 - 130 %	25 %
n/a	Aliphatic Group 1	7.5	8.5	113 %	7.5	8.4	112 %	1 %	70 - 130 %	25 %
111-84-2	n-Nonane	2.5	2.5	101 %	2.5	2.4	95 %	5 %	70 - 130 %	25 %
124-18-5	n-Decane	2.5	2.9	118 %	2.5	2.4	95 %	21 %	70 - 130 %	25 %
1678-93-9	n-Butylcyclohexane	2.5	2.6	106 %	2.5	2.5	100 %	6 %	70 - 130 %	25 %
n/a	Aliphatic Group 2	7.5	8.1	108 %	7.5	7.3	97 %	11 %	70 - 130 %	25 %
1634-04-4	Methyl tert-butyl Ether	2.5	2.7	110 %	2.5	2.8	113 %	3 %	70 - 130 %	25 %
71-43-2	Benzene	2.5	2.6	104 %	2.5	2.6	104 %	0 %	70 - 130 %	25 %
108-88-3	Toluene	2.5	2.6	104 %	2.5	2.6	105 %	1 %	70 - 130 %	25 %
100-41-4	Ethylbenzene	2.5	2.6	105 %	2.5	2.6	105 %	0 %	70 - 130 %	25 %
108-38-3 and 106-42-3	meta-Xylene and para-Xylene	5.0	5.3	106 %	5.0	5.2	104 %	1 %	70 - 130 %	25 %
95-47-6	ortho-Xylene	2.5	2.7	107 %	2.5	2.6	105 %	1 %	70 - 130 %	25 %
95-63-6	1,2,4-Trimethylbenzene	2.5	2.7	108 %	2.5	2.6	105 %	3 %	70 - 130 %	25 %
91-20-3	Naphthalene	2.5	2.8	114 %	2.5	2.3	93 %	20 %	70 - 130 %	25 %
n/a	Aromatic Group	23	24	107 %	23	24	104 %	2 %	70 - 130 %	25 %
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		5.0	4.9	98 %	5.0	4.7	95 %		70 - 130 %	
2,5-Dibromotoluene (FID)		5.0	4.9	99 %	5.0	4.8	96 %		70 - 130 %	

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

## Quality Control Report Method Blank

Category: MA DEP VPH

Instrument ID: GC-3 HP 5890

QC Batch ID: VG3-1735-E

Analyzed: 04-11-05 11:07

Matrix: Soil

Analyst: JDH

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊖</sup>	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>†</sup>	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	meta- Xylene and para -Xylene <sup>†</sup>	BRL		mg/Kg	0.10
95-47-6	ortho- Xylene <sup>†</sup>	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	5.1	102 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	5.2	104 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ⊖ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Quality Control Report Laboratory Control Samples

Category:	EPA Method 8260B	LCS	Instrument ID:	MS-1 HP 5890	LCSD	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-1591-EL	Analyzed:	06-08-05 06:12	Analyzed:	06-08-05 06:47		
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG		
Units:	ug/Kg						

Page: 1 of 2

CAS Number	Analyte	LCS			LCS Duplicate			QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike
75-71-8	Dichlorodifluoromethane	2500	2400	96 %	2500	1900	75 %	25 %	70 - 130 %
74-87-3	Chloromethane	2500	2700	106 %	2500	2200	87 %	20 %	70 - 130 %
75-01-4	Vinyl Chloride	2500	2900	115 %	2500	2400	96 %	19 %	70 - 130 %
74-83-9	Bromomethane	2500	2600	103 %	2500	2100	84 %	20 %	70 - 130 %
75-00-3	Chloroethane	2500	2700	108 %	2500	2200	87 %	22 %	70 - 130 %
75-69-4	Trichlorofluoromethane	2500	2600	106 %	2500	2200	87 %	19 %	70 - 130 %
60-29-7	Diethyl Ether	5000	5300	106 %	5000	4300	87 %	20 %	70 - 130 %
75-35-4	1,1-Dichloroethene	2500	2900	116 %	2500	2400	98 %	17 %	70 - 130 %
76-13-1	1,1,2-Trichlorotrifluoroethane	5000	5600	113 %	5000	4700	93 %	19 %	70 - 130 %
67-64-1	Acetone	5000	4400	87 %	5000	3900	78 %	11 %	70 - 130 %
75-15-0	Carbon Disulfide	5000	5000	100 %	5000	4200	84 %	18 %	70 - 130 %
75-09-2	Methylene Chloride	2500	2500	100 %	2500	2100	86 %	15 %	70 - 130 %
156-60-5	trans-1,2-Dichloroethene	2500	2600	105 %	2500	2200	89 %	16 %	70 - 130 %
1634-04-4	Methyl tert-butyl Ether (MTBE)	2500	2500	98 %	2500	2100	83 %	17 %	70 - 130 %
75-34-3	1,1-Dichloroethane	2500	2500	101 %	2500	2200	87 %	15 %	70 - 130 %
594-20-7	2,2-Dichloropropane	2500	2600	105 %	2500	2300	93 %	12 %	70 - 130 %
156-59-2	cis-1,2-Dichloroethene	2500	2600	103 %	2500	2200	88 %	16 %	70 - 130 %
78-93-3	2-Butanone (MEK)	5000	4200	84 %	5000	3700	73 %	14 %	70 - 130 %
74-97-5	Bromochloromethane	2500	2600	103 %	2500	2200	87 %	17 %	70 - 130 %
109-99-9	Tetrahydrofuran (THF)	5000	4400	89 %	5000	3800	75 %	16 %	70 - 130 %
67-66-3	Chloroform	2500	2400	96 %	2500	2000	82 %	16 %	70 - 130 %
71-55-6	1,1,1-Trichloroethane	2500	2400	97 %	2500	2100	83 %	15 %	70 - 130 %
56-23-5	Carbon Tetrachloride	2500	2400	98 %	2500	2000	82 %	18 %	70 - 130 %
563-58-6	1,1-Dichloropropene	2500	2600	106 %	2500	2300	90 %	16 %	70 - 130 %
71-43-2	Benzene	2500	2600	103 %	2500	2300	90 %	13 %	70 - 130 %
107-06-2	1,2-Dichloroethane	2500	2300	92 %	2500	2000	78 %	16 %	70 - 130 %
79-01-6	Trichloroethene	2500	2500	102 %	2500	2200	87 %	15 %	70 - 130 %
78-87-5	1,2-Dichloropropane	2500	2500	99 %	2500	2100	85 %	16 %	70 - 130 %
74-95-3	Dibromomethane	2500	2400	95 %	2500	2100	82 %	14 %	70 - 130 %
75-27-4	Bromodichloromethane	2500	2500	100 %	2500	2100	85 %	17 %	70 - 130 %
123-91-1	1,4-Dioxane	50000	68000	136 %	50000	59000	118 %	14 %	70 - 130 %
10061-01-5	cis-1,3-Dichloropropene	2500	2600	102 %	2500	2100	86 %	17 %	70 - 130 %
108-10-1	4-Methyl-2-Pentanone (MIBK)	5000	4400	88 %	5000	3800	75 %	16 %	70 - 130 %
108-88-3	Toluene	2500	2500	101 %	2500	2200	87 %	14 %	70 - 130 %
10061-02-6	trans-1,3-Dichloropropene	2500	2300	91 %	2500	2000	79 %	14 %	70 - 130 %
79-00-5	1,1,2-Trichloroethane	2500	2900	116 %	2500	2600	102 %	13 %	70 - 130 %
127-18-4	Tetrachloroethene	2500	3000	122 %	2500	2600	104 %	16 %	70 - 130 %
142-28-9	1,3-Dichloropropane	2500	3000	119 %	2500	2500	99 %	18 %	70 - 130 %
591-78-6	2-Hexanone	5000	5100	101 %	5000	4400	88 %	14 %	70 - 130 %
124-48-1	Dibromochloromethane	2500	2800	110 %	2500	2300	92 %	18 %	70 - 130 %
106-93-4	1,2-Dibromoethane (EDB)	2500	2800	113 %	2500	2500	99 %	14 %	70 - 130 %
108-90-7	Chlorobenzene	2500	2900	118 %	2500	2500	101 %	15 %	70 - 130 %
630-20-6	1,1,1,2-Tetrachloroethane	2500	2800	113 %	2500	2500	99 %	13 %	70 - 130 %
100-41-4	Ethylbenzene	2500	2900	118 %	2500	2600	103 %	13 %	70 - 130 %
108-38-3/106-42-3	meta-Xylene and para-Xylene	5000	6000	121 %	5000	5200	104 %	15 %	70 - 130 %
95-47-6	ortho-Xylene	2500	3000	118 %	2500	2500	102 %	15 %	70 - 130 %
100-42-5	Styrene	2500	3000	120 %	2500	2600	105 %	13 %	70 - 130 %
75-25-2	Bromoform	2500	2800	114 %	2500	2300	94 %	19 %	70 - 130 %
98-82-8	Isopropylbenzene	2500	2700	107 %	2500	2400	96 %	11 %	70 - 130 %

## Quality Control Report Laboratory Control Samples

Category: <b>EPA Method 8260B</b>	LCS Instrument ID: <b>MS-1 HP 5890</b>	LCS Instrument ID: <b>MS-1 HP 5890</b>
QC Batch ID: <b>VM1-1591-EL</b>	Analyzed: <b>06-08-05 06:12</b>	Analyzed: <b>06-08-05 06:47</b>
Matrix: <b>Soil</b>	Analyst: <b>LMG</b>	Analyst: <b>LMG</b>
Units: <b>ug/Kg</b>		

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CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
108-86-1	Bromobenzene	2500	2600	105 %	2500	2300	93 %	12 %	70 - 130 %	25 %
79-34-5	1,1,2,2-Tetrachloroethane	2500	2600	105 %	2500	2200	88 %	17 %	70 - 130 %	25 %
96-18-4	1,2,3-Trichloropropane	2500	2700	107 %	2500	2300	92 %	15 %	70 - 130 %	25 %
103-65-1	n-Propylbenzene	2500	2700	107 %	2500	2400	97 %	9 %	70 - 130 %	25 %
95-49-8	2-Chlorotoluene	2500	2700	108 %	2500	2500	98 %	9 %	70 - 130 %	25 %
108-67-8	1,3,5-Trimethylbenzene	2500	2600	105 %	2500	2300	93 %	12 %	70 - 130 %	25 %
106-43-4	4-Chlorotoluene	2500	2800	114 %	2500	2500	100 %	13 %	70 - 130 %	25 %
98-06-6	tert-Butylbenzene	2500	2600	105 %	2500	2300	93 %	12 %	70 - 130 %	25 %
95-63-6	1,2,4-Trimethylbenzene	2500	2700	106 %	2500	2300	94 %	13 %	70 - 130 %	25 %
135-98-8	sec-Butylbenzene	2500	2600	103 %	2500	2400	95 %	8 %	70 - 130 %	25 %
541-73-1	1,3-Dichlorobenzene	2500	2600	103 %	2500	2400	95 %	8 %	70 - 130 %	25 %
99-87-6	4-Isopropyltoluene	2500	2700	108 %	2500	2400	97 %	10 %	70 - 130 %	25 %
106-46-7	1,4-Dichlorobenzene	2500	2600	106 %	2500	2500	98 %	7 %	70 - 130 %	25 %
95-50-1	1,2-Dichlorobenzene	2500	2600	102 %	2500	2300	94 %	9 %	70 - 130 %	25 %
104-51-8	n-Butylbenzene	2500	2800	114 %	2500	2500	100 %	13 %	70 - 130 %	25 %
96-12-8	1,2-Dibromo-3-chloropropane	2500	2600	103 %	2500	2300	93 %	10 %	70 - 130 %	25 %
120-82-1	1,2,4-Trichlorobenzene	2500	2900	115 %	2500	2600	104 %	10 %	70 - 130 %	25 %
87-68-3	Hexachlorobutadiene	2500	2800	113 %	2500	2500	101 %	11 %	70 - 130 %	25 %
91-20-3	Naphthalene	2500	2500	100 %	2500	2100	84 %	18 %	70 - 130 %	25 %
87-61-6	1,2,3-Trichlorobenzene	2500	2800	111 %	2500	2500	100 %	10 %	70 - 130 %	25 %
75-65-0	tert-Butyl Alcohol (TBA)	50000	39000	79 %	50000	36000	73 %	8 %	70 - 130 %	25 %
108-20-3	Di-isopropyl Ether (DIPE)	2500	2600	103 %	2500	2300	91 %	13 %	70 - 130 %	25 %
637-92-3	Ethyl tert-butyl Ether (ETBE)	2500	2500	100 %	2500	2200	90 %	11 %	70 - 130 %	25 %
994-05-8	tert-Amyl Methyl Ether (TAME)	2500	2500	99 %	2500	2100	85 %	16 %	70 - 130 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	94 %	2,500	2,300	92 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,500	100 %	2,500	2,300	94 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	104 %	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	106 %	2,500	2,800	113 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1591-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 06-08-05 07:22  
Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2500
67-64-1	Acetone	BRL		ug/Kg	2500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2500
75-09-2	Methylene Chloride	BRL		ug/Kg	1000
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2500
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	250
95-47-6	ortho- Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	BRL		ug/Kg	250

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1591-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 06-08-05 07:22  
Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
103-65-1	n-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	tert-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	sec-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	n-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	10000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,000	81 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,500	100 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,900	116 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## Quality Control Report Laboratory Control Samples

Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-1592-SL	Analyzed:	06-09-05 07:46	Analyzed:	06-09-05 08:21
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/Kg				

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	50	52	104 %	50	55	110 %	5 %	70 - 130 %	25 %
74-87-3	Chloromethane	50	50	101 %	50	53	106 %	5 %	70 - 130 %	25 %
75-01-4	Vinyl Chloride	50	50	100 %	50	52	104 %	4 %	70 - 130 %	25 %
74-83-9	Bromomethane	50	44	88 %	50	46	92 %	4 %	70 - 130 %	25 %
75-00-3	Chloroethane	50	44	89 %	50	47	95 %	6 %	70 - 130 %	25 %
75-69-4	Trichlorofluoromethane	50	42	83 %	50	44	88 %	6 %	70 - 130 %	25 %
60-29-7	Diethyl Ether	100	87	87 %	100	93	93 %	7 %	70 - 130 %	25 %
75-35-4	1,1-Dichloroethene	50	49	99 %	50	50	101 %	2 %	70 - 130 %	25 %
76-13-1	1,1,2-Trichlorotrifluoroethane	100	92	92 %	100	95	95 %	3 %	70 - 130 %	25 %
67-64-1	Acetone	100	82	82 %	100	79	79 %	4 %	70 - 130 %	25 %
75-15-0	Carbon Disulfide	100	84	84 %	100	88	88 %	5 %	70 - 130 %	25 %
75-09-2	Methylene Chloride	50	44	89 %	50	46	93 %	4 %	70 - 130 %	25 %
156-60-5	trans-1,2-Dichloroethene	50	45	90 %	50	47	94 %	4 %	70 - 130 %	25 %
1634-04-4	Methyl tert-butyl Ether (MTBE)	50	43	86 %	50	45	89 %	3 %	70 - 130 %	25 %
75-34-3	1,1-Dichloroethane	50	44	88 %	50	46	92 %	4 %	70 - 130 %	25 %
594-20-7	2,2-Dichloropropane	50	47	94 %	50	49	98 %	4 %	70 - 130 %	25 %
156-59-2	cis-1,2-Dichloroethene	50	46	91 %	50	48	97 %	6 %	70 - 130 %	25 %
78-93-3	2-Butanone (MEK)	100	82	82 %	100	78	78 %	5 %	70 - 130 %	25 %
74-97-5	Bromochloromethane	50	46	92 %	50	49	98 %	7 %	70 - 130 %	25 %
109-99-9	Tetrahydrofuran (THF)	100	79	79 %	100	78	78 %	0 %	70 - 130 %	25 %
67-66-3	Chloroform	50	42	83 %	50	44	88 %	6 %	70 - 130 %	25 %
71-55-6	1,1,1-Trichloroethane	50	42	84 %	50	44	87 %	4 %	70 - 130 %	25 %
56-23-5	Carbon Tetrachloride	50	42	84 %	50	42	83 %	0 %	70 - 130 %	25 %
563-58-6	1,1-Dichloropropene	50	46	91 %	50	48	95 %	4 %	70 - 130 %	25 %
71-43-2	Benzene	50	47	93 %	50	49	98 %	5 %	70 - 130 %	25 %
107-06-2	1,2-Dichloroethane	50	39	78 %	50	42	83 %	6 %	70 - 130 %	25 %
79-01-6	Trichloroethene	50	45	91 %	50	48	95 %	5 %	70 - 130 %	25 %
78-87-5	1,2-Dichloropropane	50	45	90 %	50	47	95 %	5 %	70 - 130 %	25 %
74-95-3	Dibromomethane	50	42	85 %	50	43	85 %	0 %	70 - 130 %	25 %
75-27-4	Bromodichloromethane	50	42	84 %	50	45	90 %	6 %	70 - 130 %	25 %
123-91-1	1,4-Dioxane	1000	1200	119 %	1000	1300	130 %	8 %	70 - 130 %	25 %
10061-01-5	cis-1,3-Dichloropropene	50	44	89 %	50	48	95 %	7 %	70 - 130 %	25 %
108-10-1	4-Methyl-2-Pentanone (MIBK)	100	82	82 %	100	78	78 %	5 %	70 - 130 %	25 %
108-88-3	Toluene	50	47	93 %	50	49	98 %	5 %	70 - 130 %	25 %
10061-02-6	trans-1,3-Dichloropropene	50	36	72 %	50	41	83 %	14 %	70 - 130 %	25 %
79-00-5	1,1,2-Trichloroethane	50	43	87 %	50	50	100 %	14 %	70 - 130 %	25 %
127-18-4	Tetrachloroethene	50	47	93 %	50	54	109 %	15 %	70 - 130 %	25 %
142-28-9	1,3-Dichloropropane	50	43	87 %	50	52	104 %	18 %	70 - 130 %	25 %
591-78-6	2-Hexanone	100	76	76 %	100	87	87 %	12 %	70 - 130 %	25 %
124-48-1	Dibromochloromethane	50	40	81 %	50	48	96 %	18 %	70 - 130 %	25 %
106-93-4	1,2-Dibromoethane (EDB)	50	43	87 %	50	52	104 %	18 %	70 - 130 %	25 %
108-90-7	Chlorobenzene	50	46	92 %	50	55	110 %	18 %	70 - 130 %	25 %
630-20-6	1,1,1,2-Tetrachloroethane	50	42	85 %	50	52	104 %	20 %	70 - 130 %	25 %
100-41-4	Ethylbenzene	50	45	90 %	50	54	109 %	18 %	70 - 130 %	25 %
108-38-3/106-42-3	meta-Xylene and para-Xylene	100	94	94 %	100	110	114 %	20 %	70 - 130 %	25 %
95-47-6	ortho-Xylene	50	45	89 %	50	55	109 %	20 %	70 - 130 %	25 %
100-42-5	Styrene	50	47	94 %	50	57	114 %	19 %	70 - 130 %	25 %
75-25-2	Bromoform	50	40	80 %	50	48	96 %	18 %	70 - 130 %	25 %
98-82-8	Isopropylbenzene	50	50	100 %	50	50	101 %	1 %	70 - 130 %	25 %

## Quality Control Report Laboratory Control Samples

Category:	EPA Method 8260B	Instrument ID:	MS-1 HP 5890	Instrument ID:	MS-1 HP 5890
QC Batch ID:	VM1-1592-SL	Analyzed:	06-09-05 07:46	Analyzed:	06-09-05 08:21
Matrix:	Soil	Analyst:	LMG	Analyst:	LMG
Units:	ug/Kg				

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CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
108-86-1	Bromobenzene	50	49	98 %	50	50	100 %	1 %	70 - 130 %	25 %
79-34-5	1,1,2,2-Tetrachloroethane	50	46	93 %	50	46	93 %	0 %	70 - 130 %	25 %
96-18-4	1,2,3-Trichloropropane	50	47	94 %	50	46	92 %	2 %	70 - 130 %	25 %
103-65-1	n-Propylbenzene	50	50	99 %	50	51	101 %	2 %	70 - 130 %	25 %
95-49-8	2-Chlorotoluene	50	50	100 %	50	52	104 %	4 %	70 - 130 %	25 %
108-67-8	1,3,5-Trimethylbenzene	50	50	100 %	50	50	101 %	1 %	70 - 130 %	25 %
106-43-4	4-Chlorotoluene	50	54	107 %	50	55	109 %	2 %	70 - 130 %	25 %
98-06-6	tert-Butylbenzene	50	49	98 %	50	49	99 %	1 %	70 - 130 %	25 %
95-63-6	1,2,4-Trimethylbenzene	50	50	100 %	50	50	101 %	1 %	70 - 130 %	25 %
135-98-8	sec-Butylbenzene	50	50	100 %	50	49	98 %	2 %	70 - 130 %	25 %
541-73-1	1,3-Dichlorobenzene	50	48	97 %	50	50	99 %	2 %	70 - 130 %	25 %
99-87-6	4-Isopropyltoluene	50	51	102 %	50	53	106 %	3 %	70 - 130 %	25 %
106-46-7	1,4-Dichlorobenzene	50	48	97 %	50	51	101 %	5 %	70 - 130 %	25 %
95-50-1	1,2-Dichlorobenzene	50	47	95 %	50	50	101 %	6 %	70 - 130 %	25 %
104-51-8	n-Butylbenzene	50	51	103 %	50	51	103 %	0 %	70 - 130 %	25 %
96-12-8	1,2-Dibromo-3-chloropropane	50	44	89 %	50	44	88 %	0 %	70 - 130 %	25 %
120-82-1	1,2,4-Trichlorobenzene	50	52	104 %	50	52	103 %	0 %	70 - 130 %	25 %
87-68-3	Hexachlorobutadiene	50	50	99 %	50	51	101 %	2 %	70 - 130 %	25 %
91-20-3	Naphthalene	50	44	89 %	50	47	95 %	6 %	70 - 130 %	25 %
87-61-6	1,2,3-Trichlorobenzene	50	50	100 %	50	51	102 %	2 %	70 - 130 %	25 %
75-65-0	tert-Butyl Alcohol (TBA)	1000	730	73 %	1000	700	70 %	4 %	70 - 130 %	25 %
108-20-3	Di-isopropyl Ether (DIPE)	50	44	88 %	50	47	94 %	7 %	70 - 130 %	25 %
637-92-3	Ethyl tert-butyl Ether (ETBE)	50	44	88 %	50	47	94 %	7 %	70 - 130 %	25 %
994-05-8	tert-Amyl Methyl Ether (TAME)	50	44	88 %	50	46	91 %	4 %	70 - 130 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	44	89 %	50	47	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	47	94 %	50	48	96 %	70 - 130 %
Toluene-d <sub>8</sub>	50	53	106 %	50	55	109 %	70 - 130 %
4-Bromofluorobenzene	50	54	108 %	50	56	111 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

## Quality Control Report Method Blank

Category: EPA Method 8260B

Instrument ID: MS-1 HP 5890

QC Batch ID: VMT-1592-SB

Analyzed: 06-09-05 08:56

Matrix: Soil

Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	5
95-47-6	ortho- Xylene	BRL		ug/Kg	5
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5

**Quality Control Report  
Method Blank**

Category: EPA Method 8260B  
QC Batch ID: VM1-1592-SB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 06-09-05 08:56  
Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	44	87 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	42	83 %	70 - 130 %
Toluene-d <sub>8</sub>	50	52	103 %	70 - 130 %
4-Bromofluorobenzene	50	56	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## Quality Control Report Laboratory Control Samples

Category:	MA DEP VPH	LCS Instrument ID:	GC-3 HP 5890	LCSD Instrument ID:	GC-3 HP 5890
QC Batch ID:	VG3-1931-E	Analyzed:	06-13-05 08:09	Analyzed:	06-13-05 18:35
Matrix:	Soil	Analyst:	JDH	Analyst:	JDH
Units:	mg/Kg				

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
109-66-0	n- Pentane	2.5	2.8	111 %	2.5	3.0	122 %	9 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.5	99 %	2.5	2.7	107 %	8 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.5	99 %	2.5	2.5	98 %	0 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	7.7	103 %	7.5	8.2	109 %	6 %	70 - 130 %	25%
111-84-2	n- Nonane	2.5	2.3	93 %	2.5	2.3	91 %	2 %	70 - 130 %	25%
124-18-5	n- Decane	2.5	2.5	99 %	2.5	2.0	79 %	22 %	70 - 130 %	25%
1678-93-9	n- Butylcyclohexane	2.5	2.4	97 %	2.5	2.3	91 %	6 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	7.2	96 %	7.5	6.5	87 %	10 %	70 - 130 %	25%
1634-04-4	Methyl tert-butyl Ether	2.5	2.5	98 %	2.5	2.4	97 %	1 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.5	101 %	2.5	2.6	104 %	2 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.5	101 %	2.5	2.5	102 %	1 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.5	101 %	2.5	2.5	102 %	1 %	70 - 130 %	25%
108-38-3 and 106-42-3	meta- Xylene and para- Xylene	5.0	5.0	101 %	5.0	5.0	100 %	1 %	70 - 130 %	25%
95-47-6	ortho- Xylene	2.5	2.5	102 %	2.5	2.6	102 %	1 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.5	99 %	2.5	2.4	98 %	1 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	2.0	81 %	2.5	1.9	75 %	7 %	70 - 130 %	25%
n/a	Aromatic Group	23	22	98 %	23	22	98 %	1 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
2,5-Dibromotoluene (PID)		5.0	4.5	90 %	5.0	4.5	90 %		70 - 130 %	
2,5-Dibromotoluene (FID)		5.0	4.6	92 %	5.0	4.6	92 %		70 - 130 %	

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

## Quality Control Report Method Blank

Category: MA DEP VPH

Instrument ID: GC-3 HP 5890

QC Batch ID: VG3-1931-E

Analyzed: 06-13-05 08:49

Matrix: Soil

Analyst: JDH

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊖</sup>	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>†</sup>	BRL		mg/Kg	0.10
106-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>†</sup>	BRL		mg/Kg	0.10
95-47-6	ortho-Xylene <sup>†</sup>	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	4.6	92 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	4.6	92 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

⊖ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Quality Control Report Laboratory Control Samples

Category:	EPA 8082	LCS	Instrument ID:	GC-6 HP 5890	LCSD	Instrument ID:	GC-6 HP 5890
QC Batch ID:	PB-2179-P	Extracted:	06-08-05 13:00	Extracted:	06-08-05 13:00		
Matrix:	Soil	Cleaned Up:	06-13-05 10:00	Cleaned Up:	06-13-05 10:00		
Units:	ug/Kg	Analyzed:	06-14-05 22:02	Analyzed:	06-14-05 22:37		
		Analyst:	CRL	Analyst:	CRL		

CAS Number	Analyte	UCS						UCS Duplicate								QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		KPD					
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col				
12674-11-2	Aroclor 1016	330	240	220	72%	67%	330	300	290	91%	86%	24 %	25 %	40 - 140%	30 %		
11096-82-5	Aroclor 1260	330	270	250	82%	76%	330	340	320	101%	95%	21 %	22 %	40 - 140%	30 %		

QC Surrogate Compound	Surrogate Recovery										QC Limits	
Tetrachloro- <i>m</i> -xylene	13	8.8	8.3	66%	62%	13	11	10	85%	79%	30 - 150 %	
Decachlorobiphenyl	13	11	9.9	82%	74%	13	13	12	101%	91%	30 - 150 %	

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

## Quality Control Report Method Blank

Category: EPA Method 8082  
QC Batch ID: PB-2179-P  
Matrix: Soil

Instrument ID: GC-6 HP 5890  
Extracted: 06-08-05 13:00  
Cleaned Up: 06-13-05 10:00  
Analyzed: 06-14-05 21:27  
Analyst: CRL

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	80
11104-28-2	Aroclor 1221	BRL		ug/Kg	80
11141-16-5	Aroclor 1232	BRL		ug/Kg	80
53469-21-9	Aroclor 1242	BRL		ug/Kg	80
12672-29-6	Aroclor 1248	BRL		ug/Kg	80
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	80
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	80
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	80

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	13	9.2	69 %
Column	Decachlorobiphenyl	13	12	91 %
Second	Tetrachloro- <i>m</i> -xylene	13	8.5	64 %
Column	Decachlorobiphenyl	13	11	84 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## Quality Control Report Laboratory Control Samples

Category:	MA DEP EPH Method	LCS Instrument ID:	GC-9 Agilent 6890	LCSD Instrument ID:	GC-9 Agilent 6890
QC Batch ID:	EP-2072-M	Extracted:	06-09-05 07:00	Extracted:	06-09-05 07:00
Matrix:	Soil	Analyzed (AL):	06-09-05 15:01	Analyzed (AL):	06-09-05 16:46
Units:	mg/Kg	Analyzed (AR):	06-09-05 15:42	Analyzed (AR):	06-09-05 17:26
		Analyst:	MM	Analyst:	MM

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	n-Nonane (C <sub>9</sub> )	3.3	1.7	52 %	3.3	1.6	49 %	6 %	30 - 140 %	25%
124-18-5	n-Decane (C <sub>10</sub> )	3.3	2.0	60 %	3.3	1.9	57 %	5 %	40 - 140 %	25%
112-40-3	n-Dodecane (C <sub>12</sub> )	3.3	2.1	65 %	3.3	2.0	62 %	5 %	40 - 140 %	25%
629-59-4	n-Tetradecane (C <sub>14</sub> )	3.3	2.4	73 %	3.3	2.4	72 %	1 %	40 - 140 %	25%
544-76-3	n-Hexadecane (C <sub>16</sub> )	3.3	2.6	78 %	3.3	2.7	81 %	4 %	40 - 140 %	25%
593-45-3	n-Octadecane (C <sub>18</sub> )	3.3	2.8	85 %	3.3	3.0	91 %	6 %	40 - 140 %	25%
n/a	n-C9 to n-C18 Group	20	14	69 %	20	14	69 %	0 %	40 - 140 %	25%
629-92-5	n-Nonadecane (C <sub>19</sub> )	3.3	2.7	81 %	3.3	2.9	86 %	6 %	40 - 140 %	25%
112-95-8	n-Eicosane (C <sub>20</sub> )	3.3	2.7	81 %	3.3	2.9	86 %	7 %	40 - 140 %	25%
629-97-0	n-Docosane (C <sub>22</sub> )	3.3	2.6	79 %	3.3	2.8	85 %	7 %	40 - 140 %	25%
646-31-1	n-Tetracosane (C <sub>24</sub> )	3.3	2.5	75 %	3.3	2.8	84 %	11 %	40 - 140 %	25%
630-01-3	n-Hexacosane (C <sub>26</sub> )	3.3	2.6	78 %	3.3	2.7	82 %	5 %	40 - 140 %	25%
630-02-4	n-Octacosane (C <sub>28</sub> )	3.3	2.5	76 %	3.3	2.7	82 %	7 %	40 - 140 %	25%
638-68-6	n-Triacontane (C <sub>30</sub> )	3.3	2.5	75 %	3.3	2.7	81 %	7 %	40 - 140 %	25%
630-06-8	n-Hexatriacontane (C <sub>36</sub> )	3.3	2.2	66 %	3.3	2.4	73 %	9 %	40 - 140 %	25%
n/a	n-C19 to n-C36 Group	26	20	76 %	26	22	82 %	7 %	40 - 140 %	25%
91-20-3	Naphthalene	3.3	1.8	55 %	3.3	1.9	57 %	4 %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	3.3	2.0	62 %	3.3	2.1	63 %	1 %	40 - 140 %	25%
208-96-8	Acenaphthylene	3.3	2.2	67 %	3.3	2.2	68 %	1 %	40 - 140 %	25%
83-32-9	Acenaphthene	3.3	2.1	64 %	3.3	2.1	65 %	1 %	40 - 140 %	25%
86-73-7	Fluorene	3.3	2.3	69 %	3.3	2.4	71 %	4 %	40 - 140 %	25%
85-01-8	Phenanthrene	3.3	2.4	73 %	3.3	2.6	79 %	8 %	40 - 140 %	25%
120-12-7	Anthracene	3.3	2.5	77 %	3.3	2.8	84 %	8 %	40 - 140 %	25%
206-44-0	Fluoranthene	3.3	2.9	89 %	3.3	3.1	94 %	6 %	40 - 140 %	25%
129-00-0	Pyrene	3.3	2.8	86 %	3.3	3.0	92 %	6 %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	3.3	3.1	94 %	3.3	3.2	97 %	3 %	40 - 140 %	25%
218-01-9	Chrysene	3.3	3.0	92 %	3.3	3.1	95 %	4 %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	3.3	2.9	89 %	3.3	3.0	92 %	4 %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	3.3	3.0	91 %	3.3	3.1	93 %	3 %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	3.3	3.0	90 %	3.3	3.1	93 %	3 %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	2.8	84 %	3.3	2.9	86 %	3 %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	3.3	3.1	93 %	3.3	3.2	96 %	3 %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	3.3	2.9	87 %	3.3	3.0	90 %	3 %	40 - 140 %	25%
n/a	PAH Group	56	45	80 %	56	47	83 %	4 %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.7	1.9	70 %	2.7	2.0	74 %	40 - 140 %
2-Bromonaphthalene	2.7	2.1	78 %	2.7	2.1	78 %	40 - 140 %
Extraction: Chloro-octadecane	2.7	1.8	67 %	2.7	2.1	78 %	40 - 140 %
ortho-Terphenyl	2.7	2.2	81 %	2.7	2.3	85 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5%
91-57-6	2-Methylnaphthalene	LCS	0 %	LCSD	0 %	5%

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Method modified by use of microwave accelerated solvent extraction technique.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.  
The LCS and LCSD are prepared from separate source standards than those used for calibration.

## Quality Control Report Method Blank

Category: MA DEP EPH

QC Batch ID: EP-2072-M

Matrix: Soil

Instrument ID: GC-9 Agilent 6890

Extracted: 06-09-05 07:00

Analyzed (AL): 06-09-05 18:10

Analyzed (AR): 06-09-05 18:55

Analyst: MM

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup> <sup>◊</sup>	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.7	2.1	80 %	40 - 140 %
2-Bromonaphthalene	2.7	2.2	83 %	40 - 140 %
Extraction: Chloro-octadecane	2.7	1.7	64 %	40 - 140 %
ortho-Terphenyl	2.7	2.1	78 %	40 - 140 %

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

<sup>◊</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## Quality Control Report Laboratory Control Samples

Category: <b>MA DEP EPH Method</b>	LCS Instrument ID: <b>GC-7 HP 5890</b>	LCSD Instrument ID: <b>GC-7 HP 5890</b>
QC Batch ID: <b>EP-2080-M</b>	Extracted: <b>06-16-05 07:00</b>	Extracted: <b>06-16-05 07:00</b>
Matrix: <b>Soil</b>	Analyzed (AL): <b>06-21-05 16:03</b>	Analyzed (AL): <b>06-21-05 17:27</b>
Units: <b>mg/Kg</b>	Analyzed (AR): <b>06-21-05 16:43</b>	Analyzed (AR): <b>06-21-05 18:11</b>
	Analyst: <b>MM</b>	Analyst: <b>MM</b>

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
111-84-2	n-Nonane (C <sub>9</sub> )	3.3	1.7	52 %	3.3	1.7	52 %	1 %	30 - 140 %	25%
124-18-5	n-Decane (C <sub>10</sub> )	3.3	2.0	60 %	3.3	2.0	60 %	1 %	40 - 140 %	25%
112-40-3	n-Dodecane (C <sub>12</sub> )	3.3	2.1	64 %	3.3	2.0	60 %	5 %	40 - 140 %	25%
629-59-4	n-Tetradecane (C <sub>14</sub> )	3.3	2.3	70 %	3.3	2.2	66 %	7 %	40 - 140 %	25%
544-76-3	n-Hexadecane (C <sub>16</sub> )	3.3	2.5	76 %	3.3	2.4	73 %	4 %	40 - 140 %	25%
593-45-3	n-Octadecane (C <sub>18</sub> )	3.3	2.7	83 %	3.3	2.8	84 %	1 %	40 - 140 %	25%
n/a	n-C9 to n-C18 Group	20	13	68 %	20	13	66 %	3 %	40 - 140 %	25%
629-92-5	n-Nonadecane (C <sub>19</sub> )	3.3	2.7	81 %	3.3	2.7	83 %	3 %	40 - 140 %	25%
112-95-8	n-Eicosane (C <sub>20</sub> )	3.3	2.7	83 %	3.3	2.8	85 %	3 %	40 - 140 %	25%
629-97-0	n-Docosane (C <sub>22</sub> )	3.3	2.7	82 %	3.3	2.8	86 %	5 %	40 - 140 %	25%
646-31-1	n-Tetracosane (C <sub>24</sub> )	3.3	2.5	76 %	3.3	2.6	80 %	4 %	40 - 140 %	25%
630-01-3	n-Hexacosane (C <sub>26</sub> )	3.3	2.4	72 %	3.3	2.6	79 %	9 %	40 - 140 %	25%
630-02-4	n-Octacosane (C <sub>28</sub> )	3.3	2.4	72 %	3.3	2.5	75 %	4 %	40 - 140 %	25%
638-68-6	n-Triacontane (C <sub>30</sub> )	3.3	2.2	68 %	3.3	2.3	69 %	2 %	40 - 140 %	25%
630-06-8	n-Hexatriacontane (C <sub>36</sub> )	3.3	2.1	64 %	3.3	2.2	66 %	4 %	40 - 140 %	25%
n/a	n-C19 to n-C36 Group	26	20	75 %	26	21	78 %	4 %	40 - 140 %	25%
91-20-3	Naphthalene	3.3	1.7	52 %	3.3	1.7	51 %	3 %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	3.3	1.9	58 %	3.3	1.9	58 %	1 %	40 - 140 %	25%
208-96-8	Acenaphthylene	3.3	1.9	57 %	3.3	1.9	57 %	0 %	40 - 140 %	25%
83-32-9	Acenaphthene	3.3	1.9	58 %	3.3	1.9	58 %	1 %	40 - 140 %	25%
86-73-7	Fluorene	3.3	2.1	62 %	3.3	2.0	61 %	2 %	40 - 140 %	25%
85-01-8	Phenanthrene	3.3	2.3	68 %	3.3	2.2	68 %	0 %	40 - 140 %	25%
120-12-7	Anthracene	3.3	2.3	70 %	3.3	2.3	71 %	2 %	40 - 140 %	25%
206-44-0	Fluoranthene	3.3	2.3	69 %	3.3	2.4	72 %	4 %	40 - 140 %	25%
129-00-0	Pyrene	3.3	2.2	66 %	3.3	2.2	68 %	3 %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	3.3	2.2	67 %	3.3	2.5	74 %	10 %	40 - 140 %	25%
218-01-9	Chrysene	3.3	2.3	69 %	3.3	2.5	75 %	9 %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	3.3	2.0	62 %	3.3	2.2	68 %	9 %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	3.3	2.3	69 %	3.3	2.6	78 %	11 %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	3.3	2.1	64 %	3.3	2.3	70 %	10 %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	1.9	59 %	3.3	2.1	64 %	9 %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	3.3	2.2	65 %	3.3	2.3	71 %	9 %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	3.3	1.9	59 %	3.3	2.0	60 %	2 %	40 - 140 %	25%
n/a	PAH Group	56	35	63 %	56	37	66 %	4 %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.7	1.7	63 %	2.7	2.0	74 %	40 - 140 %
2-Bromonaphthalene	2.7	1.7	63 %	2.7	1.9	70 %	40 - 140 %
Extraction: Chloro-octadecane	2.7	1.9	70 %	2.7	2.0	74 %	40 - 140 %
ortho-Terphenyl	2.7	1.7	63 %	2.7	1.7	63 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5%
91-57-6	2-Methylnaphthalene	LCS	1 %	LCSD	1 %	5%

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction technique.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

## Quality Control Report Method Blank

Category: MA DEP EPH  
QC Batch ID: EP-2080-M  
Matrix: Soil

Instrument ID: GC-7 HP 5890  
Extracted: 06-16-05 07:00  
Analyzed (AL): 06-21-05 18:55  
Analyzed (AR): 06-21-05 19:40  
Analyst: MM

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup> ◊	BRL		mg/Kg	30
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.7	2.1	78 %	40 - 140 %
2-Bromonaphthalene	2.7	1.9	71 %	40 - 140 %
Extraction: Chloro-octadecane	2.7	1.4	52 %	40 - 140 %
ortho-Terphenyl	2.7	1.5	56 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

**Quality Control Report  
Laboratory Control Sample**

Category: **Inorganic Chemistry**  
Matrix: **Soil**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Ignitability (as Flashpoint)	°F	81	81	100 %	95 - 105 %	06-09-05 10:00	FP-0612-S	EPA 1010 Mod	2	JBW
Corrosivity (as pH)	pH	7	7	99 %	80 - 120 %	06-09-05 10:00	PH-0612-S	EPA 9040B	1	JBW

**Method Reference:** Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Accumet AR50
- 2 Instrument ID: Boekel 152800 Flash Point Tester

# GROUNDWATER ANALYTICAL

## Quality Control Report Laboratory Control Samples

Category: **Metals**

Matrix: **Soil**

Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-0634-SL	EPA 3050B	06-08-05 09:46	06-09-05 13:47	ICP-1 PE 3000	EB
LCS	EPA 7471A	MP-1796-SL	EPA 7471A	06-08-05 09:00	06-08-05 14:37	CVAA-1 PE FIMS	EB
LCSD	EPA 6010B	MB-0634-SL	EPA 3050B	06-08-05 09:46	06-09-05 13:50	ICP-1 PE 3000	EB
LCSD	EPA 7471A	MP-1796-SL	EPA 7471A	06-08-05 09:00	06-08-05 14:40	CVAA-1 PE FIMS	EB

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		LCS	RPD	
7440-38-2	Arsenic	110	110	98%	110	100	94%	2 %	80-120 %	30 %	EPA 6010B
7440-39-3	Barium	200	190	100%	200	180	93%	4 %	82-118 %	30 %	EPA 6010B
7440-43-9	Cadmium	110	100	91%	110	93	84%	4 %	82-118 %	30 %	EPA 6010B
7440-47-3	Chromium	150	150	96%	150	140	89%	4 %	79-121 %	30 %	EPA 6010B
7439-92-1	Lead	160	140	87%	160	130	83%	2 %	80-120 %	30 %	EPA 6010B
7439-97-6	Mercury	8.4	6.7	80%	8.4	7.8	93%	8 %	51-149 %	30 %	EPA 7471A
7782-49-2	Selenium	94	92	97%	94	86	91%	3 %	76-124 %	30 %	EPA 6010B
7440-22-4	Silver	100	100	102%	100	96	94%	4 %	61-139 %	30 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

## Quality Control Report Method Blank

Category: **Metals**

Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-0634-SB	EPA 3050B	06-08-05 09:46	0.5 g	ICP-1 PE 3000	EB
EPA 7471A	MP-1796-SB	EPA 7471A	06-08-05 09:00	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/Kg	1.0	1	06-09-05 13:44	EPA 6010B
7440-39-3	Barium		BRL	mg/Kg	20	1	06-09-05 13:44	EPA 6010B
7440-43-9	Cadmium		BRL	mg/Kg	0.50	1	06-09-05 13:44	EPA 6010B
7440-47-3	Chromium		BRL	mg/Kg	10	1	06-09-05 13:44	EPA 6010B
7439-92-1	Lead		BRL	mg/Kg	10	1	06-09-05 13:44	EPA 6010B
7439-97-6	Mercury		BRL	mg/Kg	0.033	1	06-08-05 14:37	EPA 7471A
7782-49-2	Selenium		BRL	mg/Kg	10	1	06-09-05 13:44	EPA 6010B
7440-22-4	Silver		BRL	mg/Kg	5.0	1	06-09-05 13:44	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

## Quality Control Report Laboratory Control Samples

Category: EPA Method 8021B	LCS	Instrument ID: GC-2 HP 5890	LCS	Instrument ID: GC-2 HP 5890
QC Batch ID: VG2-2871-S	Analyzed: 06-09-05 09:34	Analyst: JH	Analyzed: 06-09-05 23:08	Analyst: JH
Matrix: Soil	Units: ug/Kg			

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
75-71-8	Dichlorodifluoromethane	1,000	1,000	105 %	1,000	1,200	117 %	11 %	70 - 130 %	25 %
74-87-3	Chloromethane	1,000	1,000	103 %	1,000	1,100	115 %	11 %	70 - 130 %	25 %
75-01-4	Vinyl Chloride	1,000	1,000	105 %	1,000	1,100	112 %	7 %	70 - 130 %	25 %
74-83-9	Bromomethane	1,000	1,000	103 %	1,000	1,000	102 %	1 %	70 - 130 %	25 %
75-00-3	Chloroethane	1,000	1,100	107 %	1,000	1,100	106 %	1 %	70 - 130 %	25 %
75-69-4	Trichlorofluoromethane	1,000	1,000	105 %	1,000	1,100	106 %	1 %	70 - 130 %	25 %
75-35-4	1,1-Dichloroethene	1,000	1,100	113 %	1,000	1,100	110 %	2 %	70 - 130 %	25 %
75-09-2	Methylene Chloride	1,000	1,300	126 %	1,000	1,100	112 %	12 %	70 - 130 %	25 %
156-60-5	trans-1,2-Dichloroethene	1,000	1,000	101 %	1,000	990	99 %	1 %	70 - 130 %	25 %
1634-04-4	Methyl tert-butyl Ether (MTBE)	1,000	1,100	109 %	1,000	1,100	105 %	3 %	70 - 130 %	25 %
75-34-3	1,1-Dichloroethane	1,000	1,000	101 %	1,000	980	98 %	3 %	70 - 130 %	25 %
156-59-2	cis-1,2-Dichloroethene	1,000	1,100	111 %	1,000	1,100	111 %	0 %	70 - 130 %	25 %
67-66-3	Chloroform	1,000	980	98 %	1,000	970	97 %	1 %	70 - 130 %	25 %
107-06-2	1,2-Dichloroethane	1,000	1,000	102 %	1,000	980	98 %	5 %	70 - 130 %	25 %
71-55-6	1,1,1-Trichloroethane	1,000	990	99 %	1,000	970	97 %	2 %	70 - 130 %	25 %
56-23-5	Carbon Tetrachloride	1,000	960	96 %	1,000	930	93 %	3 %	70 - 130 %	25 %
71-43-2	Benzene	1,000	970	97 %	1,000	950	95 %	2 %	70 - 130 %	25 %
78-87-5	1,2-Dichloropropane	1,000	1,000	103 %	1,000	970	97 %	5 %	70 - 130 %	25 %
79-01-6	Trichloroethene	1,000	930	93 %	1,000	980	98 %	5 %	70 - 130 %	25 %
75-27-4	Bromodichloromethane	1,000	1,000	103 %	1,000	960	96 %	6 %	70 - 130 %	25 %
110-75-8	2-Chloroethyl Vinyl Ether	1,000	1,100	106 %	1,000	1,000	102 %	3 %	70 - 130 %	25 %
10061-01-5	cis-1,3-Dichloropropene	1,000	1,000	102 %	1,000	940	94 %	8 %	70 - 130 %	25 %
10061-02-6	trans-1,3-Dichloropropene	1,000	940	94 %	1,000	870	87 %	8 %	70 - 130 %	25 %
79-00-5	1,1,2-Trichloroethane	1,000	1,000	101 %	1,000	990	99 %	2 %	70 - 130 %	25 %
108-88-3	Toluene	1,000	1,000	102 %	1,000	970	97 %	5 %	70 - 130 %	25 %
124-48-1	Dibromochloromethane	1,000	980	98 %	1,000	1,100	106 %	7 %	70 - 130 %	25 %
127-18-4	Tetrachloroethene	1,000	980	98 %	1,000	990	99 %	1 %	70 - 130 %	25 %
108-90-7	Chlorobenzene	1,000	1,000	102 %	1,000	1,000	101 %	1 %	70 - 130 %	25 %
100-41-4	Ethylbenzene	1,000	980	98 %	1,000	990	99 %	1 %	70 - 130 %	25 %
108-38-3 / 106-42-3	meta-Xylene and para-Xylene	2,000	2,000	101 %	2,000	2,100	107 %	6 %	70 - 130 %	25 %
75-25-2	Bromoform	1,000	1,000	104 %	1,000	970	97 %	6 %	70 - 130 %	25 %
95-47-6	ortho-Xylene	1,000	1,000	104 %	1,000	970	97 %	6 %	70 - 130 %	25 %
79-34-5	1,1,2,2-Tetrachloroethane	1,000	1,100	107 %	1,000	940	94 %	13 %	70 - 130 %	25 %
541-73-1	1,3-Dichlorobenzene	1,000	970	97 %	1,000	980	98 %	1 %	70 - 130 %	25 %
106-46-7	1,4-Dichlorobenzene	1,000	990	99 %	1,000	1,000	101 %	1 %	70 - 130 %	25 %
95-50-1	1,2-Dichlorobenzene	1,000	970	97 %	1,000	980	98 %	1 %	70 - 130 %	25 %
91-20-3	Naphthalene	1,000	1,000	103 %	1,000	1,000	100 %	4 %	70 - 130 %	25 %

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
a,a,a-Trifluorotoluene	500	510	102 %	500	480	97 %	70 - 130 %
1,2-Dichloroethane-d4	500	450	90 %	500	430	86 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,  
or alternatively based upon the historical average recovery plus or minus three standard deviation units.

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8021B  
QC Batch ID: VG2-2871-S  
Matrix: Soil

Instrument ID: GC-2 HP 5890  
Analyzed: 06-09-05 10:15  
Analyst: JH

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	250
74-87-3	Chloromethane	BRL		ug/Kg	250
75-01-4	Vinyl Chloride	BRL		ug/Kg	100
74-83-9	Bromomethane	BRL		ug/Kg	250
75-00-3	Chloroethane	BRL		ug/Kg	250
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	50
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	125
156-60-5	trans -1,2-Dichloroethene	BRL		ug/Kg	50
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	50
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	50
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	50
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	50
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	50
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	50
71-43-2	Benzene	BRL		ug/Kg	50
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	50
79-01-6	Trichloroethene	BRL		ug/Kg	50
75-27-4	Bromodichloromethane	BRL		ug/Kg	50
110-75-8	2-Chloroethyl Vinyl Ether	BRL		ug/Kg	250
10061-01-5	cis -1,3-Dichloropropene	BRL		ug/Kg	50
10061-02-6	trans -1,3-Dichloropropene	BRL		ug/Kg	50
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	50
127-18-4	Tetrachloroethene	BRL		ug/Kg	50
108-90-7	Chlorobenzene	BRL		ug/Kg	50
100-41-4	Ethylbenzene	BRL		ug/Kg	50
108-38-3 / 106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	50
75-25-2	Bromoform	BRL		ug/Kg	50
95-47-6	ortho- Xylene	BRL		ug/Kg	50
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	50
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	50
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	50
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	50
91-20-3	Naphthalene	BRL		ug/Kg	250
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
a,a,a-Trifluorotoluene	500	520	104 %	70 - 130%	
1,2-Dichloroethane-d4	500	500	102 %	70 - 130%	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.

Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

**CONNECTICUT, Department of Health Services, PH-0586**

Categories: Potable Water, Wastewater, Solid Waste and Soil

[http://www.dph.state.ct.us/BRS/Environmental\\_Lab/OutStateLabList.htm](http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm)

**FLORIDA, Department of Health, Bureau of Laboratories, E87643**

Categories: SDWA, CWA, RCRA/CERCLA

<http://www.floridadep.org/labs/qa/dohforms.htm>

**MAINE, Department of Human Services, MA103**

Categories: Drinking Water and Wastewater

<http://www.state.me.us/dhs/eng/water/Compliance.htm>

**MASSACHUSETTS, Department of Environmental Protection, M-MA-103**

Categories: Potable Water and Non-Potable Water

<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

**NEW HAMPSHIRE, Department of Environmental Services, 202703**

Categories: Drinking Water and Wastewater

<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

**NEW YORK, Department of Health, 11754**

Categories: Potable Water, Non-Potable Water and Solid Waste

<http://www.wadsworth.org/labcert/elap/comm.html>

**PENNSYLVANIA, Department of Environmental Protection, 68-665**

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)

<http://www.dep.state.pa.us/Labs/Registered/>

**RHODE ISLAND, Department of Health, 54**

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage

[http://www.healthri.org/labs/labsCT\\_MA.htm](http://www.healthri.org/labs/labsCT_MA.htm)

**U.S. Department of Agriculture, Soil Permit, S-53921**

Foreign soil import permit

**VERMONT, Department of Environmental Conservation, Water Supply Division**

Category: Drinking Water

<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>

# **GROUNDWATER ANALYTICAL**

Groundwater Analytical, Inc.  
P.O. Box 1299  
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July 28, 2005

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www.groundwateranalytical.com

Mr. Joe Callahan  
Environmental Strategies & Management, Inc.  
184 West Main Street  
Norton, MA 02766

## **LABORATORY REPORT**

Project: **Lewis Chemical/2004-301**  
Lab ID: **85632**  
Received: **07-14-05**

Dear Joe:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen  
Operations Manager

EHJ/smd  
Enclosures

## Sample Receipt Report

Project: **Lewis Chemical/2004-301**

Delivery: **GWA Courier**

Temperature: **2.0°C**

Client: **Environmental Strategies & Management, Inc.**

Airbill: **n/a**

Chain of Custody: **Present**

Lab ID: **85632**

Lab Receipt: **07-14-05**

Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
85632-1	ESM-11 (10-12')		Soil	7/13/05 9:10	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C632935	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a	
C612600	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a	
C612562	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a	
C612544	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-2	ESM-12 (12-14')		Soil	7/13/05 10:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632946	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a		
C612583	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C612578	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C612574	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-3	ESM-13 (1-3')		Soil	7/13/05 12:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581850	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		
C612981	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612976	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612961	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
85632-4	ESM-13 (12-14')		Soil	7/13/05 12:55	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C632952	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a	
C612216	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	
C612209	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	
C612174	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-5	ESM-14 (7-9')		Soil	7/13/05 14:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C581871	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a		
C673003	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612974	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		
C612963	40 mL VOA Vial	Proline	BX16329	NaHSO4	R-4159A	04-29-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-6	ESM-14 (15-17')		Soil	7/13/05 14:15	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632939	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a		
C612598	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C612563	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C612539	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C686815	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05		

## Sample Receipt Report (Continued)

Project: **Lewis Chemical/2004-301**

Delivery: **GWA Courier**

Temperature: **2.0°C**

Client: **Environmental Strategies & Management, Inc.**

Airbill: **n/a**

Chain of Custody: **Present**

Lab ID: **85632**

Lab Receipt: **07-14-05**

Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
85632-7	DUP		Soil	7/13/05 14:20	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C599044	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a	
C599043	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a	
C599042	40 mL VOA Vial	Proline	BX15768	NaHSO4	R-4159A	04-29-05	n/a	
C581881	40 mL VOA Vial	Proline	BX16287	Methanol	R-4361T	04-21-05	n/a	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-8	ESM-11 (10-12')		Soil	7/13/05 9:10	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C607376	40 ml. VOA Vial	Proline	BX16315	Methanol	R-4367F	04-28-05	05-25-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-9	ESM-13 (1-3')		Soil	7/13/05 12:40	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C607392	40 ml VOA Vial	Proline	BX16315	Methanol	R-4367F	04-28-05	05-25-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-10	ESM-13 (12-14')		Soil	7/13/05 12:55	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C607375	40 mL VOA Vial	Proline	BX16315	Methanol	R-4367F	04-28-05	05-25-05		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
85632-11	ESM-14 (7-9')		Soil	7/13/05 14:00	MA DEP VPH with Targets			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C607418	40 mL VOA Vial	Proline	BX16315	Methanol	R-4367F	04-28-05	05-25-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-12	ESM-11 (10-12')		Soil	7/13/05 9:10	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C677004	120 mL Amber Glass	Proline	BX16815	None	n/a	n/a	05-25-05		
C686818	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
85632-13	ESM-12 (12-14')		Soil	7/13/05 10:40	EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C686811	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
85632-14	ESM-13 (1-3')		Soil	7/13/05 12:40	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C677002	120 mL Amber Glass	Proline	BX16815	None	n/a	n/a	05-25-05		
C686814	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05		

## Sample Receipt Report (Continued)

Project: **Lewis Chemical/2004-301**

Delivery: **GWA Courier**

Temperature: **2.0°C**

Client: **Environmental Strategies & Management, Inc.**

Airbill: **n/a**

Chain of Custody: **Present**

Lab ID: **85632**

Lab Receipt: **07-14-05**

Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes				
85632-15	ESM-13 (12-14')	Soil	7/13/05 12:55	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs					
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C677003	120 mL Amber Glass	Proline	BX16815	None	n/a	n/a	05-25-05		
C686820	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05		

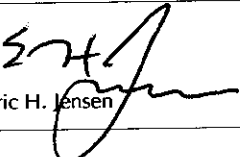
Lab ID	Field ID	Matrix	Sampled	Method					Notes
85632-16	ESM-14 (7-9')	Soil	7/13/05 14:00	EPA 6010B/7471A 8 RCRA Metals EPA 8082 PCBs MA DEP EPH with PAHs					
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C677006	120 mL Amber Glass	Proline	BX16815	None	n/a	n/a	05-25-05		
C686819	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05		

# GROUNDWATER ANALYTICAL

## Data Certification

Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Lab ID: 85632  
Received: 07-14-05 17:50

MA DEP Compendium of Analytical Methods					
Project Location: n/a		MA DEP RTN: n/a			
This Form provides certifications for the following data set:					
EPA 8260B:	85632-01,-02,-03,-04,-05,-06,-07				
EPA 8082:	85632-12,-13,-14,-15,-16				
MA DEP VPH:	85632-08,-09,-10,-11				
MA DEP EPH:	85632-12,-14,-15,-16				
EPA 6010B:	85632-12,-14,-15,-16				
EPA 7470A/1A:	85632-12,-14,-15,-16				
Sample Matrices:	Groundwater ( )	Soil/Sediment (X)	Drinking Water ( )	Other ( )	
MCP SW-846	8260B (X)	8151A ( )	8330 ( )	6010B (X)	7470A/1A (X)
Methods Used	8270C ( )	8081A ( )	VPH (X)	6020 ( )	9012A <sup>2</sup> ( )
As specified in MA DEP	8082 (X)	8021B ( )	EPH (X)	7000 S <sup>3</sup> ( )	Other ( )
Compendium of Analytical Methods:	1. List Release Tracking Number (RTN), if known. 2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method 3. S - SW-846 Methods 7000 Series. List individual method and analyte.				
(check all that apply)					
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.					
A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?				Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, <i>Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data</i> ?				Yes
D.	<u>VPH and EPH methods only:</u> Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?				Yes
A response to questions E and F below is required for "Presumptive Certainty" status.					
E.	Were all QC performance standards and recommendations for the specified methods achieved?				No
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?				No
All No answers are addressed in the attached Project Narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:			Position:	Operations Manager	
Printed Name:	Eric H. Jensen		Date:	07-28-05	

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-11 (10-12)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 85632-01  
Sampled: 07-13-05 09:10  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 03:18  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 14 g  
Final Volume: 15 mL  
% Solids: 93  
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	580
74-87-3	Chloromethane	BRL		ug/Kg	580
75-01-4	Vinyl Chloride	BRL		ug/Kg	580
74-83-9	Bromomethane	BRL		ug/Kg	580
75-00-3	Chloroethane	BRL		ug/Kg	580
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	580
60-29-7	Diethyl Ether	BRL		ug/Kg	580
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	290
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,900
67-64-1	Acetone	BRL		ug/Kg	2,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,900
75-09-2	Methylene Chloride	BRL		ug/Kg	1,200
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	290
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	290
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	290
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	290
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	290
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,900
74-97-5	Bromochloromethane	BRL		ug/Kg	290
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,900
67-66-3	Chloroform	BRL		ug/Kg	290
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	290
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	290
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	290
71-43-2	Benzene	BRL		ug/Kg	290
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	290
79-01-6	Trichloroethene	480		ug/Kg	290
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	290
74-95-3	Dibromomethane	BRL		ug/Kg	290
75-27-4	Bromodichloromethane	BRL		ug/Kg	290
123-91-1	1,4-Dioxane	BRL		ug/Kg	290,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	290
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,900
108-88-3	Toluene	BRL		ug/Kg	290
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	290
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	290
127-18-4	Tetrachloroethene	BRL		ug/Kg	290
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	290
591-78-6	2-Hexanone	BRL		ug/Kg	2,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	290
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	290
108-90-7	Chlorobenzene	BRL		ug/Kg	290
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	290
100-41-4	Ethylbenzene	BRL		ug/Kg	290
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	290
95-47-6	ortho- Xylene	BRL		ug/Kg	290

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **ESM-11 (10-12')**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**  
Laboratory ID: **85632-01**  
Sampled: **07-13-05 09:10**  
Received: **07-14-05 17:50**  
Analyzed: **07-21-05 03:18**  
Analyst: **CCT**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**  
QC Batch ID: **VM1-1615-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **14 g**  
Final Volume: **15 mL**  
% Solids: **93**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	290
75-25-2	Bromoform	BRL		ug/Kg	290
98-82-8	Isopropylbenzene	BRL		ug/Kg	290
108-86-1	Bromobenzene	BRL		ug/Kg	290
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	290
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	290
103-65-1	n-Propylbenzene	BRL		ug/Kg	290
95-49-8	2-Chlorotoluene	BRL		ug/Kg	290
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	290
106-43-4	4-Chlorotoluene	BRL		ug/Kg	290
98-06-6	tert-Butylbenzene	BRL		ug/Kg	290
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	290
135-98-8	sec-Butylbenzene	BRL		ug/Kg	290
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	290
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	290
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	290
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	290
104-51-8	n-Butylbenzene	BRL		ug/Kg	290
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	290
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	290
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	290
91-20-3	Naphthalene	BRL		ug/Kg	290
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	290
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	12,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	290
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	290
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	290

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	82 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,500	101 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	104 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-12 (12-14)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
  
Laboratory ID: 85632-02  
Sampled: 07-13-05 10:40  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 03:55  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 16 g  
Final Volume: 15 mL  
% Solids: 88  
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	530
74-87-3	Chloromethane	BRL		ug/Kg	530
75-01-4	Vinyl Chloride	BRL		ug/Kg	530
74-83-9	Bromomethane	BRL		ug/Kg	530
75-00-3	Chloroethane	BRL		ug/Kg	530
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	530
60-29-7	Diethyl Ether	BRL		ug/Kg	530
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	260
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,600
67-64-1	Acetone	BRL		ug/Kg	2,600
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,600
75-09-2	Methylene Chloride	BRL		ug/Kg	1,100
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	260
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	260
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	260
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	260
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	260
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,600
74-97-5	Bromochloromethane	BRL		ug/Kg	260
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,600
67-66-3	Chloroform	BRL		ug/Kg	260
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	260
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	260
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	260
71-43-2	Benzene	BRL		ug/Kg	260
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	260
79-01-6	Trichloroethene	BRL		ug/Kg	260
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	260
74-95-3	Dibromomethane	BRL		ug/Kg	260
75-27-4	Bromodichloromethane	BRL		ug/Kg	260
123-91-1	1,4-Dioxane	BRL		ug/Kg	260,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	260
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,600
108-88-3	Toluene	BRL		ug/Kg	260
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	260
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	260
127-18-4	Tetrachloroethene	BRL		ug/Kg	260
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	260
591-78-6	2-Hexanone	BRL		ug/Kg	2,600
124-48-1	Dibromochloromethane	BRL		ug/Kg	260
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	260
108-90-7	Chlorobenzene	BRL		ug/Kg	260
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	260
100-41-4	Ethylbenzene	BRL		ug/Kg	260
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	260
95-47-6	ortho- Xylene	BRL		ug/Kg	260

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-12 (12-14)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 85632-02  
Sampled: 07-13-05 10:40  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 03:55  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 16 g  
Final Volume: 15 mL  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	260
75-25-2	Bromoform	BRL		ug/Kg	260
98-82-8	Isopropylbenzene	BRL		ug/Kg	260
108-86-1	Bromobenzene	BRL		ug/Kg	260
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	260
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	260
103-65-1	n-Propylbenzene	BRL		ug/Kg	260
95-49-8	2-Chlorotoluene	BRL		ug/Kg	260
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	260
106-43-4	4-Chlorotoluene	BRL		ug/Kg	260
98-06-6	tert-Butylbenzene	BRL		ug/Kg	260
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	260
135-98-8	sec-Butylbenzene	BRL		ug/Kg	260
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	260
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	260
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	260
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	260
104-51-8	n-Butylbenzene	BRL		ug/Kg	260
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	260
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	260
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	260
91-20-3	Naphthalene	2,800		ug/Kg	260
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	260
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	11,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	260
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	260
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	260

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	81 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,100	84 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	103 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	109 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **ESM-13 (1-3')**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **85632-03**  
Sampled: **07-13-05 12:40**  
Received: **07-14-05 17:50**  
Analyzed: **07-22-05 09:28**  
Analyst: **LMG**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**  
QC Batch ID: **VM1-1616-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **18 g**  
Final Volume: **15 mL**  
% Solids: **85**  
Dilution Factor: **10**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	5,100
74-87-3	Chloromethane	BRL		ug/Kg	5,100
75-01-4	Vinyl Chloride	BRL		ug/Kg	5,100
74-83-9	Bromomethane	BRL		ug/Kg	5,100
75-00-3	Chloroethane	BRL		ug/Kg	5,100
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	5,100
60-29-7	Diethyl Ether	BRL		ug/Kg	5,100
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	2,500
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	25,000
67-64-1	Acetone	BRL		ug/Kg	25,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	25,000
75-09-2	Methylene Chloride	BRL		ug/Kg	10,000
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	2,500
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	2,500
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	2,500
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	2,500
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	2,500
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	25,000
74-97-5	Bromochloromethane	BRL		ug/Kg	2,500
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	25,000
67-66-3	Chloroform	BRL		ug/Kg	2,500
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	2,500
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	2,500
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	2,500
71-43-2	Benzene	BRL		ug/Kg	2,500
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	2,500
79-01-6	Trichloroethene	3,900		ug/Kg	2,500
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	2,500
74-95-3	Dibromomethane	BRL		ug/Kg	2,500
75-27-4	Bromodichloromethane	BRL		ug/Kg	2,500
123-91-1	1,4-Dioxane	BRL		ug/Kg	2,500,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	2,500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	25,000
108-88-3	Toluene	BRL		ug/Kg	2,500
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	2,500
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	2,500
127-18-4	Tetrachloroethene	53,000		ug/Kg	2,500
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	2,500
591-78-6	2-Hexanone	BRL		ug/Kg	25,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	2,500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	2,500
108-90-7	Chlorobenzene	BRL		ug/Kg	2,500
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	2,500
100-41-4	Ethylbenzene	BRL		ug/Kg	2,500
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	2,500
95-47-6	ortho- Xylene	BRL		ug/Kg	2,500

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-13 (1-3)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-03  
Sampled: 07-13-05 12:40  
Received: 07-14-05 17:50  
Analyzed: 07-22-05 09:28  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1616-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 85  
Dilution Factor: 10

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	2,500
75-25-2	Bromoform	BRL		ug/Kg	2,500
98-82-8	Isopropylbenzene	BRL		ug/Kg	2,500
108-86-1	Bromobenzene	BRL		ug/Kg	2,500
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	2,500
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	2,500
103-65-1	n-Propylbenzene	BRL		ug/Kg	2,500
95-49-8	2-Chlorotoluene	BRL		ug/Kg	2,500
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	2,500
106-43-4	4-Chlorotoluene	BRL		ug/Kg	2,500
98-06-6	tert-Butylbenzene	BRL		ug/Kg	2,500
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	2,500
135-98-8	sec-Butylbenzene	BRL		ug/Kg	2,500
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	2,500
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	2,500
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	2,500
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	2,500
104-51-8	n-Butylbenzene	BRL		ug/Kg	2,500
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	2,500
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	2,500
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	2,500
91-20-3	Naphthalene	BRL		ug/Kg	2,500
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	2,500
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	100,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	2,500
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	2,500
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	2,500

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	89 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	87 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	107 %	70 - 130 %
4-Bromofluorobenzene	2,500	3,000	120 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-13 (12-14)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-04  
Sampled: 07-13-05 12:55  
Received: 07-14-05 17:50  
Analyzed: 07-22-05 11:18  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1616-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,300
74-87-3	Chloromethane	BRL		ug/Kg	1,300
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,300
74-83-9	Bromomethane	BRL		ug/Kg	1,300
75-00-3	Chloroethane	BRL		ug/Kg	1,300
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,300
60-29-7	Diethyl Ether	BRL		ug/Kg	1,300
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	640
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	6,400
67-64-1	Acetone	BRL		ug/Kg	6,400
75-15-0	Carbon Disulfide	BRL		ug/Kg	6,400
75-09-2	Methylene Chloride	BRL		ug/Kg	2,600
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	640
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	640
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	640
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	640
156-59-2	cis-1,2-Dichloroethene	3,400		ug/Kg	640
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	6,400
74-97-5	Bromochloromethane	BRL		ug/Kg	640
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	6,400
67-66-3	Chloroform	BRL		ug/Kg	640
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	640
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	640
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	640
71-43-2	Benzene	BRL		ug/Kg	640
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	640
79-01-6	Trichloroethene	BRL		ug/Kg	640
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	640
74-95-3	Dibromomethane	BRL		ug/Kg	640
75-27-4	Bromodichloromethane	BRL		ug/Kg	640
123-91-1	1,4-Dioxane	BRL		ug/Kg	640,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	640
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	6,400
108-88-3	Toluene	4,100		ug/Kg	640
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	640
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	640
127-18-4	Tetrachloroethene	BRL		ug/Kg	640
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	640
591-78-6	2-Hexanone	BRL		ug/Kg	6,400
124-48-1	Dibromochloromethane	BRL		ug/Kg	640
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	640
108-90-7	Chlorobenzene	BRL		ug/Kg	640
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	640
100-41-4	Ethylbenzene	20,000		ug/Kg	640
108-38-3/106-42-3	meta-Xylene and para-Xylene	33,000		ug/Kg	640
95-47-6	ortho-Xylene	4,000		ug/Kg	640

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-13 (12-14')  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-04  
Sampled: 07-13-05 12:55  
Received: 07-14-05 17:50  
Analyzed: 07-22-05 11:18  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1616-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	640
75-25-2	Bromoform	BRL		ug/Kg	640
98-82-8	Isopropylbenzene	BRL		ug/Kg	640
108-86-1	Bromobenzene	BRL		ug/Kg	640
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	640
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	640
103-65-1	n-Propylbenzene	BRL		ug/Kg	640
95-49-8	2-Chlorotoluene	BRL		ug/Kg	640
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	640
106-43-4	4-Chlorotoluene	BRL		ug/Kg	640
98-06-6	tert-Butylbenzene	BRL		ug/Kg	640
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	640
135-98-8	sec-Butylbenzene	830		ug/Kg	640
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	640
99-87-6	4-Isopropyltoluene	9,400		ug/Kg	640
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	640
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	640
104-51-8	n-Butylbenzene	BRL		ug/Kg	640
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	640
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	640
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	640
91-20-3	Naphthalene	890		ug/Kg	640
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	640
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	26,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	640
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	640
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	640

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	90 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	93 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,800	113 %	70 - 130 %
4-Bromofluorobenzene	2,500	3,000	120 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-14 (7-9)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 85632-05  
Sampled: 07-13-05 14:00  
Received: 07-14-05 17:50  
Analyzed: 07-22-05 11:55  
Analyst: LMG

QC Batch ID: VM1-1616-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 97  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,200
74-87-3	Chloromethane	BRL		ug/Kg	1,200
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,200
74-83-9	Bromomethane	BRL		ug/Kg	1,200
75-00-3	Chloroethane	BRL		ug/Kg	1,200
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,200
60-29-7	Diethyl Ether	BRL		ug/Kg	1,200
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	580
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	5,800
67-64-1	Acetone	BRL		ug/Kg	5,800
75-15-0	Carbon Disulfide	BRL		ug/Kg	5,800
75-09-2	Methylene Chloride	BRL		ug/Kg	2,300
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	580
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	580
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	580
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	580
156-59-2	cis- 1,2-Dichloroethene	680		ug/Kg	580
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	5,800
74-97-5	Bromochloromethane	BRL		ug/Kg	580
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5,800
67-66-3	Chloroform	BRL		ug/Kg	580
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	580
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	580
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	580
71-43-2	Benzene	BRL		ug/Kg	580
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	580
79-01-6	Trichloroethene	BRL		ug/Kg	580
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	580
74-95-3	Dibromomethane	BRL		ug/Kg	580
75-27-4	Bromodichloromethane	BRL		ug/Kg	580
123-91-1	1,4-Dioxane	BRL		ug/Kg	580,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	580
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	5,800
108-88-3	Toluene	3,600		ug/Kg	580
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	580
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	580
127-18-4	Tetrachloroethene	BRL		ug/Kg	580
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	580
591-78-6	2-Hexanone	BRL		ug/Kg	5,800
124-48-1	Dibromochloromethane	BRL		ug/Kg	580
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	580
108-90-7	Chlorobenzene	BRL		ug/Kg	580
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	580
100-41-4	Ethylbenzene	7,100		ug/Kg	580
108-38-3/106-42-3	meta- Xylene and para- Xylene	11,000		ug/Kg	580
95-47-6	ortho- Xylene	1,800		ug/Kg	580

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-14 (7-9)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-05  
Sampled: 07-13-05 14:00  
Received: 07-14-05 17:50  
Analyzed: 07-22-05 11:55  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1616-E  
Instrument ID: MS-T HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 97  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	580
75-25-2	Bromoform	BRL		ug/Kg	580
98-82-8	Isopropylbenzene	BRL		ug/Kg	580
108-86-1	Bromobenzene	BRL		ug/Kg	580
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	580
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	580
103-65-1	n-Propylbenzene	BRL		ug/Kg	580
95-49-8	2-Chlorotoluene	BRL		ug/Kg	580
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	580
106-43-4	4-Chlorotoluene	BRL		ug/Kg	580
98-06-6	tert-Butylbenzene	BRL		ug/Kg	580
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	580
135-98-8	sec-Butylbenzene	BRL		ug/Kg	580
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	580
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	580
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	580
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	580
104-51-8	n-Butylbenzene	BRL		ug/Kg	580
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	580
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	580
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	580
91-20-3	Naphthalene	BRL		ug/Kg	580
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	580
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	23,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	580
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	580
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	580

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	82 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	102 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	111 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-14 (15-17)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-06  
Sampled: 07-13-05 14:15  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 06:21  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	680
74-87-3	Chloromethane	BRL		ug/Kg	680
75-01-4	Vinyl Chloride	BRL		ug/Kg	680
74-83-9	Bromomethane	BRL		ug/Kg	680
75-00-3	Chloroethane	BRL		ug/Kg	680
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	680
60-29-7	Diethyl Ether	BRL		ug/Kg	680
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	340
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,400
67-64-1	Acetone	BRL		ug/Kg	3,400
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,400
75-09-2	Methylene Chloride	BRL		ug/Kg	1,400
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	340
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	340
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	340
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	340
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	340
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,400
74-97-5	Bromochloromethane	BRL		ug/Kg	340
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,400
67-66-3	Chloroform	BRL		ug/Kg	340
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	340
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	340
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	340
71-43-2	Benzene	BRL		ug/Kg	340
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	340
79-01-6	Trichloroethene	BRL		ug/Kg	340
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	340
74-95-3	Dibromomethane	BRL		ug/Kg	340
75-27-4	Bromodichloromethane	BRL		ug/Kg	340
123-91-1	1,4-Dioxane	BRL		ug/Kg	340,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	340
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,400
108-88-3	Toluene	2,400		ug/Kg	340
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	340
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	340
127-18-4	Tetrachloroethene	BRL		ug/Kg	340
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	340
591-78-6	2-Hexanone	BRL		ug/Kg	3,400
124-48-1	Dibromochloromethane	BRL		ug/Kg	340
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	340
108-90-7	Chlorobenzene	BRL		ug/Kg	340
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	340
100-41-4	Ethylbenzene	880		ug/Kg	340
108-38-3/106-42-3	meta- Xylene and para- Xylene	1,100		ug/Kg	340
95-47-6	ortho- Xylene	BRL		ug/Kg	340

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM-14 (15-17)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-06  
Sampled: 07-13-05 14:15  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 06:21  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	340
75-25-2	Bromoform	BRL		ug/Kg	340
98-82-8	Isopropylbenzene	BRL		ug/Kg	340
108-86-1	Bromobenzene	BRL		ug/Kg	340
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	340
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	340
103-65-1	n-Propylbenzene	BRL		ug/Kg	340
95-49-8	2-Chlorotoluene	BRL		ug/Kg	340
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	340
106-43-4	4-Chlorotoluene	BRL		ug/Kg	340
98-06-6	tert-Butylbenzene	BRL		ug/Kg	340
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	340
135-98-8	sec-Butylbenzene	BRL		ug/Kg	340
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	340
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	340
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	340
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	340
104-51-8	n-Butylbenzene	BRL		ug/Kg	340
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	340
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	340
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	340
91-20-3	Naphthalene	BRL		ug/Kg	340
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	340
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	14,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	340
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	340
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	340

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,000	81 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,100	84 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	104 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: DUP  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-07  
Sampled: 07-13-05 14:20  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 06:58  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1615-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	790
74-87-3	Chloromethane	BRL		ug/Kg	790
75-01-4	Vinyl Chloride	BRL		ug/Kg	790
74-83-9	Bromomethane	BRL		ug/Kg	790
75-00-3	Chloroethane	BRL		ug/Kg	790
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	790
60-29-7	Diethyl Ether	BRL		ug/Kg	790
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	390
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,900
67-64-1	Acetone	BRL		ug/Kg	3,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,900
75-09-2	Methylene Chloride	BRL		ug/Kg	1,600
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	390
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	390
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	390
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	390
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	390
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,900
74-97-5	Bromochloromethane	BRL		ug/Kg	390
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,900
67-66-3	Chloroform	BRL		ug/Kg	390
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	390
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	390
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	390
71-43-2	Benzene	BRL		ug/Kg	390
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	390
79-01-6	Trichloroethene	BRL		ug/Kg	390
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	390
74-95-3	Dibromomethane	BRL		ug/Kg	390
75-27-4	Bromodichloromethane	BRL		ug/Kg	390
123-91-1	1,4-Dioxane	BRL		ug/Kg	390,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	390
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,900
108-88-3	Toluene	2,400		ug/Kg	390
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	390
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	390
127-18-4	Tetrachloroethene	BRL		ug/Kg	390
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	390
591-78-6	2-Hexanone	BRL		ug/Kg	3,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	390
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	390
108-90-7	Chlorobenzene	BRL		ug/Kg	390
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	390
100-41-4	Ethylbenzene	820		ug/Kg	390
108-38-3/106-42-3	meta- Xylene and para- Xylene	1,000		ug/Kg	390
95-47-6	ortho- Xylene	BRL		ug/Kg	390

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **DUP**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
  
Laboratory ID: **85632-07**  
Sampled: **07-13-05 14:20**  
Received: **07-14-05 17:50**  
Analyzed: **07-21-05 06:58**  
Analyst: **CCT**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**  
  
QC Batch ID: **VM1-1615-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **13 g**  
Final Volume: **15 mL**  
% Solids: **73**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	390
75-25-2	Bromoform	BRL		ug/Kg	390
98-82-8	Isopropylbenzene	BRL		ug/Kg	390
108-86-1	Bromobenzene	BRL		ug/Kg	390
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	390
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	390
103-65-1	n-Propylbenzene	BRL		ug/Kg	390
95-49-8	2-Chlorotoluene	BRL		ug/Kg	390
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	390
106-43-4	4-Chlorotoluene	BRL		ug/Kg	390
98-06-6	tert-Butylbenzene	BRL		ug/Kg	390
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	390
135-98-8	sec-Butylbenzene	BRL		ug/Kg	390
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	390
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	390
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	390
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	390
104-51-8	n-Butylbenzene	BRL		ug/Kg	390
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	390
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	390
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	390
91-20-3	Naphthalene	BRL		ug/Kg	390
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	390
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	16,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	390
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	390
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	390

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,100	83 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,900	117 %	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: ESM-11 (10-12)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-08  
Sampled: 07-13-05 09:10  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 16:26  
Analyst: JH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VG3-1957-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 93  
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> ⊖	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>⌘</sup>	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>†</sup>	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	meta- Xylene and para- Xylene <sup>†</sup>	BRL		mg/Kg	0.10
95-47-6	ortho- Xylene <sup>†</sup>	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.52

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.2	4.9	93 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.2	5.0	96 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.
- ⊖ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.
- ⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.
- ⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.
- ‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: ESM-13 (1-3)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-09  
Sampled: 07-13-05 12:40  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 17:07  
Analyst: JH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VG3-1957-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 85  
Dilution Factor: 4

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	17		mg/Kg	4.1
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	6.2		mg/Kg	4.1
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	4.1
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	17		mg/Kg	4.1
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	9.5		mg/Kg	4.1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>‡</sup>	BRL		mg/Kg	0.41
71-43-2	Benzene <sup>‡</sup>	BRL		mg/Kg	0.41
108-88-3	Toluene <sup>‡</sup>	BRL		mg/Kg	0.41
100-41-4	Ethylbenzene <sup>†</sup>	BRL		mg/Kg	0.41
106-38-3 and 106-42-3	meta- Xylene and para- Xylene <sup>†</sup>	BRL		mg/Kg	0.41
95-47-6	ortho- Xylene <sup>†</sup>	BRL		mg/Kg	0.41
91-20-3	Naphthalene	BRL		mg/Kg	2.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.1	4.6	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.1	5.7	111 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

‡ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: ESM-13 (12-14')  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-10  
Sampled: 07-13-05 12:55  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 18:29  
Analyst: JH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VG3-1957-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 73  
Dilution Factor: 20

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊖</sup>	BRL		mg/Kg	27
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	110		mg/Kg	27
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	150		mg/Kg	27

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	39		mg/Kg	27
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	490		mg/Kg	27

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	2.7
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	2.7
108-88-3	Toluene <sup>⌘</sup>	15		mg/Kg	2.7
100-41-4	Ethylbenzene <sup>†</sup>	82		mg/Kg	2.7
106-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>†</sup>	130		mg/Kg	2.7
95-47-6	ortho-Xylene <sup>†</sup>	17		mg/Kg	2.7
91-20-3	Naphthalene	BRL		mg/Kg	13

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	6.7	5.6	83 %	70 - 130 %
2,5-Dibromotoluene (FID)	6.7	8.2	122 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

<sup>⊖</sup> n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

<sup>⊗</sup> n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

<sup>⌘</sup> Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

<sup>‡</sup> Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: ESM-14 (7-9)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 85632-11  
Sampled: 07-13-05 14:00  
Received: 07-14-05 17:50  
Analyzed: 07-21-05 19:09  
Analyst: JH

QC Batch ID: VG3-1957-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 97  
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	4.9		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	4.4		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	3.6		mg/Kg	1.0

Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	6.6		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	19		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>⌘</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>⌘</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>⌘</sup>	1.7		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>†</sup>	4.1		mg/Kg	0.10
108-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>†</sup>	6.1		mg/Kg	0.10
95-47-6	ortho-Xylene <sup>†</sup>	1.0		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.52

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.2	4.6	89 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.2	4.7	91 %	70 - 130 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◇ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

⌘ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM-11 (10-12)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-12  
Sampled: 07-13-05 09:10  
Received: 07-14-05 17:50  
Extracted: 07-18-05 13:00  
Cleaned Up: 07-19-05 10:00  
Analyzed: 07-20-05 18:18  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
  
QC Batch ID: PB-2198-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 93  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	85
11104-28-2	Aroclor 1221		BRL	ug/Kg	85
11141-16-5	Aroclor 1232		BRL	ug/Kg	85
53469-21-9	Aroclor 1242		BRL	ug/Kg	85
12672-29-6	Aroclor 1248		BRL	ug/Kg	85
11097-69-1	Aroclor 1254		BRL	ug/Kg	85
11096-82-5	Aroclor 1260		BRL	ug/Kg	85
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	85
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	85

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-m-xylene	14	13	94 %	30 - 150 %
	Decachlorobiphenyl	14	15	106 %	30 - 150 %
Second Column	Tetrachloro-m-xylene	14	13	91 %	30 - 150 %
	Decachlorobiphenyl	14	16	112 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM-12 (12-14)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-13  
Sampled: 07-13-05 10:40  
Received: 07-14-05 17:50  
Extracted: 07-18-05 13:00  
Cleaned Up: 07-19-05 10:00  
Analyzed: 07-20-05 18:53  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2198-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 88  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	90
11104-28-2	Aroclor 1221		BRL	ug/Kg	90
11141-16-5	Aroclor 1232	180	1C (140)*	ug/Kg	90
53469-21-9	Aroclor 1242		BRL	ug/Kg	90
12672-29-6	Aroclor 1248		BRL	ug/Kg	90
11097-69-1	Aroclor 1254		BRL	ug/Kg	90
11096-82-5	Aroclor 1260		BRL	ug/Kg	90
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	90
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	90

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	15	10	64 %	30 - 150 %
Column	Decachlorobiphenyl	15	13	86 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	15	10	65 %	30 - 150 %
Column	Decachlorobiphenyl	15	14	94 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM-13 (1-3)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 85632-14  
Sampled: 07-13-05 12:40  
Received: 07-14-05 17:50  
Extracted: 07-18-05 13:00  
Cleaned Up: 07-19-05 10:00  
Analyzed: 07-20-05 19:28  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
  
QC Batch ID: PB-2198-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 85  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	93
11104-28-2	Aroclor 1221	BRL		ug/Kg	93
11141-16-5	Aroclor 1232	470	2C (350)*	ug/Kg	93
53469-21-9	Aroclor 1242	BRL		ug/Kg	93
12672-29-6	Aroclor 1248	BRL		ug/Kg	93
11097-69-1	Aroclor 1254	BRL		ug/Kg	93
11096-82-5	Aroclor 1260	BRL		ug/Kg	93
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	93
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	93

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	15	15	95 %	30 - 150 %
Column	15	17	109 %	30 - 150 %
Second	15	15	94 %	30 - 150 %
Column	15	15	100 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **ESM-13 (12-14)**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management**  
 Laboratory ID: **85632-15**  
 Sampled: **07-13-05 12:55**  
 Received: **07-14-05 17:50**  
 Extracted: **07-18-05 13:00**  
 Cleaned Up: **07-19-05 10:00**  
 Analyzed: **07-20-05 20:03**  
 Analyst: **CRL**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 QC Batch ID: **PB-2198-P**  
 Instrument ID: **GC-6 HP 5890**  
 Sample Weight: **15 g**  
 Final Volume: **1 mL**  
 Percent Solids: **73**  
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	110
11104-28-2	Aroclor 1221	BRL		ug/Kg	110
11141-16-5	Aroclor 1232	320	2C (260)*	ug/Kg	110
53469-21-9	Aroclor 1242	BRL		ug/Kg	110
12672-29-6	Aroclor 1248	BRL		ug/Kg	110
11097-69-1	Aroclor 1254	BRL		ug/Kg	110
11096-82-5	Aroclor 1260	BRL		ug/Kg	110
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	110
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	110

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	18	15	86 %	30 - 150 %
Column	18	20	115 %	30 - 150 %
Second	18	15	82 %	30 - 150 %
Column	18	15	83 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
 Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.  
 \* Confirmatory column quantification.  
 2C Concentration reported from second column.

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM-14 (7-9)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 85632-16  
Sampled: 07-13-05 14:00  
Received: 07-14-05 17:50  
Extracted: 07-18-05 13:00  
Cleaned Up: 07-19-05 10:00  
Analyzed: 07-21-05 13:33  
Analyst: CRL

Matrix: Soil  
Container: 250 ml Glass  
Preservation: Cool  
QC Batch ID: PB-2198-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 97  
Dilution Factor: 20

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	1,600
11104-28-2	Aroclor 1221	BRL		ug/Kg	1,600
11141-16-5	Aroclor 1232	9,900	2C (7,200)*	ug/Kg	1,600
53469-21-9	Aroclor 1242	BRL		ug/Kg	1,600
12672-29-6	Aroclor 1248	BRL		ug/Kg	1,600
11097-69-1	Aroclor 1254	BRL		ug/Kg	1,600
11096-82-5	Aroclor 1260	BRL		ug/Kg	1,600
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	1,600
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	1,600

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	14	na	d	30 - 150 %
Column	14	na	d	30 - 150 %
Second	14	na	d	30 - 150 %
Column	14	na	d	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.  
d Surrogate recovery not measurable due to required sample dilution.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **ESM-11 (10-12')**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **93**

Laboratory ID: **85632-12**  
Sampled: **07-13-05 09:10**  
Received: **07-14-05 17:50**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0658-S	EPA 3050B	07-19-05 11:10	0.5 g	ICP-1 PE 3000	EB
EPA 7471A <sup>2</sup>	MP-1819-S	EPA 7471A	07-18-05 09:15	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	2.1		mg/Kg	1.1	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total	69		mg/Kg	22	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.54	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total	13		mg/Kg	11	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total	150		mg/Kg	11	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total	0.35		mg/Kg	0.036	1	07-18-05 15:32	EPA 7471A <sup>2</sup>
7782-49-2	Selenium, Total	BRL		mg/Kg	11	1	07-19-05 18:29	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total	BRL		mg/Kg	5.4	1	07-19-05 18:29	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **ESM-13 (T-3)**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**  
 Laboratory ID: **85632-14**  
 Sampled: **07-13-05 12:40**  
 Received: **07-14-05 17:50**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **85**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0658-S	EPA 3050B	07-19-05 11:10	0.5 g	KCP-1 PE 3000	EB
EPA 7471A <sup>2</sup>	MP-1819-S	EPA 7471A	07-18-05 09:15	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	2.2		mg/Kg	1.1	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total	64		mg/Kg	23	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.57	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total	16		mg/Kg	11	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total	35		mg/Kg	11	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total	3.0		mg/Kg	0.077	2	07-18-05 15:55	EPA 7471A <sup>2</sup>
7782-49-2	Selenium, Total	BRL		mg/Kg	11	1	07-19-05 18:32	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total	BRL		mg/Kg	5.7	1	07-19-05 18:32	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **ESM-13 (12-14<sup>1</sup>)**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**  
 Laboratory ID: **85632-15**  
 Sampled: **07-13-05 12:55**  
 Received: **07-14-05 17:50**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **73**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0658-S	EPA 3050B	07-19-05 11:10	0.5 g	ICP-1 PE 3000	EB
EPA 7471A <sup>2</sup>	MP-1819-S	EPA 7471A	07-18-05 09:15	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	2.3		mg/Kg	1.4	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total	62		mg/Kg	28	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total		BRL	mg/Kg	0.71	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total	37		mg/Kg	14	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total	37		mg/Kg	14	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total		BRL	mg/Kg	0.045	1	07-18-05 15:49	EPA 7471A <sup>2</sup>
7782-49-2	Selenium, Total		BRL	mg/Kg	14	1	07-19-05 18:36	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total		BRL	mg/Kg	7.1	1	07-19-05 18:36	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **ESM-14 (7-9)**  
 Project: **Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **92**

Laboratory ID: **85632-16**  
 Sampled: **07-13-05 14:00**  
 Received: **07-14-05 17:50**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0658-S	EPA 3050B	07-19-05 11:10	0.5 g	ICP-1 PE 3000	EB
EPA 7471A <sup>2</sup>	MP-1819-S	EPA 7471A	07-18-05 09:15	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	6.6		mg/Kg	1.1	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total	58		mg/Kg	21	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total	BRL		mg/Kg	0.53	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total	16		mg/Kg	11	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total	420		mg/Kg	11	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total	0.16		mg/Kg	0.036	1	07-18-05 15:52	EPA 7471A <sup>2</sup>
7782-49-2	Selenium, Total	BRL		mg/Kg	11	1	07-19-05 18:39	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total	BRL		mg/Kg	5.3	1	07-19-05 18:39	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **ESM-11 (10-12)**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**  
Laboratory ID: **85632-12**  
Sampled: **07-13-05 09:10**  
Received: **07-14-05 17:50**  
Extracted: **07-22-05 14:00**  
Analyzed (AL): **07-24-05 16:19**  
Analyzed (AR): **07-24-05 16:59**  
Analyst: **MM**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **EP-2104-M**  
Instrument ID: **GC-9 Agilent 6890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
% Solids: **93**  
Aliphatic Dilution Factor: **1**  
Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	33		mg/Kg	32
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	44		mg/Kg	32

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.53
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.53
85-01-8	Phenanthrene	1.0		mg/Kg	0.53
83-32-9	Acenaphthene	BRL		mg/Kg	0.53
208-96-8	Acenaphthylene	BRL		mg/Kg	0.53
86-73-7	Fluorene	BRL		mg/Kg	0.53
120-12-7	Anthracene	1.8		mg/Kg	0.53
206-44-0	Fluoranthene	1.7		mg/Kg	0.53
129-00-0	Pyrene	0.99		mg/Kg	0.53
56-55-3	Benzo[a]anthracene	1.1		mg/Kg	0.53
218-01-9	Chrysene	0.96		mg/Kg	0.53
205-99-2	Benzo[b]fluoranthene	0.64		mg/Kg	0.53
207-08-9	Benzo[k]fluoranthene	0.94		mg/Kg	0.53
50-32-8	Benzo[a]pyrene	0.55		mg/Kg	0.53
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.53
53-70-3	Dibenzo[a,h]anthracene	0.71		mg/Kg	0.53
191-24-2	Benzo[g,h,i]perylene				

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.8	2.7	96 %	40 - 140 %
2-Bromonaphthalene	2.8	2.8	98 %	40 - 140 %
Extraction: Chloro-octadecane	2.8	2.3	80 %	40 - 140 %
ortho -Terphenyl	2.8	2.6	92 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>◊</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **ESM-13 (1-3')**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**  
Laboratory ID: **85632-14**  
Sampled: **07-13-05 12:40**  
Received: **07-14-05 17:50**  
Extracted: **07-22-05 14:00**  
Analyzed (AL): **07-24-05 17:44**  
Analyzed (AR): **07-24-05 18:28**  
Analyst: **MM**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **EP-2104-M**  
Instrument ID: **GC-9 Agilent 6890**  
Sample Weight: **16 g**  
Final Volume: **1 mL**  
% Solids: **85**  
Aliphatic Dilution Factor: **1**  
Aromatic Dilution Factor: **1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	56		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons <sup>† 0</sup>	88		mg/Kg	34
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	130		mg/Kg	34

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.57
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.57
85-01-8	Phenanthrene	5.5		mg/Kg	0.57
83-32-9	Acenaphthene	BRL		mg/Kg	0.57
208-96-8	Acenaphthylene	BRL		mg/Kg	0.57
86-73-7	Fluorene	BRL		mg/Kg	0.57
120-12-7	Anthracene	1.3		mg/Kg	0.57
206-44-0	Fluoranthene	6.8		mg/Kg	0.57
129-00-0	Pyrene	5.6		mg/Kg	0.57
56-55-3	Benzo[a]anthracene	3.1		mg/Kg	0.57
218-01-9	Chrysene	3.3		mg/Kg	0.57
205-99-2	Benzo[b]fluoranthene	3.6		mg/Kg	0.57
207-08-9	Benzo[k]fluoranthene	1.6		mg/Kg	0.57
50-32-8	Benzo[a]pyrene	2.8		mg/Kg	0.57
193-39-5	Indeno[1,2,3-c,d]pyrene	1.9		mg/Kg	0.57
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.57
191-24-2	Benzo[g,h,i]perylene	1.9		mg/Kg	0.57

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.0	2.1	70 %	40 - 140 %
2-Bromonaphthalene	3.0	2.2	72 %	40 - 140 %
Extraction: Chloro-octadecane	3.0	2.5	82 %	40 - 140 %
ortho-Terphenyl	3.0	2.7	87 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

<sup>0</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: **ESM-13 (12-14)**  
Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **EP-2104-M**  
Instrument ID: **GC-9 Agilent 6890**  
Sample Weight: **16 g**  
Final Volume: **1 mL**  
% Solids: **73**  
Aliphatic Dilution Factor: **1**  
Aromatic Dilution Factor: **1**

Laboratory ID: **85632-15**  
Sampled: **07-13-05 12:55**  
Received: **07-14-05 17:50**  
Extracted: **07-22-05 14:00**  
Analyzed (AL): **07-24-05 19:13**  
Analyzed (AR): **07-24-05 19:57**  
Analyst: **MM**

EPH Range	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	39
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	90		mg/Kg	39
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	78		mg/Kg	39
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	94		mg/Kg	39

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.65
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.65
85-01-8	Phenanthrene	0.92		mg/Kg	0.65
83-32-9	Acenaphthene	BRL		mg/Kg	0.65
208-96-8	Acenaphthylene	BRL		mg/Kg	0.65
86-73-7	Fluorene	BRL		mg/Kg	0.65
120-12-7	Anthracene	1.4		mg/Kg	0.65
206-44-0	Fluoranthene	1.1		mg/Kg	0.65
129-00-0	Pyrene	2.4		mg/Kg	0.65
56-55-3	Benzo[a]anthracene	2.3		mg/Kg	0.65
218-01-9	Chrysene	0.81		mg/Kg	0.65
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.65
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.65
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.65
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.65
53-70-3	Dibenzo[a,h]anthracene	4.2		mg/Kg	0.65
191-24-2	Benzo[g,h,i]perylene				

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.5	2.7	77 %	40 - 140 %
2-Bromonaphthalene	3.5	2.8	81 %	40 - 140 %
Extraction: Chloro-octadecane	3.5	2.5	70 %	40 - 140 %
ortho-Terphenyl	3.5	2.9	82 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>◇</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: ESM-14 (7-9)  
Project: Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 ml Glass  
Preservation: Cool  
QC Batch ID: EP-2104-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 16 g  
Final Volume: 1 mL  
% Solids: 97  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

Laboratory ID: 85632-16  
Sampled: 07-13-05 14:00  
Received: 07-14-05 17:50  
Extracted: 07-22-05 14:00  
Analyzed (AL): 07-24-05 20:41  
Analyzed (AR): 07-24-05 21:26  
Analyst: MM

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†‡</sup>	BRL		mg/Kg	30
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.6	2.3	87 %	40 - 140 %
2-Bromonaphthalene	2.6	2.3	88 %	40 - 140 %
Extraction: Chloro-octadecane	2.6	2.2	85 %	40 - 140 %
ortho-Terphenyl	2.6	2.2	82 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

‡ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## Project Narrative

Project: **Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Lab ID: **85632**  
Received: **07-14-05 17:50**

### A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

### B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 8082 Non-conformance: Sample 85632-16. Sample had surrogate recoveries outside recommended limits due to required sample dilution.
2. EPA 8082 Note: Sample 85632-16. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
3. EPA 8260B Note: Samples 85632-03 through -05. Sample were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
4. MA DEP VPH Note: Sample 85632-09. Sample was diluted prior to analysis. Dilution was required due to presence of non-target analyte interference.
5. EPA 6010B Note: Samples 85632-12,-14,-15,-16. Samples were analyzed for select metal analytes as requested by client.
6. EPA 8260B Non-conformance: Laboratory Control Sample (LCS) analyte 1,4-Dioxane was above recommended limits for QC batch VM1-1615-E.



## Quality Assurance/Quality Control

### A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

### B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

## Quality Control Report Laboratory Control Samples

Category: EPA Method 8260B  
QC Batch ID: VM1-1615-EL  
Matrix: Soil  
Units: ug/Kg

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 22:00  
Analyst: CCT

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 22:41  
Analyst: CCT

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CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
75-71-8	Dichlorodifluoromethane	2500	2600	106 %	2500	2700	108 %	2 %	70 - 130 %	25%
74-87-3	Chloromethane	2500	2600	105 %	2500	2600	103 %	2 %	70 - 130 %	25%
75-01-4	Vinyl Chloride	2500	2700	108 %	2500	2600	104 %	3 %	70 - 130 %	25%
74-83-9	Bromomethane	2500	2200	89 %	2500	2200	90 %	1 %	70 - 130 %	25%
75-00-3	Chloroethane	2500	2400	98 %	2500	2400	95 %	3 %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	2500	2200	88 %	2500	2100	85 %	4 %	70 - 130 %	25%
60-29-7	Diethyl Ether	5000	4700	94 %	5000	4800	95 %	1 %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	2500	2500	101 %	2500	2500	100 %	1 %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	5000	4800	96 %	5000	4600	92 %	5 %	70 - 130 %	25%
67-64-1	Acetone	5000	4400	88 %	5000	4600	92 %	4 %	70 - 130 %	25%
75-15-0	Carbon Disulfide	5000	4300	86 %	5000	4300	85 %	1 %	70 - 130 %	25%
75-09-2	Methylene Chloride	2500	2400	97 %	2500	2400	94 %	3 %	70 - 130 %	25%
156-60-5	trans-1,2-Dichloroethene	2500	2300	93 %	2500	2300	91 %	2 %	70 - 130 %	25%
1634-04-4	Methyl tert-butyl Ether (MTBE)	2500	2200	90 %	2500	2200	89 %	1 %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	2500	2300	91 %	2500	2200	88 %	4 %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	2500	2000	79 %	2500	1900	75 %	5 %	70 - 130 %	25%
156-59-2	cis-1,2-Dichloroethene	2500	2400	95 %	2500	2300	91 %	4 %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	5000	4800	96 %	5000	4800	95 %	1 %	70 - 130 %	25%
74-97-5	Bromochloromethane	2500	2400	94 %	2500	2200	89 %	6 %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	5000	4800	97 %	5000	4500	91 %	6 %	70 - 130 %	25%
67-66-3	Chloroform	2500	2200	88 %	2500	2100	82 %	7 %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	2500	2200	86 %	2500	2100	82 %	5 %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	2500	2000	80 %	2500	2000	78 %	2 %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	2500	2400	96 %	2500	2200	90 %	7 %	70 - 130 %	25%
71-43-2	Benzene	2500	2300	92 %	2500	2200	90 %	2 %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	2500	2100	86 %	2500	2000	82 %	5 %	70 - 130 %	25%
79-01-6	Trichloroethene	2500	2300	93 %	2500	2300	90 %	3 %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	2500	2300	93 %	2500	2300	93 %	0 %	70 - 130 %	25%
74-95-3	Dibromomethane	2500	2100	85 %	2500	2100	84 %	1 %	70 - 130 %	25%
75-27-4	Bromodichloromethane	2500	2100	86 %	2500	2200	86 %	1 %	70 - 130 %	25%
123-91-1	1,4-Dioxane	50000	71000	141 % q	50000	72000	143 % q	1 %	70 - 130 %	25%
10061-01-5	cis-1,3-Dichloropropene	2500	2300	92 %	2500	2200	89 %	3 %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	5000	4800	97 %	5000	4800	96 %	0 %	70 - 130 %	25%
108-88-3	Toluene	2500	2200	89 %	2500	2200	89 %	0 %	70 - 130 %	25%
10061-02-6	trans-1,3-Dichloropropene	2500	2100	82 %	2500	1800	70 %	16 %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	2500	2700	107 %	2500	2200	89 %	18 %	70 - 130 %	25%
127-18-4	Tetrachloroethene	2500	2500	100 %	2500	2100	82 %	20 %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	2500	2700	110 %	2500	2300	90 %	19 %	70 - 130 %	25%
591-78-6	2-Hexanone	5000	5400	107 %	5000	4500	91 %	17 %	70 - 130 %	25%
124-48-1	Dibromochloromethane	2500	2400	95 %	2500	2000	79 %	18 %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	2500	2700	107 %	2500	2200	89 %	18 %	70 - 130 %	25%
108-90-7	Chlorobenzene	2500	2600	105 %	2500	2200	86 %	19 %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	2500	2500	101 %	2500	2100	83 %	19 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2500	2500	102 %	2500	2100	84 %	19 %	70 - 130 %	25%
108-38-3/106-42-3	meta-Xylene and para-Xylene	5000	5300	106 %	5000	4200	85 %	22 %	70 - 130 %	25%
95-47-6	ortho-Xylene	2500	2600	104 %	2500	2200	86 %	19 %	70 - 130 %	25%
100-42-5	Styrene	2500	2700	106 %	2500	2200	87 %	20 %	70 - 130 %	25%
75-25-2	Bromofom	2500	2500	100 %	2500	2100	84 %	17 %	70 - 130 %	25%
98-82-8	Isopropylbenzene	2500	2400	96 %	2500	2300	91 %	6 %	70 - 130 %	25%

## Quality Control Report Laboratory Control Samples

Category: EPA Method 8260B  
QC Batch ID: VM1-1615-EL  
Matrix: Soil  
Units: ug/Kg

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 22:00  
Analyst: CCT

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 22:41  
Analyst: CCT

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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
108-86-1	Bromobenzene	2500	2500	100 %	2500	2400	94 %	6 %	70 - 130 %	25 %
79-34-5	1,1,2,2-Tetrachloroethane	2500	2500	101 %	2500	2400	95 %	7 %	70 - 130 %	25 %
96-18-4	1,2,3-Trichloropropane	2500	2800	110 %	2500	2600	103 %	7 %	70 - 130 %	25 %
103-65-1	n-Propylbenzene	2500	2400	97 %	2500	2200	90 %	8 %	70 - 130 %	25 %
95-49-8	2-Chlorotoluene	2500	2500	98 %	2500	2300	92 %	7 %	70 - 130 %	25 %
108-67-8	1,3,5-Trimethylbenzene	2500	2400	96 %	2500	2200	89 %	7 %	70 - 130 %	25 %
106-43-4	4-Chlorotoluene	2500	2500	102 %	2500	2400	95 %	7 %	70 - 130 %	25 %
98-06-6	tert-Butylbenzene	2500	2400	95 %	2500	2200	89 %	7 %	70 - 130 %	25 %
95-63-6	1,2,4-Trimethylbenzene	2500	2600	106 %	2500	2500	101 %	5 %	70 - 130 %	25 %
135-98-8	sec-Butylbenzene	2500	2600	103 %	2500	2600	104 %	1 %	70 - 130 %	25 %
541-73-1	1,3-Dichlorobenzene	2500	2400	95 %	2500	2300	91 %	5 %	70 - 130 %	25 %
99-87-6	4-Isopropyltoluene	2500	2400	95 %	2500	2300	93 %	2 %	70 - 130 %	25 %
106-46-7	1,4-Dichlorobenzene	2500	2500	99 %	2500	2300	92 %	7 %	70 - 130 %	25 %
95-50-1	1,2-Dichlorobenzene	2500	2300	92 %	2500	2300	91 %	1 %	70 - 130 %	25 %
104-51-8	n-Butylbenzene	2500	2500	98 %	2500	2400	95 %	3 %	70 - 130 %	25 %
96-12-8	1,2-Dibromo-3-chloropropane	2500	2600	104 %	2500	2600	104 %	8 %	70 - 130 %	25 %
120-82-1	1,2,4-Trichlorobenzene	2500	2800	113 %	2500	2600	104 %	8 %	70 - 130 %	25 %
87-68-3	Hexachlorobutadiene	2500	2300	90 %	2500	2400	98 %	8 %	70 - 130 %	25 %
91-20-3	Naphthalene	2500	2300	93 %	2500	2200	88 %	5 %	70 - 130 %	25 %
87-61-6	1,2,3-Trichlorobenzene	2500	2600	106 %	2500	2600	102 %	3 %	70 - 130 %	25 %
75-65-0	tert-Butyl Alcohol (TBA)	2500	2500	102 %	2500	2500	100 %	2 %	70 - 130 %	25 %
108-20-3	Di-isopropyl Ether (DIPE)	2500	2500	102 %	2500	2500	100 %	3 %	70 - 130 %	25 %
637-92-3	Ethyl tert-butyl Ether (ETBE)	2500	2500	102 %	2500	2500	100 %	3 %	70 - 130 %	25 %
994-05-8	tert-Amyl Methyl Ether (TAME)	2500	2500	102 %	2500	2500	100 %	3 %	70 - 130 %	25 %
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
Dibromofluoromethane		2,500	2,200	87 %	2,500	2,200	90 %		70 - 130 %	
1,2-Dichloroethane-d <sub>2</sub>		2,500	2,300	92 %	2,500	2,400	95 %		70 - 130 %	
Toluene-d <sub>8</sub>		2,500	2,500	100 %	2,500	2,600	104 %		70 - 130 %	
4-Bromofluorobenzene		2,500	2,700	107 %	2,500	2,700	107 %		70 - 130 %	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology,  
or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1615-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 23:19  
Analyst: CCT

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
60-29-7	Trichlorofluoromethane	BRL		ug/Kg	250
75-35-4	Diethyl Ether	BRL		ug/Kg	2500
76-13-1	1,1-Dichloroethene	BRL		ug/Kg	2500
67-64-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2500
75-15-0	Acetone	BRL		ug/Kg	1000
75-09-2	Carbon Disulfide	BRL		ug/Kg	250
156-60-5	Methylene Chloride	BRL		ug/Kg	250
1634-04-4	trans-1,2-Dichloroethene	BRL		ug/Kg	250
75-34-3	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	250
594-20-7	1,1-Dichloroethane	BRL		ug/Kg	250
156-59-2	2,2-Dichloropropane	BRL		ug/Kg	2500
78-93-3	cis-1,2-Dichloroethene	BRL		ug/Kg	250
74-97-5	2-Butanone (MEK)	BRL		ug/Kg	2500
109-99-9	Bromochloromethane	BRL		ug/Kg	250
67-66-3	Tetrahydrofuran (THF)	BRL		ug/Kg	250
71-55-6	Chloroform	BRL		ug/Kg	250
56-23-5	1,1,1-Trichloroethane	BRL		ug/Kg	250
563-58-6	Carbon Tetrachloride	BRL		ug/Kg	250
71-43-2	1,1-Dichloropropene	BRL		ug/Kg	250
107-06-2	Benzene	BRL		ug/Kg	250
79-01-6	1,2-Dichloroethane	BRL		ug/Kg	250
78-87-5	Trichloroethene	BRL		ug/Kg	250
74-95-3	1,2-Dichloropropane	BRL		ug/Kg	250
75-27-4	Dibromomethane	BRL		ug/Kg	250000
123-91-1	Bromodichloromethane	BRL		ug/Kg	250
10061-01-5	1,4-Dioxane	BRL		ug/Kg	2500
108-10-1	cis-1,3-Dichloropropene	BRL		ug/Kg	250
108-88-3	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	250
10061-02-6	Toluene	BRL		ug/Kg	250
79-00-5	trans-1,3-Dichloropropene	BRL		ug/Kg	250
127-18-4	1,1,2-Trichloroethane	BRL		ug/Kg	250
142-28-9	Tetrachloroethene	BRL		ug/Kg	2500
591-78-6	1,3-Dichloropropane	BRL		ug/Kg	250
124-48-1	2-Hexanone	BRL		ug/Kg	250
106-93-4	Dibromochloromethane	BRL		ug/Kg	250
108-90-7	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
630-20-6	Chlorobenzene	BRL		ug/Kg	250
100-41-4	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
108-38-3/106-42-3	Ethylbenzene	BRL		ug/Kg	250
95-47-6	meta-Xylene and para-Xylene	BRL		ug/Kg	250
100-42-5	ortho-Xylene	BRL		ug/Kg	250
75-25-2	Styrene	BRL		ug/Kg	250
98-82-8	Bromoform	BRL		ug/Kg	250
	Isopropylbenzene	BRL		ug/Kg	250

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1615-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 07-20-05 23:19  
Analyst: CCT

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
103-65-1	n-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	tert-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	sec-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	n-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	10000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	250
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,200	89 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,900	116 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## Quality Control Report Laboratory Control Samples

Category: EPA Method 8260B  
QC Batch ID: VM1-1616-EL  
Matrix: Soil  
Units: ug/Kg

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 06:31  
Analyst: LMG

LCSD  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 07:06  
Analyst: LMG

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CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
75-71-8	Dichlorodifluoromethane	2500	2400	96 %	2500	2200	89 %	8 %	70 - 130 %	25 %
74-87-3	Chloromethane	2500	2500	100 %	2500	2500	100 %	0 %	70 - 130 %	25 %
75-01-4	Vinyl Chloride	2500	2600	104 %	2500	2400	96 %	8 %	70 - 130 %	25 %
74-83-9	Bromomethane	2500	2300	92 %	2500	2100	85 %	8 %	70 - 130 %	25 %
75-00-3	Chloroethane	2500	2300	92 %	2500	2200	87 %	6 %	70 - 130 %	25 %
75-69-4	Trichlorofluoromethane	2500	2000	81 %	2500	1900	75 %	7 %	70 - 130 %	25 %
60-29-7	Diethyl Ether	5000	4300	85 %	5000	4500	89 %	4 %	70 - 130 %	25 %
75-35-4	1,1-Dichloroethene	2500	2500	100 %	2500	2300	93 %	7 %	70 - 130 %	25 %
76-13-1	1,1,2-Trichlorotrifluoroethane	5000	4600	92 %	5000	4200	85 %	8 %	70 - 130 %	25 %
67-64-1	Acetone	5000	3900	77 %	5000	4100	82 %	6 %	70 - 130 %	25 %
75-15-0	Carbon Disulfide	5000	4300	85 %	5000	4000	79 %	7 %	70 - 130 %	25 %
75-09-2	Methylene Chloride	2500	2300	92 %	2500	2200	89 %	3 %	70 - 130 %	25 %
156-60-5	trans-1,2-Dichloroethene	2500	2300	93 %	2500	2200	89 %	4 %	70 - 130 %	25 %
1634-04-4	Methyl tert-butyl Ether (MTBE)	2500	2000	79 %	2500	2000	81 %	3 %	70 - 130 %	25 %
75-34-3	1,1-Dichloroethane	2500	2200	89 %	2500	2200	89 %	2 %	70 - 130 %	25 %
594-20-7	2,2-Dichloropropane	2500	2200	89 %	2500	2200	89 %	0 %	70 - 130 %	25 %
156-59-2	cis-1,2-Dichloroethene	2500	2400	95 %	2500	2300	92 %	2 %	70 - 130 %	25 %
78-93-3	2-Butanone (MEK)	5000	3600	73 %	5000	3900	79 %	8 %	70 - 130 %	25 %
74-97-5	Bromochloromethane	2500	2200	89 %	2500	2300	92 %	4 %	70 - 130 %	25 %
109-99-9	Tetrahydrofuran (THF)	5000	3600	71 %	5000	4000	80 %	12 %	70 - 130 %	25 %
67-66-3	Chloroform	5000	3600	71 %	5000	4000	80 %	12 %	70 - 130 %	25 %
71-55-6	1,1,1-Trichloroethane	2500	2100	83 %	2500	2000	81 %	3 %	70 - 130 %	25 %
56-23-5	Carbon Tetrachloride	2500	2000	82 %	2500	1900	78 %	4 %	70 - 130 %	25 %
563-58-6	1,1-Dichloropropene	2500	1900	77 %	2500	1800	73 %	6 %	70 - 130 %	25 %
71-43-2	Benzene	2500	2200	89 %	2500	2200	89 %	3 %	70 - 130 %	25 %
107-06-2	1,2-Dichloroethane	2500	2400	95 %	2500	2200	90 %	6 %	70 - 130 %	25 %
79-01-6	Trichloroethene	2500	2300	90 %	2500	2200	87 %	4 %	70 - 130 %	25 %
78-87-5	1,2-Dichloropropane	2500	2300	91 %	2500	2200	89 %	2 %	70 - 130 %	25 %
74-95-3	Dibromomethane	2500	2100	83 %	2500	2000	81 %	2 %	70 - 130 %	25 %
75-27-4	Bromodichloromethane	2500	2100	84 %	2500	2100	85 %	0 %	70 - 130 %	25 %
123-91-1	1,4-Dioxane	50000	53000	106 %	50000	58000	115 %	9 %	70 - 130 %	25 %
10061-01-5	cis-1,3-Dichloropropene	2500	2200	90 %	2500	2300	90 %	0 %	70 - 130 %	25 %
108-10-1	4-Methyl-2-Pentanone (MIBK)	5000	3500	71 %	5000	3800	76 %	7 %	70 - 130 %	25 %
108-88-3	Toluene	2500	2300	93 %	2500	2200	90 %	4 %	70 - 130 %	25 %
10061-02-6	trans-1,3-Dichloropropene	2500	1900	77 %	2500	2000	79 %	3 %	70 - 130 %	25 %
79-00-5	1,1,2-Trichloroethane	2500	2500	99 %	2500	2500	101 %	2 %	70 - 130 %	25 %
127-18-4	Tetrachloroethene	2500	2600	105 %	2500	2500	99 %	5 %	70 - 130 %	25 %
142-28-9	1,3-Dichloropropane	2500	2500	101 %	2500	2600	103 %	2 %	70 - 130 %	25 %
591-78-6	2-Hexanone	5000	3900	79 %	5000	4400	88 %	11 %	70 - 130 %	25 %
124-48-1	Dibromochloromethane	2500	3900	79 %	2500	5000	91 %	0 %	70 - 130 %	25 %
106-93-4	1,2-Dibromoethane (EDB)	2500	2300	91 %	2500	2300	91 %	3 %	70 - 130 %	25 %
108-90-7	Chlorobenzene	2500	2400	98 %	2500	2500	101 %	6 %	70 - 130 %	25 %
630-20-6	1,1,1,2-Tetrachloroethane	2500	2700	106 %	2500	2500	100 %	1 %	70 - 130 %	25 %
100-41-4	Ethylbenzene	2500	2500	99 %	2500	2400	98 %	4 %	70 - 130 %	25 %
108-38-3/106-42-3	meta-Xylene and para-Xylene	2500	2600	106 %	2500	2500	102 %	1 %	70 - 130 %	25 %
95-47-6	ortho-Xylene	5000	5400	108 %	5000	5300	106 %	5 %	70 - 130 %	25 %
100-42-5	Styrene	2500	2700	110 %	2500	2600	104 %	4 %	70 - 130 %	25 %
75-25-2	Bromoform	2500	2300	90 %	2500	2300	92 %	2 %	70 - 130 %	25 %
98-82-8	Isopropylbenzene	2500	2400	97 %	2500	2400	97 %	0 %	70 - 130 %	25 %

## Quality Control Report Laboratory Control Samples

Category: EPA Method 8260B  
QC Batch ID: VM1-1616-EL  
Matrix: Soil  
Units: ug/Kg

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 06:31  
Analyst: LMG

LCS  
Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 07:06  
Analyst: LMG

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CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
108-86-1	Bromobenzene	2500	2500	99 %	2500	2500	99 %	0 %	70 - 130 %	25 %
79-34-5	1,1,2,2-Tetrachloroethane	2500	2200	90 %	2500	2400	95 %	6 %	70 - 130 %	25 %
96-18-4	1,2,3-Trichloropropane	2500	2300	91 %	2500	2400	95 %	5 %	70 - 130 %	25 %
103-65-1	n-Propylbenzene	2500	2500	99 %	2500	2400	98 %	1 %	70 - 130 %	25 %
95-49-8	2-Chlorotoluene	2500	2500	100 %	2500	2500	99 %	1 %	70 - 130 %	25 %
108-67-8	1,3,5-Trimethylbenzene	2500	2400	96 %	2500	2400	95 %	1 %	70 - 130 %	25 %
106-43-4	4-Chlorotoluene	2500	2600	104 %	2500	2600	106 %	0 %	70 - 130 %	25 %
98-06-6	tert-Butylbenzene	2500	2400	96 %	2500	2400	96 %	0 %	70 - 130 %	25 %
95-63-6	1,2,4-Trimethylbenzene	2500	2500	98 %	2500	2400	95 %	3 %	70 - 130 %	25 %
135-98-8	sec-Butylbenzene	2500	2400	95 %	2500	2300	93 %	2 %	70 - 130 %	25 %
541-73-1	1,3-Dichlorobenzene	2500	2400	96 %	2500	2400	95 %	1 %	70 - 130 %	25 %
99-87-6	4-Isopropyltoluene	2500	2400	96 %	2500	2400	96 %	0 %	70 - 130 %	25 %
106-46-7	1,4-Dichlorobenzene	2500	2500	100 %	2500	2500	98 %	1 %	70 - 130 %	25 %
95-50-1	1,2-Dichlorobenzene	2500	2300	90 %	2500	2300	94 %	4 %	70 - 130 %	25 %
104-51-8	n-Butylbenzene	2500	2500	100 %	2500	2500	98 %	2 %	70 - 130 %	25 %
96-12-8	1,2-Dibromo-3-chloropropane	2500	2500	100 %	2500	2500	98 %	2 %	70 - 130 %	25 %
120-82-1	1,2,4-Trichlorobenzene	2500	2000	80 %	2500	2300	90 %	12 %	70 - 130 %	25 %
87-68-3	Hexachlorobutadiene	2500	2000	80 %	2500	2400	94 %	3 %	70 - 130 %	25 %
91-20-3	Naphthalene	2500	2300	92 %	2500	2200	88 %	4 %	70 - 130 %	25 %
87-61-6	1,2,3-Trichlorobenzene	2500	2000	80 %	2500	2200	89 %	10 %	70 - 130 %	25 %
75-65-0	tert-Butyl Alcohol (TBA)	2500	2000	80 %	2500	2300	90 %	1 %	70 - 130 %	25 %
108-20-3	Di-isopropyl Ether (DIPE)	2500	2300	91 %	2500	2300	90 %	1 %	70 - 130 %	25 %
637-92-3	Ethyl tert-butyl Ether (ETBE)	2500	2300	91 %	50000	40000	80 %	6 %	70 - 130 %	25 %
994-05-8	tert-Amyl Methyl Ether (TAME)	2500	2200	87 %	2500	2200	86 %	1 %	70 - 130 %	25 %
		2500	2100	83 %	2500	2100	83 %	1 %	70 - 130 %	25 %
		2500	2000	80 %	2500	2000	81 %	2 %	70 - 130 %	25 %
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits	
Dibromofluoromethane		2,500	2,200	89 %	2,500	2,100	86 %		70 - 130 %	
1,2-Dichloroethane-d <sub>4</sub>		2,500	2,400	97 %	2,500	2,300	92 %		70 - 130 %	
Toluene-d <sub>8</sub>		2,500	2,700	107 %	2,500	2,600	104 %		70 - 130 %	
4-Bromofluorobenzene		2,500	2,800	110 %	2,500	2,800	111 %		70 - 130 %	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1616-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 07:41  
Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	250
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	2500
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2500
67-64-1	Acetone	BRL		ug/Kg	2500
75-15-0	Carbon Disulfide	BRL		ug/Kg	1000
75-09-2	Methylene Chloride	BRL		ug/Kg	250
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	2500
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2500
74-97-5	Bromochloromethane	BRL		ug/Kg	2500
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	250
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	250
79-01-6	Trichloroethene	BRL		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250000
123-91-1	1,4-Dioxane	BRL		ug/Kg	250
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	2500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	250
108-88-3	Toluene	BRL		ug/Kg	250
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	BRL		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	2500
591-78-6	2-Hexanone	BRL		ug/Kg	250
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	250
95-47-6	ortho- Xylene	BRL		ug/Kg	250
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	BRL		ug/Kg	250

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8260B  
QC Batch ID: VM1-1616-EB  
Matrix: Soil

Instrument ID: MS-1 HP 5890  
Analyzed: 07-22-05 07:41  
Analyst: LMG

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
103-65-1	n-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	tert-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	250
135-98-8	sec-Butylbenzene	BRL		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	n-Butylbenzene	BRL		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	10000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	250
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,100	85 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,100	83 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,500	101 %	70 - 130 %
4-Bromofluorobenzene	2,500	3,000	120 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## Quality Control Report Laboratory Control Samples

Category: MA DEP VPH  
QC Batch ID: VG3-1957-E  
Matrix: Soil  
Units: mg/Kg

LCS  
Instrument ID: GC-3 HP 5890  
Analyzed: 07-21-05 07:29  
Analyst: JH

LCSD  
Instrument ID: GC-3 HP 5890  
Analyzed: 07-21-05 08:10  
Analyst: JH

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		Spike	RPD
109-66-0	n-Pentane	2.5	2.2	89 %	2.5	2.3	93 %	5 %	70 - 130 %	25%
107-83-5	2-Methylpentane	2.5	2.2	88 %	2.5	2.3	92 %	4 %	70 - 130 %	25%
540-84-1	2,2,4-Trimethylpentane	2.5	2.3	91 %	2.5	2.4	95 %	4 %	70 - 130 %	25%
n/a	Aliphatic Group 1	7.5	6.7	89 %	7.5	7.0	93 %	4 %	70 - 130 %	25%
111-84-2	n-Nonane	2.5	2.4	95 %	2.5	2.4	97 %	2 %	70 - 130 %	25%
124-18-5	n-Decane	2.5	2.5	100 %	2.5	2.4	97 %	3 %	70 - 130 %	25%
1678-93-9	n-Butylcyclohexane	2.5	2.4	96 %	2.5	2.4	98 %	2 %	70 - 130 %	25%
n/a	Aliphatic Group 2	7.5	7.3	97 %	7.5	7.3	97 %	0 %	70 - 130 %	25%
1634-04-4	Methyl tert-butyl Ether	2.5	2.4	97 %	2.5	2.7	107 %	9 %	70 - 130 %	25%
71-43-2	Benzene	2.5	2.3	93 %	2.5	2.5	100 %	8 %	70 - 130 %	25%
108-88-3	Toluene	2.5	2.3	93 %	2.5	2.5	101 %	9 %	70 - 130 %	25%
100-41-4	Ethylbenzene	2.5	2.3	93 %	2.5	2.5	101 %	8 %	70 - 130 %	25%
108-38-3 and 106-42-3	meta-Xylene and para-Xylene	5.0	4.6	93 %	5.0	5.0	101 %	9 %	70 - 130 %	25%
95-47-6	ortho-Xylene	2.5	2.4	94 %	2.5	2.6	103 %	9 %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	2.5	2.3	91 %	2.5	2.5	99 %	9 %	70 - 130 %	25%
91-20-3	Naphthalene	2.5	2.4	96 %	2.5	2.7	110 %	14 %	70 - 130 %	25%
n/a	Aromatic Group	23	21	93 %	23	23	102 %	9 %	70 - 130 %	25%
QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits		
2,5-Dibromotoluene (PID)		5.0	5.1	103 %	5.0	5.2	104 %	70 - 130 %		
2,5-Dibromotoluene (FID)		5.0	5.7	113 %	5.0	5.3	106 %	70 - 130 %		

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: MA DEP VPH  
QC Batch ID: VG3-1957-E  
Matrix: Soil

Instrument ID: GC-3 HP 5890  
Analyzed: 07-21-05 08:51  
Analyst: JH

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> ⊙	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> ⊗	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>‡</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>‡</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>‡</sup>	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>‡</sup>	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>‡</sup>	BRL		mg/Kg	0.10
95-47-6	ortho-Xylene <sup>‡</sup>	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	5.0	5.3	106 %	70 - 130 %
2,5-Dibromotoluene (FID)	5.0	5.3	106 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

⊙ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

‡ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.



# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: EPA Method 8082  
QC Batch ID: PB-2198-P  
Matrix: Soil

Instrument ID: GC-6 HP 5890  
Extracted: 07-18-05 13:00  
Cleaned Up: 07-18-05 22:00  
Analyzed: 07-19-05 08:15  
Analyst: CRL

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	80
11104-28-2	Aroclor 1221	BRL		ug/Kg	80
11141-16-5	Aroclor 1232	BRL		ug/Kg	80
53469-21-9	Aroclor 1242	BRL		ug/Kg	80
12672-29-6	Aroclor 1248	BRL		ug/Kg	80
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	80
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	80
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	80

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				30 - 150 %
Column				30 - 150 %
Second				30 - 150 %
Column				30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## Quality Control Report Laboratory Control Samples

Category: Metals

Matrix: Soil

Units: mg/Kg

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-0658-SL	EPA 3050B	07-19-05 11:10	07-19-05 17:05	ICP-1 PE 3000	EB
LCS	EPA 7471A	MP-1819-SL	EPA 7471A	07-18-05 09:15	07-18-05 14:30	CVAA-1 PE FIMS	EB
LCSD	EPA 6010B	MB-0658-SL	EPA 3050B	07-19-05 11:10	07-19-05 17:08	ICP-1 PE 3000	EB
LCSD	EPA 7471A	MP-1819-SL	EPA 7471A	07-18-05 09:15	07-18-05 14:33	CVAA-1 PE FIMS	EB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-38-2	Arsenic	110	120	107%	110	120	106%	0 %	80-120 %	30 %	EPA 6010B
7440-39-3	Barium	200	220	115%	200	210	110%	2 %	82-118 %	30 %	EPA 6010B
7440-43-9	Cadmium	110	120	108%	110	110	104%	2 %	82-118 %	30 %	EPA 6010B
7440-47-3	Chromium	150	170	112%	150	170	111%	0 %	79-121 %	30 %	EPA 6010B
7439-92-1	Lead	160	170	106%	160	170	107%	0 %	80-120 %	30 %	EPA 6010B
7439-97-6	Mercury	8.4	7.8	93%	8.4	6.8	81%	7 %	51-149 %	30 %	EPA 7471A
7782-49-2	Selenium	94	100	107%	94	100	106%	0 %	76-124 %	30 %	EPA 6010B
7440-22-4	Silver	100	120	120%	100	120	114%	3 %	61-139 %	30 %	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

# GROUNDWATER ANALYTICAL

## Quality Control Report Method Blank

Category: **Metals**  
Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-0658-SB	EPA 3050B	07-19-05 11:10	0.5 g	ICP-1 PE 3000	EB
EPA 7471A	MP-1819-SB	EPA 7471A	07-18-05 09:15	0.6 g	CVAA-1 PE FIMS	EB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic		BRL	mg/Kg	1.0	1	07-19-05 17:01	EPA 6010B
7440-39-3	Barium		BRL	mg/Kg	20	1	07-19-05 17:01	EPA 6010B
7440-43-9	Cadmium		BRL	mg/Kg	0.50	1	07-19-05 17:01	EPA 6010B
7440-47-3	Chromium		BRL	mg/Kg	10	1	07-19-05 17:01	EPA 6010B
7439-92-1	Lead		BRL	mg/Kg	10	1	07-19-05 17:01	EPA 6010B
7439-97-6	Mercury		BRL	mg/Kg	0.033	1	07-18-05 14:30	EPA 7471A
7782-49-2	Selenium		BRL	mg/Kg	10	1	07-19-05 17:01	EPA 6010B
7440-22-4	Silver		BRL	mg/Kg	5.0	1	07-19-05 17:01	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

## Quality Control Report Laboratory Control Samples

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-9 Agilent 6890	LCSD	Instrument ID:	GC-9 Agilent 6890
QC Batch ID:	EP-2104-M	Extracted:	07-22-05 14:00	Extracted:	07-22-05 14:00		
Matrix:	Soil	Analyzed (AL):	07-23-05 02:37	Analyzed (AL):	07-23-05 04:06		
Units:	mg/Kg	Analyzed (AR):	07-23-05 03:21	Analyzed (AR):	07-23-05 04:50		
		Analyst:	MM	Analyst:	MM		

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	n-Nonane (C <sub>9</sub> )	3.3	1.8	55 %	3.3	2.0	61 %	11 %	30 - 140 %	25%
124-18-5	n-Decane (C <sub>10</sub> )	3.3	2.1	63 %	3.3	2.3	70 %	10 %	40 - 140 %	25%
112-40-3	n-Dodecane (C <sub>12</sub> )	3.3	2.1	63 %	3.3	2.4	72 %	12 %	40 - 140 %	25%
629-59-4	n-Tetradecane (C <sub>14</sub> )	3.3	2.3	70 %	3.3	2.6	78 %	11 %	40 - 140 %	25%
544-76-3	n-Hexadecane (C <sub>16</sub> )	3.3	2.6	78 %	3.3	2.9	87 %	11 %	40 - 140 %	25%
593-45-3	n-Octadecane (C <sub>18</sub> )	3.3	2.9	87 %	3.3	3.2	96 %	10 %	40 - 140 %	25%
n/a	n-C9 to n-C18 Group	20	14	69 %	20	15	77 %	11 %	40 - 140 %	25%
629-92-5	n-Nonadecane (C <sub>19</sub> )	3.3	2.8	84 %	3.3	3.1	93 %	11 %	40 - 140 %	25%
112-95-8	n-Eicosane (C <sub>20</sub> )	3.3	2.8	86 %	3.3	3.2	96 %	11 %	40 - 140 %	25%
629-97-0	n-Docosane (C <sub>22</sub> )	3.3	2.8	85 %	3.3	3.1	95 %	11 %	40 - 140 %	25%
646-31-1	n-Tetracosane (C <sub>24</sub> )	3.3	2.6	77 %	3.3	2.9	87 %	11 %	40 - 140 %	25%
630-01-3	n-Hexacosane (C <sub>26</sub> )	3.3	2.5	76 %	3.3	2.8	85 %	11 %	40 - 140 %	25%
630-02-4	n-Octacosane (C <sub>28</sub> )	3.3	2.4	73 %	3.3	2.7	80 %	10 %	40 - 140 %	25%
638-68-6	n-Triacontane (C <sub>30</sub> )	3.3	2.3	71 %	3.3	2.6	78 %	10 %	40 - 140 %	25%
630-06-8	n-Hexatriacontane (C <sub>36</sub> )	3.3	2.1	64 %	3.3	2.4	72 %	11 %	40 - 140 %	25%
n/a	n-C19 to n-C36 Group	26	20	77 %	26	23	86 %	11 %	40 - 140 %	25%
91-20-3	Naphthalene	3.3	2.1	62 %	3.3	2.2	68 %	9 %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	3.3	2.3	68 %	3.3	2.5	75 %	9 %	40 - 140 %	25%
208-96-8	Acenaphthylene	3.3	2.4	73 %	3.3	2.6	80 %	9 %	40 - 140 %	25%
83-32-9	Acenaphthene	3.3	2.2	67 %	3.3	2.4	74 %	10 %	40 - 140 %	25%
86-73-7	Fluorene	3.3	2.3	71 %	3.3	2.6	79 %	10 %	40 - 140 %	25%
85-01-8	Phenanthrene	3.3	2.7	82 %	3.3	3.0	92 %	11 %	40 - 140 %	25%
120-12-7	Anthracene	3.3	2.8	85 %	3.3	3.1	94 %	11 %	40 - 140 %	25%
206-44-0	Fluoranthene	3.3	2.7	80 %	3.3	2.9	89 %	10 %	40 - 140 %	25%
129-00-0	Pyrene	3.3	2.5	77 %	3.3	2.8	85 %	10 %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	3.3	2.4	73 %	3.3	2.7	81 %	9 %	40 - 140 %	25%
218-01-9	Chrysene	3.3	2.5	75 %	3.3	2.7	82 %	9 %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	3.3	2.3	69 %	3.3	2.4	74 %	7 %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	3.3	2.3	71 %	3.3	2.6	80 %	13 %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	3.3	2.2	68 %	3.3	2.5	75 %	10 %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	2.2	65 %	3.3	2.4	72 %	10 %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	3.3	2.5	75 %	3.3	2.8	84 %	11 %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	3.3	2.3	68 %	3.3	2.5	76 %	10 %	40 - 140 %	25%
n/a	PAH Group	56	41	72 %	56	45	80 %	10 %	40 - 140 %	25%

QC Surrogate Compound		Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	2.7	2.1	78 %	2.7	2.2	81 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.1	78 %	2.7	2.2	81 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.2	81 %	2.7	2.4	89 %	40 - 140 %
	ortho-Terphenyl	2.7	2.0	74 %	2.7	2.2	81 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	0 %	5%
91-57-6	2-Methylnaphthalene	LCS	0 %	LCSD	0 %	5%

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Method modified by use of microwave accelerated solvent extraction technique.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.  
The LCS and LCSD are prepared from separate source standards than those used for calibration.

## Quality Control Report Method Blank

Category: MA DEP EPH  
QC Batch ID: EP-2104-M  
Matrix: Soil

Instrument ID: GC-9 Agilent 6890  
Extracted: 07-22-05 14:00  
Analyzed (AL): 07-23-05 01:08  
Analyzed (AR): 07-23-05 01:52  
Analyst: MM

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†,‡</sup>	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation:				
2-Fluorobiphenyl	2.7	2.0	75 %	40 - 140 %
2-Bromonaphthalene	2.7	2.0	74 %	40 - 140 %
Extraction:				
Chloro-octadecane	2.7	2.2	83 %	40 - 140 %
ortho-Terphenyl	2.7	1.8	68 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>‡</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

## **Certifications and Approvals**

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

### **CONNECTICUT, Department of Health Services, PH-0586**

Categories: Potable Water, Wastewater, Solid Waste and Soil

[http://www.dph.state.ct.us/BRS/Environmental\\_Lab/OutStateLabList.htm](http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm)

### **FLORIDA, Department of Health, Bureau of Laboratories, E87643**

Categories: SDWA, CWA, RCRA/CERCLA

<http://www.floridadep.org/labs/qa/dohforms.htm>

### **MAINE, Department of Human Services, MA103**

Categories: Drinking Water and Wastewater

<http://www.state.me.us/dhs/eng/water/Compliance.htm>

### **MASSACHUSETTS, Department of Environmental Protection, M-MA-103**

Categories: Potable Water and Non-Potable Water

<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

### **NEW HAMPSHIRE, Department of Environmental Services, 202703**

Categories: Drinking Water and Wastewater

<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

### **NEW YORK, Department of Health, 11754**

Categories: Potable Water, Non-Potable Water and Solid Waste

<http://www.wadsworth.org/labcert/elap/comm.html>

### **PENNSYLVANIA, Department of Environmental Protection, 68-665**

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)

<http://www.dep.state.pa.us/Labs/Registered/>

### **RHODE ISLAND, Department of Health, 54**

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage

[http://www.healthri.org/labs/labsCT\\_MA.htm](http://www.healthri.org/labs/labsCT_MA.htm)

### **U.S. Department of Agriculture, Soil Permit, S-53921**

Foreign soil import permit

### **VERMONT, Department of Environmental Conservation, Water Supply Division**

Category: Drinking Water

<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>

# GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.  
P.O. Box 1200  
228 Main Street  
Buzzards Bay, MA 02532

Telephone (508) 759-4441  
FAX (508) 759-4475  
www.groundwateranalytical.com

September 20, 2005

Mr. Joe Callahan  
Environmental Strategies & Management, Inc.  
184 West Main Street  
Norton, MA 02766

## LABORATORY REPORT

Project: **DND Lewis Chemical/2004-301**  
Lab ID: **87113**  
Received: **09-02-05**

*Don't have  
87113-57 for PCB  
the name in  
hard copy*

Dear Joe:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.


This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

  
Eric H. Jensen  
Operations Manager

EHJ/smd  
Enclosures

*100 TCA*

*TCE*

*PCB*

*51/600*

*100,000*

*10,000*

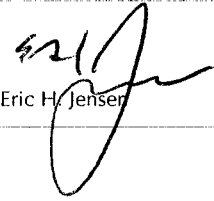
*20,000*

*1000-4500  
4500*

## Data Certification

Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Lab ID: **87113**  
Received: **09-02-05 18:30**

MA DEP Compendium of Analytical Methods					
Project Location:	n/a		MA DEP RTN:	n/a	
This Form provides certifications for the following data set:					
EPA 8260B:	87113-01,-02,-03,-04,-05,-06,-07,-08,-09,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28				
EPA 8082:	87113-31 through 66				
MA DEP VPH:	87113-29,30,89				
MA DEP EPH:	87113-68,69,70				
EPA 6010B:	87113-31 through 44,47 through 62,64,65,66,67,72 through 88				
EPA 7470A/1A:	87113-67				
Sample Matrices:	Groundwater ( )	Soil/Sediment (X)	Drinking Water ( )	Other ( )	
MCP SW-846	8260B (X)	8151A ( )	8330 ( )	6010B (X)	7470A/1A (X)
Methods Used	8270C ( )	8081A ( )	VPH (X)	6020 ( )	9012A <sup>2</sup> ( )
As specified in MA DEP Compendium of Analytical Methods.	8082 (X)	8021B ( )	EPH (X)	7000 S <sup>3</sup> ( )	Other ( )
(check all that apply)	1. List Release Tracking Number (RTN), if known. 2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method 3. S - SW-846 Methods 7000 Series. List individual method and analyte.				
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.					
A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?				Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, <i>Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data</i> ?				Yes
D.	<u>VPH and EPH methods only:</u> Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?				Yes
A response to questions E and F below is required for "Presumptive Certainty" status.					
E.	Were all QC performance standards and recommendations for the specified methods achieved?				No
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?				No
All No answers are addressed in the attached Project Narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:			Position:	Operations Manager	
Printed Name:	Eric H. Jensen		Date:	02-01-07	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report

Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Lab ID: 87113

Delivery: GWA Courier  
Airbill: n/a  
Lab Receipt: 09-02-05

Temperature: 2.0°C  
Chain of Custody: Present  
Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-1	IIA09M		Soil	8/30/05 15:10	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C612581	40 mL VOA Vial	Proline	BX16340	NaHSO4	R-4159A	05-06-05	n/a		
C662086	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	n/a		
C617154	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a		
C617153	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-2	IIA09D		Soil	8/30/05 15:20	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653333	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653330	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653303	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651775	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-3	IIA11M		Soil	8/30/05 14:15	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C651790	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		
C662085	40 mL VOA Vial	Proline	BX17867	NaHSO4	R-4305A	08-24-05	n/a		
C662084	40 mL VOA Vial	Proline	BX17867	NaHSO4	R-4305A	08-24-05	n/a		
C662083	40 mL VOA Vial	Proline	BX17867	NaHSO4	R-4305A	08-24-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-4	IIA11M2		Soil	8/30/05 14:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519475	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519467	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519446	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651802	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-5	IIA11D		Soil	8/30/05 14:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653334	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653316	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653315	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C681937	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05		
C651820	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-6	IA03M		Soil	8/30/05 9:25	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653319	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653292	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653288	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651785	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Client: Environmental Strategies & Management, Inc.

Lab ID: 87113

Delivery: GWA Courier

Airbill: n/a

Lab Receipt: 09-02-05

Temperature: 2.0°C

Chain of Custody: Present

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-7	IB055		Soil	8/30/05 10:20	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519490	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519480	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519476	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651774	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-8	IB05D		Soil	8/30/05 11:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519474	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519463	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519457	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651806	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-9	DUP1		Soil	8/30/05 10:55	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653297	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653289	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C617197	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a		
C651795	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-10	IB08M		Soil	8/30/05 11:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C673996	40 mL VOA Vial	Proline	BX16560	NaHSO4	R-4159A	05-24-05	n/a		
C519477	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C653306	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651788	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-11	ESM16		Soil	8/31/05 13:30	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C519471	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a	
C519468	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a	
C651819	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-12	IIIC02M		Soil	8/31/05 10:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C612206	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612198	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612192	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C662148	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	08-26-05		

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-13	ESMB2		Soil	8/31/05 14:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519486	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519470	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519444	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651798	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-14	III EQ2M		Soil	8/31/05 9:45	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653354	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653346	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653338	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651810	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-15	IIA015		Soil	8/31/05 10:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653358	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653321	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653302	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651839	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-16	IIA01M		Soil	8/31/05 10:50	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C653329	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C653323	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C651308	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C651832	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a	

Lab ID	Field ID		Location	Sampled	Method				Notes
87113-17	IIA01D		Soil	8/31/05 11:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653328	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653327	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653326	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651804	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-18	IIA03S		Soil	8/31/05 9:40	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519436	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519435	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519434	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651829	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Client: Environmental Strategies & Management, Inc.

Lab ID: 87113

Delivery: GWA Courier

Airbill: n/a

Lab Receipt: 09-02-05

Temperature: 2.0°C

Chain of Custody: Present

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-19	IIA03M		Soil	8/31/05 9:50	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C519496	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519473	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C519464	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a		
C651800	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
B7113-20	IIA03D		Soil	8/31/05 10:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653357	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653355	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653341	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651823	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-21	DUP3		Soil	8/31/05 9:55	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C662129	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	n/a	
C617152	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a	
C617151	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a	
C617150	40 mL VOA Vial	Proline	BX17682	NaHSO4	R-4305A	08-24-05	n/a	

Lab ID	Field ID		Matrix	Sampled	-Method			Notes
87113-22	IIA05D		Soil	8/31/05 9:00	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C653331	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C653305	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C653291	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a	
C651796	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a	

Lab ID	Field ID		Sample ID	Sampled On	Analysis Method				Notes
87113-23	IIA07D		Soil	8/31/05 8:25	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653314	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653311	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653310	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C681854	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05		
C651837	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-24	ESM15	Soil	8/31/05 11:45	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C519499	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a	
C519449	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a	
C519443	40 mL VOA Vial	Proline	BX17315	NaHSO4	R-4159A	08-01-05	n/a	
C651842	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-25	ESM15		Soil	8/31/05 11:50	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C653335	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653304	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C653298	40 mL VOA Vial	Proline	BX17326	NaHSO4	R-4159A	08-03-05	n/a		
C651841	40 mL VOA Vial	Proline	BX17529	Methanol	R-4499AD	08-10-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-26	IIIF035		Soil	9/1/05 8:50	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632888	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a		
C612232	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612214	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612210	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-27	IIIF03M		Soil	9/1/05 9:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C632941	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a		
C612238	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612213	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		
C612182	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-28	IIIF03D		Soil	9/1/05 9:10	EPA 8260B Volatile Organics with Oxygenates			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C632884	40 mL VOA Vial	Proline	BX16322	Methanol	R-4361T	04-27-05	n/a	
C612237	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	
C612190	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	
C612188	40 mL VOA Vial	Proline	BX16331	NaHSO4	R-4159A	05-06-05	n/a	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-29	IA03M		Soil	8/30/05 9:25	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C662099	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	08-26-05		

Lab ID	Field ID	Matrix	Sampled	Method				Notes
87113-30	IB05D	Soil	8/30/05 11:00	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C662126	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-31	IA03S	Soil	8/30/05 9:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681861	250 ml. Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method				Notes
87113-32	IA03M	Soil	8/30/05 9:25	EPA 6010B Pb Total ✓EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681858	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
BPT13-33	IA03D	Soil	8/30/05 9:30	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C681859	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-34	IB05S		Soil	8/30/05 10:20	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681862	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-35	IB05M		Soil	8/30/05 10:50	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681860	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-36	IB05D	Soil	8/30/05 11:00	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681863	250 ml. Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-37	IB08S		Soil	8/30/05 11:00	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681866	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-38	IB08M		Soil	8/30/05 11:00	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681865	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-39	IB08D		Soil	8/30/05 11:50	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C681856	250 mL Glass	Proline	BX17848	None	n/a	n/a	08-26-05		

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-40	IIA09S	Soil	8/30/05 15:00	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681932	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method	Notes		
87113-41	IIA09M	Soil	8/30/05 15:10	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C681935	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-42	IIA09D	Soil	8/30/05 15:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681938	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-43	IIA115	Soil	8/30/05 14:10	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681936	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-44	IIA11M	Soil	8/30/05 14:15	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681933	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-45	IIA11M2	Soil	8/30/05 14:30	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681934	250 mL Glass	Proline	BX17844	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-46	ESM16	Soil	8/31/05 13:30	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681822	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-47	IIIC02M	Soil	8/31/05 10:40	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613360	250 mL Glass	Greenwood	BX17646	None	n/a	n/a	08-08-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-48	IIIC02D	Soil	8/31/05 10:50	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681825	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-49	IIIE02S	Soil	8/31/05 9:35	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681829	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-50	IIIE02M	Soil	8/31/05 9:45	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681828	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-51	IIIE02D	Soil	8/31/05 9:55	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681830	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method				Notes
87113-52	IC09S	Soil	8/31/05 14:00	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681819	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87113-53	IC09M		Soil	8/31/05 14:10	EPA 6010B Pb Total EPA 8082 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681826	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87113-54	IC09D		Soil	8/31/05 14:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C681820	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05		

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-55	IIA01S	Soil	8/31/05 9:40	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681846	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method				Notes
B7113-56	IIA01M	Soil	8/31/05 9:40	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681843	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-57	IIA03S	Soil	8/31/05 9:40	EPA 6010B Pb Total EPA 8082 PCBs	ms/mcd requested 9/27			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681843	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method				Notes
87113-58	IIAD3M	Soil	8/31/05 9:50	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681847	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	

Lab ID	Field ID	Matrix	Sampled	Method				Notes
87113-59	IIA05M	Soil	8/31/05 8:50	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681850	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Client: Environmental Strategies & Management, Inc.

Lab ID: 87113

Delivery: GWA Courier

Airbill: n/a

Lab Receipt: 09-02-05

Temperature: 2.0°C

Chain of Custody: Present

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-60	IIA05D	Soil	8/31/05 9:00	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681849	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-61	IIA07S	Soil	8/31/05 8:15	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681853	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-62	IIA07M	Soil	8/31/05 8:20	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681852	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-63	ESM15 (13-15)	Soil	8/31/05 11:50	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C686817	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-64	IIIF03S	Soil	9/1/05 8:50	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C686813	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-65	IIIF03M	Soil	9/1/05 9:00	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C620586	250 mL Glass	Proline	BX16663	None	n/a	n/a	05-13-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-66	IIIF03D	Soil	9/1/05 9:10	EPA 6010B Pb Total EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C686812	250 mL Glass	Proline	BX16830	None	n/a	n/a	05-25-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-67	ESM15 (6-2)	Soil	8/31/05 11:55	EPA 6010B/7471A 8 RCRA Metals				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C646672	250 mL Glass	Proline	BX17432	None	n/a	n/a	07-29-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-68	IA03M	Soil	8/30/05 9:25	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613522	120 mL Amber Glass	Proline	BX17628	None	n/a	n/a	08-26-05	

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-69	IB05D	Soil	8/30/05 11:00	MA DEP EPH with PAHs	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C613511	120 mL Amber Glass	Proline	BX17628	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-70	ESM15	Soil	8/31/05 11:40	MA DEP EPH with PAHs	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C613517	120 mL Amber Glass	Proline	BX17628	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-71	HIE02	Soil	8/31/05 9:30	EPA 6010B TCLP As Ba Cd Cr Se Ag Pb EPA 7470A TCLP Hg EPA 8260B TCLP Volatile Organics	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C677010	120 mL Amber Glass	Proline	BX16815	None	n/a
				Prep	Ship
					05-25-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-72	IA085	Soil	8/30/05 12:20	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681857	250 mL Glass	Proline	BX17848	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-73	IA08M	Soil	8/30/05 12:30	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681855	250 mL Glass	Proline	BX17848	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-74	DUP2	Soil	8/30/05 11:40	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681864	250 mL Glass	Proline	BX17848	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-75	IB10S	Soil	8/30/05 13:20	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681927	250 mL Glass	Proline	BX17844	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-76	IB10M	Soil	8/30/05 13:30	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681931	250 mL Glass	Proline	BX17844	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-77	IB10D	Soil	8/30/05 13:40	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C681929	250 mL Glass	Proline	BX17844	None	n/a
				Prep	Ship
					08-26-05
Lab ID	Field ID	Matrix	Sampled	Method	Notes
87113-78	DUP4	Soil	8/31/05 10:45	EPA 6010B Pb Total	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot
C686701	250 mL Glass	Proline	BX16821	None	n/a
				Prep	Ship
					05-25-05

# GROUNDWATER ANALYTICAL

## Sample Receipt Report (Continued)

Project: DND Lewis Chemical/2004-301

Delivery: GWA Courier

Temperature: 2.0°C

Client: Environmental Strategies & Management, Inc.

Airbill: n/a

Chain of Custody: Present

Lab ID: 87113

Lab Receipt: 09-02-05

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-79	ID10S	Soil	8/31/05 14:50	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681823	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-80	ID10M	Soil	8/31/05 15:00	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681821	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-81	ID10D	Soil	8/31/05 15:10	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681827	250 mL Glass	Proline	BX17849	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-82	IIA01D	Soil	8/31/05 11:00	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681848	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-83	IIA03D	Soil	8/31/05 10:00	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681844	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-84	IIA05S	Soil	8/31/05 8:40	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C681851	250 mL Glass	Proline	BX17847	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-85	ESM12	Soil	8/31/05 14:30	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613507	120 mL Amber Glass	Proline	BX17628	None	n/a	n/a	08-26-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-86	IIIE05S	Soil	9/1/05 8:50	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613362	250 mL Glass	Greenwood	BX17646	None	n/a	n/a	08-08-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-87	IIIE05M	Soil	9/1/05 9:00	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613364	250 mL Glass	Greenwood	BX17646	None	n/a	n/a	08-08-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-88	IIIE05D	Soil	9/1/05 9:10	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C613363	250 mL Glass	Greenwood	BX17646	None	n/a	n/a	08-08-05	
Lab ID	Field ID	Matrix	Sampled	Method	Notes			
87113-89	ESM15	Soil	8/31/05 11:40	MA DEP VPH with Targets				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C662150	40 mL VOA Vial	Proline	BX17874	Methanol	R-4500A	08-26-05	08-26-05	

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-01  
Sampled: 08-30-05 15:10  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 22:34  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 78  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,100
74-87-3	Chloromethane	BRL		ug/Kg	1,100
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,100
74-83-9	Bromomethane	BRL		ug/Kg	1,100
75-00-3	Chloroethane	BRL		ug/Kg	1,100
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,100
60-29-7	Diethyl Ether	BRL		ug/Kg	1,100
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	550
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	5,500
67-64-1	Acetone	BRL		ug/Kg	5,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	5,500
75-09-2	Methylene Chloride	BRL		ug/Kg	2,200
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	550
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	550
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	550
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	550
156-59-2	cis-1,2-Dichloroethene	580		ug/Kg	550
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	5,500
74-97-5	Bromochloromethane	BRL		ug/Kg	550
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5,500
67-66-3	Chloroform	BRL		ug/Kg	550
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	550
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	550
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	550
71-43-2	Benzene	BRL		ug/Kg	550
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	550
79-01-6	Trichloroethene	BRL		ug/Kg	550
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	550
74-95-3	Dibromomethane	BRL		ug/Kg	550
75-27-4	Bromodichloromethane	BRL		ug/Kg	550
123-91-1	1,4-Dioxane	BRL		ug/Kg	550,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	550
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	5,500
108-88-3	Toluene	1,600		ug/Kg	550
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	550
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	550
127-18-4	Tetrachloroethene	BRL		ug/Kg	550
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	550
591-78-6	2-Hexanone	BRL		ug/Kg	5,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	550
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	550
108-90-7	Chlorobenzene	BRL		ug/Kg	550
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	550
100-41-4	Ethylbenzene	4,000		ug/Kg	550
108-38-3/106-42-3	meta-Xylene and para-Xylene	13,000		ug/Kg	550
95-47-6	ortho-Xylene	1,300		ug/Kg	550

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-01  
Sampled: 08-30-05 15:10  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 22:34  
Analyst: EMC

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 78  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	550
75-25-2	Bromoform	BRL		ug/Kg	550
98-82-8	Isopropylbenzene	BRL		ug/Kg	550
108-86-1	Bromobenzene	BRL		ug/Kg	550
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	550
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	550
103-65-1	n-Propylbenzene	BRL		ug/Kg	550
95-49-8	2-Chlorotoluene	BRL		ug/Kg	550
108-67-8	1,3,5-Trimethylbenzene	680		ug/Kg	550
106-43-4	4-Chlorotoluene	BRL		ug/Kg	550
98-06-6	tert-Butylbenzene	BRL		ug/Kg	550
95-63-6	1,2,4-Trimethylbenzene	1,300		ug/Kg	550
135-98-8	sec-Butylbenzene	BRL		ug/Kg	550
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	550
99-87-6	4-Isopropyltoluene	5,000		ug/Kg	550
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	550
95-50-1	1,2-Dichlorobenzene	1,900		ug/Kg	550
104-51-8	n-Butylbenzene	BRL		ug/Kg	550
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	550
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	550
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	550
91-20-3	Naphthalene	1,100		ug/Kg	550
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	550
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	22,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	550
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	550
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	550

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	95 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	108 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	104 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA09D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-02  
Sampled: 08-30-05 15:20  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 23:08  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 10 mL  
% Solids: 81  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	12,000
74-87-3	Chloromethane	BRL		ug/Kg	12,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	12,000
74-83-9	Bromomethane	BRL		ug/Kg	12,000
75-00-3	Chloroethane	BRL		ug/Kg	12,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	12,000
60-29-7	Diethyl Ether	BRL		ug/Kg	12,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	6,100
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	61,000
67-64-1	Acetone	BRL		ug/Kg	61,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	61,000
75-09-2	Methylene Chloride	BRL		ug/Kg	24,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	6,100
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	6,100
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	6,100
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	6,100
156-59-2	cis-1,2-Dichloroethene	47,000		ug/Kg	6,100
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	61,000
74-97-5	Bromochloromethane	BRL		ug/Kg	6,100
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	61,000
67-66-3	Chloroform	BRL		ug/Kg	6,100
71-55-6	1,1,1-Trichloroethane	44,000		ug/Kg	6,100
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	6,100
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	6,100
71-43-2	Benzene	BRL		ug/Kg	6,100
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	6,100
79-01-6	Trichloroethene	14,000		ug/Kg	6,100
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	6,100
74-95-3	Dibromomethane	BRL		ug/Kg	6,100
75-27-4	Bromodichloromethane	BRL		ug/Kg	6,100
123-91-1	1,4-Dioxane	BRL		ug/Kg	6,100,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	6,100
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	61,000
108-88-3	Toluene	110,000		ug/Kg	6,100
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	6,100
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	6,100
127-18-4	Tetrachloroethene	26,000	26,000	ug/Kg	6,100
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	6,100
591-78-6	2-Hexanone	BRL		ug/Kg	61,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	6,100
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	6,100
108-90-7	Chlorobenzene	BRL		ug/Kg	6,100
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	6,100
100-41-4	Ethylbenzene	8,000		ug/Kg	6,100
108-38-3/106-42-3	meta-Xylene and para-Xylene	25,000		ug/Kg	6,100
95-47-6	ortho-Xylene	6,300		ug/Kg	6,100

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA09D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Laboratory ID: 87113-02  
Sampled: 08-30-05 15:20  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 23:08  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 10 mL  
% Solids: 81  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	6,100
75-25-2	Bromoform	BRL		ug/Kg	6,100
98-82-8	Isopropylbenzene	BRL		ug/Kg	6,100
108-86-1	Bromobenzene	BRL		ug/Kg	6,100
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	6,100
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	6,100
103-65-1	n-Propylbenzene	BRL		ug/Kg	6,100
95-49-8	2-Chlorotoluene	BRL		ug/Kg	6,100
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	6,100
106-43-4	4-Chlorotoluene	BRL		ug/Kg	6,100
98-06-6	tert-Butylbenzene	BRL		ug/Kg	6,100
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	6,100
135-98-8	sec-Butylbenzene	BRL		ug/Kg	6,100
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	6,100
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	6,100
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	6,100
95-50-1	1,2-Dichlorobenzene	19,000		ug/Kg	6,100
104-51-8	n-Butylbenzene	BRL		ug/Kg	6,100
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	6,100
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	6,100
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	6,100
91-20-3	Naphthalene	BRL		ug/Kg	6,100
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	6,100
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	240,000
108-70-7	Bromobenzene	BRL		ug/Kg	6,100
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	6,100
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	6,100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	97 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	89 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	107 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	111 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-03  
Sampled: 08-30-05 14:15  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 13:19  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1654-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 77  
Dilution Factor: 2

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,200
74-87-3	Chloromethane	BRL		ug/Kg	1,200
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,200
74-83-9	Bromomethane	BRL		ug/Kg	1,200
75-00-3	Chloroethane	BRL		ug/Kg	1,200
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,200
60-29-7	Diethyl Ether	BRL		ug/Kg	1,200
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	1,200
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	590
67-64-1	Acetone	BRL		ug/Kg	5,900
75-15-0	Carbon Disulfide	BRL		ug/Kg	5,900
75-09-2	Methylene Chloride	BRL		ug/Kg	5,900
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	2,300
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	590
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	590
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	590
156-59-2	cis-1,2-Dichloroethene	1,300		ug/Kg	590
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	5,900
74-97-5	Bromochloromethane	BRL		ug/Kg	590
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5,900
67-66-3	Chloroform	BRL		ug/Kg	590
71-55-6	1,1,1-Trichloroethane	960		ug/Kg	590
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	590
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	590
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	590
79-01-6	Trichloroethene	BRL		ug/Kg	590
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	590
74-95-3	Dibromomethane	BRL		ug/Kg	590
75-27-4	Bromodichloromethane	BRL		ug/Kg	590
123-91-1	1,4-Dioxane	BRL		ug/Kg	590,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	590
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	5,900
108-88-3	Toluene	BRL		ug/Kg	590
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	590
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	590
127-18-4	Tetrachloroethene	BRL		ug/Kg	590
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	590
591-78-6	2-Hexanone	BRL		ug/Kg	5,900
124-48-1	Dibromochloromethane	BRL		ug/Kg	590
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	590
108-90-7	Chlorobenzene	BRL		ug/Kg	590
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	590
100-41-4	Ethylbenzene	BRL		ug/Kg	590
108-38-3/106-42-3	meta-Xylene and para-Xylene	780		ug/Kg	590
95-47-6	ortho-Xylene	BRL		ug/Kg	590

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-03  
Sampled: 08-30-05 14:15  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 13:19  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1654-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 77  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	590
75-25-2	Bromoform	BRL		ug/Kg	590
98-82-8	Isopropylbenzene	BRL		ug/Kg	590
108-86-1	Bromobenzene	BRL		ug/Kg	590
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	590
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	590
103-65-1	n-Propylbenzene	730		ug/Kg	590
95-49-8	2-Chlorotoluene	BRL		ug/Kg	590
108-67-8	1,3,5-Trimethylbenzene	2,000		ug/Kg	590
106-43-4	4-Chlorotoluene	BRL		ug/Kg	590
98-06-6	tert-Butylbenzene	BRL		ug/Kg	590
95-63-6	1,2,4-Trimethylbenzene	3,400		ug/Kg	590
135-98-8	sec-Butylbenzene	BRL		ug/Kg	590
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	590
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	590
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	590
95-50-1	1,2-Dichlorobenzene	1,700		ug/Kg	590
104-51-8	n-Butylbenzene	BRL		ug/Kg	590
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	590
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	590
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	590
91-20-3	Naphthalene	2,200		ug/Kg	590
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	590
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	23,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	590
994-05-0	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	590

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,500	98 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	91 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,800	111 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	106 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11M2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 87113-04  
Sampled: 08-30-05 14:30  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 13:54  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1654-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 7.6 g  
Final Volume: 10 mL  
% Solids: 51  
Dilution Factor: 4

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	5,200
74-87-3	Chloromethane	BRL		ug/Kg	5,200
75-01-4	Vinyl Chloride	BRL		ug/Kg	5,200
74-83-9	Bromomethane	BRL		ug/Kg	5,200
75-00-3	Chloroethane	BRL		ug/Kg	5,200
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	5,200
60-29-7	Diethyl Ether	BRL		ug/Kg	5,200
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	2,600
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	26,000
67-64-1	Acetone	BRL		ug/Kg	26,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	26,000
75-09-2	Methylene Chloride	BRL		ug/Kg	10,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	2,600
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	2,600
75-34-3	1,1-Dichloroethane	6,100		ug/Kg	2,600
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	2,600
156-59-2	cis-1,2-Dichloroethene	33,000		ug/Kg	2,600
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	26,000
74-97-5	Bromochloromethane	BRL		ug/Kg	2,600
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	26,000
67-66-3	Chloroform	BRL		ug/Kg	2,600
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	2,600
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	2,600
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	2,600
71-43-2	Benzene	BRL		ug/Kg	2,600
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	2,600
79-01-6	Trichloroethene	BRL		ug/Kg	2,600
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	2,600
74-95-3	Dibromomethane	BRL		ug/Kg	2,600
75-27-4	Bromodichloromethane	BRL		ug/Kg	2,600
123-91-1	1,4-Dioxane	BRL		ug/Kg	2,600,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	2,600
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	26,000
108-88-3	Toluene	12,000		ug/Kg	2,600
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	2,600
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	2,600
127-18-4	Tetrachloroethene	BRL		ug/Kg	2,600
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	2,600
591-78-6	2-Hexanone	BRL		ug/Kg	26,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	2,600
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	2,600
108-90-7	Chlorobenzene	BRL		ug/Kg	2,600
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	2,600
100-41-4	Ethylbenzene	BRL		ug/Kg	2,600
108-18-3/106-42-3	meta-Xylene and para-Xylene	5,400		ug/Kg	2,600
95-47-6	ortho-Xylene	BRL		ug/Kg	2,600

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11M2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 87113-04  
Sampled: 08-30-05 14:30  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 13:54  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1654-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 7.6 g  
Final Volume: 10 mL  
% Solids: 51  
Dilution Factor: 4

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	2,600
75-25-2	Bromoform	BRL		ug/Kg	2,600
98-82-8	Isopropylbenzene	BRL		ug/Kg	2,600
108-86-1	Bromobenzene	BRL		ug/Kg	2,600
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	2,600
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	2,600
103-65-1	n-Propylbenzene	BRL		ug/Kg	2,600
95-49-8	2-Chlorotoluene	BRL		ug/Kg	2,600
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	2,600
106-43-4	4-Chlorotoluene	BRL		ug/Kg	2,600
98-06-6	tert-Butylbenzene	BRL		ug/Kg	2,600
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	2,600
135-98-8	sec-Butylbenzene	BRL		ug/Kg	2,600
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	2,600
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	2,600
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	2,600
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	2,600
104-51-8	n-Butylbenzene	BRL		ug/Kg	2,600
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	2,600
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	2,600
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	2,600
91-20-3	Naphthalene	BRL		ug/Kg	2,600
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	2,600
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	100,000
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	2,600
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	2,600
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	2,600

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,500	100 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	89 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,800	110 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-05  
Sampled: 08-30-05 14:40  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 23:43  
Analyst: EMC

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 87  
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	520
74-87-3	Chloromethane	BRL		ug/Kg	520
75-01-4	Vinyl Chloride	940		ug/Kg	520
74-83-9	Bromomethane	BRL		ug/Kg	520
75-00-3	Chloroethane	BRL		ug/Kg	520
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	520
60-29-7	Diethyl Ether	BRL		ug/Kg	520
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	260
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,600
67-64-1	Acetone	BRL		ug/Kg	2,600
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,600
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	260
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	260
75-34-3	1,1-Dichloroethane	640		ug/Kg	260
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	260
156-59-2	cis-1,2-Dichloroethene	4,400		ug/Kg	260
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,600
74-97-5	Bromochloromethane	BRL		ug/Kg	260
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,600
67-66-3	Chloroform	BRL		ug/Kg	260
71-55-6	1,1,1-Trichloroethane	270		ug/Kg	260
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	260
100-50-0	1,1,2-Trichloroethane	BRL		ug/Kg	260
71-43-2	Benzene	BRL		ug/Kg	260
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	260
79-01-6	Trichloroethene	BRL		ug/Kg	260
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	260
74-95-3	Dibromomethane	BRL		ug/Kg	260
75-27-4	Bromodichloromethane	BRL		ug/Kg	260
123-91-1	1,4-Dioxane	BRL		ug/Kg	260,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	260
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,600
108-88-3	Toluene	1,500		ug/Kg	260
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	260
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	260
127-18-4	Tetrachloroethene	BRL		ug/Kg	260
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	260
591-78-6	2-Hexanone	BRL		ug/Kg	2,600
124-48-1	Dibromochloromethane	BRL		ug/Kg	260
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	260
108-90-7	Chlorobenzene	BRL		ug/Kg	260
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	260
100-41-4	Ethylbenzene	BRL		ug/Kg	260
108-38-3/106-42-3	meta-Xylene and para-Xylene	300		ug/Kg	260
95-47-6	ortho-Xylene	BRL		ug/Kg	260

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA11D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-05  
Sampled: 08-30-05 14:40  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 23:43  
Analyst: EMC

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 87  
Dilution Factor: 1

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	260
75-25-2	Bromoform	BRL		ug/Kg	260
98-82-8	Isopropylbenzene	BRL		ug/Kg	260
108-86-1	Bromobenzene	BRL		ug/Kg	260
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	260
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	260
103-65-1	n-Propylbenzene	BRL		ug/Kg	260
95-49-8	2-Chlorotoluene	BRL		ug/Kg	260
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	260
106-43-4	4-Chlorotoluene	BRL		ug/Kg	260
98-06-6	tert-Butylbenzene	BRL		ug/Kg	260
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	260
135-98-8	sec-Butylbenzene	BRL		ug/Kg	260
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	260
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	260
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	260
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	260
104-51-8	n-Butylbenzene	BRL		ug/Kg	260
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	260
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	260
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	260
91-20-3	Naphthalene	BRL		ug/Kg	260
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	260
75-00-0	1,1,1-Trichloroethane	BRL		ug/Kg	260
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	260
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	260
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	260

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	96 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	109 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-06  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 00:17  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 15 mL  
% Solids: 82  
Dilution Factor: 10

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	8,900
74-87-3	Chloromethane	BRL		ug/Kg	8,900
75-01-4	Vinyl Chloride	BRL		ug/Kg	8,900
74-83-9	Bromomethane	BRL		ug/Kg	8,900
75-00-3	Chloroethane	BRL		ug/Kg	8,900
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	8,900
60-29-7	Diethyl Ether	BRL		ug/Kg	8,900
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	4,500
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	45,000
67-64-1	Acetone	BRL		ug/Kg	45,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	45,000
75-09-2	Methylene Chloride	BRL		ug/Kg	18,000
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	4,500
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	4,500
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	4,500
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	4,500
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	4,500
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	45,000
74-97-5	Bromochloromethane	BRL		ug/Kg	4,500
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	45,000
67-66-3	Chloroform	BRL		ug/Kg	4,500
71-55-6	1,1,1-Trichloroethane	4,700		ug/Kg	4,500
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	4,500
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	4,500
71-43-2	Benzene	BRL		ug/Kg	4,500
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	4,500
79-01-6	Trichloroethene	10,000		ug/Kg	4,500
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	4,500
74-95-3	Dibromomethane	BRL		ug/Kg	4,500
75-27-4	Bromodichloromethane	BRL		ug/Kg	4,500
123-91-1	1,4-Dioxane	BRL		ug/Kg	4,500,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	4,500
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	45,000
108-88-3	Toluene	BRL		ug/Kg	4,500
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	4,500
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	4,500
127-18-4	Tetrachloroethene	31,000		ug/Kg	4,500
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	4,500
591-78-6	2-Hexanone	BRL		ug/Kg	45,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	4,500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	4,500
108-90-7	Chlorobenzene	BRL		ug/Kg	4,500
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	4,500
100-41-4	Ethylbenzene	BRL		ug/Kg	4,500
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	4,500
95-47-6	ortho- Xylene	BRL		ug/Kg	4,500

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-06  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 00:17  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 15 mL  
% Solids: 82  
Dilution Factor: 10

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	4,500
75-25-2	Bromoform	BRL		ug/Kg	4,500
98-82-8	Isopropylbenzene	BRL		ug/Kg	4,500
108-86-1	Bromobenzene	BRL		ug/Kg	4,500
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	4,500
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	4,500
103-65-1	n-Propylbenzene	BRL		ug/Kg	4,500
95-49-8	2-Chlorotoluene	BRL		ug/Kg	4,500
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	4,500
106-43-4	4-Chlorotoluene	BRL		ug/Kg	4,500
98-06-6	tert-Butylbenzene	BRL		ug/Kg	4,500
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	4,500
135-98-8	sec-Butylbenzene	BRL		ug/Kg	4,500
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	4,500
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	4,500
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	4,500
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	4,500
104-51-8	n-Butylbenzene	BRL		ug/Kg	4,500
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	4,500
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	4,500
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	4,500
91-20-3	Naphthalene	BRL		ug/Kg	4,500
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	4,500
75-63-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	100,000
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	4,500
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	4,500
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	4,500

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	97 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,400	94 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	107 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IB055  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-07  
Sampled: 08-30-05 10:20  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 00:52  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 91  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	620
74-87-3	Chloromethane	BRL		ug/Kg	620
75-01-4	Vinyl Chloride	BRL		ug/Kg	620
74-83-9	Bromomethane	BRL		ug/Kg	620
75-00-3	Chloroethane	BRL		ug/Kg	620
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	620
60-29-7	Diethyl Ether	BRL		ug/Kg	620
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	310
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,100
67-64-1	Acetone	BRL		ug/Kg	3,100
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,100
75-09-2	Methylene Chloride	BRL		ug/Kg	1,200
156-60-5	trans- 1,2-Dichloroethene	BRL		ug/Kg	310
1634-04-4	Methyl tert- butyl Ether (MTBE)	BRL		ug/Kg	310
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	310
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	310
156-59-2	cis- 1,2-Dichloroethene	BRL		ug/Kg	310
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,100
74-97-5	Bromochloromethane	BRL		ug/Kg	310
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,100
67-66-3	Chloroform	BRL		ug/Kg	310
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	310
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	310
71-43-2	Benzene	BRL		ug/Kg	310
107-06-2	1,2-Dichloroethane	680		ug/Kg	310
79-01-6	Trichloroethene	2,200		ug/Kg	310
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	310
74-95-3	Dibromomethane	BRL		ug/Kg	310
75-27-4	Bromodichloromethane	BRL		ug/Kg	310
123-91-1	1,4-Dioxane	BRL		ug/Kg	310,000
10061-01-5	cis- 1,3-Dichloropropene	BRL		ug/Kg	310
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,100
108-88-3	Toluene	330		ug/Kg	310
10061-02-6	trans- 1,3-Dichloropropene	BRL		ug/Kg	310
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	310
127-18-4	Tetrachloroethene	590		ug/Kg	310
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	310
591-78-6	2-Hexanone	BRL		ug/Kg	3,100
124-48-1	Dibromochloromethane	BRL		ug/Kg	310
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	310
108-90-7	Chlorobenzene	BRL		ug/Kg	310
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	310
100-41-4	Ethylbenzene	BRL		ug/Kg	310
108-38-3/106-42-3	meta- Xylene and para- Xylene	BRL		ug/Kg	310
95-47-6	ortho- Xylene	BRL		ug/Kg	310

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **IB055**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-07**  
Sampled: **08-30-05 10:20**  
Received: **09-02-05 18:30**  
Analyzed: **09-10-05 00:52**  
Analyst: **EMC**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**

QC Batch ID: **VM1-1656-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **13 g**  
Final Volume: **15 mL**  
% Solids: **91**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	310
75-25-2	Bromoform	BRL		ug/Kg	310
98-82-8	Isopropylbenzene	BRL		ug/Kg	310
106-86-1	Bromobenzene	BRL		ug/Kg	310
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	310
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	310
103-65-1	n-Propylbenzene	BRL		ug/Kg	310
95-49-8	2-Chlorotoluene	BRL		ug/Kg	310
108-67-8	1,3,5-Trimethylbenzene	420		ug/Kg	310
106-43-4	4-Chlorotoluene	BRL		ug/Kg	310
98-06-6	tert-Butylbenzene	BRL		ug/Kg	310
95-63-6	1,2,4-Trimethylbenzene	410		ug/Kg	310
135-98-8	sec-Butylbenzene	BRL		ug/Kg	310
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	310
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	310
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	310
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	310
104-51-8	n-Butylbenzene	BRL		ug/Kg	310
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	310
120-82-1	1,2,4-Trichlorobenzene	B		ug/Kg	310
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	310
91-20-3	Naphthalene	BRL		ug/Kg	310
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	310
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	310
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	310
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	310

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	94 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	92 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	108 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	109 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996)  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **IB05D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-08**  
Sampled: **08-30-05 11:00**  
Received: **09-02-05 18:30**  
Analyzed: **09-08-05 12:38**  
Analyst: **LMG**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **NaHSO4 / Cool**  
QC Batch ID: **VM2-2773-S**  
Instrument ID: **MS-2 HP 5890**  
Sample Weight: **5.6 g**  
% Solids: **88**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	12		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	37		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	50
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	50
75-09-2	Methylene Chloride	BRL		ug/Kg	50
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	22		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	50
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	50
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-42-2	Dibromomethane	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	BRL		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	85		ug/Kg	5
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	50
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	100		ug/Kg	5
106-38-3/106-42-3	meta-Xylene and para-Xylene	87		ug/Kg	5
95-47-6	ortho-Xylene	16		ug/Kg	5

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **IB05D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-08**  
Sampled: **08-30-05 11:00**  
Received: **09-02-05 18:30**  
Analyzed: **09-08-05 12:38**  
Analyst: **LMG**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **NaHSO<sub>4</sub> / Cool**  
QC Batch ID: **VM2-2773-S**  
Instrument ID: **MS-2 HP 5890**  
Sample Weight: **5.6 g**  
% Solids: **88**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	200
100-70-1	Dibromodifluoromethane (DBDF)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	48	96 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	39	78 %	70 - 130 %
Toluene-d <sub>8</sub>	50	42	84 %	70 - 130 %
4-Bromofluorobenzene	50	43	86 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: DUP1  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool

Laboratory ID: 87113-09  
Sampled: 08-30-05 10:55  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 03:07  
Analyst: CCT

QC Batch ID: VM1-1655-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 5.3 g  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	11
74-87-3	Chloromethane	BRL		ug/Kg	11
75-01-4	Vinyl Chloride	BRL		ug/Kg	11
74-83-9	Bromomethane	BRL		ug/Kg	11
75-00-3	Chloroethane	21		ug/Kg	11
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	11
60-29-7	Diethyl Ether	BRL		ug/Kg	11
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	54
67-64-1	Acetone	BRL		ug/Kg	210
75-15-0	Carbon Disulfide	BRL		ug/Kg	54
75-09-2	Methylene Chloride	BRL		ug/Kg	54
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	10		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	54
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	54
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
107-06-2	benzene	BRL		ug/Kg	5
79-01-6	1,2-Dichloroethane	BRL		ug/Kg	5
78-07-5	Trichloroethene	BRL		ug/Kg	5
74-95-3	1,2-Dichloropropane	BRL		ug/Kg	5
75-27-4	Dibromomethane	BRL		ug/Kg	5
123-91-1	Bromodichloromethane	BRL		ug/Kg	5
10061-01-5	1,4-Dioxane	BRL		ug/Kg	5400
108-10-1	cis-1,3-Dichloropropene	BRL		ug/Kg	5
108-88-3	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	54
10061-02-6	Toluene	6		ug/Kg	5
79-00-5	trans-1,3-Dichloropropene	BRL		ug/Kg	5
127-18-4	1,1,2-Trichloroethane	BRL		ug/Kg	5
142-28-9	Tetrachloroethene	BRL		ug/Kg	5
591-78-6	1,3-Dichloropropane	BRL		ug/Kg	5
124-48-1	2-Hexanone	BRL		ug/Kg	54
106-93-4	Dibromochloromethane	BRL		ug/Kg	5
108-90-7	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
630-20-6	Chlorobenzene	BRL		ug/Kg	5
100-41-4	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
108-38-3/106-47-3	Ethylbenzene	92		ug/Kg	5
95-47-6	meta-Xylene and para-Xylene	BRL		ug/Kg	5
	ortho-Xylene	BRL		ug/Kg	5

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: DUP1  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-09  
Sampled: 08-30-05 10:55  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 03:07  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool  
QC Batch ID: VM1-1655-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 5.3 g  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	210
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	52	105 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	51	101 %	70 - 130 %
Toluene-d <sub>8</sub>	50	55	110 %	70 - 130 %
4-Bromofluorobenzene	50	53	106 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996)  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **IB08M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-10**  
Sampled: **08-30-05 11:30**  
Received: **09-02-05 18:30**  
Analyzed: **09-08-05 13:48**  
Analyst: **LMG**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **NaHSO4 / Cool**  
QC Batch ID: **VM2-2773-S**  
Instrument ID: **MS-2 HP 5890**  
Sample Weight: **6 g**  
% Solids: **81**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	51
67-64-1	Acetone	BRL		ug/Kg	200
75-15-0	Carbon Disulfide	BRL		ug/Kg	51
75-09-2	Methylene Chloride	BRL		ug/Kg	51
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	51
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	51
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-12-2	Perfluoromethane	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	6		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5100
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	51
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	51
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	5
95-47-6	ortho-Xylene	BRL		ug/Kg	5

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: **1B08M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-10**  
Sampled: **08-30-05 11:30**  
Received: **09-02-05 18:30**  
Analyzed: **09-08-05 13:48**  
Analyst: **LMG**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **NaHSO<sub>4</sub> / Cool**  
QC Batch ID: **VM2-2773-S**  
Instrument ID: **MS-2 HP 5890**  
Sample Weight: **6 g**  
% Solids: **81**  
Dilution Factor: **1**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-90-7	Dibromomethane (DMB)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	46	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	38	75 %	70 - 130 %
Toluene-d <sub>8</sub>	50	42	84 %	70 - 130 %
4-Bromofluorobenzene	50	47	94 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: **ESM16**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
  
Laboratory ID: **87113-11**  
Sampled: **08-31-05 13:30**  
Received: **09-02-05 18:30**  
Analyzed: **09-10-05 01:26**  
Analyst: **EMC**

Matrix: **Soil**  
Container: **40 mL VOA Vial**  
Preservation: **Methanol / Cool**  
  
QC Batch ID: **VM1-1656-E**  
Instrument ID: **MS-1 HP 5890**  
Sample Weight: **23 g**  
Final Volume: **15 mL**  
% Solids: **76**  
Dilution Factor: **10**

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	4,300
74-87-3	Chloromethane	BRL		ug/Kg	4,300
75-01-4	Vinyl Chloride	BRL		ug/Kg	4,300
74-83-9	Bromomethane	BRL		ug/Kg	4,300
75-00-3	Chloroethane	BRL		ug/Kg	4,300
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	4,300
60-29-7	Diethyl Ether	BRL		ug/Kg	4,300
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	2,100
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	21,000
67-64-1	Acetone	BRL		ug/Kg	21,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	21,000
75-09-2	Methylene Chloride	BRL		ug/Kg	8,600
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	2,100
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	2,100
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	2,100
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	2,100
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	2,100
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	21,000
74-97-5	Bromochloromethane	BRL		ug/Kg	2,100
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	21,000
67-66-3	Chloroform	BRL		ug/Kg	2,100
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	2,100
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	2,100
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	2,100
71-43-2	Benzene	BRL		ug/Kg	2,100
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	2,100
79-01-6	Trichloroethene	BRL		ug/Kg	2,100
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	2,100
74-95-3	Dibromomethane	BRL		ug/Kg	2,100
75-27-4	Bromodichloromethane	BRL		ug/Kg	2,100
123-91-1	1,4-Dioxane	BRL		ug/Kg	2,100,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	2,100
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	21,000
108-88-3	Toluene	36,000		ug/Kg	2,100
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	2,100
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	2,100
127-18-4	Tetrachloroethene	BRL		ug/Kg	2,100
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	2,100
591-78-6	2-Hexanone	BRL		ug/Kg	21,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	2,100
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	2,100
108-90-7	Chlorobenzene	BRL		ug/Kg	2,100
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	2,100
100-41-4	Ethylbenzene	9,500		ug/Kg	2,100
108-38-3/106-42-3	meta-Xylene and para-Xylene	29,000		ug/Kg	2,100
95-47-6	ortho-Xylene	6,900		ug/Kg	2,100

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM16  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-11  
Sampled: 08-31-05 13:30  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 01:26  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 23 g  
Final Volume: 15 mL  
% Solids: 76  
Dilution Factor: 10

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	2,100
75-25-2	Bromoform	BRL		ug/Kg	2,100
98-82-8	Isopropylbenzene	BRL		ug/Kg	2,100
108-86-1	Bromobenzene	BRL		ug/Kg	2,100
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	2,100
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	2,100
103-65-1	n-Propylbenzene	BRL		ug/Kg	2,100
95-49-8	2-Chlorotoluene	BRL		ug/Kg	2,100
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	2,100
106-43-4	4-Chlorotoluene	BRL		ug/Kg	2,100
98-06-6	tert-Butylbenzene	BRL		ug/Kg	2,100
95-63-6	1,2,4-Trimethylbenzene	3,700		ug/Kg	2,100
135-98-8	sec-Butylbenzene	BRL		ug/Kg	2,100
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	2,100
99-87-6	4-Isopropyltoluene	16,000		ug/Kg	2,100
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	2,100
95-50-1	1,2-Dichlorobenzene	5,500		ug/Kg	2,100
104-51-8	n-Butylbenzene	BRL		ug/Kg	2,100
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	2,100
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	2,100
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	2,100
91-20-3	Naphthalene	BRL		ug/Kg	2,100
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	2,100
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	2,100
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	2,100
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	2,100
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	2,100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	94 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	104 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	110 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIIC02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-12  
Sampled: 08-31-05 10:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 02:00  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 9.6 g  
Final Volume: 15 mL  
% Solids: 81  
Dilution Factor: 4

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	3,900
74-87-3	Chloromethane	BRL		ug/Kg	3,900
75-01-4	Vinyl Chloride	BRL		ug/Kg	3,900
74-83-9	Bromomethane	BRL		ug/Kg	3,900
75-00-3	Chloroethane	BRL		ug/Kg	3,900
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	3,900
60-29-7	Diethyl Ether	BRL		ug/Kg	3,900
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	3,900
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	1,900
67-64-1	Acetone	BRL		ug/Kg	19,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	19,000
75-09-2	Methylene Chloride	BRL		ug/Kg	19,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	7,700
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	1,900
75-34-3	1,1-Dichloroethane	8,500		ug/Kg	1,900
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	1,900
156-59-2	cis-1,2-Dichloroethene	23,000		ug/Kg	1,900
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	19,000
74-97-5	Bromochloromethane	BRL		ug/Kg	1,900
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	19,000
67-66-3	Chloroform	BRL		ug/Kg	1,900
71-55-6	1,1,1-Trichloroethane	4,800		ug/Kg	1,900
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	1,900
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	1,900
71-43-2	Benzene	BRL		ug/Kg	1,900
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	1,900
79-01-6	Trichloroethene	19,000		ug/Kg	1,900
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	1,900
74-95-3	Dibromomethane	BRL		ug/Kg	1,900
75-27-4	Bromodichloromethane	BRL		ug/Kg	1,900
123-91-1	1,4-Dioxane	BRL		ug/Kg	1,900
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	1,900,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	1,900
108-88-3	Toluene	BRL		ug/Kg	19,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	1,900
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	1,900
127-18-4	Tetrachloroethene	8,000		ug/Kg	1,900
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	1,900
591-78-6	2-Hexanone	BRL		ug/Kg	19,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	1,900
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	1,900
108-90-7	Chlorobenzene	BRL		ug/Kg	1,900
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	1,900
100-41-4	Ethylbenzene	BRL		ug/Kg	1,900
108-36-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	1,900
95-47-6	ortho-Xylene	BRL		ug/Kg	1,900

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIIC02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-12  
Sampled: 08-31-05 10:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 02:00  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 9.6 g  
Final Volume: 15 mL  
% Solids: 81  
Dilution Factor: 4

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	1,900
75-25-2	Bromoform	BRL		ug/Kg	1,900
98-82-8	Isopropylbenzene	BRL		ug/Kg	1,900
108-86-1	Bromobenzene	BRL		ug/Kg	1,900
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	1,900
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	1,900
103-65-1	n-Propylbenzene	BRL		ug/Kg	1,900
95-49-8	2-Chlorotoluene	BRL		ug/Kg	1,900
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	1,900
106-43-4	4-Chlorotoluene	BRL		ug/Kg	1,900
98-06-6	tert-Butylbenzene	BRL		ug/Kg	1,900
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	1,900
135-98-8	sec-Butylbenzene	BRL		ug/Kg	1,900
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	1,900
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	1,900
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	1,900
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	1,900
104-51-8	n-Butylbenzene	BRL		ug/Kg	1,900
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	1,900
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	1,900
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	1,900
91-20-3	Naphthalene	BRL		ug/Kg	1,900
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	1,900
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	1,900
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	1,900
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	1,900
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	1,900

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	97 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	89 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	106 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	114 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESMB2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-13  
Sampled: 08-31-05 14:30  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 02:35  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 16 g  
Final Volume: 15 mL  
% Solids: 90  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	9,900
74-87-3	Chloromethane	BRL		ug/Kg	9,900
75-01-4	Vinyl Chloride	BRL		ug/Kg	9,900
74-83-9	Bromomethane	BRL		ug/Kg	9,900
75-00-3	Chloroethane	BRL		ug/Kg	9,900
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	9,900
60-29-7	Diethyl Ether	BRL		ug/Kg	9,900
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	9,900
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	5,000
67-64-1	Acetone	BRL		ug/Kg	50,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	50,000
75-09-2	Methylene Chloride	BRL		ug/Kg	50,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	20,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5,000
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5,000
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5,000
78-93-3	2-Butanone (MEK)	5,400		ug/Kg	5,000
74-97-5	Bromochloromethane	BRL		ug/Kg	50,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5,000
67-66-3	Chloroform	BRL		ug/Kg	50,000
71-55-6	1,1,1-Trichloroethane	12,000		ug/Kg	5,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5,000
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5,000
71-43-2	Benzene	BRL		ug/Kg	5,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5,000
79-01-6	Trichloroethene	67,000		ug/Kg	5,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5,000
74-95-3	Dibromomethane	BRL		ug/Kg	5,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	5,000
123-91-1	1,4-Dioxane	BRL		ug/Kg	5,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	5,000,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	5,000
108-88-3	Toluene	BRL		ug/Kg	50,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	5,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5,000
127-18-4	Tetrachloroethene	56,000	50,000	ug/Kg	5,000
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5,000
591-78-6	2-Hexanone	BRL		ug/Kg	50,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	5,000
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5,000
108-90-7	Chlorobenzene	BRL		ug/Kg	5,000
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5,000
100-41-4	Ethylbenzene	BRL		ug/Kg	5,000
106-38-3/106-47-3	meta-Xylene and para-Xylene	BRL		ug/Kg	5,000
95-47-5	ortho-Xylene	BRL		ug/Kg	5,000

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# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESMB2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-13  
Sampled: 08-31-05 14:30  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 02:35  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 16 g  
Final Volume: 15 mL  
% Solids: 90  
Dilution Factor: 20

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5,000
75-25-2	Bromoform	BRL		ug/Kg	5,000
98-82-8	Isopropylbenzene	BRL		ug/Kg	5,000
108-86-1	Bromobenzene	BRL		ug/Kg	5,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5,000
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5,000
103-65-1	n-Propylbenzene	BRL		ug/Kg	5,000
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5,000
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5,000
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5,000
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5,000
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5,000
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5,000
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5,000
104-51-8	n-Butylbenzene	BRL		ug/Kg	5,000
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5,000
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5,000
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5,000
91-20-3	Naphthalene	BRL		ug/Kg	5,000
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5,000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	5,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5,000
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	96 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	89 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	104 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	114 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIIE02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-14  
Sampled: 08-31-05 09:45  
Received: 09-02-05 18:30  
Analyzed: 09-12-05 11:35  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1658-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 74  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	670
74-87-3	Chloromethane	BRL		ug/Kg	670
75-01-4	Vinyl Chloride	BRL		ug/Kg	670
74-83-9	Bromomethane	BRL		ug/Kg	670
75-00-3	Chloroethane	BRL		ug/Kg	670
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	670
60-29-7	Diethyl Ether	BRL		ug/Kg	670
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	340
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,400
67-64-1	Acetone	BRL		ug/Kg	3,400
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,400
75-09-2	Methylene Chloride	BRL		ug/Kg	1,300
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	340
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	340
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	340
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	340
156-59-2	cis-1,2-Dichloroethene	890		ug/Kg	340
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,400
74-97-5	Bromochloromethane	BRL		ug/Kg	340
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,400
67-66-3	Chloroform	BRL		ug/Kg	340
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	340
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	340
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	340
71-43-2	Benzene	BRL		ug/Kg	340
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	340
79-01-6	Trichloroethene	BRL		ug/Kg	340
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	340
74-95-3	Dibromomethane	BRL		ug/Kg	340
75-27-4	Bromodichloromethane	BRL		ug/Kg	340
123-91-1	1,4-Dioxane	BRL		ug/Kg	340,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	340
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,400
108-88-3	Toluene	BRL		ug/Kg	340
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	340
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	340
127-18-4	Tetrachloroethene	BRL		ug/Kg	340
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	340
591-78-6	2-Hexanone	BRL		ug/Kg	3,400
124-48-1	Dibromochloromethane	BRL		ug/Kg	340
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	340
108-90-7	Chlorobenzene	BRL		ug/Kg	340
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	340
100-41-4	Ethylbenzene	400		ug/Kg	340
108-38-3/106-42-3	meta-Xylene and para-Xylene	810		ug/Kg	340
95-47-6	ortho-Xylene	530		ug/Kg	340

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIIE02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-14  
Sampled: 08-31-05 09:45  
Received: 09-02-05 18:30  
Analyzed: 09-12-05 11:35  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

QC Batch ID: VM1-1658-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 74  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	340
75-25-2	Bromoform	BRL		ug/Kg	340
98-82-8	Isopropylbenzene	BRL		ug/Kg	340
108-86-1	Bromobenzene	BRL		ug/Kg	340
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	340
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	340
103-65-1	n-Propylbenzene	BRL		ug/Kg	340
95-49-8	2-Chlorotoluene	BRL		ug/Kg	340
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	340
106-43-4	4-Chlorotoluene	BRL		ug/Kg	340
98-06-6	tert-Butylbenzene	BRL		ug/Kg	340
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	340
135-98-8	sec-Butylbenzene	BRL		ug/Kg	340
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	340
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	340
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	340
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	340
104-51-8	n-Butylbenzene	BRL		ug/Kg	340
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	340
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	340
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	340
91-20-3	Naphthalene	BRL		ug/Kg	340
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	340
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	340
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	340
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	340
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	340

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	106 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,600	105 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996)  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA015  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-15  
Sampled: 08-31-05 10:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 03:09  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	680
74-87-3	Chloromethane	BRL		ug/Kg	680
75-01-4	Vinyl Chloride	BRL		ug/Kg	680
74-83-9	Bromomethane	BRL		ug/Kg	680
75-00-3	Chloroethane	BRL		ug/Kg	680
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	680
60-29-7	Diethyl Ether	BRL		ug/Kg	680
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	680
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	340
67-64-1	Acetone	BRL		ug/Kg	3,400
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,400
75-09-2	Methylene Chloride	BRL		ug/Kg	3,400
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	1,400
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	340
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	340
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	340
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	340
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	340
74-97-5	Bromochloromethane	BRL		ug/Kg	3,400
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	340
67-66-3	Chloroform	BRL		ug/Kg	3,400
71-55-6	1,1,1-Trichloroethane	800		ug/Kg	340
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	340
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	340
107-06-2	Benzene	BRL		ug/Kg	340
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	340
79-01-6	Trichloroethene	1,900		ug/Kg	340
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	340
74-95-3	Dibromomethane	BRL		ug/Kg	340
75-27-4	Bromodichloromethane	BRL		ug/Kg	340
123-91-1	1,4-Dioxane	BRL		ug/Kg	340
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	340,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	340
108-88-3	Toluene	BRL		ug/Kg	3,400
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	340
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	340
127-18-4	Tetrachloroethene	1,200		ug/Kg	340
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	340
591-78-6	2-Hexanone	BRL		ug/Kg	340
124-48-1	Dibromochloromethane	BRL		ug/Kg	3,400
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	340
108-90-7	Chlorobenzene	BRL		ug/Kg	340
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	340
100-41-4	Ethylbenzene	BRL		ug/Kg	340
108-38-3/106-42-1	meta-Xylene and para-Xylene	BRL		ug/Kg	340
95-47-6	ortho-Xylene	BRL		ug/Kg	340

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA01S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-15  
Sampled: 08-31-05 10:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 03:09  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	340
75-25-2	Bromoform	BRL		ug/Kg	340
98-82-8	Isopropylbenzene	BRL		ug/Kg	340
108-86-1	Bromobenzene	BRL		ug/Kg	340
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	340
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	340
103-65-1	n-Propylbenzene	BRL		ug/Kg	340
95-49-8	2-Chlorotoluene	BRL		ug/Kg	340
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	340
106-43-4	4-Chlorotoluene	BRL		ug/Kg	340
98-06-6	tert-Butylbenzene	BRL		ug/Kg	340
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	340
135-98-8	sec-Butylbenzene	BRL		ug/Kg	340
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	340
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	340
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	340
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	340
104-51-8	n-Butylbenzene	BRL		ug/Kg	340
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	340
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	340
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	340
91-20-3	Naphthalene	BRL		ug/Kg	340
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	340
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	340
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	340
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	340
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	340

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	97 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	107 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	109 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA01M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-16  
Sampled: 08-31-05 10:50  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 03:44  
Analyst: EMC

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 71  
Dilution Factor: 40

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	24,000
74-87-3	Chloromethane	BRL		ug/Kg	24,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	24,000
74-83-9	Bromomethane	BRL		ug/Kg	24,000
75-00-3	Chloroethane	BRL		ug/Kg	24,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	24,000
60-29-7	Diethyl Ether	BRL		ug/Kg	24,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	12,000
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	120,000
67-64-1	Acetone	BRL		ug/Kg	120,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	120,000
75-09-2	Methylene Chloride	BRL		ug/Kg	48,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	12,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	12,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	12,000
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	12,000
156-59-2	cis-1,2-Dichloroethene	20,000		ug/Kg	12,000
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	120,000
74-97-5	Bromochloromethane	BRL		ug/Kg	12,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	120,000
67-66-3	Chloroform	BRL		ug/Kg	12,000
71-55-6	1,1,1-Trichloroethane	85,000		ug/Kg	12,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	12,000
56-23-5	1,1,1-Trichloroethane	BRL		ug/Kg	12,000
71-43-2	Benzene	BRL		ug/Kg	12,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	12,000
79-01-6	Trichloroethene	140,000		ug/Kg	12,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	12,000
74-95-3	Dibromomethane	BRL		ug/Kg	12,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	12,000
123-91-1	1,4-Dioxane	BRL		ug/Kg	12,000,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	12,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	120,000
108-88-3	Toluene	BRL		ug/Kg	12,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	12,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	12,000
127-18-4	Tetrachloroethene	BRL		ug/Kg	12,000
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	12,000
591-78-6	2-Hexanone	BRL		ug/Kg	120,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	12,000
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	12,000
108-90-7	Chlorobenzene	BRL		ug/Kg	12,000
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	12,000
100-41-4	Ethylbenzene	BRL		ug/Kg	12,000
106-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	12,000
95-47-6	ortho-Xylene	BRL		ug/Kg	12,000

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA01M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-16  
Sampled: 08-31-05 10:50  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 03:44  
Analyst: EMC

QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 18 g  
Final Volume: 15 mL  
% Solids: 71  
Dilution Factor: 40

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	12,000
75-25-2	Bromoform	BRL		ug/Kg	12,000
98-82-8	Isopropylbenzene	BRL		ug/Kg	12,000
108-86-1	Bromobenzene	BRL		ug/Kg	12,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	12,000
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	12,000
103-65-1	n-Propylbenzene	BRL		ug/Kg	12,000
95-49-8	2-Chlorotoluene	BRL		ug/Kg	12,000
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	12,000
106-43-4	4-Chlorotoluene	BRL		ug/Kg	12,000
98-06-6	tert-Butylbenzene	BRL		ug/Kg	12,000
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	12,000
135-98-8	sec-Butylbenzene	BRL		ug/Kg	12,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	12,000
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	12,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	12,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	12,000
104-51-8	n-Butylbenzene	BRL		ug/Kg	12,000
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	12,000
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	12,000
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	12,000
91-20-3	Naphthalene	BRL		ug/Kg	12,000
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	12,000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	480,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	12,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	12,000
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	12,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	95 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	87 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	102 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA01D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO<sub>4</sub> / Cool

Laboratory ID: 87113-17  
Sampled: 08-31-05 11:00  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 15:33  
Analyst: LMG

QC Batch ID: VM2-2773-S  
Instrument ID: MS-2 HP 5890  
Sample Weight: 5.3 g  
% Solids: 91  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	52
67-64-1	Acetone	BRL		ug/Kg	210
75-15-0	Carbon Disulfide	BRL		ug/Kg	52
75-09-2	Methylene Chloride	BRL		ug/Kg	52
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	52
74-97-5	Bromochloromethane	BRL		ug/Kg	5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	52
67-66-3	Chloroform	BRL		ug/Kg	5
71-55-6	1,1,1-Trichloroethane	73		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	67		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5200
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	52
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	16		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	52
124-48-1	Dibromochloromethane	BRL		ug/Kg	5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	BRL		ug/Kg	5
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	5
95-47-6	ortho-Xylene	BRL		ug/Kg	5

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: IIA01D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO<sub>4</sub> / Cool

Laboratory ID: 87113-17  
Sampled: 08-31-05 11:00  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 15:33  
Analyst: LMG

QC Batch ID: VM2-2773-S  
Instrument ID: MS-2 HP 5890  
Sample Weight: 5.3 g  
% Solids: 91  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	210
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	44	88 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	39	77 %	70 - 130 %
Toluene-d <sub>8</sub>	50	41	81 %	70 - 130 %
4-Bromofluorobenzene	50	44	88 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-18  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 04:18  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 95  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	530
74-87-3	Chloromethane	BRL		ug/Kg	530
75-01-4	Vinyl Chloride	BRL		ug/Kg	530
74-83-9	Bromomethane	BRL		ug/Kg	530
75-00-3	Chloroethane	BRL		ug/Kg	530
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	530
60-29-7	Diethyl Ether	BRL		ug/Kg	530
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	260
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,600
67-64-1	Acetone	BRL		ug/Kg	2,600
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,600
75-09-2	Methylene Chloride	BRL		ug/Kg	1,100
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	260
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	260
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	260
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	260
156-59-2	cis-1,2-Dichloroethene	320		ug/Kg	260
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,600
74-97-5	Bromochloromethane	BRL		ug/Kg	260
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,600
67-66-3	Chloroform	BRL		ug/Kg	260
71-55-6	1,1,1-Trichloroethane	790		ug/Kg	260
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	260
56-23-5	1,1-Dichloropropane	BRL		ug/Kg	260
71-43-2	Benzene	BRL		ug/Kg	260
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	260
79-01-6	Trichloroethene	1,800		ug/Kg	260
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	260
74-95-3	Dibromomethane	BRL		ug/Kg	260
75-27-4	Bromodichloromethane	BRL		ug/Kg	260
123-91-1	1,4-Dioxane	BRL		ug/Kg	260,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	260
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,600
108-88-3	Toluene	290		ug/Kg	260
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	260
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	260
127-18-4	Tetrachloroethene	1,700		ug/Kg	260
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	260
591-78-6	2-Hexanone	BRL		ug/Kg	2,600
124-48-1	Dibromochloromethane	BRL		ug/Kg	260
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	260
108-90-7	Chlorobenzene	BRL		ug/Kg	260
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	260
100-41-4	Ethylbenzene	BRL		ug/Kg	260
106-36-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	260
95-47-6	ortho-Xylene	BRL		ug/Kg	260

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-18  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30  
Analyzed: 09-10-05 04:18  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1656-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 15 g  
Final Volume: 15 mL  
% Solids: 95  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	260
75-25-2	Bromoform	BRL		ug/Kg	260
98-82-8	Isopropylbenzene	BRL		ug/Kg	260
108-86-1	Bromobenzene	BRL		ug/Kg	260
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	260
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	260
103-65-1	n-Propylbenzene	BRL		ug/Kg	260
95-49-8	2-Chlorotoluene	BRL		ug/Kg	260
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	260
106-43-4	4-Chlorotoluene	BRL		ug/Kg	260
98-06-6	tert-Butylbenzene	BRL		ug/Kg	260
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	260
135-98-8	sec-Butylbenzene	BRL		ug/Kg	260
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	260
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	260
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	260
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	260
104-51-8	n-Butylbenzene	BRL		ug/Kg	260
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	260
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	260
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	260
91-20-3	Naphthalene	BRL		ug/Kg	260
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	260
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	11,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	260
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	260
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	260

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,300	93 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	87 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	106 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	108 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-19  
Sampled: 08-31-05 09:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 02:32  
Analyst: CCT

QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 19 g  
Final Volume: 15 mL  
% Solids: 76  
Dilution Factor: 1000

Page 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	520,000
74-87-3	Chloromethane	BRL		ug/Kg	520,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	520,000
74-83-9	Bromomethane	BRL		ug/Kg	520,000
75-00-3	Chloroethane	BRL		ug/Kg	520,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	520,000
60-29-7	Diethyl Ether	BRL		ug/Kg	520,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	260,000
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,600,000
67-64-1	Acetone	BRL		ug/Kg	2,600,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,600,000
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	260,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	260,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	260,000
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	260,000
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	260,000
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,600,000
74-97-5	Bromochloromethane	BRL		ug/Kg	260,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,600,000
67-66-3	Chloroform	BRL		ug/Kg	260,000
71-55-6	1,1,1-Trichloroethane	3,000,000	162,000 1.162	ug/Kg	260,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	260,000
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	260,000
71-43-2	Benzene	BRL		ug/Kg	260,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	260,000
79-01-6	Trichloroethene	1,900,000		ug/Kg	260,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	260,000
74-95-3	Dibromomethane	BRL		ug/Kg	260,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	260,000
123-91-1	1,4-Dioxane	BRL		ug/Kg	260,000,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	260,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,600,000
108-88-3	Toluene	680,000	540,000	ug/Kg	260,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	260,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	260,000
127-18-4	Tetrachloroethene	1,600,000	27,000	ug/Kg	260,000
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	260,000
591-78-6	2-Hexanone	BRL		ug/Kg	2,600,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	260,000
106-93-4	1,2-Dibromopethane (EDB)	BRL		ug/Kg	260,000
108-90-7	Chlorobenzene	BRL		ug/Kg	260,000
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	260,000
100-41-4	Ethylbenzene	BRL		ug/Kg	260,000
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	260,000
95-47-6	ortho-Xylene	BRL		ug/Kg	260,000

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-19  
Sampled: 08-31-05 09:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 02:32  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 19 g  
Final Volume: 15 mL  
% Solids: 76  
Dilution Factor: 1000

Page 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	260,000
75-25-2	Bromoform	BRL		ug/Kg	260,000
98-82-8	Isopropylbenzene	BRL		ug/Kg	260,000
108-86-1	Bromobenzene	BRL		ug/Kg	260,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	260,000
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	260,000
103-65-1	n-Propylbenzene	BRL		ug/Kg	260,000
95-49-8	2-Chlorotoluene	BRL		ug/Kg	260,000
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	260,000
106-43-4	4-Chlorotoluene	BRL		ug/Kg	260,000
98-06-6	tert-Butylbenzene	BRL		ug/Kg	260,000
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	260,000
135-98-8	sec-Butylbenzene	BRL		ug/Kg	260,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	260,000
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	260,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	260,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	260,000
104-51-8	n-Butylbenzene	BRL		ug/Kg	260,000
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	260,000
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	260,000
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	260,000
91-20-3	Naphthalene	BRL		ug/Kg	260,000
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	260,000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000,000
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	260,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	260,000
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	260,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,500	98 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	87 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	108 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	110 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-20  
Sampled: 08-31-05 10:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 03:07  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 12 g  
Final Volume: 10 mL  
% Solids: 90  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	930
74-87-3	Chloromethane	BRL		ug/Kg	930
75-01-4	Vinyl Chloride	BRL		ug/Kg	930
74-83-9	Bromomethane	BRL		ug/Kg	930
75-00-3	Chloroethane	BRL		ug/Kg	930
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	930
60-29-7	Diethyl Ether	BRL		ug/Kg	930
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	470
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	4,700
67-64-1	Acetone	BRL		ug/Kg	4,700
75-15-0	Carbon Disulfide	BRL		ug/Kg	4,700
75-09-2	Methylene Chloride	BRL		ug/Kg	1,900
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	470
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	470
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	470
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	470
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	470
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	4,700
74-97-5	Bromochloromethane	BRL		ug/Kg	470
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	4,700
67-66-3	Chloroform	BRL		ug/Kg	470
71-55-6	1,1,1-Trichloroethane	1,100		ug/Kg	470
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	470
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	470
71-42-2	benzene	BRL		ug/Kg	470
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	470
79-01-6	Trichloroethene	BRL		ug/Kg	470
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	470
74-95-3	Dibromomethane	BRL		ug/Kg	470
75-27-4	Bromodichloromethane	BRL		ug/Kg	470
123-91-1	1,4-Dioxane	BRL		ug/Kg	470,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	470
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	4,700
108-88-3	Toluene	BRL		ug/Kg	470
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	470
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	470
127-18-4	Tetrachloroethene	1,100		ug/Kg	470
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	470
591-78-6	2-Hexanone	BRL		ug/Kg	4,700
124-48-1	Dibromochloromethane	BRL		ug/Kg	470
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	470
108-90-7	Chlorobenzene	BRL		ug/Kg	470
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	470
100-41-4	Ethylbenzene	610		ug/Kg	470
106-38-3/106-42-3	meta-Xylene and para-Xylene	630		ug/Kg	470
95-47-6	ortho-Xylene	BRL		ug/Kg	470

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-20  
Sampled: 08-31-05 10:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 03:07  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 12 g  
Final Volume: 10 mL  
% Solids: 90  
Dilution Factor: 2

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	470
75-25-2	Bromofom	BRL		ug/Kg	470
98-82-8	Isopropylbenzene	BRL		ug/Kg	470
108-86-1	Bromobenzene	BRL		ug/Kg	470
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	470
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	470
103-65-1	n-Propylbenzene	BRL		ug/Kg	470
95-49-8	2-Chlorotoluene	BRL		ug/Kg	470
108-67-8	1,3,5-Trimethylbenzene	650		ug/Kg	470
106-43-4	4-Chlorotoluene	BRL		ug/Kg	470
98-06-6	tert-Butylbenzene	BRL		ug/Kg	470
95-63-6	1,2,4-Trimethylbenzene	1,200		ug/Kg	470
135-98-8	sec-Butylbenzene	2,400		ug/Kg	470
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	470
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	470
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	470
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	470
104-51-8	n-Butylbenzene	BRL		ug/Kg	470
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	470
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	470
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	470
91-20-3	Naphthalene	BRL		ug/Kg	470
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	470
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	19 000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	470
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	470
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	470

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	96 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	88 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	108 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,300	90 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996)  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: DUP3  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

Laboratory ID: 87113-21  
Sampled: 08-31-05 09:55  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 03:42  
Analyst: CCT

QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 145 g  
Final Volume: 15 mL  
% Solids: 76  
Dilution Factor: 400

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	280,000
74-87-3	Chloromethane	BRL		ug/Kg	280,000
75-01-4	Vinyl Chloride	BRL		ug/Kg	280,000
74-83-9	Bromomethane	BRL		ug/Kg	280,000
75-00-3	Chloroethane	BRL		ug/Kg	280,000
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	280,000
60-29-7	Diethyl Ether	BRL		ug/Kg	280,000
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	140,000
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	1,400,000
67-64-1	Acetone	BRL		ug/Kg	1,400,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	1,400,000
75-09-2	Methylene Chloride	BRL		ug/Kg	550,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	140,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	140,000
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	140,000
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	140,000
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	140,000
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	1,400,000
74-97-5	Bromochloromethane	BRL		ug/Kg	140,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	1,400,000
67-66-3	Chloroform	BRL		ug/Kg	140,000
71-55-6	1,1,1-Trichloroethane	2,100,000		ug/Kg	140,000
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	140,000
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	140,000
71-43-2	Benzene	BRL		ug/Kg	140,000
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	140,000
79-01-6	Trichloroethene	1,500,000		ug/Kg	140,000
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	140,000
74-95-3	Dibromomethane	BRL		ug/Kg	140,000
75-27-4	Bromodichloromethane	BRL		ug/Kg	140,000
123-91-1	1,4-Dioxane	BRL		ug/Kg	140,000,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	140,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	1,400,000
108-88-3	Toluene	580,000		ug/Kg	140,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	140,000
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	140,000
127-18-4	Tetrachloroethene	1,600,000		ug/Kg	140,000
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	140,000
591-78-6	2-Hexanone	BRL		ug/Kg	1,400,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	140,000
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	140,000
108-90-7	Chlorobenzene	BRL		ug/Kg	140,000
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	140,000
100-41-4	Ethylbenzene	BRL		ug/Kg	140,000
108-38-3/106-42-3	meta-Xylene and para-Xylene	160,000		ug/Kg	140,000
95-47-6	ortho-Xylene	BRL		ug/Kg	140,000

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-22  
Sampled: 08-31-05 09:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 04:16  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 68  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	1,300
74-87-3	Chloromethane	BRL		ug/Kg	1,300
75-01-4	Vinyl Chloride	BRL		ug/Kg	1,300
74-83-9	Bromomethane	BRL		ug/Kg	1,300
75-00-3	Chloroethane	BRL		ug/Kg	1,300
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	1,300
60-29-7	Diethyl Ether	BRL		ug/Kg	1,300
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	1,300
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	650
67-64-1	Acetone	BRL		ug/Kg	6,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	6,500
75-09-2	Methylene Chloride	BRL		ug/Kg	6,500
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	2,600
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	650
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	650
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	650
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	650
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	650
74-97-5	Bromochloromethane	BRL		ug/Kg	6,500
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	650
67-66-3	Chloroform	BRL		ug/Kg	6,500
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	650
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	650
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	650
107-06-2	Benzene	BRL		ug/Kg	650
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	650
79-01-6	Trichloroethene	BRL		ug/Kg	650
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	650
74-95-3	Dibromomethane	BRL		ug/Kg	650
75-27-4	Bromodichloromethane	BRL		ug/Kg	650
123-91-1	1,4-Dioxane	BRL		ug/Kg	650
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	650,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	650
108-88-3	Toluene	13,000		ug/Kg	6,500
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	650
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	650
127-18-4	Tetrachloroethene	BRL		ug/Kg	650
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	650
591-78-6	2-Hexanone	BRL		ug/Kg	650
124-48-1	Dibromochloromethane	BRL		ug/Kg	6,500
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	650
108-90-7	Chlorobenzene	BRL		ug/Kg	650
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	650
100-41-4	Ethylbenzene	BRL		ug/Kg	650
108-38-3/106-42-3	meta-Xylene and para-Xylene	1,300		ug/Kg	650
95-47-6	ortho-Xylene	BRL		ug/Kg	650

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: DUP3  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-21  
Sampled: 08-31-05 09:55  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 03:42  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 145 g  
Final Volume: 15 mL  
% Solids: 76  
Dilution Factor: 400

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	140,000
75-25-2	Bromoform	BRL		ug/Kg	140,000
98-82-8	Isopropylbenzene	BRL		ug/Kg	140,000
108-86-1	Bromobenzene	BRL		ug/Kg	140,000
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	140,000
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	140,000
103-65-1	n-Propylbenzene	BRL		ug/Kg	140,000
95-49-8	2-Chlorotoluene	BRL		ug/Kg	140,000
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	140,000
106-43-4	4-Chlorotoluene	BRL		ug/Kg	140,000
98-06-6	tert-Butylbenzene	BRL		ug/Kg	140,000
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	140,000
135-98-8	sec-Butylbenzene	BRL		ug/Kg	140,000
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	140,000
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	140,000
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	140,000
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	140,000
104-51-8	n-Butylbenzene	BRL		ug/Kg	140,000
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	140,000
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	140,000
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	140,000
91-20-3	Naphthalene	BRL		ug/Kg	140,000
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	140,000
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	5,500,000
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	140,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	140,000
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	140,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	97 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	91 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,600	105 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	107 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-22  
Sampled: 08-31-05 09:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 04:16  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 17 g  
Final Volume: 15 mL  
% Solids: 68  
Dilution Factor: 2

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	650
75-25-2	Bromoform	BRL		ug/Kg	650
98-82-8	Isopropylbenzene	BRL		ug/Kg	650
108-86-1	Bromobenzene	BRL		ug/Kg	650
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	650
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	650
103-65-1	n-Propylbenzene	BRL		ug/Kg	650
95-49-8	2-Chlorotoluene	BRL		ug/Kg	650
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	650
106-43-4	4-Chlorotoluene	BRL		ug/Kg	650
98-06-6	tert-Butylbenzene	BRL		ug/Kg	650
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	650
135-98-8	sec-Butylbenzene	BRL		ug/Kg	650
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	650
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	650
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	650
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	650
104-51-8	n-Butylbenzene	BRL		ug/Kg	650
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	650
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	650
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	650
91-20-3	Naphthalene	BRL		ug/Kg	650
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	650
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	650
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	650
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	650
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	650

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	95 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	89 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	107 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	109 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIA07D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-23  
Sampled: 08-31-05 08:25  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 16:08  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool

QC Batch ID: VM2-2773-S  
Instrument ID: MS-2 HP 5890  
Sample Weight: 6.3 g  
% Solids: 90  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	10
74-87-3	Chloromethane	BRL		ug/Kg	10
75-01-4	Vinyl Chloride	BRL		ug/Kg	10
74-83-9	Bromomethane	BRL		ug/Kg	10
75-00-3	Chloroethane	BRL		ug/Kg	10
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	10
60-29-7	Diethyl Ether	BRL		ug/Kg	10
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	10
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	5
67-64-1	Acetone	BRL		ug/Kg	50
75-15-0	Carbon Disulfide	BRL		ug/Kg	200
75-09-2	Methylene Chloride	BRL		ug/Kg	50
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	50
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	5
75-34-3	1,1-Dichloroethane	14		ug/Kg	5
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	5
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	5
74-97-5	Bromochloromethane	BRL		ug/Kg	50
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	5
67-66-3	Chloroform	BRL		ug/Kg	50
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	5
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	5
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	5
71-43-2	Benzene	BRL		ug/Kg	5
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	5
79-01-6	Trichloroethene	5		ug/Kg	5
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	5
74-95-3	Dibromomethane	BRL		ug/Kg	5
75-27-4	Bromodichloromethane	BRL		ug/Kg	5
123-91-1	1,4-Dioxane	BRL		ug/Kg	5000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	50
108-88-3	Toluene	BRL		ug/Kg	5
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	5
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	5
127-18-4	Tetrachloroethene	BRL		ug/Kg	5
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	5
591-78-6	2-Hexanone	BRL		ug/Kg	5
124-48-1	Dibromochloromethane	BRL		ug/Kg	50
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	5
108-90-7	Chlorobenzene	BRL		ug/Kg	5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	5
100-41-4	Ethylbenzene	7		ug/Kg	5
108-38-3/106-42-3	meta-Xylene and para-Xylene	9		ug/Kg	5
95-47-6	ortho-Xylene	BRL		ug/Kg	5

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: IIA07D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-23  
Sampled: 08-31-05 08:25  
Received: 09-02-05 18:30  
Analyzed: 09-08-05 16:08  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool  
QC Batch ID: VM2-2773-S  
Instrument ID: MS-2 HP 5890  
Sample Weight: 6.3 g  
% Solids: 90  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	5
75-25-2	Bromoform	BRL		ug/Kg	5
98-82-8	Isopropylbenzene	BRL		ug/Kg	5
108-86-1	Bromobenzene	BRL		ug/Kg	5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	5
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	5
103-65-1	n-Propylbenzene	BRL		ug/Kg	5
95-49-8	2-Chlorotoluene	BRL		ug/Kg	5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	5
106-43-4	4-Chlorotoluene	BRL		ug/Kg	5
98-06-6	tert-Butylbenzene	BRL		ug/Kg	5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	5
135-98-8	sec-Butylbenzene	BRL		ug/Kg	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	5
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	5
95-50-1	1,2-Dichlorobenzene	8		ug/Kg	5
104-51-8	n-Butylbenzene	BRL		ug/Kg	5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	5
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	5
91-20-3	Naphthalene	BRL		ug/Kg	5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	5
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	200
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	5
037-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	5
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	50	49	99 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	50	43	85 %	70 - 130 %
Toluene-d <sub>8</sub>	50	44	87 %	70 - 130 %
4-Bromofluorobenzene	50	44	89 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-24  
Sampled: 08-31-05 11:45  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 14:51  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 12 g  
Final Volume: 10 mL  
% Solids: 88  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	9,500
74-87-3	Chloromethane	BRL		ug/Kg	9,500
75-01-4	Vinyl Chloride	BRL		ug/Kg	9,500
74-83-9	Bromomethane	BRL		ug/Kg	9,500
75-00-3	Chloroethane	BRL		ug/Kg	9,500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	9,500
60-29-7	Diethyl Ether	BRL		ug/Kg	9,500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	9,500
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	4,700
67-64-1	Acetone	BRL		ug/Kg	47,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	47,000
75-09-2	Methylene Chloride	BRL		ug/Kg	47,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	19,000
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	4,700
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	4,700
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	4,700
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	4,700
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	4,700
74-97-5	Bromochloromethane	BRL		ug/Kg	47,000
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	4,700
67-66-3	Chloroform	BRL		ug/Kg	47,000
71-55-6	1,1,1-Trichloroethane	58,000		ug/Kg	4,700
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	4,700
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	4,700
71-43-2	Benzene	BRL		ug/Kg	4,700
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	4,700
79-01-6	Trichloroethene	120,000		ug/Kg	4,700
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	4,700
74-95-3	Dibromomethane	BRL		ug/Kg	4,700
75-27-4	Bromodichloromethane	BRL		ug/Kg	4,700
123-91-1	1,4-Dioxane	BRL		ug/Kg	4,700
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	4,700,000
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	4,700
108-88-3	Toluene	34,000		ug/Kg	47,000
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	4,700
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	4,700
127-18-4	Tetrachloroethene	55,000	20,000	ug/Kg	4,700
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	4,700
591-78-6	2-Hexanone	BRL		ug/Kg	4,700
124-48-1	Dibromochloromethane	BRL		ug/Kg	47,000
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	4,700
108-90-7	Chlorobenzene	BRL		ug/Kg	4,700
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	4,700
100-41-4	Ethylbenzene	BRL		ug/Kg	4,700
108-38-3/106-42-3	meta-Xylene and para-Xylene	11,000		ug/Kg	4,700
95-47-6	ortho-Xylene	BRL		ug/Kg	4,700

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-24  
Sampled: 08-31-05 11:45  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 14:51  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 12 g  
Final Volume: 10 mL  
% Solids: 88  
Dilution Factor: 20

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	4,700
75-25-2	Bromoform	BRL		ug/Kg	4,700
98-82-8	Isopropylbenzene	BRL		ug/Kg	4,700
108-86-1	Bromobenzene	BRL		ug/Kg	4,700
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	4,700
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	4,700
103-65-1	n-Propylbenzene	BRL		ug/Kg	4,700
95-49-8	2-Chlorotoluene	BRL		ug/Kg	4,700
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	4,700
106-43-4	4-Chlorotoluene	BRL		ug/Kg	4,700
98-06-6	tert-Butylbenzene	BRL		ug/Kg	4,700
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	4,700
135-98-8	sec-Butylbenzene	BRL		ug/Kg	4,700
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	4,700
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	4,700
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	4,700
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	4,700
104-51-8	n-Butylbenzene	9,200		ug/Kg	4,700
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	4,700
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	4,700
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	4,700
91-20-3	Naphthalene	BRL		ug/Kg	4,700
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	4,700
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	4,700
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	190,000
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	4,700
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	4,700

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,500	99 %	70 - 130 %
1,2-Dichloroethane-d <sub>2</sub>	2,500	2,300	91 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	106 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	110 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-25  
Sampled: 08-31-05 11:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 15:30  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 10 mL  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	500
74-87-3	Chloromethane	BRL		ug/Kg	500
75-01-4	Vinyl Chloride	BRL		ug/Kg	500
74-83-9	Bromomethane	BRL		ug/Kg	500
75-00-3	Chloroethane	BRL		ug/Kg	500
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	500
60-29-7	Diethyl Ether	BRL		ug/Kg	500
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	250
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	2,500
67-64-1	Acetone	BRL		ug/Kg	2,500
75-15-0	Carbon Disulfide	BRL		ug/Kg	2,500
75-09-2	Methylene Chloride	BRL		ug/Kg	1,000
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	250
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	250
75-34-3	1,1-Dichloroethane	380		ug/Kg	250
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	250
156-59-2	cis-1,2-Dichloroethene	3,100		ug/Kg	250
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	2,500
74-97-5	Bromochloromethane	BRL		ug/Kg	250
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	2,500
67-66-3	Chloroform	BRL		ug/Kg	250
71-55-6	1,1,1-Trichloroethane	5,500		ug/Kg	250
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	250
563-58-6	1,1-Dichloromethane	BRL		ug/Kg	250
71-43-2	Benzene	BRL		ug/Kg	250
107-06-2	1,2-Dichloroethane	310		ug/Kg	250
79-01-6	Trichloroethene	3,000		ug/Kg	250
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	250
74-95-3	Dibromomethane	BRL		ug/Kg	250
75-27-4	Bromodichloromethane	BRL		ug/Kg	250
123-91-1	1,4-Dioxane	BRL		ug/Kg	250,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	250
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	2,500
108-88-3	Toluene	1,200		ug/Kg	250
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	250
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	250
127-18-4	Tetrachloroethene	2,100		ug/Kg	250
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	250
591-78-6	2-Hexanone	BRL		ug/Kg	2,500
124-48-1	Dibromochloromethane	BRL		ug/Kg	250
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	250
108-90-7	Chlorobenzene	BRL		ug/Kg	250
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	250
100-41-4	Ethylbenzene	BRL		ug/Kg	250
108-38-3/106-42-3	meta-Xylene and para-Xylene	490		ug/Kg	250
95-47-6	ortho-Xylene	BRL		ug/Kg	250

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 87113-25  
Sampled: 08-31-05 11:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 15:30  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 13 g  
Final Volume: 10 mL  
% Solids: 88  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	250
75-25-2	Bromoform	BRL		ug/Kg	250
98-82-8	Isopropylbenzene	BRL		ug/Kg	250
108-86-1	Bromobenzene	BRL		ug/Kg	250
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	250
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	250
103-65-1	n-Propylbenzene	BRL		ug/Kg	250
95-49-8	2-Chlorotoluene	BRL		ug/Kg	250
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	250
106-43-4	4-Chlorotoluene	BRL		ug/Kg	250
98-06-6	tert-Butylbenzene	BRL		ug/Kg	250
95-63-6	1,2,4-Trimethylbenzene	400		ug/Kg	250
135-98-8	sec-Butylbenzene	300		ug/Kg	250
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	250
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	250
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	250
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	250
104-51-8	n-Butylbenzene	1,900		ug/Kg	250
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	250
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	250
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	250
91-20-3	Naphthalene	BRL		ug/Kg	250
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	250
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	10,000
108-20-3	Diisopropyl Ether (DIPE)	BRL		ug/Kg	250
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	250
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	250

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,500	99 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,200	90 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	106 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,900	118 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIF035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Laboratory ID: 87113-26  
Sampled: 09-01-05 08:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 05:59  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool

QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 14 g  
Final Volume: 15 mL  
% Solids: 91  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	610
74-87-3	Chloromethane	BRL		ug/Kg	610
75-01-4	Vinyl Chloride	BRL		ug/Kg	610
74-83-9	Bromomethane	BRL		ug/Kg	610
75-00-3	Chloroethane	BRL		ug/Kg	610
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	610
60-29-7	Diethyl Ether	BRL		ug/Kg	610
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	300
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,000
67-64-1	Acetone	BRL		ug/Kg	3,000
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,000
75-09-2	Methylene Chloride	BRL		ug/Kg	1,200
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	300
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	300
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	300
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	300
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	300
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,000
74-97-5	Bromochloromethane	BRL		ug/Kg	300
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,000
67-66-3	Chloroform	BRL		ug/Kg	300
71-55-6	1,1,1-Trichloroethane	790		ug/Kg	300
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	300
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	300
71-43-2	Benzene	BRL		ug/Kg	300
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	300
79-01-6	Trichloroethene	1,000		ug/Kg	300
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	300
74-95-3	Dibromomethane	BRL		ug/Kg	300
75-27-4	Bromodichloromethane	BRL		ug/Kg	300
123-91-1	1,4-Dioxane	BRL		ug/Kg	300,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	300
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,000
108-88-3	Toluene	BRL		ug/Kg	300
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	300
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	300
127-18-4	Tetrachloroethene	910		ug/Kg	300
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	300
591-78-6	2-Hexanone	BRL		ug/Kg	3,000
124-48-1	Dibromochloromethane	BRL		ug/Kg	300
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	300
108-90-7	Chlorobenzene	BRL		ug/Kg	300
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	300
100-41-4	Ethylbenzene	BRL		ug/Kg	300
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	300
95-47-6	ortho-Xylene	BRL		ug/Kg	300

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: I11F03S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 87113-26  
Sampled: 09-01-05 08:50  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 05:59  
Analyst: CCT

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
  
QC Batch ID: VM1-1659-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 14 g  
Final Volume: 15 mL  
% Solids: 91  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	300
75-25-2	Bromoform	BRL		ug/Kg	300
98-82-8	Isopropylbenzene	BRL		ug/Kg	300
108-86-1	Bromobenzene	BRL		ug/Kg	300
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	300
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	300
103-65-1	n-Propylbenzene	BRL		ug/Kg	300
95-49-8	2-Chlorotoluene	BRL		ug/Kg	300
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	300
106-43-4	4-Chlorotoluene	BRL		ug/Kg	300
98-06-6	tert-Butylbenzene	BRL		ug/Kg	300
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	300
135-98-8	sec-Butylbenzene	BRL		ug/Kg	300
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	300
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	300
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	300
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	300
104-51-8	n-Butylbenzene	BRL		ug/Kg	300
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	300
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	300
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	300
91-20-3	Naphthalene	BRL		ug/Kg	300
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	12,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/Kg	300
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	300
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	300

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	96 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	91 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	108 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,700	108 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIF03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-27  
Sampled: 09-01-05 09:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 16:08  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 10 mL  
% Solids: 74  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	660
74-87-3	Chloromethane	BRL		ug/Kg	660
75-01-4	Vinyl Chloride	BRL		ug/Kg	660
74-83-9	Bromomethane	BRL		ug/Kg	660
75-00-3	Chloroethane	BRL		ug/Kg	660
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	660
60-29-7	Diethyl Ether	BRL		ug/Kg	660
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	330
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	3,300
67-64-1	Acetone	BRL		ug/Kg	3,300
75-15-0	Carbon Disulfide	BRL		ug/Kg	3,300
75-09-2	Methylene Chloride	BRL		ug/Kg	1,300
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	330
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	330
75-34-3	1,1-Dichloroethane	3,300		ug/Kg	330
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	330
156-59-2	cis-1,2-Dichloroethene	3,600		ug/Kg	330
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	3,300
74-97-5	Bromochloromethane	BRL		ug/Kg	330
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	3,300
67-66-3	Chloroform	BRL		ug/Kg	330
71-55-6	1,1,1-Trichloroethane	2,400		ug/Kg	330
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	330
500-50-0	1,1-Dichloropropene	BRL		ug/Kg	330
71-43-2	Benzene	BRL		ug/Kg	330
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	330
79-01-6	Trichloroethene	BRL		ug/Kg	330
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	330
74-95-3	Dibromomethane	BRL		ug/Kg	330
75-27-4	Bromodichloromethane	BRL		ug/Kg	330
123-91-1	1,4-Dioxane	BRL		ug/Kg	330,000
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	330
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	3,300
108-88-3	Toluene	5,000		ug/Kg	330
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	330
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	330
127-18-4	Tetrachloroethene	BRL		ug/Kg	330
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	330
591-78-6	2-Hexanone	BRL		ug/Kg	3,300
124-48-1	Dibromochloromethane	BRL		ug/Kg	330
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	330
108-90-7	Chlorobenzene	BRL		ug/Kg	330
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	330
100-41-4	Ethylbenzene	2,700		ug/Kg	330
108-36-3/106-42-3	meta-Xylene and para-Xylene	6,400		ug/Kg	330
95-47-6	ortho-Xylene	2,100		ug/Kg	330

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIIF03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-27  
Sampled: 09-01-05 09:00  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 16:08  
Analyst: LMG

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VM1-1660-E  
Instrument ID: MS-1 HP 5890  
Sample Weight: 10 g  
Final Volume: 10 mL  
% Solids: 74  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	330
75-25-2	Bromoform	BRL		ug/Kg	330
98-82-8	Isopropylbenzene	BRL		ug/Kg	330
108-86-1	Bromobenzene	BRL		ug/Kg	330
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	330
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	330
103-65-1	n-Propylbenzene	BRL		ug/Kg	330
95-49-8	2-Chlorotoluene	BRL		ug/Kg	330
108-67-8	1,3,5-Trimethylbenzene	370		ug/Kg	330
106-43-4	4-Chlorotoluene	BRL		ug/Kg	330
98-06-6	tert-Butylbenzene	BRL		ug/Kg	330
95-63-6	1,2,4-Trimethylbenzene	650		ug/Kg	330
135-98-8	sec-Butylbenzene	BRL		ug/Kg	330
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	330
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	330
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	330
95-50-1	1,2-Dichlorobenzene	2,100		ug/Kg	330
104-51-8	n-Butylbenzene	350		ug/Kg	330
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	330
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	330
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	330
91-20-3	Naphthalene	BRL		ug/Kg	330
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	330
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	13,000
108-20-3	Di-isopropyl Ether (DIPe)	BRL		ug/Kg	330
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	330
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	330

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	2,500	2,400	98 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	2,500	2,300	92 %	70 - 130 %
Toluene-d <sub>8</sub>	2,500	2,700	109 %	70 - 130 %
4-Bromofluorobenzene	2,500	2,800	112 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A and EPA Method 5030B. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8260B Volatile Organics by GC/MS

Field ID: IIF03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-28  
Sampled: 09-01-05 09:10  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 23:03  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO4 / Cool  
QC Batch ID: VM1-1661-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 5.4 g  
% Solids: 85  
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/Kg	11
74-87-3	Chloromethane	BRL		ug/Kg	11
75-01-4	Vinyl Chloride	BRL		ug/Kg	11
74-83-9	Bromomethane	BRL		ug/Kg	11
75-00-3	Chloroethane	BRL		ug/Kg	11
75-69-4	Trichlorofluoromethane	BRL		ug/Kg	11
60-29-7	Diethyl Ether	BRL		ug/Kg	11
75-35-4	1,1-Dichloroethene	BRL		ug/Kg	6
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/Kg	55
67-64-1	Acetone	BRL		ug/Kg	220
75-15-0	Carbon Disulfide	BRL		ug/Kg	55
75-09-2	Methylene Chloride	BRL		ug/Kg	55
156-60-5	trans-1,2-Dichloroethene	BRL		ug/Kg	6
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/Kg	6
75-34-3	1,1-Dichloroethane	BRL		ug/Kg	6
594-20-7	2,2-Dichloropropane	BRL		ug/Kg	6
156-59-2	cis-1,2-Dichloroethene	BRL		ug/Kg	6
78-93-3	2-Butanone (MEK)	BRL		ug/Kg	55
74-97-5	Bromochloromethane	BRL		ug/Kg	6
109-99-9	Tetrahydrofuran (THF)	BRL		ug/Kg	55
67-66-3	Chloroform	BRL		ug/Kg	6
71-55-6	1,1,1-Trichloroethane	BRL		ug/Kg	6
56-23-5	Carbon Tetrachloride	BRL		ug/Kg	6
563-58-6	1,1-Dichloropropene	BRL		ug/Kg	6
71-57-7	Benzene	BRL		ug/Kg	6
107-06-2	1,2-Dichloroethane	BRL		ug/Kg	6
79-01-6	Trichloroethene	BRL		ug/Kg	6
78-87-5	1,2-Dichloropropane	BRL		ug/Kg	6
74-95-3	Dibromomethane	BRL		ug/Kg	6
75-27-4	Bromodichloromethane	BRL		ug/Kg	6
123-91-1	1,4-Dioxane	BRL		ug/Kg	5500
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/Kg	6
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/Kg	55
108-88-3	Toluene	BRL		ug/Kg	6
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/Kg	6
79-00-5	1,1,2-Trichloroethane	BRL		ug/Kg	6
127-18-4	Tetrachloroethene	BRL		ug/Kg	6
142-28-9	1,3-Dichloropropane	BRL		ug/Kg	6
591-78-6	2-Hexanone	BRL		ug/Kg	55
124-48-1	Dibromochloromethane	BRL		ug/Kg	6
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/Kg	6
108-90-7	Chlorobenzene	BRL		ug/Kg	6
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/Kg	6
100-41-4	Ethylbenzene	BRL		ug/Kg	6
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/Kg	6
95-47-6	ortho-Xylene	BRL		ug/Kg	6

# GROUNDWATER ANALYTICAL

## EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: IIF03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-28  
Sampled: 09-01-05 09:10  
Received: 09-02-05 18:30  
Analyzed: 09-13-05 23:03  
Analyst: EMC

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: NaHSO<sub>4</sub> / Cool  
QC Batch ID: VM1-1661-S  
Instrument ID: MS-1 HP 5890  
Sample Weight: 5.4 g  
% Solids: 85  
Dilution Factor: 1

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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/Kg	6
75-25-2	Bromoform	BRL		ug/Kg	6
98-82-8	Isopropylbenzene	BRL		ug/Kg	6
108-86-1	Bromobenzene	BRL		ug/Kg	6
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/Kg	6
96-18-4	1,2,3-Trichloropropane	BRL		ug/Kg	6
103-65-1	n-Propylbenzene	BRL		ug/Kg	6
95-49-8	2-Chlorotoluene	BRL		ug/Kg	6
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/Kg	6
106-43-4	4-Chlorotoluene	BRL		ug/Kg	6
98-06-6	tert-Butylbenzene	BRL		ug/Kg	6
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/Kg	6
135-98-8	sec-Butylbenzene	BRL		ug/Kg	6
541-73-1	1,3-Dichlorobenzene	BRL		ug/Kg	6
99-87-6	4-Isopropyltoluene	BRL		ug/Kg	6
106-46-7	1,4-Dichlorobenzene	BRL		ug/Kg	6
95-50-1	1,2-Dichlorobenzene	BRL		ug/Kg	6
104-51-8	n-Butylbenzene	BRL		ug/Kg	6
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/Kg	6
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/Kg	6
87-68-3	Hexachlorobutadiene	BRL		ug/Kg	6
91-20-3	Naphthalene	BRL		ug/Kg	6
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/Kg	6
75-65-0	tert-Butyl Alcohol (TBA)	BRL		ug/Kg	220
108-28-2	Dichloromethyl Ether (DIME)	BRL		ug/Kg	6
637-92-3	Ethyl tert-butyl Ether (ETBE)	BRL		ug/Kg	6
994-05-8	tert-Amyl Methyl Ether (TAME)	BRL		ug/Kg	6
QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane		50	51	102 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>		50	49	97 %	70 - 130 %
Toluene-d <sub>8</sub>		50	53	107 %	70 - 130 %
4-Bromofluorobenzene		50	57	113 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample preparation performed by EPA Method 5035A. Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-29  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 15:12  
Analyst: JH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VG3-1993-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 13 g  
Final Volume: 15 mL  
% Solids: 82  
Dilution Factor: 1

VPH Ranges		Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†,‡</sup>		5.4		mg/Kg	1.4
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†,§</sup>		BRL		mg/Kg	1.4
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>		BRL		mg/Kg	1.4
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>		6.1		mg/Kg	1.4
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>		2.5		mg/Kg	1.4
CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>  </sup>	BRL		mg/Kg	0.14
71-43-2	Benzene <sup>  </sup>	BRL		mg/Kg	0.14
108-88-3	Toluene <sup>  </sup>	0.67		mg/Kg	0.14
100-41-4	Ethylbenzene <sup>  </sup>	0.27		mg/Kg	0.14
106-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>†</sup>	BRL		mg/Kg	0.14
95-47-6	ortho-Xylene <sup>†</sup>	BRL		mg/Kg	0.14
91-20-3	Naphthalene	BRL		mg/Kg	0.72
QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)		7.2	7.2	100 %	70 - 130 %
2,5-Dibromotoluene (FID)		7.2	7.3	101 %	70 - 130 %
QA/QC Certification					
1. Were all QA/QC procedures required by the method followed?					Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?					Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?					No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.					

**Method Reference:** Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

‡ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

§ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

|| Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP VPH Method Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID: IB05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-30  
Sampled: 08-30-05 11:00  
Received: 09-02-05 18:30  
Analyzed: 09-09-05 15:53  
Analyst: JH

Matrix: Soil  
Container: 40 mL VOA Vial  
Preservation: Methanol / Cool  
QC Batch ID: VG3-1993-E  
Instrument ID: GC-3 HP 5890  
Sample Weight: 19 g  
Final Volume: 15 mL  
% Solids: 88  
Dilution Factor: 1

VPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊖</sup>	BRL		mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup> <sup>⊗</sup>	BRL		mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	1.0

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
1634-04-4	Methyl tert-butyl Ether <sup>‡</sup>	BRL		mg/Kg	0.10
71-43-2	Benzene <sup>‡</sup>	BRL		mg/Kg	0.10
108-88-3	Toluene <sup>‡</sup>	BRL		mg/Kg	0.10
100-41-4	Ethylbenzene <sup>†</sup>	BRL		mg/Kg	0.10
108-38-3 and 106-42-3	meta-Xylene and para-Xylene <sup>‡</sup>	BRL		mg/Kg	0.10
95-47-6	ortho-Xylene <sup>‡</sup>	BRL		mg/Kg	0.10
91-20-3	Naphthalene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2,5-Dibromotoluene (PID)	4.5	4.4	99 %	70 - 130 %
2,5-Dibromotoluene (FID)	4.5	4.4	99 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

⊖ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

‡ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IA035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 82

Laboratory ID: 87113-31  
Sampled: 08-30-05 09:20  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0699-S	EPA 3050B	09-12-05 12:18	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	950		mg/Kg	12	1	09-13-05 11:05	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300 600

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-32  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 82

Analysis Method: QC Batch ID: Prep Method: Prepared: Sample Weight: Instrument ID: Analyst:  
EPA 6010B<sup>1</sup> MB-0699-S EPA 3050B 09-12-05 12:18 0.5 g ICP-1 PE 3000 MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	590		mg/Kg	12	1	09-13-05 11:08	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300 600

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IA03D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **53**

Laboratory ID: **87113-33**  
Sampled: **08-30-05 09:30**  
Received: **09-02-05 18:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0699-S	EPA 3050B	09-12-05 12:18	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	34		mg/Kg	18	1	09-13-05 11:12	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IB055**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **91**

Laboratory ID: **87113-34**  
Sampled: **08-30-05 10:20**  
Received: **09-02-05 18:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0699-S	EPA 3050B	09-12-05 12:18	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	350		mg/Kg	11	1	09-13-05 11:15	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

200

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **1805M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **91**

Laboratory ID: **87113-35**  
Sampled: **08-30-05 10:50**  
Received: **09-02-05 18:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0699-S	EPA 3050B	09-12-05 12:18	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	75		mg/Kg	11	1	09-13-05 11:19	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **1B05D**  
 Project: **DND Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**  
 Laboratory ID: **87113-36**  
 Sampled: **08-30-05 11:00**  
 Received: **09-02-05 18:30**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **88**

Analysis Method      QC Batch ID      Prep Method      Prepared      Sample Weight      Instrument ID      Analyst  
 EPA 6010B<sup>1</sup>      MB-0700-S      EPA 3050B      09-13-05 12:13      0.5 g      ICP-1 PE 3000      MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	09-13-05 18:00	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: 18085  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-37  
Sampled: 08-30-05 11:00  
Received: 09-02-05 18:30

Percent Solids: 91

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	340		mg/Kg	11	1	09-13-05 18:03	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IB08M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-38  
Sampled: 08-30-05 11:30  
Received: 09-02-05 18:30

Percent Solids: 81

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	12	1	09-13-05 18:07	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: 1808D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 87

Laboratory ID: 87113-39  
Sampled: 08-30-05 11:50  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	11	1	09-13-05 18:10	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA09S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-40  
Sampled: 08-30-05 15:00  
Received: 09-02-05 18:30

Percent Solids: 89

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0700-5	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	150		mg/Kg	11	1	09-13-05 18:14	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-41  
Sampled: 08-30-05 15:10  
Received: 09-02-05 18:30

Percent Solids: 78

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	12	1	09-13-05 16:17	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA09D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-42  
Sampled: 08-30-05 15:20  
Received: 09-02-05 18:30

Percent Solids: 81

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	110		mg/Kg	12	1	09-13-05 18:21	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA115  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-43  
Sampled: 08-30-05 14:10  
Received: 09-02-05 18:30

Percent Solids: 91

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	110		mg/Kg	11	1	09-13-05 18:31	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA11M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-44  
Sampled: 08-30-05 14:15  
Received: 09-02-05 18:30

Percent Solids: 77

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	13	1	09-13-05 18:35	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIC02M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-47**  
Sampled: **08-31-05 10:40**  
Received: **09-02-05 18:30**

Percent Solids: **81**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	140		mg/Kg	12	1	09-13-05 18:38	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIC02D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-48**  
Sampled: **08-31-05 10:50**  
Received: **09-02-05 18:30**

Percent Solids: **80**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	12	1	09-13-05 18:41	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIIE02S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 92

Laboratory ID: 87113-49  
Sampled: 08-31-05 09:35  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 60108 <sup>1</sup>	M8-0700-S	EPA 3050B	09-13-05 12:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	120		mg/Kg	11	1	09-13-05 18:45	EPA 60108 <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIIIE02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-50  
Sampled: 08-31-05 09:45  
Received: 09-02-05 18:30

Percent Solids: 74

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	14	1	09-14-05 20:03	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: JHIE02D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-51  
Sampled: 08-31-05 09:55  
Received: 09-02-05 18:30

Percent Solids: 86

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/kg	12	1	09-14-05 20:06	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IC09S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 91

Laboratory ID: 87113-52  
Sampled: 08-31-05 14:00  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	510		mg/Kg	11	1	09-14-05 20:16	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IC09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-53  
Sampled: 08-31-05 14:10  
Received: 09-02-05 18:30

Percent Solids: 88

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	09-14-05 20:20	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IC09D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-54**  
Sampled: **08-31-05 14:20**  
Received: **09-02-05 18:30**

Percent Solids: **92**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	09-14-05 20:23	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA01S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 88

Laboratory ID: 87113-55  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	150		mg/Kg	11	1	09-14-05 20:26	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA01M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-56  
Sampled: 08-31-05 10:50  
Received: 09-02-05 18:30

Percent Solids: 71

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	14	1	09-14-05 20:30	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-57  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 95

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	30		mg/Kg	10	1	09-14-05 20:33	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
DF Dilution Factor.

ms/msd  
requested  
9/27/05  
ET

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-58  
Sampled: 08-31-05 09:50  
Received: 09-02-05 18:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 76

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analysis</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	13	1	09-14-05 20:43	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA05M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 79

Laboratory ID: 87113-59  
Sampled: 08-31-05 08:50  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	12	1	09-14-05 20:47	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 68

Laboratory ID: 87113-60  
Sampled: 08-31-05 09:00  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	14	1	09-14-05 20:56	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA07S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 85

Laboratory ID: 87113-61  
Sampled: 08-31-05 08:15  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	710		mg/Kg	12	1	09-14-05 20:59	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300 600

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA07M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 80

Laboratory ID: 87113-62  
Sampled: 08-31-05 08:20  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	12	1	09-14-05 21:03	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIF035**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-64**  
Sampled: **09-01-05 08:50**  
Received: **09-02-05 18:30**

Percent Solids: **91**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analysis</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	120		mg/Kg	11	1	09-14-05 21:07	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIF03M**  
 Project: **DND Lewis Chemical/2004-301**  
 Client: **Environmental Strategies & Management, Inc.**  
 Laboratory ID: **87113-65**  
 Sampled: **09-01-05 09:00**  
 Received: **09-02-05 18:30**

Matrix: **Soil**  
 Container: **250 mL Glass**  
 Preservation: **Cool**  
 Percent Solids: **74**

Analysis Method: **EPA 6010B<sup>1</sup>**    QC Batch ID: **MB-0702-S**    Prep Method: **EPA 3050B**    Prepared: **09-14-05 11:50**    Sample Weight: **0.5 g**    Instrument ID: **ICP-1 PE 3000**    Analyst: **DRW**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	14	1	09-14-05 21:10	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIF03D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-66**  
Sampled: **09-01-05 09:10**  
Received: **09-02-05 18:30**

Percent Solids: **85**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:30	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	12	1	09-14-05 21:14	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IA085**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-72**  
Sampled: **08-30-05 12:20**  
Received: **09-02-05 18:30**

Percent Solids: **86**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	310		mg/Kg	11	1	09-14-05 21:21	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IA08M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-73  
Sampled: 08-30-05 12:30  
Received: 09-02-05 18:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 89

Analysis Method: EPA 6010B<sup>1</sup>    QC Batch ID: MB-0702-S    Prep Method: EPA 3050B    Prepared: 09-14-05 11:50    Sample Weight: 0.5 g    Instrument ID: ICP-1 PE 3000    Analyst: DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	150		mg/Kg	11	1	09-14-05 21:24	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: DWP2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-74  
Sampled: 08-30-05 11:40  
Received: 09-02-05 18:30

Percent Solids: 83

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	12	1	09-14-05 21:28	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IB105**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-75**  
Sampled: **08-30-05 13:20**  
Received: **09-02-05 18:30**

Percent Solids: **92**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	210		mg/Kg	11	1	09-16-05 11:49	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IB10M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **80**

Laboratory ID: **87113-76**  
Sampled: **08-30-05 13:30**  
Received: **09-02-05 18:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	12	1	09-16-05 11:53	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **1B10D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **86**

Laboratory ID: **87113-77**  
Sampled: **08-30-05 13:40**  
Received: **09-02-05 18:30**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	11	1	09-16-05 11:56	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **DUP4**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-78**  
Sampled: **08-31-05 10:45**  
Received: **09-02-05 18:30**

Percent Solids: **76**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Weight</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	190		mg/Kg	13	1	09-16-05 12:00	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: ID105  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 89

Laboratory ID: 87113-79  
Sampled: 08-31-05 14:50  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	440		mg/Kg	11	1	09-16-05 12:03	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: ID10M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 74

Laboratory ID: 87113-80  
Sampled: 08-31-05 15:00  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	13	1	09-16-05 12:07	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: ID10D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.  
Laboratory ID: 87113-81  
Sampled: 08-31-05 15:10  
Received: 09-02-05 18:30

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 76

Analysis Method: EPA 6010B<sup>1</sup>      QC Batch ID: MB-0703-S      Prep Method: EPA 3050B      Prepared: 09-15-05 14:24      Sample Weight: 0.5 g      Instrument ID: ICP-1 PE 3000      Analyst: MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	13	1	09-16-05 12:16	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA01D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 91

Laboratory ID: 87113-82  
Sampled: 08-31-05 11:00  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	09-16-05 12:20	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 90

Laboratory ID: 87113-83  
Sampled: 08-31-05 10:00  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	BRL		mg/Kg	11	1	09-16-05 12:23	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA055  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 88

Laboratory ID: 87113-84  
Sampled: 08-31-05 08:40  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Unit	DF	Analyzed	Method
7439-92-1	Lead, Total	420		mg/Kg	11	1	09-16-05 12:27	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: ESM82  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 120 mL Glass  
Preservation: Cool  
Percent Solids: 90

Laboratory ID: 87113-85  
Sampled: 08-31-05 14:30  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	1600		mg/kg	11	1	09-16-05 12:30	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300 600

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: **IIIIE055**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management, Inc.**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
Percent Solids: **84**

Laboratory ID: **87113-86**  
Sampled: **09-01-05 08:50**  
Received: **09-02-05 18:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	420		mg/Kg	11	1	09-16-05 12:34	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

300

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIIE05M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-87  
Sampled: 09-01-05 09:00  
Received: 09-02-05 18:30

Percent Solids: 63

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	260		mg/Kg	15	1	09-16-05 12:44	EPA 6010B <sup>1</sup>

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIE05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-88  
Sampled: 09-01-05 09:10  
Received: 09-02-05 18:30

Percent Solids: 91

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analysis
EPA 6010B <sup>1</sup>	MB-0703-S	EPA 3050B	09-15-05 14:24	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total		BRL	mg/Kg	11	1	09-16-05 12:48	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IA035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-31  
Sampled: 08-30-05 09:20  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 19:59  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 82  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	96
11104-28-2	Aroclor 1221	BRL		ug/Kg	96
11141-16-5	Aroclor 1232	BRL		ug/Kg	96
53469-21-9	Aroclor 1242	BRL		ug/Kg	96
12672-29-6	Aroclor 1248	2,100	e 2C (1, 500)*	ug/Kg	96
11097-69-1	Aroclor 1254	BRL		ug/Kg	96
11096-82-5	Aroclor 1260	BRL		ug/Kg	96
37324-23-5	Aroclor 1262	BRL		ug/Kg	96
11100-14-4	Aroclor 1268	BRL		ug/Kg	96

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	16	11	68 %
Second Column	Decachlorobiphenyl	16	18	112 %
First Column	Tetrachloro- <i>m</i> -xylene	16	11	70 %
Second Column	Decachlorobiphenyl	16	15	93 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

\* Confirmatory column quantification.

2C Concentration reported from second column.

e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IA03S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-31RA1  
Sampled: 08-30-05 09:20  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 22:18  
Analyst: CRL

QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 82  
Dilution Factor: 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	190
11104-28-2	Aroclor 1221	BRL		ug/Kg	190
11141-16-5	Aroclor 1232	BRL		ug/Kg	190
53469-21-9	Aroclor 1242	BRL		ug/Kg	190
12672-29-6	Aroclor 1248	1,800	2C (1,600)*	ug/Kg	190
11097-69-1	Aroclor 1254	BRL		ug/Kg	190
11096-82-5	Aroclor 1260	BRL		ug/Kg	190
37324-23-5	Aroclor 1262	BRL		ug/Kg	190
11100-14-4	Aroclor 1268	BRL		ug/Kg	190

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	16	10	61 %
Column	Decachlorobiphenyl	16	16	101 %
Second	Tetrachloro- <i>m</i> -xylene	16	11	69 %
Column	Decachlorobiphenyl	16	14	90 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545 Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

† Non-target analyte. Result is based on a single mid-range calibration standard.

\* Confirmatory column quantification

2C Concentration reported from second column

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-32  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 20:34  
Analyst: CRL

QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 82  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	94
11104-28-2	Aroclor 1221	BRL		ug/Kg	94
11141-16-5	Aroclor 1232	BRL		ug/Kg	94
53469-21-9	Aroclor 1242	BRL		ug/Kg	94
12672-29-6	Aroclor 1248	1,200	e 2C (930)*	ug/Kg	94
11097-69-1	Aroclor 1254	BRL		ug/Kg	94
11096-82-5	Aroclor 1260	BRL		ug/Kg	94
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	94
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	94

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	16	12	75 %	30 - 150 %
Column	16	19	124 %	30 - 150 %
Second	16	13	83 %	30 - 150 %
Column	16	19	122 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
• Confirmatory column quantification.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-32RA1

QC Batch ID: PB-2248-P

Sampled: 08-30-05 09:25

Instrument ID: GC-6 HP 5890

Received: 09-02-05 18:30

Sample Weight: 15 g

Extracted: 09-08-05 07:00

Final Volume: 1 mL

Cleaned Up: 09-09-05 14:00

Percent Solids: 82

Analyzed: 09-20-05 11:25

Dilution Factor: 2

Analyst: CRL

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	190
11104-28-2	Aroclor 1221	BRL		ug/Kg	190
11141-16-5	Aroclor 1232	BRL		ug/Kg	190
53469-21-9	Aroclor 1242	BRL		ug/Kg	190
12672-29-6	Aroclor 1248	1,200	2C (1,100)*	ug/Kg	190
11097-69-1	Aroclor 1254	BRL		ug/Kg	190
11096-82-5	Aroclor 1260	BRL		ug/Kg	190
37324-23-5	Aroclor 1262	BRL		ug/Kg	190
11100-14-4	Aroclor 1268	BRL		ug/Kg	190

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro-m-xylene	16	12	79 %
	Decachlorobiphenyl	16	18	118 %
Second				
Column	Tetrachloro-m-xylene	16	14	92 %
	Decachlorobiphenyl	16	19	122 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

\* Confirmatory column quantification.

2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IA03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-33  
Sampled: 08-30-05 09:30  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-09-05 22:44  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 53  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	150
11104-28-2	Aroclor 1221	BRL		ug/Kg	150
11141-16-5	Aroclor 1232	BRL		ug/Kg	150
53469-21-9	Aroclor 1242	BRL		ug/Kg	150
12672-29-6	Aroclor 1248	BRL		ug/Kg	150
11097-69-1	Aroclor 1254	BRL		ug/Kg	150
11096-82-5	Aroclor 1260	BRL		ug/Kg	150
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	150
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	150

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	24	14	56 %	30 - 150 %
Column	Decachlorobiphenyl	24	19	79 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	24	15	62 %	30 - 150 %
Column	Decachlorobiphenyl	24	20	80 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
+ Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IB055  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-34  
Sampled: 08-30-05 10:20  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-20-05 12:00  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 200

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	17,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	17,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	17,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	17,000
12672-29-6	Aroclor 1248	70,000	2C (64,000)	ug/Kg	17,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	17,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	17,000
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	17,000
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	17,000

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	14	na	d	30 - 150 %
Column	14	na	d	30 - 150 %
Second	14	na	d	30 - 150 %
Column	14	na	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
• Confirmatory column quantification.  
2C Concentration reported from second column.  
d Surrogate recovery not measurable due to required sample dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **IB05M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-35**  
Sampled: **08-30-05 10:50**  
Received: **09-02-05 18:30**  
Extracted: **09-08-05 07:00**  
Cleaned Up: **09-09-05 14:00**  
Analyzed: **09-18-05 21:43**  
Analyst: **CRL**

QC Batch ID: **PB-2248-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **91**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	85
11104-28-2	Aroclor 1221	BRL		ug/Kg	85
11141-16-5	Aroclor 1232	BRL		ug/Kg	85
53469-21-9	Aroclor 1242	BRL		ug/Kg	85
12672-29-6	Aroclor 1248	1,900	e 1C (1,700)*	ug/Kg	85
11097-69-1	Aroclor 1254	BRL		ug/Kg	85
11096-82-5	Aroclor 1260	BRL		ug/Kg	85
37324-23-5	Aroclor 1262	BRL		ug/Kg	85
11100-14-4	Aroclor 1268	BRL		ug/Kg	85

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	14	14	100 %
Column	Decachlorobiphenyl	14	18	126 %
Second	Tetrachloro- <i>m</i> -xylene	14	15	106 %
Column	Decachlorobiphenyl	14	16	114 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **1805M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**

Laboratory ID: **87113-35RA1**  
Sampled: **08-30-05 10:50**  
Received: **09-02-05 18:30**  
Extracted: **09-08-05 07:00**  
Cleaned Up: **09-09-05 14:00**  
Analyzed: **09-18-05 22:53**  
Analyst: **CRL**

QC Batch ID: **PB-2248-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **91**  
Dilution Factor: **5**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	430
11104-28-2	Aroclor 1221		BRL	ug/Kg	430
11141-16-5	Aroclor 1232		BRL	ug/Kg	430
53469-21-9	Aroclor 1242		BRL	ug/Kg	430
12672-29-6	Aroclor 1248	2,300	2C (2,000)*	ug/Kg	430
11097-69-1	Aroclor 1254		BRL	ug/Kg	430
11096-82-5	Aroclor 1260		BRL	ug/Kg	430
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	430
11100-14-4	Aroclor 1268		BRL	ug/Kg	430

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	14	13	90 %	30 - 150 %
Column	Decachlorobiphenyl	14	17	122 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	14	15	108 %	30 - 150 %
Column	Decachlorobiphenyl	14	14	97 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **IB05D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-36**  
Sampled: **08-30-05 11:00**  
Received: **09-02-05 18:30**  
Extracted: **09-08-05 07:00**  
Cleaned Up: **09-09-05 14:00**  
Analyzed: **09-18-05 00:44**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **PB-2248-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **16 g**  
Final Volume: **1 mL**  
Percent Solids: **88**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	86
11104-28-2	Aroclor 1221		BRL	ug/Kg	86
11141-16-5	Aroclor 1232		BRL	ug/Kg	86
53469-21-9	Aroclor 1242		BRL	ug/Kg	86
12672-29-6	Aroclor 1248		BRL	ug/Kg	86
11097-69-1	Aroclor 1254		BRL	ug/Kg	86
11096-82-5	Aroclor 1260		BRL	ug/Kg	86
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	86
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	86

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	14	12	81 %	30 - 150 %
	Decachlorobiphenyl	14	16	110 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	14	13	91 %	30 - 150 %
	Decachlorobiphenyl	14	16	111 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: 1B08S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-37  
Sampled: 08-30-05 11:00  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 01:19  
Analyst: CRL

QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	86
11104-28-2	Aroclor 1221	BRL		ug/Kg	86
11141-16-5	Aroclor 1232	BRL		ug/Kg	86
53469-21-9	Aroclor 1242	BRL		ug/Kg	86
12672-29-6	Aroclor 1248	3,200	e 1C (2,900)*	ug/Kg	86
11097-69-1	Aroclor 1254	BRL		ug/Kg	86
11096-82-5	Aroclor 1260	BRL		ug/Kg	86
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	86
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	86

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	14	13	94 %
	Decachlorobiphenyl	14	17	119 %
Second	Tetrachloro- <i>m</i> -xylene	14	15	102 %
Column	Decachlorobiphenyl	14	16	114 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IB08S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-37RA1  
Sampled: 08-30-05 11:00  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 01:54  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 5

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	430
11104-28-2	Aroclor 1221	BRL		ug/Kg	430
11141-16-5	Aroclor 1232	BRL		ug/Kg	430
53469-21-9	Aroclor 1242	BRL		ug/Kg	430
12672-29-6	Aroclor 1248	BRL		ug/Kg	430
11097-69-1	Aroclor 1254	3,900	2C (3,500)*	ug/Kg	430
11096-82-5	Aroclor 1260	BRL		ug/Kg	430
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	430
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	430

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-m-xylene	14	13	89 %	30 - 150 %
	Decachlorobiphenyl	14	19	134 %	30 - 150 %
Second Column	Tetrachloro-m-xylene	14	15	104 %	30 - 150 %
	Decachlorobiphenyl	14	18	127 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **IB08M**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**  
Laboratory ID: **87113-38**  
Sampled: **08-30-05 11:30**  
Received: **09-02-05 18:30**  
Extracted: **09-08-05 07:00**  
Cleaned Up: **09-09-05 14:00**  
Analyzed: **09-10-05 01:39**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **PB-2248-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **81**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	97
11104-28-2	Aroclor 1221	BRL		ug/Kg	97
11141-16-5	Aroclor 1232	BRL		ug/Kg	97
53469-21-9	Aroclor 1242	BRL		ug/Kg	97
12672-29-6	Aroclor 1248	BRL		ug/Kg	97
11097-69-1	Aroclor 1254	BRL		ug/Kg	97
11096-82-5	Aroclor 1260	BRL		ug/Kg	97
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	97
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	97

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	16	11	67 %
	Decachlorobiphenyl	16	16	102 %
Second				
Column	Tetrachloro- <i>m</i> -xylene	16	12	74 %
	Decachlorobiphenyl	16	14	87 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: 1B08D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-39  
Sampled: 08-30-05 11:50  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-10-05 17:55  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 87  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	91
11104-28-2	Aroclor 1221	BRL		ug/Kg	91
11141-16-5	Aroclor 1232	BRL		ug/Kg	91
53469-21-9	Aroclor 1242	BRL		ug/Kg	91
12672-29-6	Aroclor 1248	BRL		ug/Kg	91
11097-69-1	Aroclor 1254	BRL		ug/Kg	91
11096-82-5	Aroclor 1260	BRL		ug/Kg	91
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	91
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	91

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	9	62 %	30 - 150 %
	Decachlorobiphenyl	15	14	90 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	10	67 %	30 - 150 %
	Decachlorobiphenyl	15	7	44 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA09S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-40  
Sampled: 08-30-05 15:00  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 02:29  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 89  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	86
11104-28-2	Aroclor 1221	BRL		ug/Kg	86
11141-16-5	Aroclor 1232	BRL		ug/Kg	86
53469-21-9	Aroclor 1242	BRL		ug/Kg	86
12672-29-6	Aroclor 1248	980	1C (820)*	ug/Kg	86
11097-69-1	Aroclor 1254	BRL		ug/Kg	86
11096-82-5	Aroclor 1260	BRL		ug/Kg	86
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	86
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	86

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	14	13	90 %
	Decachlorobiphenyl	14	16	115 %
Second Column	Tetrachloro- <i>m</i> -xylene	14	14	99 %
	Decachlorobiphenyl	14	18	124 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-41  
Sampled: 08-30-05 15:10  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-10-05 19:05  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 78  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	100
11104-28-2	Aroclor 1221	BRL		ug/Kg	100
11141-16-5	Aroclor 1232	BRL		ug/Kg	100
53469-21-9	Aroclor 1242	BRL		ug/Kg	100
12672-29-6	Aroclor 1248	BRL		ug/Kg	100
11097-69-1	Aroclor 1254	BRL		ug/Kg	100
11096-82-5	Aroclor 1260	BRL		ug/Kg	100
37324-23-5	Aroclor 1262†	BRL		ug/Kg	100
11100-14-4	Aroclor 1268	BRL		ug/Kg	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	17	13	76 %	30 - 150 %
Column	17	15	92 %	30 - 150 %
Second	17	13	81 %	30 - 150 %
Column	17	8	50 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA09D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-42  
Sampled: 08-30-05 15:20  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-10-05 19:40  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 81  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	97
11104-28-2	Aroclor 1221	BRL		ug/Kg	97
11141-16-5	Aroclor 1232	BRL		ug/Kg	97
53469-21-9	Aroclor 1242	BRL		ug/Kg	97
12672-29-6	Aroclor 1248	BRL		ug/Kg	97
11097-69-1	Aroclor 1254	BRL		ug/Kg	97
11096-82-5	Aroclor 1260	BRL		ug/Kg	97
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	97
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	97

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	16	10	62 %	30 - 150 %
Column	Decachlorobiphenyl	16	14	90 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	16	12	75 %	30 - 150 %
Column	Decachlorobiphenyl	16	15	92 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA11S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-43  
Sampled: 08-30-05 14:10  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 03:39  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	88
11104-28-2	Aroclor 1221		BRL	ug/Kg	88
11141-16-5	Aroclor 1232		BRL	ug/Kg	88
53469-21-9	Aroclor 1242		BRL	ug/Kg	88
12672-29-6	Aroclor 1248	280	2C (260)*	ug/Kg	88
11097-69-1	Aroclor 1254		BRL	ug/Kg	88
11096-82-5	Aroclor 1260		BRL	ug/Kg	88
37324-23-5	Aroclor 1262†		BRL	ug/Kg	88
11100-14-4	Aroclor 1268†		BRL	ug/Kg	88

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	15	14	94 %
	Decachlorobiphenyl	15	16	108 %
Second				
Column	Tetrachloro- <i>m</i> -xylene	15	15	101 %
	Decachlorobiphenyl	15	15	106 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

\* Confirmatory column quantification.

2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA11M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-44  
Sampled: 08-30-05 14:15  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-10-05 20:50  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 77  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	100
11104-28-2	Aroclor 1221		BRL	ug/Kg	100
11141-16-5	Aroclor 1232		BRL	ug/Kg	100
53469-21-9	Aroclor 1242		BRL	ug/Kg	100
12672-29-6	Aroclor 1248		BRL	ug/Kg	100
11097-69-1	Aroclor 1254		BRL	ug/Kg	100
11096-82-5	Aroclor 1260		BRL	ug/Kg	100
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	100
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	17	9	50 %
	Decachlorobiphenyl	17	14	81 %
Second				
Column	Tetrachloro- <i>m</i> -xylene	17	9	56 %
	Decachlorobiphenyl	17	13	80 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA11M2  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-45  
Sampled: 08-30-05 14:30  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-10-05 22:35  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 51  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	150
11104-28-2	Aroclor 1221	BRL		ug/Kg	150
11141-16-5	Aroclor 1232	BRL		ug/Kg	150
53469-21-9	Aroclor 1242	BRL		ug/Kg	150
12672-29-6	Aroclor 1248	BRL		ug/Kg	150
11097-69-1	Aroclor 1254	BRL		ug/Kg	150
11096-82-5	Aroclor 1260	BRL		ug/Kg	150
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	150
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	150

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	26	14	56 %
Second	Decachlorobiphenyl	26	21	84 %
Column	Tetrachloro- <i>m</i> -xylene	26	14	56 %
Column	Decachlorobiphenyl	26	22	85 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM16  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-46  
Sampled: 08-31-05 13:30  
Received: 09-02-05 18:30  
Extracted: 09-08-05 07:00  
Cleaned Up: 09-09-05 14:00  
Analyzed: 09-18-05 04:14  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2248-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 76  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	100
11104-28-2	Aroclor 1221	BRL		ug/Kg	100
11141-16-5	Aroclor 1232	BRL		ug/Kg	100
53469-21-9	Aroclor 1242	BRL		ug/Kg	100
12672-29-6	Aroclor 1248	BRL		ug/Kg	100
11097-69-1	Aroclor 1254	380	2C (330)*	ug/Kg	100
11096-82-5	Aroclor 1260	BRL		ug/Kg	100
37324-23-5	Aroclor 1262	BRL		ug/Kg	100
11100-14-4	Aroclor 1268	BRL		ug/Kg	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	17	10	62 %	30 - 150 %
Second Column	17	18	109 %	30 - 150 %
First Column	17	12	70 %	30 - 150 %
Second Column	17	12	68 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIC02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-47  
Sampled: 08-31-05 10:40  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 04:49  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 81  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	94
11104-28-2	Aroclor 1221	BRL		ug/Kg	94
11141-16-5	Aroclor 1232	BRL		ug/Kg	94
53469-21-9	Aroclor 1242	BRL		ug/Kg	94
12672-29-6	Aroclor 1248	BRL		ug/Kg	94
11097-69-1	Aroclor 1254	BRL		ug/Kg	94
11096-82-5	Aroclor 1260	BRL		ug/Kg	94
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	94
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	94

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	16	14	89 %
Second	Decachlorobiphenyl	16	17	106 %
Column	Tetrachloro- <i>m</i> -xylene	16	15	97 %
Column	Decachlorobiphenyl	16	16	104 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: **IIIC02D**  
Project: **DND Lewis Chemical/2004-301**  
Client: **Environmental Strategies & Management**

Laboratory ID: **87113-48**  
Sampled: **08-31-05 10:50**  
Received: **09-02-05 18:30**  
Extracted: **09-09-05 09:00**  
Cleaned Up: **09-12-05 08:30**  
Analyzed: **09-18-05 05:24**  
Analyst: **CRL**

Matrix: **Soil**  
Container: **250 mL Glass**  
Preservation: **Cool**  
QC Batch ID: **PB-2250-P**  
Instrument ID: **GC-6 HP 5890**  
Sample Weight: **15 g**  
Final Volume: **1 mL**  
Percent Solids: **80**  
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	99
11104-28-2	Aroclor 1221	BRL		ug/Kg	99
11141-16-5	Aroclor 1232	BRL		ug/Kg	99
53469-21-9	Aroclor 1242	BRL		ug/Kg	99
12672-29-6	Aroclor 1248	BRL		ug/Kg	99
11097-69-1	Aroclor 1254	BRL		ug/Kg	99
11096-82-5	Aroclor 1260	BRL		ug/Kg	99
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	99
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	99

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	17	13	79 %
	Decachlorobiphenyl	17	16	100 %
Second				
Column	Tetrachloro- <i>m</i> -xylene	17	14	87 %
	Decachlorobiphenyl	17	16	98 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIIE02S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-49  
Sampled: 08-31-05 09:35  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-19-05 19:34  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 92  
Dilution Factor: 10

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	830
11104-28-2	Aroclor 1221	BRL		ug/Kg	830
11141-16-5	Aroclor 1232	BRL		ug/Kg	830
53469-21-9	Aroclor 1242	BRL		ug/Kg	830
12672-29-6	Aroclor 1248	BRL		ug/Kg	830
11097-69-1	Aroclor 1254	5,600	2C (5,000)*	ug/Kg	830
11096-82-5	Aroclor 1260	BRL		ug/Kg	830
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	830
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	830
QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	14	12	90 %	30 - 150 %
	Decachlorobiphenyl	14	13	96 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	14	15	109 %	30 - 150 %
	Decachlorobiphenyl	14	14	99 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIIIE02M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-50  
Sampled: 08-31-05 09:45  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 07:44  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 74  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	100
11104-28-2	Aroclor 1221	BRL		ug/Kg	100
11141-16-5	Aroclor 1232	BRL		ug/Kg	100
53469-21-9	Aroclor 1242	BRL		ug/Kg	100
12672-29-6	Aroclor 1248	BRL		ug/Kg	100
11097-69-1	Aroclor 1254	120	2C (120)*	ug/Kg	100
11096-82-5	Aroclor 1260	BRL		ug/Kg	100
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	100
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	100

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	17	13	74 %	30 - 150 %
	Decachlorobiphenyl	17	18	105 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	17	15	85 %	30 - 150 %
	Decachlorobiphenyl	17	18	102 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIIIE02D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-51  
Sampled: 08-31-05 09:55  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 08:19  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 86  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	88
11104-28-2	Aroclor 1221	BRL		ug/Kg	88
11141-16-5	Aroclor 1232	BRL		ug/Kg	88
53469-21-9	Aroclor 1242	BRL		ug/Kg	88
12672-29-6	Aroclor 1248	BRL		ug/Kg	88
11097-69-1	Aroclor 1254	BRL		ug/Kg	88
11096-82-5	Aroclor 1260	BRL		ug/Kg	88
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	88
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	88

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	12	79 %	30 - 150 %
	Decachlorobiphenyl	15	15	105 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	13	87 %	30 - 150 %
	Decachlorobiphenyl	15	15	104 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IC095  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-52  
Sampled: 08-31-05 14:00  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 08:54  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	86
11104-28-2	Aroclor 1221		BRL	ug/Kg	86
11141-16-5	Aroclor 1232		BRL	ug/Kg	86
53469-21-9	Aroclor 1242		BRL	ug/Kg	86
12672-29-6	Aroclor 1248		BRL	ug/Kg	86
11097-69-1	Aroclor 1254	380	2C (330)*	ug/Kg	86
11096-82-5	Aroclor 1260		BRL	ug/Kg	86
37324-23-5	Aroclor 1262 †		BRL	ug/Kg	86
11100-14-4	Aroclor 1268 †		BRL	ug/Kg	86

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	14	10	69 %	30 - 150 %
	Decachlorobiphenyl	14	14	97 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	14	11	76 %	30 - 150 %
	Decachlorobiphenyl	14	17	119 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IC09M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-53  
Sampled: 08-31-05 14:10  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 09:29  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 88  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	87
11104-28-2	Aroclor 1221	BRL		ug/Kg	87
11141-16-5	Aroclor 1232	BRL		ug/Kg	87
53469-21-9	Aroclor 1242	BRL		ug/Kg	87
12672-29-6	Aroclor 1248	BRL		ug/Kg	87
11097-69-1	Aroclor 1254	BRL		ug/Kg	87
11096-82-5	Aroclor 1260	BRL		ug/Kg	87
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	87
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	87

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	14	11	74 %	30 - 150 %
Column	14	14	96 %	30 - 150 %
Second	14	12	82 %	30 - 150 %
Column	14	14	96 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IC09D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-54  
Sampled: 08-31-05 14:20  
Received: 09-02-05 18:30  
Extracted: 09-09-05 09:00  
Cleaned Up: 09-12-05 08:30  
Analyzed: 09-18-05 10:04  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 92  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	86
11104-28-2	Aroclor 1221	BRL		ug/Kg	86
11141-16-5	Aroclor 1232	BRL		ug/Kg	86
53469-21-9	Aroclor 1242	BRL		ug/Kg	86
12672-29-6	Aroclor 1248	BRL		ug/Kg	86
11097-69-1	Aroclor 1254	BRL		ug/Kg	86
11096-82-5	Aroclor 1260	BRL		ug/Kg	86
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	86
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	86

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	14	11	79 %
Second	Decachlorobiphenyl	14	13	94 %
Column	Tetrachloro- <i>m</i> -xylene	14	12	87 %
Second	Decachlorobiphenyl	14	13	93 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA01S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-55  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-19-05 20:09  
Analyst: CRL

QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 88  
Dilution Factor: 25

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	2,200
11104-28-2	Aroclor 1221	BRL		ug/Kg	2,200
11141-16-5	Aroclor 1232	BRL		ug/Kg	2,200
53469-21-9	Aroclor 1242	BRL		ug/Kg	2,200
12672-29-6	Aroclor 1248	BRL		ug/Kg	2,200
11097-69-1	Aroclor 1254	18,000	2C (15,000)	ug/Kg	2,200
11096-82-5	Aroclor 1260	BRL		ug/Kg	2,200
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	2,200
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	2,200

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	15	na	d
	Decachlorobiphenyl	15	na	d
Second				
Column	Tetrachloro- <i>m</i> -xylene	15	na	d
	Decachlorobiphenyl	15	na	d

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
• Confirmatory column quantification.  
2C Concentration reported from second column.  
d Surrogate recovery not measurable due to required sample dilution.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA01M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-56  
Sampled: 08-31-05 10:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 11:14  
Analyst: CRL

QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 71  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016				
11104-28-2	Aroclor 1221	BRL		ug/Kg	110
11141-16-5	Aroclor 1232	BRL		ug/Kg	110
53469-21-9	Aroclor 1242	BRL		ug/Kg	110
12672-29-6	Aroclor 1248	BRL		ug/Kg	110
11097-69-1	Aroclor 1254	350	2C (280)*	ug/Kg	110
11096-82-5	Aroclor 1260	BRL		ug/Kg	110
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	110
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	110

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	18	15	85 %
	Decachlorobiphenyl	18	20	108 %
Second				
Column	Tetrachloro- <i>m</i> -xylene	18	17	91 %
	Decachlorobiphenyl	18	20	108 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-58  
Sampled: 08-31-05 09:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-20-05 12:51  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 76  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	100
11104-28-2	Aroclor 1221	BRL		ug/Kg	100
11141-16-5	Aroclor 1232	BRL		ug/Kg	100
53469-21-9	Aroclor 1242	BRL		ug/Kg	100
12672-29-6	Aroclor 1248	1,600	e 2C (1,200)*	ug/Kg	100
11097-69-1	Aroclor 1254	BRL		ug/Kg	100
11096-82-5	Aroclor 1260	BRL		ug/Kg	100
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	100
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	17	16	92 %
Second Column	Decachlorobiphenyl	17	20	114 %
First Column	Tetrachloro- <i>m</i> -xylene	17	11	64 %
Second Column	Decachlorobiphenyl	17	18	103 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-58RA1  
Sampled: 08-31-05 09:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-20-05 14:26  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2250-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 76  
Dilution Factor: 5

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016			ug/Kg	500
11104-28-2	Aroclor 1221	BRL		ug/Kg	500
11141-16-5	Aroclor 1232	BRL		ug/Kg	500
53469-21-9	Aroclor 1242	BRL		ug/Kg	500
12672-29-6	Aroclor 1248	BRL		ug/Kg	500
11097-69-1	Aroclor 1254	1,700	2C (1,300)*	ug/Kg	500
11096-82-5	Aroclor 1260	BRL		ug/Kg	500
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	500
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	500

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	17	15	87 %
	Decachlorobiphenyl	17	21	118 %
Second Column	Tetrachloro- <i>m</i> -xylene	17	14	80 %
	Decachlorobiphenyl	17	16	93 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA05M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-59  
Sampled: 08-31-05 08:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 14:09  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 79  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	99
11104-28-2	Aroclor 1221	BRL		ug/Kg	99
11141-16-5	Aroclor 1232	BRL		ug/Kg	99
53469-21-9	Aroclor 1242	BRL		ug/Kg	99
12672-29-6	Aroclor 1248	830	2C (820)*	ug/Kg	99
11097-69-1	Aroclor 1254	BRL		ug/Kg	99
11096-82-5	Aroclor 1260	BRL		ug/Kg	99
37324-23-5	Aroclor 1262	BRL		ug/Kg	99
11100-14-4	Aroclor 1268	BRL		ug/Kg	99

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First				
Column	Tetrachloro- <i>m</i> -xylene	16	12	74 %
	Decachlorobiphenyl	16	16	100 %
Second	Tetrachloro- <i>m</i> -xylene	16	13	82 %
Column	Decachlorobiphenyl	16	16	94 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
• Confirmatory column quantification.  
2C Concentration reported from second column

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA05D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-60  
Sampled: 08-31-05 09:00  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 14:44  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 68  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	120
11104-28-2	Aroclor 1221		BRL	ug/Kg	120
11141-16-5	Aroclor 1232		BRL	ug/Kg	120
53469-21-9	Aroclor 1242		BRL	ug/Kg	120
12672-29-6	Aroclor 1248		BRL	ug/Kg	120
11097-69-1	Aroclor 1254		BRL	ug/Kg	120
11096-82-5	Aroclor 1260		BRL	ug/Kg	120
37324-23-5	Aroclor 1262 <sup>†</sup>		BRL	ug/Kg	120
11100-14-4	Aroclor 1268 <sup>†</sup>		BRL	ug/Kg	120

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	19	13	65 %
Second Column	Decachlorobiphenyl	19	19	95 %
First Column	Tetrachloro- <i>m</i> -xylene	19	14	70 %
Second Column	Decachlorobiphenyl	19	18	94 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA075  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-61  
Sampled: 08-31-05 08:15  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 15:19  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 85  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	92
11104-28-2	Aroclor 1221	BRL		ug/Kg	92
11141-16-5	Aroclor 1232	BRL		ug/Kg	92
53469-21-9	Aroclor 1242	BRL		ug/Kg	92
12672-29-6	Aroclor 1248	2,200	e 1C (1,800)*	ug/Kg	92
11097-69-1	Aroclor 1254	BRL		ug/Kg	92
11096-82-5	Aroclor 1260	BRL		ug/Kg	92
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	92
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	92

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	15	9	58 %
Column	Decachlorobiphenyl	15	16	108 %
Second	Tetrachloro- <i>m</i> -xylene	15	10	66 %
Column	Decachlorobiphenyl	15	21	136 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
• Confirmatory column quantification.  
1C Concentration reported from first column.  
e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA07S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-61RA1  
Sampled: 08-31-05 08:15  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-19-05 22:29  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 85  
Dilution Factor: 5

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	460
11104-28-2	Aroclor 1221	BRL		ug/Kg	460
11141-16-5	Aroclor 1232	BRL		ug/Kg	460
53469-21-9	Aroclor 1242	BRL		ug/Kg	460
12672-29-6	Aroclor 1248	2,600	2C (2,400)*	ug/Kg	460
11097-69-1	Aroclor 1254	BRL		ug/Kg	460
11096-82-5	Aroclor 1260	BRL		ug/Kg	460
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	460
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	460

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-m-xylene	15	10	66 %	30 - 150 %
	Decachlorobiphenyl	15	16	104 %	30 - 150 %
Second Column	Tetrachloro-m-xylene	15	14	93 %	30 - 150 %
	Decachlorobiphenyl	15	20	134 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIA07M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-62  
Sampled: 08-31-05 08:20  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 15:54  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 80  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016				
11104-28-2	Aroclor 1221	BRL		ug/Kg	95
11141-16-5	Aroclor 1232	BRL		ug/Kg	95
53469-21-9	Aroclor 1242	BRL		ug/Kg	95
12672-29-6	Aroclor 1248	BRL		ug/Kg	95
11097-69-1	Aroclor 1254	BRL		ug/Kg	95
11096-82-5	Aroclor 1260	BRL		ug/Kg	95
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	95
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	95
		BRL		ug/Kg	95

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column				
Tetrachloro- <i>m</i> -xylene	16	12	73 %	
Decachlorobiphenyl	16	16	101 %	30 - 150 %
Second Column				
Tetrachloro- <i>m</i> -xylene	16	13	81 %	30 - 150 %
Decachlorobiphenyl	16	16	98 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-63  
Sampled: 08-31-05 11:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 16:29  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 88  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	88
11104-28-2	Aroclor 1221	BRL		ug/Kg	88
11141-16-5	Aroclor 1232	BRL		ug/Kg	88
53469-21-9	Aroclor 1242	BRL		ug/Kg	88
12672-29-6	Aroclor 1248	440	1C (430)*	ug/Kg	88
11097-69-1	Aroclor 1254	BRL		ug/Kg	88
11096-82-5	Aroclor 1260	BRL		ug/Kg	88
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	88
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	88

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	13	91 %	30 - 150 %
	Decachlorobiphenyl	15	17	114 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	15	15	101 %	30 - 150 %
	Decachlorobiphenyl	15	16	108 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
1C Concentration reported from first column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIF03S  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-64  
Sampled: 09-01-05 08:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 17:04  
Analyst: CRL

QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	88
11104-28-2	Aroclor 1221	BRL		ug/Kg	88
11141-16-5	Aroclor 1232	BRL		ug/Kg	88
53469-21-9	Aroclor 1242	BRL		ug/Kg	88
12672-29-6	Aroclor 1248	BRL		ug/Kg	88
11097-69-1	Aroclor 1254	2,600	e 2C (2,100)*	ug/Kg	88
11096-82-5	Aroclor 1260	BRL		ug/Kg	88
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	88
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	88

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	15	10	71 %	30 - 150 %
Second Column	15	12	84 %	30 - 150 %
First Column	15	12	80 %	30 - 150 %
Second Column	15	12	79 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:**

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution
- † Non-target analyte. Result is based on a single mid-range calibration standard.
- \* Confirmatory column quantification.
- 2C Concentration reported from second column.
- e Indicates concentration exceeded calibration range for the analyte.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIF035  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool

Laboratory ID: 87113-64RA1  
Sampled: 09-01-05 08:50  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-19-05 23:04  
Analyst: CRL

QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 91  
Dilution Factor: 5

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	440
11104-28-2	Aroclor 1221	BRL		ug/Kg	440
11141-16-5	Aroclor 1232	BRL		ug/Kg	440
53469-21-9	Aroclor 1242	BRL		ug/Kg	440
12672-29-6	Aroclor 1248	2,700	2C (2,300)*	ug/Kg	440
11097-69-1	Aroclor 1254	BRL		ug/Kg	440
11096-82-5	Aroclor 1260	BRL		ug/Kg	440
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	440
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	440

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro- <i>m</i> -xylene	15	10	71 %	30 - 150 %
Column	Decachlorobiphenyl	15	11	75 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	15	12	86 %	30 - 150 %
Column	Decachlorobiphenyl	15	12	82 %	30 - 150 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.  
\* Confirmatory column quantification.  
2C Concentration reported from second column.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IJIF03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-65  
Sampled: 09-01-05 09:00  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 17:39  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 16 g  
Final Volume: 1 mL  
Percent Solids: 74  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/Kg	100
11104-28-2	Aroclor 1221		BRL	ug/Kg	100
11141-16-5	Aroclor 1232		BRL	ug/Kg	100
53469-21-9	Aroclor 1242		BRL	ug/Kg	100
12672-29-6	Aroclor 1248		BRL	ug/Kg	100
11097-69-1	Aroclor 1254		BRL	ug/Kg	100
11096-82-5	Aroclor 1260		BRL	ug/Kg	100
37324-23-5	Aroclor 1262		BRL	ug/Kg	100
11100-14-4	Aroclor 1268		BRL	ug/Kg	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	17	11	61 %
Second Column	Decachlorobiphenyl	17	15	90 %
First Column	Tetrachloro- <i>m</i> -xylene	17	12	68 %
Second Column	Decachlorobiphenyl	17	16	91 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
† Non-target analyte. Result is based on a single mid-range calibration standard.

# GROUNDWATER ANALYTICAL

## EPA Method 8082 Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID: IIF03D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
Laboratory ID: 87113-66  
Sampled: 09-01-05 09:10  
Received: 09-02-05 18:30  
Extracted: 09-13-05 17:00  
Cleaned Up: 09-14-05 10:00  
Analyzed: 09-18-05 18:14  
Analyst: CRL

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
QC Batch ID: PB-2254-P  
Instrument ID: GC-6 HP 5890  
Sample Weight: 15 g  
Final Volume: 1 mL  
Percent Solids: 85  
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	91
11104-28-2	Aroclor 1221	BRL		ug/Kg	91
11141-16-5	Aroclor 1232	BRL		ug/Kg	91
53469-21-9	Aroclor 1242	BRL		ug/Kg	91
12672-29-6	Aroclor 1248	BRL		ug/Kg	91
11097-69-1	Aroclor 1254	BRL		ug/Kg	91
11096-82-5	Aroclor 1260	BRL		ug/Kg	91
37324-23-5	Aroclor 1262 <sup>†</sup>	BRL		ug/Kg	91
11100-14-4	Aroclor 1268 <sup>†</sup>	BRL		ug/Kg	91

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro- <i>m</i> -xylene	15	14	91 %
Second Column	Decachlorobiphenyl	15	16	109 %
First Column	Tetrachloro- <i>m</i> -xylene	15	15	101 %
Second Column	Decachlorobiphenyl	15	16	105 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3660B and EPA Method 3665A.  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
<sup>†</sup> Non-target analyte. Result is based on a single mid-range calibration standard

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 250 mL Glass  
Preservation: Cool  
Percent Solids: 88

Laboratory ID: 87113-67  
Sampled: 08-31-05 11:55  
Received: 09-02-05 18:30

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Weight	Instrument ID	Analyst
EPA 6010B <sup>1</sup>	MB-0702-S	EPA 3050B	09-14-05 11:50	0.5 g	ICP-1 PE 3000	DRW
EPA 7471A <sup>2</sup>	MP-1856-S	EPA 7471A	09-15-05 09:00	0.6 g	CVAA-1 PE FIMS	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic, Total	5.1		mg/Kg	1.1	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7440-39-3	Barium, Total	80		mg/Kg	23	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium, Total	1.6		mg/Kg	0.56	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7440-47-3	Chromium, Total	20		mg/Kg	11	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7439-92-1	Lead, Total	670		mg/Kg	11	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7439-97-6	Mercury, Total	3.3		mg/Kg	0.39	10	09-15-05 17:02	EPA 7471A <sup>2</sup>
7782-49-2	Selenium, Total	BRL		mg/Kg	11	1	09-14-05 21:17	EPA 6010B <sup>1</sup>
7440-22-4	Silver, Total	BRL		mg/Kg	5.6	1	09-14-05 21:17	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

30 80  
300 600

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: IA03M  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool

Laboratory ID: 87113-68  
Sampled: 08-30-05 09:25  
Received: 09-02-05 18:30  
Extracted: 09-13-05 15:00  
Analyzed (AL): 09-17-05 19:57  
Analyzed (AR): 09-17-05 20:42  
Analyst: MM

QC Batch ID: EP-2144-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 15 g  
Final Volume: 1 mL  
% Solids: 82  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit	
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	36	
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	61		mg/Kg	36	
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†,‡</sup>	BRL		mg/Kg	36	
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	43		mg/Kg	36	
CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.59
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.59
85-01-8	Phenanthrene	0.64		mg/Kg	0.59
83-32-9	Acenaphthene	BRL		mg/Kg	0.59
208-96-8	Acenaphthylene	BRL		mg/Kg	0.59
86-73-7	Fluorene	BRL		mg/Kg	0.59
120-12-7	Anthracene	BRL		mg/Kg	0.59
206-44-0	Fluoranthene	1.0		mg/Kg	0.59
129-00-0	Pyrene	0.91		mg/Kg	0.59
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.59
218-01-9	Chrysene	0.64		mg/Kg	0.59
205-99-2	Benzo[b]fluoranthene	0.66	0.7	mg/Kg	0.59
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.59
50-32-8	Benzo[a]pyrene	0.63	0.7	mg/Kg	0.59
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.59
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.59
191-21-2	Benzofluoranthene	BRL		mg/Kg	0.59
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation: 2-Fluorobiphenyl	3.2	2.4	77 %	40 - 140 %	
2-Bromonaphthalene	3.2	1.9	61 %	40 - 140 %	
Extraction: Chloro-octadecane	3.2	2.6	82 %	40 - 140 %	
ortho -Terphenyl	3.2	2.5	80 %	40 - 140 %	

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution  
<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>‡</sup> n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: 1805D  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool

Laboratory ID: 87113-69  
Sampled: 08-30-05 11:00  
Received: 09-02-05 18:30  
Extracted: 09-13-05 15:00  
Analyzed (AL): 09-17-05 21:26  
Analyzed (AR): 09-17-05 22:10  
Analyst: MM

QC Batch ID: EP-2144-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 15 g  
Final Volume: 1 mL  
% Solids: 88  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	33
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>	BRL		mg/Kg	33

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.55
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.55
85-01-8	Phenanthrene	BRL		mg/Kg	0.55
83-32-9	Acenaphthene	BRL		mg/Kg	0.55
208-96-8	Acenaphthylene	BRL		mg/Kg	0.55
86-73-7	Fluorene	BRL		mg/Kg	0.55
120-12-7	Anthracene	BRL		mg/Kg	0.55
206-44-0	Fluoranthene	BRL		mg/Kg	0.55
129-00-0	Pyrene	BRL		mg/Kg	0.55
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.55
218-01-9	Chrysene	BRL		mg/Kg	0.55
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.55
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.55
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.55
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.55
53-70-3	Dibenzof[a,h]anthracene	BRL		mg/Kg	0.55
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.55

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	3.0	2.5	84 %	40 - 140 %
2-Bromonaphthalene	3.0	1.5	52 %	40 - 140 %
Extraction: Chloro-octadecane	3.0	2.6	89 %	40 - 140 %
ortho-Terphenyl	3.0	2.6	89 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

<sup>†</sup> Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range

0 n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: ESM15  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Laboratory ID: 87113-70  
Sampled: 08-31-05 11:40  
Received: 09-02-05 18:30  
Extracted: 09-13-05 15:00  
Analyzed (AL): 09-17-05 22:54  
Analyzed (AR): 09-17-05 23:39  
Analyst: MM

Matrix: Soil  
Container: 120 mL Amber Glass  
Preservation: Cool

QC Batch ID: EP-2144-M  
Instrument ID: GC-9 Agilent 6890  
Sample Weight: 15 g  
Final Volume: 1 mL  
% Solids: 88  
Aliphatic Dilution Factor: 1  
Aromatic Dilution Factor: 1

EPH Ranges		Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons <sup>†</sup>		56		mg/Kg	34
n-C19 to n-C36 Aliphatic Hydrocarbons <sup>†</sup>		120		mg/Kg	34
n-C11 to n-C22 Aromatic Hydrocarbons <sup>†0</sup>		98		mg/Kg	34
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons <sup>†</sup>		100		mg/Kg	34
CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.56
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.56
85-01-8	Phenanthrene	BRL		mg/Kg	0.56
83-32-9	Acenaphthene	BRL		mg/Kg	0.56
208-96-8	Acenaphthylene	BRL		mg/Kg	0.56
86-73-7	Fluorene	BRL		mg/Kg	0.56
120-12-7	Anthracene	BRL		mg/Kg	0.56
206-44-0	Fluoranthene	BRL		mg/Kg	0.56
129-00-0	Pyrene	BRL		mg/Kg	0.56
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.56
218-01-9	Chrysene	BRL		mg/Kg	0.56
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.56
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.56
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.56
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.56
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.56
191-24-7	Benzo[e]pyrene	BRL		mg/Kg	0.56
QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	3.0	2.4	80 %	40 - 140 %
	2-Bromonaphthalene	3.0	2.0	66 %	40 - 140 %
Extraction:	Chloro-octadecane	3.0	2.1	69 %	40 - 140 %
	ortho -Terphenyl	3.0	2.2	75 %	40 - 140 %

### QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
  2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
  3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? No
- Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

**Method Reference:** Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).  
Sample extraction performed by microwave accelerated solvent extraction technique. Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

0 n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

# GROUNDWATER ANALYTICAL

## Toxicity Characteristic Leaching Procedure (TCLP) Trace Metals

Field ID: IIIE02  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Matrix: TCLP Leachate  
Container: 120 mL Glass  
Preservation: Cool  
Date Leached: 09-13-05 16:00  
TCLP Fluid: 1

Laboratory ID: 87113-71  
Sampled: 08-31-05 09:30  
Received: 09-02-05 18:30

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B <sup>1</sup>	MB-1690-W	EPA 3010A	09-15-05 10:17	50 mL	ICP-1 PE Optima 3000	MWR
EPA 7470A <sup>2</sup>	MP-1746-W	EPA 7470A	09-19-05 10:00	25 mL	CVAA-1 PE FIMS	DRW

CAS Number	Analyte	Concentration	Notes	Units	RCRA Limit	Reporting Limit	DF	Analyzed	Method
7440-38-2	Arsenic	BRL		mg/L	5.0	0.3	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7440-39-3	Barium	BRL		mg/L	100.0	2	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7440-43-9	Cadmium	BRL		mg/L	1.0	0.05	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7440-47-3	Chromium	BRL		mg/L	5.0	0.1	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7439-92-1	Lead	BRL		mg/L	5.0	0.3	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7439-97-6	Mercury	BRL		mg/L	0.2	0.0002	1	09-19-05 14:57	EPA 7470A <sup>2</sup>
7782-49-2	Selenium	BRL		mg/L	1.0	0.3	10	09-15-05 17:06	EPA 6010B <sup>1</sup>
7440-22-4	Silver	BRL		mg/L	5.0	0.1	10	09-15-05 17:06	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
RCRA Limit indicates maximum concentration of contaminant under the TCLP Rule, as specified at 40 C.F.R. 261.24, Table 1.  
DF: Dilution Factor.

# GROUNDWATER ANALYTICAL

## TCLP Matrix Spike Trace Metals

Field ID:	IIIE02	Parent Sample	Matrix Spike
Project:	DND Lewis Chemical/2004-301	Laboratory ID:	87113-71
Client:	Environmental Strategies & Management, Inc.	Sampled:	08-31-05 09:30
Matrix:	TCLP Leachate	Received:	09-02-05 18:30
Container:	120 mL Glass	Leached:	09-13-05 16:00
Preservation:	Cool	TCLP Fluid:	1

<u>Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Volume</u>	<u>DF</u>	<u>Analyzed</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 6010B	MB-1690-W	EPA 3010A	09-15-05 10:17	50 mL	10	09-15-05 17:10	ICP-1 PE Optima 3000	MWR
EPA 7470A	MP-1746-W	EPA 7470A	09-19-05 10:00	25 mL	1	09-19-05 15:16	CVAA-1 PE FIMS	DRW

CAS Number	Analyte	Unspiked Sample (mg/L)	MS Spiked (mg/L)	MS Measured (mg/L)	MS Recovery	QC Limits	Method
7440-38-2	Arsenic	BRL	5.0	5.4	108 %	75-125%	EPA 6010B
7440-39-3	Barium	BRL	5.0	5.5	106 %	75-125%	EPA 6010B
7440-43-9	Cadmium	BRL	1.0	1.1	105 %	75-125%	EPA 6010B
7440-47-3	Chromium	BRL	1.0	1.1	105 %	75-125%	EPA 6010B
7439-92-1	Lead	BRL	5.0	5.1	103 %	75-125%	EPA 6010B
7439-97-6	Mercury	BRL	0.0010	0.0010	89 %	75-125%	EPA 7470A
7782-49-2	Selenium	BRL	5.0	5.2	104 %	75-125%	EPA 6010B
7440-22-4	Silver	BRL	1.0	1.0	106 %	75-125%	EPA 6010B

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

# GROUNDWATER ANALYTICAL

## Toxicity Characteristic Leaching Procedure (TCLP) EPA Methods 1311 and 8260B Volatile Organics by GC/MS

Field ID: IIIIE02  
Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management  
  
Laboratory ID: 87113-71  
Sampled: 08-31-05 09:30  
Received: 09-02-05 18:30  
Leached: 09-13-05 14:00  
Analyzed: 09-16-05 10:44  
Analyst: KMC

Matrix: TCLP Leachate  
Container: 120 mL Amber Glass  
Preservation: Cool  
  
QC Batch ID: VM4-3281-W  
Instrument ID: MS-4 HP 6890  
Sample Volume: 25 mL  
Dilution Factor: 1  
TCLP Fluid: 1

CAS Number	Analyte	Concentration	Units	RCRA Limit	Reporting Limit
75-01-4	Vinyl Chloride	BRL	mg/L	0.2	0.02
75-35-4	1,1-Dichloroethene	BRL	mg/L	0.7	0.01
78-93-3	2-Butanone (MEK)	BRL	mg/L	200.0	0.1
67-66-3	Chloroform	BRL	mg/L	6.0	0.01
56-23-5	Carbon Tetrachloride	BRL	mg/L	0.5	0.01
71-43-2	Benzene	BRL	mg/L	0.5	0.01
107-06-2	1,2-Dichloroethane	BRL	mg/L	0.5	0.01
79-01-6	Trichloroethene	BRL	mg/L	0.5	0.01
127-18-4	Tetrachloroethene	BRL	mg/L	0.7	0.01
108-90-7	Chlorobenzene	BRL	mg/L	100.0	0.01

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	0.010	0.009	87 %	70 - 130 %
1,2-Dichloroethane-d <sub>4</sub>	0.010	0.009	89 %	70 - 130 %
Toluene-d <sub>8</sub>	0.010	0.009	91 %	70 - 130 %
4-Bromofluorobenzene	0.010	0.009	94 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
RCRA Limit indicates maximum concentration of contaminant under the TCLP Rule, as specified at 40 C.F.R. 261.24, Table 1.

# GROUNDWATER ANALYTICAL

## TCLP Matrix Spike EPA Method 8260B

Field ID:	IIIE02	Laboratory ID:	87113-71	Parent Sample	Matrix Spike
Project:	DND Lewis Chemical/2004-301	Sampled:	08-31-05 09:30	87113-71MS	87113-71MS
Client:	Environmental Strategies & Management	Received:	09-02-05 18:30	08-31-05 09:30	08-31-05 09:30
Matrix:	TCLP Leachate	Leached:	09-13-05 14:00	09-02-05 18:30	09-02-05 18:30
Container:	120 mL Glass	Analyzed:	09-16-05 10:44	09-13-05 14:00	09-13-05 14:00
Preservation:	Cool	Analyst:	KMC	09-16-05 10:44	09-16-05 10:44
		QC Batch ID:	VM4-3281-W	KMC	KMC
		Instrument ID:	MS-4 HP 6890	VM4-3281-W	VM4-3281-W
		Sample Volume:	25 mL	MS-4 HP 6890	MS-4 HP 6890
		Dilution Factor:	1	25 mL	25 mL
		TCLP Fluid:	1	1	1

CAS Number	Analyte	Unspiked Sample (mg/L)	MS Spiked (mg/L)	MS Measured (mg/L)	MS Recovery	QC Limits
75-01-4	Vinyl Chloride	BRL	0.010	0.011	111 %	70 - 130 %
75-35-4	1,1-Dichloroethene	BRL	0.010	0.011	108 %	70 - 130 %
78-93-3	2-Butanone (MEK)	BRL	0.020	0.021	105 %	70 - 130 %
67-66-3	Chloroform	BRL	0.010	0.011	106 %	70 - 130 %
56-23-5	Carbon Tetrachloride	BRL	0.010	0.011	108 %	70 - 130 %
71-43-2	Benzene	BRL	0.010	0.011	105 %	70 - 130 %
107-06-2	1,2-Dichloroethane	BRL	0.010	0.011	109 %	70 - 130 %
79-01-6	Trichloroethene	BRL	0.010	0.012	116 %	70 - 130 %
127-18-4	Tetrachloroethene	BRL	0.010	0.012	122 %	70 - 130 %
108-90-7	Chlorobenzene	BRL	0.010	0.010	100 %	70 - 130 %

QC Surrogate Compound	Surrogate Recovery				QC Limits
Dibromofluoromethane	87%	0.010	0.009	88%	70 - 130 %
1,2-Dichloroethane-d4	89%	0.010	0.010	100%	70 - 130 %
Toluene-d8	91%	0.010	0.009	94%	70 - 130 %
4-Bromofluorobenzene	94%	0.010	0.009	94%	70 - 130 %

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Sample leached in accordance with EPA Method 1311 prior to determinative analysis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Project Narrative**

Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Lab ID: 87113  
Received: 09-02-05 18:30

**A. Documentation and Client Communication**

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. Project 87113 was reported with the depths omitted from the sample identifications, per Lisa Flynn, 09-06-05.

**B. Method Modifications, Non-Conformances and Observations**

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 8082 Non-conformance: Samples 87113-31, -32, -35, -37, -40, -58, -61 and -64. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Samples were re-analyzed and reported with all analytes within calibration.
2. EPA 8082 Non-conformance: Samples 87113-34 and -55. Samples had surrogate recoveries outside recommended limits due to required sample dilution.
3. EPA 8082 Note: Samples 87113-31, -32, -34, -35, -37, -40, -49, -55, -61, and -64. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
4. EPA 8260B Non-conformance: Samples 87113-08, -09, -10, -17, -23 and -28. Laboratory control sample (LCS) analyte Dichlorofluoromethane and p-Isopropyltoluene were above recommended recovery limits for QC batch VM2-2773-S.
5. EPA 8260B Non-conformance: Samples 87113-19 through -22 and -24 through -27. Laboratory control sample (LCS) analyte 1,2-Dichloroethane was above recommended recovery limits for QC batch VM1-1659-E.
6. EPA 8260B Note: Sample 87113-20. Sample was diluted prior to analysis. Dilution was required due to presence of non-target analyte interference.
7. EPA 8260B Note: Samples 87113-01, -02, -06, -11 through -13, and -16. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.

228 Main Street, P.O. Box 1200  
Buzzards Bay, MA 02532  
Telephone (508) 759-4441 • FAX (508) 759-4475  
[www.groundwateranalytical.com](http://www.groundwateranalytical.com)

### CHAIN-OF-CUSTODY RECORD AND WORK ORDER

No 103482

[illegible]

# GROUNDWATER ANALYTICAL

228 Main Street, PO Box 1200  
Burlington, MA 02532  
Telephone (508) 758-4441 • FAX (508) 759-4475  
www.groundwateranalytical.com

No 103484

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

STANDARD (10 Business Days)  
PRIORITY (5 Business Days)  
RUSH (RAN)  
(Rush requires Rush Authorization Number)  
Please Email to:  
Please FAX to: 508-285-9957

### TURNAROUND

STANDARD (10 Business Days)  
PRIORITY (5 Business Days)  
RUSH (RAN)  
(Rush requires Rush Authorization Number)  
Please Email to:  
Please FAX to: 508-285-9957

LABORATORY NUMBER (Lab Use Only)

Purchase Order No.  
Third Party Billing  
GWA Quote:

INSTRUCTIONS: Use separate line for each container (except replicates)

DATE TIME

SAMPLE IDENTIFICATION

MATRIX

CONTAINER(S)

TYPE

PREPARATION

ANALYSIS REQUEST

VELOCITIES

TEMPERATURE

MOISTURE

PH

OTHER

REMARKS / SPECIAL INSTRUCTIONS

DATA QUALITY OBJECTIVES

Project Specific QC

Regulatory Program

State

Deliverables

Project Specific QC Required

Selection of QC Sample

Chain-of-Custody Record

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse form.

Relinquished by Sample

Received by

Time

Date

Relinquished by

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**Nº 103485**

[illegible]

INSTRUCTIONS: Use separate line for each container (except replicates).

Sampling	SAMPLE IDENTIFICATION		Matrix	Type	Container(s)		Preservation		LABORATORY NUMBER (Lab Use Only)
	DATE	TIME			UNCONTAMINATED	OTHER SOURCE	OTHER CONTAINER	OTHER TYPE	
	12/15/01	9:55	DUP 3						
	11	9:40	11A05S (0-6")	X	COMPOSITE	CRACK			
	11	8:50	11A05H (4-6")	X					
	11	9:00	11A05D (5-10/16")	X					
	11	8:45	11A07S (0-6")	X					
	11	8:20	11A07H (5-7")	X					
	11	8:25	11A07D (12-13")	X					
	11	11:55	EST07S (0-2")	X					
	11	11:45	EST07S (3-5")	X					
	11	11:40	EST07S (6-8")	X					
	11	11:30	EST07S (17-21")	X					

## CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Refrigerated by: <i>For Call</i>	Date <i>9/2/05</i>	Time <i>14:30</i>	Received by: <i>Alan Maddigan</i>	Recipient Temperature in °C °F <i>2.0°C</i>
Refrigerated by: <i>Alan Maddigan</i>	Date <i>9/2/05</i>	Time <i>16:30</i>	Received by: <i>W</i>	Shipping/Arrival Number <i>28</i>
Method of Shipment: <input checked="" type="checkbox"/> DWA Courier <input type="checkbox"/> Express Mail <input type="checkbox"/> Federal Express <input type="checkbox"/> UPS <input type="checkbox"/> Hand U				

Main regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Main Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and 1 sample Duplicate requires an additional sample aliquot.

Project Specific QC Required      Selection of QC Sample

☐ Sample Duplicate      ☐ Please use a sample:

☐ Matrix Spike      \_\_\_\_\_

☐ Matrix Spike Duplicate      \_\_\_\_\_

State	Standard	Deliverables
<input type="checkbox"/> CT	<input type="checkbox"/> MCP GW-1/S-1	<input type="checkbox"/> PWS Form
<input type="checkbox"/> ME	<input type="checkbox"/> MCP GW-2/S-2	<input type="checkbox"/> MWRA
<input type="checkbox"/> MA	<input type="checkbox"/> NY STARS	<input type="checkbox"/>
<input type="checkbox"/> NH	<input type="checkbox"/> Drinking Water	
<input type="checkbox"/> NY	<input type="checkbox"/> Wastewater	
<input type="checkbox"/> RI	<input type="checkbox"/> Waste Disposal	
<input type="checkbox"/> VT	<input type="checkbox"/> Dredge Material	
<input type="checkbox"/>		

87113-25  
87113-25  
87113-25

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

No 103487

Project Name: <b>DDO Labs Chemical</b>	Firm: <b>ES&amp;J</b>	Address: <b>184 West Dean St.</b>	City / State / Zip: <b>Dorton, VA 02766</b>	Telephone: <b>508-285-9700</b>	Project Number: <b>2804-301</b>	Sampler Name: <b>AF/JC</b>	Project Manager: <b>Joe Callahan</b>																																																																																	
INSTRUCTIONS: Use separate line for each container (except replicates)																																																																																								
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sampling</th> <th rowspan="2">DATE</th> <th rowspan="2">TIME</th> <th rowspan="2">SAMPLE IDENTIFICATION</th> <th colspan="2">Matrix</th> <th rowspan="2">Type</th> <th colspan="2">Container(s)</th> <th rowspan="2">Preservation</th> <th rowspan="2">LABORATORY NUMBER (Lab Use Only)</th> </tr> <tr> <th>Matrix</th> <th>Other</th> <th>Matrix</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12/10</td> <td>12:10</td> <td>111E05S (6")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>NO</td> <td></td> </tr> <tr> <td>2</td> <td>12/10</td> <td>12:30</td> <td>111E05H (5-10")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>YES</td> <td></td> </tr> <tr> <td>3</td> <td>12/10</td> <td>12:32</td> <td>111E05D (10-15")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>CE</td> <td></td> </tr> <tr> <td>4</td> <td>12/10</td> <td>8:50</td> <td>111E03S (0-6")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>NO</td> <td></td> </tr> <tr> <td>5</td> <td>12/10</td> <td>9:00</td> <td>111E03H (5-7")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>NO</td> <td></td> </tr> <tr> <td>6</td> <td>12/10</td> <td>9:10</td> <td>111E03D (17-19")</td> <td>X</td> <td></td> <td>SOIL</td> <td>✓</td> <td>✓</td> <td>NO</td> <td></td> </tr> </tbody> </table>								Sampling	DATE	TIME	SAMPLE IDENTIFICATION	Matrix		Type	Container(s)		Preservation	LABORATORY NUMBER (Lab Use Only)	Matrix	Other	Matrix	Other	1	12/10	12:10	111E05S (6")	X		SOIL	✓	✓	NO		2	12/10	12:30	111E05H (5-10")	X		SOIL	✓	✓	YES		3	12/10	12:32	111E05D (10-15")	X		SOIL	✓	✓	CE		4	12/10	8:50	111E03S (0-6")	X		SOIL	✓	✓	NO		5	12/10	9:00	111E03H (5-7")	X		SOIL	✓	✓	NO		6	12/10	9:10	111E03D (17-19")	X		SOIL	✓	✓	NO	
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# GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200  
Buzards Bay, MA 02532  
Telephone (508) 759-4441 • FAX (508) 759-4475  
www.groundwateranalytical.com

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

No 103486

<b>Project Name:</b> DWD Lewis Chesapeake <b>Project Number:</b> 2004-301 <b>Sampler Name:</b> AF/JC <b>Project Manager:</b> Joe Calabrese		<b>Address:</b> 184 West Main St. <b>City / State / Zip:</b> Portland, VA. 23766 <b>Telephone:</b> 508-285-9200		<b>TURNAROUND</b> <input type="checkbox"/> 24 HOURS (10 Business Days) <input type="checkbox"/> PRIORITY (5 Business Days) <input type="checkbox"/> RUSH (Rush requires Rush Authorization Number) <input type="checkbox"/> Please Email to: <input type="checkbox"/> Please FAX to: 508-285-9857		<b>BILLING</b> <input type="checkbox"/> Please Order No.: <input type="checkbox"/> This Party Billing: <input type="checkbox"/> GWA Quote:							
<b>INSTRUCTIONS:</b> Use separate line for each container (except replicates)													
SAMPLING		SAMPLE IDENTIFICATION		Matrix		Type		Container(s)		Preservation		LABORATORY NUMBER (Lab Use Only)	
DATE	TIME	TIME	TIME	GROUNDWATER	OTHER SOLID	OTHER SOLID	COMPOSITE	NUMBER	DATE	DATE	DATE	DATE	DATE
8/16/04	13:30	13:30	13:30	ESB16 (4-F)				1	8/16/04	13:30	13:30	13:30	13:30
"	14:00	14:00	14:00	11C02H (18-10)				1	8/16/04	14:00	14:00	14:00	14:00
"	14:50	14:50	14:50	11C02D (13-14)				1	8/16/04	14:50	14:50	14:50	14:50
"	15:40	15:40	15:40	DUP4				1	8/16/04	15:40	15:40	15:40	15:40
"	16:20	16:20	16:20	ESM B-2 (05')				1	8/16/04	16:20	16:20	16:20	16:20
"	17:00	17:00	17:00	ME02S (0-6')				1	8/16/04	17:00	17:00	17:00	17:00
"	17:40	17:40	17:40	11E02H (5-7')				1	8/16/04	17:40	17:40	17:40	17:40
"	18:20	18:20	18:20	11E02D (12-14')				1	8/16/04	18:20	18:20	18:20	18:20
"	19:00	19:00	19:00	11E02D (12-14')				1	8/16/04	19:00	19:00	19:00	19:00
"	19:40	19:40	19:40	11E02D (12-14')				1	8/16/04	19:40	19:40	19:40	19:40
"	20:20	20:20	20:20	11E02D (12-14')				1	8/16/04	20:20	20:20	20:20	20:20
"	21:00	21:00	21:00	11E02D (12-14')				1	8/16/04	21:00	21:00	21:00	21:00
"	21:40	21:40	21:40	11E02D (12-14')				1	8/16/04	21:40	21:40	21:40	21:40
"	22:20	22:20	22:20	11E02D (12-14')				1	8/16/04	22:20	22:20	22:20	22:20
"	23:00	23:00	23:00	11E02D (12-14')				1	8/16/04	23:00	23:00	23:00	23:00
"	23:40	23:40	23:40	11E02D (12-14')				1	8/16/04	23:40	23:40	23:40	23:40
"	24:20	24:20	24:20	11E02D (12-14')				1	8/16/04	24:20	24:20	24:20	24:20
"	25:00	25:00	25:00	11E02D (12-14')				1	8/16/04	25:00	25:00	25:00	25:00
"	25:40	25:40	25:40	11E02D (12-14')				1	8/16/04	25:40	25:40	25:40	25:40
"	26:20	26:20	26:20	11E02D (12-14')				1	8/16/04	26:20	26:20	26:20	26:20
"	27:00	27:00	27:00	11E02D (12-14')				1	8/16/04	27:00	27:00	27:00	27:00
"	27:40	27:40	27:40	11E02D (12-14')				1	8/16/04	27:40	27:40	27:40	27:40
"	28:20	28:20	28:20	11E02D (12-14')				1	8/16/04	28:20	28:20	28:20	28:20
"	29:00	29:00	29:00	11E02D (12-14')				1	8/16/04	29:00	29:00	29:00	29:00
"	29:40	29:40	29:40	11E02D (12-14')				1	8/16/04	29:40	29:40	29:40	29:40
"	30:20	30:20	30:20	11E02D (12-14')				1	8/16/04	30:20	30:20	30:20	30:20
"	31:00	31:00	31:00	11E02D (12-14')				1	8/16/04	31:00	31:00	31:00	31:00
"	31:40	31:40	31:40	11E02D (12-14')				1	8/16/04	31:40	31:40	31:40	31:40
"	32:20	32:20	32:20	11E02D (12-14')				1	8/16/04	32:20	32:20	32:20	32:20
"	33:00	33:00	33:00	11E02D (12-14')				1	8/16/04	33:00	33:00	33:00	33:00
"	33:40	33:40	33:40	11E02D (12-14')				1	8/16/04	33:40	33:40	33:40	33:40
"	34:20	34:20	34:20	11E02D (12-14')				1	8/16/04	34:20	34:20	34:20	34:20
"	35:00	35:00	35:00	11E02D (12-14')				1	8/16/04	35:00	35:00	35:00	35:00
"	35:40	35:40	35:40	11E02D (12-14')				1	8/16/04	35:40	35:40	35:40	35:40
"	36:20	36:20	36:20	11E02D (12-14')				1	8/16/04	36:20	36:20	36:20	36:20
"	37:00	37:00	37:00	11E02D (12-14')				1	8/16/04	37:00	37:00	37:00	37:00
"	37:40	37:40	37:40	11E02D (12-14')				1	8/16/04	37:40	37:40	37:40	37:40
"	38:20	38:20	38:20	11E02D (12-14')				1	8/16/04	38:20	38:20	38:20	38:20
"	39:00	39:00	39:00	11E02D (12-14')				1	8/16/04	39:00	39:00	39:00	39:00
"	39:40	39:40	39:40	11E02D (12-14')				1	8/16/04	39:40	39:40	39:40	39:40
"	40:20	40:20	40:20	11E02D (12-14')				1	8/16/04	40:20	40:20	40:20	40:20
"	41:00	41:00	41:00	11E02D (12-14')				1	8/16/04	41:00	41:00	41:00	41:00
"	41:40	41:40	41:40	11E02D (12-14')				1	8/16/04	41:40	41:40	41:40	41:40
"	42:20	42:20	42:20	11E02D (12-14')				1	8/16/04	42:20	42:20	42:20	42:20
"	43:00	43:00	43:00	11E02D (12-14')				1	8/16/04	43:00	43:00	43:00	43:00
"	43:40	43:40	43:40	11E02D (12-14')				1	8/16/04	43:40	43:40	43:40	43:40
"	44:20	44:20	44:20	11E02D (12-14')				1	8/16/04	44:20	44:20	44:20	44:20
"	45:00	45:00	45:00	11E02D (12-14')				1	8/16/04	45:00	45:00	45:00	45:00
"	45:40	45:40	45:40	11E02D (12-14')				1	8/16/04	45:40	45:40	45:40	45:40
"	46:20	46:20	46:20	11E02D (12-14')				1	8/16/04	46:20	46:20	46:20	46:20
"	47:00	47:00	47:00	11E02D (12-14')				1	8/16/04	47:00	47:00	47:00	47:00
"	47:40	47:40	47:40	11E02D (12-14')				1	8/16/04	47:40	47:40	47:40	47:40
"	48:20	48:20	48:20	11E02D (12-14')				1	8/16/04	48:20	48:20	48:20	48:20
"	49:00	49:00	49:00	11E02D (12-14')				1	8/16/04	49:00	49:00	49:00	49:00
"	49:40	49:40	49:40	11E02D (12-14')				1	8/16/04	49:40	49:40	49:40	49:40
"	50:20	50:20	50:20	11E02D (12-14')				1	8/16/04	50:20	50:20	50:20	50:20
"	51:00	51:00	51:00	11E02D (12-14')				1	8/16/04	51:00	51:00	51:00	51:00
"	51:40	51:40	51:40	11E02D (12-14')				1	8/16/04	51:40	51:40	51:40	51:40
"	52:20	52:20	52:20	11E02D (12-14')				1	8/16/04	52:20	52:20	52:20	52:20
"	53:00	53:00	53:00	11E02D (12-14')				1	8/16/04	53:00	53:00	53:00	53:00
"	53:40	53:40	53:40	11E02D (12-14')				1	8/16/04	53:40	53:40	53:40	53:40
"	54:20	54:20	54:20	11E02D (12-14')				1	8/16/04	54:20	54:20	54:20	54:20
"	55:00	55:00	55:00	11E02D (12-14')				1	8/16/04	55:00	55:00	55:00	55:00
"	55:40	55:40	55:40	11E02D (12-14')				1	8/16/04	55:40	55:40	55:40	55:40
"	56:20	56:20	56:20	11E02D (12-14')				1	8/16/04	56:20	56:20	56:20	56:20
"	57:00	57:00	57:00	11E02D (12-14')				1	8/16/04	57:00	57:00	57:00	57:00
"	57:40	57:40	57:40	11E02D (12-14')				1	8/16/04	57:40	57:40	57:40	57:40
"	58:20	58:20	58:20	11E02D (12-14')				1	8/16/04	58:20	58:20	58:20	58:20
"	59:00	59:00	59:00	11E02D (12-14')				1	8/16/04	59:00	59:00	59:00	59:00
"	59:40	59:40	59:40	11E02D (12-14')				1	8/16/04	59:40	59:40	59:40	59:40
"	60:20	60:20	60:20	11E02D (12-14')				1	8/16/04	60:20	60:20	60:20	60:20
"	61:00	61:00	61:00	11E02D (12-14')				1	8/16/04	61:00	61:00	61:00	61:00
"	61:40	61:40	61:40	11E02D (12-14')				1	8/16/04	61:40	61:40	61:40	61:40
"	62:20	62:20	62:20	11E02D (12-14')				1	8/16/04	62:20	62:20	62:20	62:20
"	63:00	63:00	63:00	11E02D (12-14')				1	8/16/04	63:00	63:00	63:00	63:00
"	63:40	63:40	63:40	11E02D (12-14')				1	8/16/04	63:40	63:40	63:40	63:40
"	64:20	64:20	64:20	11E02D (12-14')				1	8/16/04	64:20	64:20	64:20	64:20
"	65:00	65:00	65:00	11E02D (12-14')				1	8/16/04	65:00	65:00	65:00	65:00
"	65:40	65:40	65:40	11E02D (12-14')				1	8/16/04	65:40	65:40	65:40	65:40
"	66:20	66:20	66:20	11E02D (12-14')				1	8/16/04	66:20	66:20	66:20	66:20
"	67:00	67:00	67:00	11E02D (12-14')				1	8/16/04	67:00	67:00	67:00	67

# GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200  
Buzzards Bay, MA 02532  
Telephone (508) 759-4441 • FAX (508) 759-4475  
www.groundwateranalytical.com

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 103483

<b>Project Name:</b> DWD Lewis Chemical		<b>Firm:</b> ESTAY	
<b>Project Number:</b> 2604-301		<b>Address:</b> 684 West Main St.	
<b>Sampler Name:</b> AF/JC		<b>City/State/Zip:</b> Dartmouth, MA 02766	
<b>Project Manager:</b> Joe Callahan		<b>Telephone:</b> 508-285-9900	

<b>TURNAROUND</b> STANDARD 10 Business Days <input type="checkbox"/> PRORITY (5 Business Days) (See instructions for authorization number)				<b>BILLING</b> <input type="checkbox"/> Invoiced Order No. <input type="checkbox"/> Third Party Billing <input type="checkbox"/> GV & Quote			
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SAMPLE IDENTIFICATION		Matrix	Type	Container(s)	Preservation	LABORATORY NUMBER (Lab Use Only)
DATE	TIME					
11/20/01	13:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	13:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	14:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	14:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	15:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	15:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	16:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	16:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	17:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	17:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	18:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	18:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	19:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	19:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	20:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	20:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	21:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	21:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	22:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	22:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	23:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	23:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	24:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	24:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	25:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	25:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	26:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	26:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	27:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	27:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	28:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	28:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	29:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	29:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	30:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	30:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	31:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	31:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	32:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	32:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	33:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	33:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	34:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	34:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	35:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	35:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	36:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	36:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	37:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	37:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	38:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	38:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	39:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	39:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	40:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	40:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	41:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	41:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	42:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	42:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	43:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	43:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	44:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	44:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	45:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	45:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	46:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	46:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	47:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	47:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	48:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	48:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	49:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	49:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	50:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	50:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	51:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	51:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	52:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	52:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	53:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	53:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	54:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	54:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	55:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	55:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	56:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	56:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	57:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	57:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	58:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	58:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	59:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	59:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	60:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	60:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	61:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	61:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	62:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	62:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	63:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	63:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	64:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	64:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	65:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	65:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	66:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	66:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	67:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	67:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	68:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	68:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	69:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	69:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	70:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	70:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	71:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	71:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	72:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	72:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	73:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	73:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	74:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	74:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	75:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	75:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	76:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	76:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	77:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	77:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	78:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	78:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	79:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	79:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	80:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	80:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	81:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	81:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	82:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	82:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	83:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	83:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	84:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	84:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	85:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	85:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	86:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	86:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	87:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	87:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	88:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	88:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	89:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	89:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	90:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	90:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	91:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	91:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	92:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	92:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	93:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	93:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	94:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	94:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	95:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	95:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	96:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	96:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	97:00	GROUNDWATER	COMPOSITE	1	NO	
11/20/01	97:30	GROUNDWATER	COMPOSITE	1	YES	
11/20/01	98:00	GROUNDWATER	COMPOSITE			



# **GROUNDWATER ANALYTICAL**

Groundwater Analytical, Inc.  
P.O. Box 1200  
228 Main Street  
Buzzards Bay, MA 02532

Telephone (508) 759-4441  
FAX (508) 759-4475  
[www.groundwateranalytical.com](http://www.groundwateranalytical.com)

October 12, 2005

Mr. Joe Callahan  
Environmental Strategies & Management, Inc.  
184 West Main Street  
Norton, MA 02766

## **LABORATORY REPORT**

Project: **DND Lewis Chemical/2004-301**  
Lab ID: **87813**  
Received: **09-02-05**

Dear Joe:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



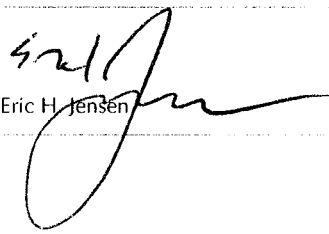
Eric H. Jensen  
Operations Manager

EHJ/kal  
Enclosures

## Data Certification

Project: DND Lewis Chemical/2004-301  
Client: Environmental Strategies & Management, Inc.

Lab ID: 87813  
Received: 09-02-05 18:30

MA DEP Compendium of Analytical Methods					
Project Location:		n/a		MA DEP RTN: n/a	
This Form provides certifications for the following data set:					
EPA 6010B:		87813-01,-02,-03			
Sample Matrices:	Groundwater ( )	Soil/Sediment (X)	Drinking Water ( )	Other ( )	
MCP SW-846	8260B ( )	8151A ( )	8330 ( )	6010B (X)	7470A/1A ( )
Methods Used	8270C ( )	8081A ( )	VPH ( )	6020 ( )	9012A <sup>2</sup> ( )
As specified in MA DEP Compendium of Analytical Methods.	8082 ( )	8021B ( )	EPH ( )	7000 S <sup>3</sup> ( )	Other ( )
(check all that apply)	1. List Release Tracking Number (RTN), if known. 2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method 3. S - SW-846 Methods 7000 Series. List individual method and analyte.				
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.					
A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?				Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, <i>Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data</i> ?				Yes
D.	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?				n/a
A response to questions E and F below is required for "Presumptive Certainty" status.					
E.	Were all QC performance standards and recommendations for the specified methods achieved?				Yes
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?				No
All No answers are addressed in the attached Project Narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:			Position:	Operations Manager	
Printed Name:	Eric H. Jensen		Date:	02-01-07	

**Sample Receipt Report**Project: **DND Lewis Chemical/2004-301**Delivery: **GWA Courier**Temperature: **2.0'C**Client: **Environmental Strategies & Management, Inc.**Airbill: **n/a**Chain of Custody: **Present**Lab ID: **87813**Lab Receipt: **09-02-05**Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87813-1	IIA03S		Soil	8/31/05 9:40	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C579570	250 mL Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
87813-2	IIA03S MS		Soil	8/31/05 9:40	EPA 6010B Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C579568	250 mL Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method			Notes
87813-3	IIA03S MSD		Soil	8/31/05 9:40	EPA 6010B Pb Total			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C579569	250 mL Glass	n/a	n/a	None	n/a	n/a	n/a	

# GROUNDWATER ANALYTICAL

## Trace Metals

Field ID: IIA03S Matrix: Soil  
Project: DND Lewis Chemical/2004-301 Container: 250 mL Glass  
Client: Environmental Strategies & Management, Inc. Preservation: Cool

Laboratory ID: 87813-01 Percent Solids: 95  
Sampled: 08-31-05 09:40  
Received: 09-02-05 18:30

Analysis Method QC Batch ID Prep Method Prepared Sample Weight Instrument ID Analyst  
EPA 6010B<sup>1</sup> MB-0713-S EPA 3050B 09-29-05 14:13 0.5 g ICP-1 PE 3000 MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead, Total	33		mg/Kg	10	1	10-03-05 12:08	EPA 6010B <sup>1</sup>

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
Results are reported on a dry weight basis.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
DF Dilution Factor.

## Matrix Spike and Matrix Spike Duplicate Trace Metals

Field ID: **IIA03S** Parent Sample Matrix Spike Spike Duplicate  
 Project: **DND Lewis Chemical/2004-301** Laboratory ID: **87813-01 87813-02 87813-03**  
 Client: **Environmental Strategies & Management** Sampled: **08-31-05 09:40 08-31-05 09:40 08-31-05 09:40**  
 Matrix: **Soil** Received: **09-02-05 18:30 09-02-05 18:30 09-02-05 18:30**  
 Container: **250 mL Glass** % Solids: **95 95 95**  
 Preservation: **Cool**

Sample Type **Method** **QC Batch ID** **Prep Method** **Prepared** **Weight** **DF** **Analyzed** **Instrument ID** **Analyst**  
 Matrix Spike **EPA 6010B** **MB-0713-S** **EPA 3050B** **09-29-05 14:13** **0.5 g** **1** **10-03-05 12:23** **ICP-1 PE 3000** **MWR**

CAS Number	Analyte	Unspiked Sample	MS Spiked	MS Measured	MS Recovery	MSD Spiked	MSD Measured	MSD Recovery	RPD	QC Limits Spike	QC Limits RPD	Method
7439-92-1	Lead	33	510	540	99 %	520	560	102 %	2 %	75-125%	20 %	EPA 6010B

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).  
 Results are reported on a dry weight basis.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.  
 DF Dilution Factor.

**Project Narrative**Project: **DND Lewis Chemical/2004-301**Lab ID: **87813**Client: **Environmental Strategies & Management, Inc.**Received: **09-02-05 18:30****A. Documentation and Client Communication**

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. Project 87813 was processed for Standard Turnaround due 10-12-05, per Joe Callahan, 09-27-05.
2. Sample 87112-57 was reassigned laboratory number 87813-01 and was analyzed for Total Lead. A Matrix Spike and Matix Spike Duplicate were performed as well.

**B. Method Modifications, Non-Conformances and Observations**

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. No method modifications, non-conformances or analytical issues were noted.

# GROUNDWATER ANALYTICAL

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www.groundwateranalytical.com

Project Name: **DVD Lewis Chemical**  
 Project Number: **2004-301**  
 Sampler Name: **AF/JC**  
 Project Manager: **Joe Callahan**  
 Firm: **ES&H**  
 Address: **184 West Main St.**  
 City / State / Zip: **Dorton, MA. 02766**  
 Telephone: **508-285-9700**

## CHAIN-OF-CUSTODY RECORD AND WORK ORDER

**TURNAROUND**  
☒ STANDARD (10 Business Days)  
☐ PRIORITY (5 Business Days)  
☐ RUSH (RAIN)  
 (Push requires Rush Authorization Number)  
☐ Please Email to:  
☒ Please FAX to: **508-285-9857**  
**BILLING**  
☐ Purchase Order No.:  
☐ Third Party Billing:  
☐ GWA Quote:

NE 103484

INSTRUCTIONS: Use separate line for each container (except replicates).

Sampling	DATE	TIME	SAMPLE IDENTIFICATION	Matrix		Type	Container(s)		Preservation		LABORATORY NUMBER (Lab Use Only)
				GROUNDWATER	CRACKING WATER		GROUNDWATER	CRACKING WATER	OTHER SOLID	OTHER LIQUID	
	8/14/04	14:00	1009S (0-6")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	87813
	11	14:00	1009H (17-21")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	14:30	1009D (15-17")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	14:50	1010S (0-6")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	15:00	1010H (15-17")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	15:10	1010D (12-16")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	16:40	11A01S (0-6")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	10:50	11A01H (15-17")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	11:00	11A01D (14-16")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	8:40	11A02S (0-6")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	9:50	11A03H (15-17")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	
	14	10:30	11A03D (14-16")	X		COMPOSITE	1000 mL or Glass	2000 mL or Glass	1000 mL or Glass	2000 mL or Glass	

## REMARKS / SPECIAL INSTRUCTIONS

**DATA QUALITY OBJECTIVES**

**Regulatory Program**

State: ☐ CT ☐ ME ☐ MA ☐ NH ☐ NY ☐ RI ☐ VT ☐

Standard: ☐ MCP GW-1/8-1 ☐ MCP GW-2/8-2 ☐ NY STARS ☐ Drinking Water ☐ Wastewater ☐ Waste Disposal ☐ Dredge Material ☐

Deliverables: ☐ PWS Form ☐ MWPA ☐

**Project Specific QC**

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required: ☐ Sample Duplicate ☐ Matrix Spike ☐ Matrix Spike Duplicate

Selection of QC Sample: ☐ Please use sample:

## CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Requested by Sampler: **Joe Callahan** Date: **9/2/05 14:30** Time: **14:30**

Requested by: **Alan Maddigan** Date: **9/2/05 16:30** Time: **16:30**

Received by: **Alan Maddigan** Date: **9/2/05 16:30** Time: **16:30**

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand

Shipping/Arrival Number: **36**

Custody Seal Number: **36**

## Quality Assurance/Quality Control

### A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

### B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

## Quality Control Report Laboratory Control Samples

Category: **Metals**

Matrix: **Soil**

Units: **mg/Kg**

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-0713-SL	EPA 3050B	09-29-05 14:13	10-03-05 11:40	ICP-1 PE 3000	MWR
LCSD	EPA 6010B	MB-0713-SL	EPA 3050B	09-29-05 14:13	10-03-05 11:44	ICP-1 PE 3000	MWR

CAS Number	Analyte	LCS			LCS Duplicate			RPD	QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery		LCS	RPD	
7439-92-1	Lead	160	160	103%	160	160	102%	0 %	80-120 %	30 %	EPA 6010B

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report  
Method Blank**Category: **Metals**Matrix: **Soil**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6010B	MB-0713-SB	EPA 3050B	09-29-05 14:13	0.5 g	ICP-1 PE 3000	MWR

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-92-1	Lead	BRL		mg/Kg	10	1	10-03-05 11:37	EPA 6010B

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

DF Dilution Factor.

## **Certifications and Approvals**

Groundwater Analytical maintains environmental laboratory certification in a variety of states.

Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

### **CONNECTICUT, Department of Health Services, PH-0586**

Categories: Potable Water, Wastewater, Solid Waste and Soil

[http://www.dph.state.ct.us/BRS/Environmental\\_Lab/OutStateLabList.htm](http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm)

### **FLORIDA, Department of Health, Bureau of Laboratories, E87643**

Categories: SDWA, CWA, RCRA/CERCLA

<http://www.floridadep.org/labs/qa/dohforms.htm>

### **MAINE, Department of Human Services, MA103**

Categories: Drinking Water and Wastewater

<http://www.state.me.us/dhs/eng/water/Compliance.htm>

### **MASSACHUSETTS, Department of Environmental Protection, M-MA-103**

Categories: Potable Water and Non-Potable Water

<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

### **NEW HAMPSHIRE, Department of Environmental Services, 202703**

Categories: Drinking Water and Wastewater

<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

### **NEW YORK, Department of Health, 11754**

Categories: Potable Water, Non-Potable Water and Solid Waste

<http://www.wadsworth.org/labcert/elap/comm.html>

### **PENNSYLVANIA, Department of Environmental Protection, 68-665**

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)

<http://www.dep.state.pa.us/Labs/Registered/>

### **RHODE ISLAND, Department of Health, 54**

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage

[http://www.healthri.org/labs/labsCT\\_MA.htm](http://www.healthri.org/labs/labsCT_MA.htm)

### **U.S. Department of Agriculture, Soil Permit, S-53921**

Foreign soil import permit

### **VERMONT, Department of Environmental Conservation, Water Supply Division**

Category: Drinking Water

<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>



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[www.groundwateranalytical.com](http://www.groundwateranalytical.com)

July 10, 2006

Mr. Joe Callahan  
Environmental Strategies & Management, Inc.  
184 West Main Street  
Norton, MA 02766

**LABORATORY REPORT**

Project: **DND Lewis Chemical/2006-056**  
Lab ID: **96205**  
Received: **06-23-06**

Dear Joe:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen  
Operations Manager

EHJ/ajh  
Enclosures

**Sample Receipt Report**Project: **DND Lewis Chemical/2006-056**Delivery: **GWA Courier**Temperature: **000'C**Client: **Environmental Strategies & Management, Inc.**Airbill: **n/a**Chain of Custody: **Present**Lab ID: **96205**Lab Receipt: **06-23-06**Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
96205-1	ES&M-01-X		Solid	6/21/06 12:00	Asbestos			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

**EPA Method 600/R-93-116  
PLM Bulk Asbestos**

Project: **DND Lewis Chemical/2006-056**  
Client: **Environmental Strategies & Management**

Matrix: **Solid**  
Container(s): **Plastic Bag**  
Received: **06-23-06 18:30**

Lab ID: **96205-1**      Sampled: **06-21-06 12:00**      Analyzed: **06-30-06 15:51**      Analyst: **DRW**

Sample Identification		Non-Asbestos Material		Asbestos Type		Asbestos			
						Present	Content		
Field ID:	ES&M-01-X	HA ID:	n/a	Other	45 %	Chrysotile	< 1 %	No	ND
Location:	n/a			Non-Fibrous	55 %				
Description:	Brown, Homogenous								
Comments:	The "other" fibers observed exhibited optical properties which were consistent with altered chrysotile asbestos. Refractive indices out of acceptable range according to EPA Method 600/R-93/116. Note: Sample was ashed at 460 degrees C. prior to analysis.								

**Method Reference:** Method for the Determination of Asbestos in Bulk Building Materials, US EPA, EPA-600/R-93-116 (1993).

**Report Notations:** Due to inherent limitations of Polarized Light Microscopy (PLM), fibers and/or bundles below the resolution of the light microscope (approximately < 0.25 microns in width) will not be detected. ND and TR samples should be confirmed by Transmission Electron Microscopy (TEM). This test report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. NVLAP Lab Code 200751-0

ND Not Detected  
HA Homogenous Area

**Project Narrative**

Project: **DND Lewis Chemical/2006-056**  
Client: **Environmental Strategies & Management, Inc.**

Lab ID: **96205**  
Received: **06-23-06 18:30**

**A. Documentation and Client Communication**

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

**B. Method Modifications, Non-Conformances and Observations**

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . No method modifications, non-conformances or analytical issues were noted.

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Buzzards Bay, MA 02532  
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[www.groundwateranalysis.com](http://www.groundwateranalysis.com)

CHAIN-OF-CUSTODY RECORD  
AND WORK ORDER

No 090562

<b>Project Name:</b> <b>DND Lewis Chemical</b>	<b>Firm:</b> <b>ESOM</b>	<b>Project Number:</b> <b>2006-056</b>	<b>Address:</b> <b>184 West Main St</b>	<b>City / State / Zip:</b> <b>Boston, MA 02106</b>	<b>Project Manager:</b> <b>Joe Callahan</b>	<b>Telephone:</b> <b>(508) 285-9700</b>
<b>TURNAROUND</b> <input checked="" type="checkbox"/> STANDARD (10 Business Days) <input type="checkbox"/> PRIORITY (5 Business Days) <input type="checkbox"/> RUSH (RAT) (RAT requires full turn-around build) <input type="checkbox"/> Please Email to: _____ <input type="checkbox"/> Please FAX to: _____						
<b>BILLING</b> <input type="checkbox"/> Purchase Order No.: _____ <input type="checkbox"/> Third Party Billing: _____ <input type="checkbox"/> GWA Order: _____						
<b>INSTRUCTIONS:</b> Use separate line for each container (except replicates).						
<b>Sampling</b>	<b>DATE</b> 12/12/06	<b>TIME</b> 12:00	<b>SAMPLE IDENTIFICATION</b> ESOM-01-X	<b>Matrix</b> 20	<b>Type</b> 1	<b>Container(s)</b> 1
<b>LABORATORY NUMBER (Lab Use Only)</b>						
<b>ANALYSIS REQUEST</b>						
<b>CHAIN-OF-CUSTODY RECORD</b>						
<b>DATA QUALITY OBJECTIVES</b>						
<b>REMARKS / SPECIAL INSTRUCTIONS</b>						

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## Quality Assurance/Quality Control

### A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

### B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

## **Certifications and Approvals**

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

**CONNECTICUT, Department of Health Services, PH-0586**

Categories: Potable Water, Wastewater, Solid Waste and Soil  
[http://www.dph.state.ct.us/BRS/Environmental\\_Lab/OutStateLabList.htm](http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm)

**FLORIDA, Department of Health, Bureau of Laboratories, E87643**

Categories: SDWA, CWA, RCRA/CERCLA  
<http://www.floridadep.org/labs/qa/dohforms.htm>

**MAINE, Department of Human Services, MA103**

Categories: Drinking Water and Wastewater  
<http://www.state.me.us/dhs/eng/water/Compliance.htm>

**MASSACHUSETTS, Department of Environmental Protection, M-MA-103**

Categories: Potable Water and Non-Potable Water  
<http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf>

**NEW HAMPSHIRE, Department of Environmental Services, 202703**

Categories: Drinking Water and Wastewater  
<http://www.des.state.nh.us/asp/NHELAP/labsview.asp>

**NEW YORK, Department of Health, 11754**

Categories: Potable Water, Non-Potable Water and Solid Waste  
<http://www.wadsworth.org/labcert/elap/comm.html>

**PENNSYLVANIA, Department of Environmental Protection, 68-665**

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)  
<http://www.dep.state.pa.us/Labs/Registered/>

**RHODE ISLAND, Department of Health, 54**

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage  
[http://www.healthri.org/labs/labsCT\\_MA.htm](http://www.healthri.org/labs/labsCT_MA.htm)

**U.S. Department of Agriculture, Soil Permit, S-53921**

Foreign soil import permit

**VERMONT, Department of Environmental Conservation, Water Supply Division**

Category: Drinking Water  
<http://www.vermontdrinkingwater.org/wsops/labtable.PDF>