Groundwater Analytical, Inc. P.O.Box 1200 228 Main Street Buzzards Bay, MA 02532 **GROUNDWATER ANALYTICAL**

Telephone: (508) 759-4441 FAX: (508) 759-4475

e-mail

То:	Kevin Trainer	From:	e-mail reporting GWA
	Geolnsight, IncWestford	Pages:	36
e-mail:	kdtrainer@geoinc.com	Date:	09/22/2004 04:00:09 PM
Re:	76039	CC:	

NOTE

The format or contents of this e-mail transmission may not meet all applicable National Environmental Laboratory Accreditation Conference (NELAC) Standards for data reporting.

• Comments: Project Number: 76039

This document is intended only for the use of the person to whom it is addressed. It may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not the intended recipient, any dissemination, distribution, copying or use of this document is strictly prohibited. If you have received this communication in error, please notify us by telephone at (508) 759-4441 to arrange for the destruction or return of the original document to us.

Confidential



September 10, 2004

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

Mr. Kevin Trainer Geolnsight, Inc. 319 Littleton Rd. Suite 105 Westford, MA 01886

LABORATORY REPORT

Project:

Buzzards Bay/3871-000

Lab ID:

76039

Received:

08-26-04

Dear Kevin:

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,

Jonathan R. Sanford

President

JRS/kal Enclosures

Page i of 47



Sample Receipt Report

Project: Buzzards Bay/3871-000

Client: Geolnsight, Inc. Lab ID: 76039 Delivery: Hand Airbill: n/a Lab Receipt: 08-26-04

Temperature: 15.0'C
Chain of Custody: Present
Custody Seal(s): n/a

Labin	All Control of the Co							Custoo	y sear(s):	n/a
	Field ID W2A02-MS01		Matrix	Sampled	Method	The Stan I	2010- Law 2000			
			Soil	8/24/04 8:00	EPA 8270C P	AHs Low Level	SIM	The second secon	Notes	The state of the s
Con ID	Container	V				Carbon Ranges			1	
C272640		Vendor Proline	QC Lot BX7591	Preserv	QC Lot	Prep	Ship	T	 -	
	120 mL Amber Glass		BX7591	None	n/a	n/a	n/a	 		
			3.0, 331	None	n/a	n/a	n/a			
Labito	Field ID		Markey	THE THREE PARTY AND THE	Trace Control	200-200-200-200-200-200-200-200-200-200				

76039-2	Field ID		Matex	Sampled	Method					
/ 0035-2	W2A02-M502		Soil	8/24/04 8:45				optimization of the state of th	Notes of state of the state of	
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Carbon Range				
	120 mL Amber Glass		BX7591	None	UC LOT ⊓/a	Prep n/a	Ship			
	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a n/a			
Lab ID	Relian		in a second second							1

76039-3	Field ID W2A05-MS01	Mainta Soil	Sampled Method 24/04 10:20 EPA 8270C PAHs Lov	Notes W Level SIM
C272638	120 mL Amber Glass Pr	endor QC Lot roline BX7591 roline BX7591	MA DEP EPH Carbon Preserv QC Lot Preserv None rv/a rv/a None rv/a rv/a	Ranges Only ep Ship /a n/a

Lab ID 76039-4	Field ID W2A05-MS02	Education of the Control		Sampled 8/24/04 10:45			u/a	Notes
Con ID C272644	Container	Vendor	QC Lot			Carbon Range	s Only	
	120 mL Amber Glass 120 mL Amber Glass	Proline Proline	BX7591 BX7591	None None	n/a n/a	Prep n/a n/a	Ship n/a	
Lah (T)							n/a	

Lab ID	FeldID	A CONTRACTOR OF THE PARTY OF TH	Matrix	Sand L			n/a	<u> </u>		
76039-5	W1F04-S01			8/24/04 10:45	Mcthod EPA 8270C P.	AHs Low Level	SiM		NJES	And the second s
Con ID	Container	Vendor	QC Lot	 	MA DEP EPH	Carbon Range				
	TES TOTAL SOLIDER CHASS	Proline	BX7591	Preserv None	QC Lot	Prep	Ship			
	yes me yoursel Glass	Proline	BX7591	None	n/a n/a	n/a n/a	n/a	 		
Lab ID		9 : <u></u> :	Sales Sales Sales				n/a	<u> </u>		

Lab ID	Felf ID		90.20 9			nva	n/a			
76039-6	W1C02-MS01		Matrix	Sampled	Method			The state of the s	Notes	
	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		Soil	8/25/04 8:05				***************************************		
Con ID	Container	Vendor	001		MA DEP EPH	Carbon Ranges	s Only			ł
C272659			QC Lot BX7591	Preserv	QC Lot	Prep	Ship		-	
C272654	120 mL Amber Glass	Proline	BX7591	None None	n/a	n/a	n/a	<u></u>		
-tab ID	F-ETO	(F : 4230-41111).			n/a	n/a	n/a			

76039-7	Field ID W1F05-MS01	Matrix Soil	Sampled 8/26/04 10:50				Notes	
Con ID C272655 C272648	120 mL Amber Glass	 QC Lot BX7591 BX7591	Preserv None None	MA DEP EPH QC Lot n/a n/a	Prep n/a n/a	Only Ship r/a r/a		



Sample Receipt Report (Continued)

Project: Buzzards Bay/3871-000

Client: Geolnsight, Inc. Lab ID: 76039

Delivery: Hand

Airbill: n/a

Temperature: 15.0°C

177	76039	_			Airbil Lab Receipt	t: 08-26- 0	4	Chain of Custody: Custody Seal(s):	Present n/a
Lab ID	Field ID		Matr	x Sample			The Paris of the P		_
76039-8	W2A14-MS01		Soil				25.50	Notes	
[3011	8/26/04 13	,	PAHs Low L	evel SIM		
Con ID	Container	Vendor			MA DEP E	PH Carbon Ra	inges Only		
C272653		s Proline			QC Lot		Ship		
C272641		s Proline			n/a	n/a	n/a		
		- TOME	BX759	T None	n/a	n/a	n/a		
Lab ID	5ela10		Matri	Sampled					
76039-15	W2A02-TP01		Aqueou				AND THE RESERVE AND THE PARTY OF THE PARTY O	Notes	CONTRACTOR OF THE PARTY OF THE
Con ID	Container	Vendor	QC Lo				by 8270C-Mod SIM	l	
C190947	1 L Amber Glass	n/a	n/a		QC Lot	Prep	Ship		
			104	H2SO4	n/a	n/a	n/a		
Lab ID	Field ID		Matrix	Sampled					- -
76039-16	W1F04-W01		Aqueou			200 market 100 market	and the state of t	Notes	The state of the state of
Con ID	Container	Vendor	QC Lot				by 8270C-Mod SIM		The second second
C190951	1 L Amber Glass	n/a	n/a	H2SO4	QC Lot	Prep	Ship		
C190948	1 L Amber Glass	n/a	n/a	H25O4	n/a	n/a_	n/a		
				123()4	n/a	n/a	n/a		
tab ID	Field ID		Matrix	Sampled	Method				
76039-17	W1C02-TP01		Aqueous	The state of the s				Notes	
Con ID	Container	Vendor	QC Lot	Preserv			y 8270C-Mod SIM		The second secon
C190950	1 L Amber Glass	n/a	n/a	H2SO4	QC Lot	Prep	Ship		
	The second secon			1 12304	n/a	n/a	n/a		
Lab ID	Field 1D		Matrix	Sampled	Method		The state of the s	W. Constitute Constitu	
76039-18	W1C02-TP02	7	Aqueous	8/25/04 8:20		The state of the s		Notes	- Company Comp
Con ID	Container	Vendor	QC Lot	Preserv	MA DEP EPH		y 8270C-Mod SIM		and the many of the transfer
190949	1 L Amber Glass	n/a	n/a	H2SO4	QC Lot	Prep	Ship		
				12304	n/a_	n/a	n/a		
Lab ID	Field ID		Matrix	Sampled	Method		edan dina ta	A CAMPAGNA AND AND AND AND AND AND AND AND AND A	
	W1F05-TP01		Aqueous	The state of the s				ROLS	2
Con ID	Container	Vendor	QC Lot	Presery	OC L		8270C-Mod SIM		Service Control of the Control of th
190945	1 L Amber Glass	n/a	n/a	H25O4	QC Lot	Prep	Ship		
The second :					na	n/a	n/a		
lab ID	Field ID	A STATE OF	Matrix	Sampled	Method		The second was a second		
	W2A02-MS02		Soil	8/24/04 8:45	44	Ca+ 2		Næs	And the second s
on ID	Container	Vendor	QC Lot	Preserv	MA DEP EPH QC Lot				
544184 1	20 mL Amber Glass	n/a	n/a	None	n/a	Prep	Ship		
ab ip						n/a	n/a		
	Field ID		Matrix	Sampled	Method	The second secon			
	W2A02-MS02		5oil		MA DEP EPH (Cathon Pace-		Notes	The state of the s
on ID	Container	Vendor	QC Lot	Preserv	QC Lot				
44183 1:	20 mL Amber Glass	n/a	n/a	None	n/a	Prep	Ship		
ab ID	Caldina					n/a	n/a		
911	Field ID		Matrix	Sampled	Method			principal and the second secon	
	V1C02-M501 MSD		Soil	8/25/04 8:05	EPA 8270C PA	Helowie	CIAA	Notes	
on ID	Container	Vendor	QC Lot	Preserv	QC Lot				
44098 25	0 mL Amber Glass	n/a	n/a	None	n/a	Prep	Ship		
b ID	Village Control	F 10 100 00 00				n/a	n/a		
	Field (D		Matrix	Sampled	Method			1 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	/1C02-MS01 MS		Soil		PA 8270C PAI		3-9	Notes	
in ID	Container	Vendor	QC Lot	Preserv	QC Lot				
14 182 25	0 mL Amber Glass	n/a	n/a	None	n/a	Prep	Ship		
					.va	n/a	n/a		



Data Certification

Project:

Buzzards Bay/3871-000

Lab ID: Received:

76039

Client:

Geolnsight, Inc.

- 7	Company To the state of the state of		444	fire.					keceiveo:			08-26-04 16:00
Pr	roject Location:	n/a		DEP Compe	nd Han	of Analyt	ical Ma	, , , , , , , , , , , , , , , , , , ,	a			
T	sis Form provides o	ortification 6						M	A DEP RTN			n/a
EP	nis Form provides o PA 8270C: A DEP EPH:	76039-01,-02 76039-01,-02	,-03,-04	-05,-06,-07,-	08 - 25 -	26	0.40					
Sa	mple Matrices:	Groundwate	- 00	03,00,07,		10,-17,-1	8,-19,-) 	22,-23				
	CP SW 846	8260		Soil/Sedimen		Drinking	Water	()	Other	()	
	Sthods Used	82706		8151/ 8081/			8330	()	6010B			7470A/TA ()
ess s	pecified in MA DEP	808		8021E			VPH	()	6020	_ ()	9012A ² ()
Con	rpendium of Analytical hods	1. List Release Tra	king Numb	er (KTN). if know			EPH	(X)	<u>70</u> 00 5 ³			Other ()
	est all alsa apply)	2: SW-846 Method	19012A (Eq	เก็จอใหญ่ โด 9014	OF SAA F	EP Physiolog	irally Av	allahda (44		COLUMN TO THE PARTY OF THE PART
		3 S - SW 846 Met	bock 7000 S	iedės. List indivi	idual meri	od and anal	yte.		are (FAC) ME	780		
	An affirmative res	ponse to questi	ons A, B,	. C and D is i	required	for Pres	Summtis	⁄e Certa	intv" status		G.#19	
A.	that described	ples received b on the Chain-	y the lab of-Custoc	oratory in a d ly document	ondition ation fo	n consist r the data	ent witi 1 set?	h	Janey Status.	_	Υε	
C.	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? C. Does the analytical data included in this report meet all the requirements for "Presumptive Certainty." and described to the specified analytical method(s).											s
	document CA/ for the Acquisi	M VII A, Qualit tion and Repor	y Assurai	ned in Section arce and Qua nalytical Dat	n 2.0 of lity Cor ta ?	the MA I Itrol Guid	DEP lelines				No	
D. 	VPH and EPH significant mod	cations, as s	жестеа і	n Section 11	.3?					Yes		
	A response to quest	ions E and F be	low is re	quired for "P	resump	tive Certa	nintv" s	tatue				
Ę.	specified metho	erformance star ods achieved?	dards an	d recommen	dations	for the		atus.			Yes	
F.	Were results for method(s) repor	icu:					j					
A	II No answers are	addressed in th	e attache	d Project N							No	
I, the inqui	undersigned, atte ry of those respor tical report is, to t	st under the passible for obtaining	pains an	d penalties	of per	ury that,	based conta	l upon ined in iplete.	my person this	aí		
Signati Printed	ure: Mane: Mon	atuzu	wal		Po	sition:	Pres	ident		_		
		aman K. Santo	ra		Da	ite:	09-1	0-04				



Field ID:

W2A02-MS01

Project: Client:

Buzzards Bay/3871-000

Geolosight, Inc.

Laboratory 1D: Sampled:

08-24-04 08:00 08-26-04 16:00

76039-01

Received: Extracted: Analyzed (AL):

08-26-04 20:00 08-31-04 20:41

Analyzed (AR): Analyst:

08-31-04 21:25 MM

Matrix:

Container:

Soil 120 ml Amber Glass

Preservation:

Cool QC Batch ID:

Instrument ID:

EP-1935-M GC-9 Agilent 6890 15 g

> Yes Yes

Sample Weight: Final Volume: % Solids:

1 mL 58

Aliphatic Dilution Factor: 1 Aromatic Dilution Factor: 1

tri kanges	
	Concentration Notes Units Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL mg/Kg 51
n-C11 to n C22 Amment All I	BRL mg/Kg 51
n-C11 to n-C22 Aromatic Hydrocarbons +0	PD:
Unadjusted a C114. Good	mg/Kg 51
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	pp.

QC Surrogate C	Ompound		10 12 3000		mg/Kg 51
	2-Fluorobiphenyl	Spiked 4.5	Measured		QC Limits
	2-Bromonaphthalene	4.5	3.5	78 %	40 - 140 %
Extraction:	Chloro-octadecane	4.5	1.8	75 % 40 %	40 - 140 %
	ortho-Terphenyl	4.5	2.3	50 %	40 - 140 %
	Carlotta Company of the Company of t				40 - 140 %

QA/QC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved?
- 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality No control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative

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.

- 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.



Field ID:

W2A02-MS02

Project:

Buzzards Bay/3871-000

Client:

Geolnsight, Inc.

Laboratory ID:

76039-02 08-24-04 08:45

Sampled: Received: Extracted:

08-26-04 16:00 09-03-04 17:00

Analyzed (AL): Analyzed (AR):

09-09-04 05:41 09-09-04 06:25

Analyst:

Matrix:

Soil

Container: Preservation: 120 mL Amber Glass

Cool EP-1942-M

QC Batch ID: Instrument ID:

GC-9 Agilent 6890

Sample Weight: Final Volume:

15 g 1 mL

% Solids:

Aliphatic Dilution Factor:

Aromatic Dilution Factor: 1

	Concentration Nates	
n-C9 to n-C18 Aliphatic Hydrocarbons †		Units Reputing Last
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL BRL	mg/Kg 50
n-C11 to n-C22 Aromatic Hydrocarbons †0	64	mg/Kg 50
		mg/Kg 50
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbo	ns [†]	

QC Surrogate C	ompound	Spiked	Measured		mg/kg 50
	2-Fluorobiphenyl	4.4	3.0	Recovery	QC Limits
Extends a	2-Bromonaphthalene	4.4	2.9	67 %	40 - 140 %
Extraction:	Chtoro-octadecane	4.4	2.9	66 %	40 - 140 % 40 - 140 %
AND THE RESERVE OF THE PARTY OF	ortho -Terphenyl	4.4	2.9	65 %	40 - 140 %

QA/QC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

Yes 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.

- Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be BRL 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.



Field ID: W2A02-MS02 Project: Buzzards Bay/3871-000 Client: Geolnsight, Inc. Laboratory ID: 76039-02 Sampled: 08-24-04 08:45 Received: 08-26-04 16:00

Cleaned Up: 08-30-04 22:30 Extracted: 08-31-04 16:00 Analyzed: 08-31-04 23:10

Analyst: JJT Soil

Container: 120 mL Amber Glass Preservation:

Cool

QC Batch ID:

SV-1486-P Instrument ID: MS-6 HP 6890

15 g

1 mL

Sample Weight: Final Volume: Percent Solids:

59 Dilution Factor. 1

CAS Number	Analyte	Concentration Nation		
91-20-3	Naphthalene		Units	Reporting Limit
91-5 <i>7-</i> 6	2-Methylnaphthalene	13 j	ug/Kg	17
208- 96-8	Acenaphthylene	BRL	ug/Kg	17
83-32-9	Acenaphthene	21	ug/Kg	17
86-73-7	Fluorene		ug/Kg	17
85-01-8	Phenanthrene	23	ug/Kg	— <u>17</u>
120-12-7	Anthracene	320	ug/Kg	17
206-44-0	Fluoranthene	80	ug/Kg	17
129-00-0	Pyrene	640	ug/Kg	17
56-55-3	Benzo[a]anthracene	450	ug/Kg	17
218-01-9	Chrysene	230	ug/Kg	
205-99-2	Benzo[b]fluoranthene	330	ug/Kg	17
207-08-9	Benzo[k]fluoranthene	230	ug/Kg	 17
0-32-8	Benzo[a]pyrene	210	ug/Kg	17
93-39-5	Indepol 1 2 2 o da	340	ug/Kg	17
3-70-3	Indeno[1,2,3-c,d]pyrene	81	ug/Kg	
91-24-2	Dibenzo[a,h]anthracene	29	 	17
	Benzo[g,h,i]perylene	95	ug/Kg	17
C Surrogate Co	ompound Spiker	Measured Records	ug/Kg	<u> 17 </u>

C Surrogate Compound	1 cm 3		Apple and the second se	1
Nitrobenzene-d5	Spiloed	Measured	Recovery	
	1.100	570	51 %	QC Limits
2-Fluorobiphenyl	+			30 - 130 %
Terphenyl-d14	1,100	380	34 %	
respirentyi-014	1,100	810	73 %	30 - 130 %
			/3 %	20 120 0

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3630C. Results are reported on a dry weight basis.

Report Notations:

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

Indicates an estimated value detected below the reporting limit for the analyte. j



Field ID: W2A02-M502 Project: Matrix: Buzzards Bay/3871-000 Soil Client: Container: Geolnsight, Inc. 120 mL Amber Glass Preservation: Laboratory ID: Cool 76039-02 Sampled: 08-24-04 08:45 QC Batch ID: SV-1486-P Received: Instrument ID: 08-26-04 16:00 MS-6 HP 6890 Cleaned Up: 08-30-04 22:30 Sample Weight: 15 g Extracted: 08-31-04 16:00 Final Volume: 1 mL Analyzed: 08-31-04 23:10 Percent Solids: 59 Analyst: Dilution Factor: IJΤ 1

CAS Number	Analyte						
91-20-3	Naphthalene	Are and the second		ncentration	Notes	Units	Reporting Limit
91-57-6	2-Methylnaphthalene			13		ug/Kg	10120-0120-0120-0120-0120-0120-0120-012
208-96-8	Acenaphthylene		- 	BR	~	ug/Kg	17
83-32-9	Acenaphthene	·	_	21		ug/Kg	17
86-73-7	Fluorene			12	1	ug/Kg	17
85-01-8	Phenanthrene			23		ug/Kg	
120-12-7	Anthracene		- 	320			17
206-44-0	Fluoranthene			80		ug/Kg	17
129-00-0	Pyrene			640		ug/Kg	17
56-55-3	Benzo[a]anthracene		- I— — —	450		ug/Kg	17
218-01-9	Chrysene			230		ug/Kg	17
205-99-2	Benzo[b]fluoranthene			330		ug/Kg	17
207-08-9	Benzo[k]fluoranthene			230		ug/Kg	17
50-32-8	Reprofel			210		ug/Kg	17
193-39-5	Benzo[a]pyrene			340		ug/Kg	17
53-70-3	Indeno[1,2,3-c,d]pyrene			81		ид/Кд	17
191-24-2	Dibenzo[a,h]anthracene			29		ug/Kg	1 <i>7</i>
	Benzo[g,h,i]perylene		 	95		ug/Kg	17
QC Surrogate Co	mpound		L	P:://a		ug/Kg	17
Nitrobenzene d5	2,000	Spiked	Measured	Recove	Marie III and Ma		inits
2-Fluorobiphenyl		1,100	570	51 %			
Terphenyl-d14		1,100	380	34 %		30 - 1	30 %

30 - 130 % 1,100 810 Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of 30 - 130 % selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Sample extraction performed by

Report Notations:

EPA Method 3545. Cleanup performed by EPA Method 3630C. Results are reported on a dry weight basis. 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.

Indicates an estimated value detected below the reporting limit for the analyte.



Field ID:

W2A05-MS01

Project:

Buzzards Bay/3871-000

Client:

Geolnsight, Inc.

Laboratory ID:

76039-03

Sampled: Received: Extracted: 08-24-04 10:20 08-26-04 16:00

Analyzed (AL):

08-26-04 20:00 09-01-04 15:45 09-01-04 16:29

Analyzed (AR): Analyst:

MM

Matrix:

Container:

Preservation:

Cool

120 mL Amber Glass

QC Batch ID:

EP-1935-M

Instrument (D: Sample Weight:

GC-9 Agilent 6890 16 g

Final Volume: % Solids:

1 mL 76

Soil

Aliphatic Dilution Factor: 1 Aromatic Dilution Factor: 1

PH Ranges	Concentration Nature	LET COMPANY TO COM	
n-C9 to n-C18 Aliphatic Hydrocarbons †	The second secon	Units	Reporting Limit
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	38
n-C11 to n-C22 Aromatic Hydrocarbons + o	BRL	mg/Kg	38
	BRL	mg/Kg	38
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRI		

QC Surrogate G	ompound	Spiked	Measured		
Fractionation:	2-Fluorobiphenyl	3.4	2.5	74.0/	Limits
	2-Bromonaphthalene	3.4	2.3	60 0/	140 %
EXHICHON:	Chloro-octadecane	3.4	2.2	65 9/	140 % 140 %
	ortho-Terpheny!	3.4	2.5	72 0/	140 %

QA/QC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved?

3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

Yes Yes 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

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.

- 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.



Field ID: W2A05-MS01 Project: Buzzards Bay/3871-000 Client: Geolnsight, Inc. Laboratory ID: 76039-03 Sampled: 08-24-04 10:20 Received: 08-26-04 16:00 Cleaned Up: 08-30-04 22:30 Extracted: 08-31-04 16:00 Analyzed: 09-01-04 00:28 Analyst:

IIT

Matrix: Soil Container:

120 mL Amber Glass Cool

Preservation: QC Batch ID:

SV-1486-P

Instrument ID: Sample Weight:

MS-6 HP 6890 15 g

Final Volume: Percent Solids

1 mL 76

	~~:ius.
Dilution	Factor:

	JOHNAS.	
ution	Factor:	1

CAS Number	Apalyte					
91-20-3	Naphthalene		Соп	centration Notes	Units	
91-57-6	2-Methylnaphthalene			BRL	ug/Kg	Reporting Linds
208-96-8	Acenaphthylene			BRL	ug/Kg	13
83-32-9	Acenaphthene			BRL		13
86-73-7	Fluorene			BRL	ug/Kg	13
85-01-8	Phenanthrene			BRL	ug/Kg	13
120-12-7	Anthracene			21	ug/Kg	13
206-44-0	Fluoranthene			7 ;	ug/Kg	13
129-00-0	Pyrene			52	ug/Kg	13
56-55-3	Benzo[a]anthracene			42	ug/Kg	13
218-01-9	Chrysene		_[21	ug/Kg	13
205-99-2				21	ug/Kg	13
207-08-9	Benzo[b]fluoranthene		T	15	ug/Kg	13
50-32-8	Benzo[k]fluoranthene		T	17	ug/Kg	13
193-39-5	Benzo[a]pyrene		1	21	ug/Kg	13
53-70-3	Indeno[1,2,3-c,d]pyrene		T	7	ug/Kg	13
191-24-2	Dibenzo[a,h]anthracene			BRL -	ug/Kg	13
	Benzo[g,h,i]perylene		 	7 ;	⊔g/Kg	13
QC Surrogate Co	mpound			'	ug/Kg	13
Nitrobenzene-d5	The state of the s	Spiked	Measured	Recovery		
2-Fluorobiphenyl		860	510	60 %	The second of th	Limits

QC Surrogate Compound	ug/Kg 13
Nitrobenzene-d5	
2-Fluorobiphenyl 860 510	60 % QC Limits
Terphenyl-d14 860 380	44 %
860 780	90 % 30 - 130 %
Method Reference: Test Methods for Evolunt Collins	30 - 130 %

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of selected ion monitoring (SIMI) in accordance with Section 7.5.5 of the method. Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3630C. Results are reported on a dry weight basis.

Report Notations:

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.

Indicates an estimated value detected below the reporting limit for the analyte.



Field ID:

W2A05-MS02

Project:

Buzzards Bay/3871-000

Client:

Geolnsight, Inc.

Laboratory ID:

76039-04

Sampled: Received: 08-24-04 10:45 08-26-04 16:00

Extracted: Analyzed (AL):

08-26-04 20:00 09-01-04 17:14

Analyzed (AR):

09-01-04 17:58

Analyst:

MM

Matrix:

Container:

Soil Cool

120 mL Amber Glass

Preservation:

QC Batch ID:

EP-1935-M

Instrument ID: Sample Weight:

GC-9 Agilent 6890

Final Volume:

15 g 1 mL

% Solids:

69

Aliphatic Dilution Factor: 1 Aromatic Dilution Factor: 1

	n-C9 to n-C18 Aliphatic Hydrocarbons †	Concentration Notes Units Reporting Limit	
	n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL mg/Kg 43	
	n-C11 to n-C22 Aromatic Hydrocarbons **	BRL mg/Kg 43	
		BRL mg/Kg 43	
- 1	Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL mg//g 43	

QC Surrogate Co	Orrigorated water the comment	Spiked	Measured	mg/kg 43
Fractionation:	2-Fluorobiphenyl	3.8	3.0	Recovery QC Limits
Extraction:	2-Bromonaphthalene	3.8	2.7	72 %
Extraction;	Chloro-octadecane	3.8	2.5	65 % 40 - 140 %
The state of the s	ortho-Terphenyl	3.8	3.1	81 % 40 - 140 %

QAQC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

Yes Yes

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.

- 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.



Field ID: W2A05-MS02 Project: Buzzards Bay/3871-000 Client: Geolnsight, Inc. Laboratory ID: 76039-04 Sampled: 08-24-04 10:45 Received: 08-26-04 16:00 Cleaned Up: 08-30-04 22:30 Extracted: 08-31-04 16:00 Analyzed: 09-01-04 01:07

JJT

Matrix: Soil Container: Preservation:

120 ml. Amber Glass

Cool

QC Batch ID: SV-1486-P Instrument ID:

MS-6 HP 6890

Sample Weight: Final Volume: Percent Solids:

15 g 1 mL 69

Di

aceur 2	wiius:	ю
ilution	Factor:	7

CAS Number	Analyte			
91-20-3	Naphthalene	Concentration Notes	Units	Reporting Limit
91-5 <i>7-</i> 6	2-Methylnaphthalene	BRL	ug/Kg	14
208-96-8	Acenaphthylene	BRL	ug/Kg	14
83-32-9	Acenaphthene	BRL	ug/Kg	14
86-73-7	Fluorene	BRL	ug/Kg	14
85-01-8	Phenanthrene	BRL	ug/Kg	14
120-12-7	Anthracene	7 j	ug/Kg	14
206-44-0	Fluoranthene	BRL	ug/Kg	- 14
129-00-0	Pyrene	21	ug/Kg	14
56-55-3	Benzo[a]anthracene	21	ug/Kg	14
218-01- 9	Chrysene	16	ug/Kg	14
205-99-2	Benzo[b]fluoranthene	18	ug/Kg	14
207-08-9	Benzo[k]fluoranthene	12 j	ug/Kg	14
0-32-8	Benzo[a]pyrene	16	ug/Kg	14
93-39-5	Indeno[1,2,3-c,d]pyrene	22	ug/Kg	14
3-70-3	Dibenzo[a,h]anthracene	7 j	ug/Kg	
91-24-2	Benzo[g,h,i]perylene	BRL	ug/Kg	14
		7 j	ug/Kg	14
C Surrogate Co	impound Solker	Measured Recovery	- GRAS	14

QE Surrogate Compound	Spiked Messmod		14 14
Nitrobenzene-d5		Recovery	OC Limits
2-Fluorobipheny/	950 480	50 %	
	950 370	38 %	30 - 130 %
Terphenyl-d14	950 830		30 - 130 %
Mathada c	330 030	86 %	30 120 0

Method Reference:

Analyst:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3630C. Results are reported on a dry weight basis.

Report Notations:

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.

Indicates an estimated value detected below the reporting limit for the analyte. j



Field ID:

W1F04-S01

Project:

Buzzards Bay/3871-000

Client:

Geolnsight, Inc.

Laboratory ID:

76039-05 08-24-04 10:45

Sampled: Received: Extracted:

08-26-04 16:00 08-26-04 20:00

Analyzed (AL): Analyzed (AR):

08-31-04 16:17 08-31-04 16:58

Analyst:

MM

Matrix: Container:

120 mL Amber Glass

EP-1935-M

Preservation:

Soil Cool

QC Batch ID:

Instrument ID:

GC-9 Agilent 6890

Sample Weight: Final Volume:

15 g 1 mL

% Solids:

65

Aliphatic Dilution Factor: 1 Aromatic Dilution Factor: 1

Ell Rauges		
n-C9 to n-C18 Aliphatic Hydrocarbons †	Concentration Notes	Limits Reporting Limit
n-C19 to n-C36 Aliphatic Hydrocarbons	BRL	mg/Kg 45
a C11 to 14C30 Aliphatic Hydrocarbons	BRL	· · · · · · · · · · · · · · · · · · ·
n-C11 to n-C22 Aromatic Hydrocarbons † o	BRL	mg/Kg 45
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †		mg/Kg 45
Anomatic Hydrocarbons	BRI	

-QC Surrogate C	ompound	Spiked	Measured		mg/kg 45
Fractionation:	2-Fluorobiphenyl	4.0	2.0	Recovery 50 %	QCLimits
	2-Bromonaphthalene	4.0	1.9	49 %	40 - 140 % 40 - 140 %
Extraction.	Chloro-octadecane ortho-Terphenyl	4.0	1.9	49 %	40 - 140 %
19.00 p. 19.	ortho-Telphelly)	4.0	1.9	47 %	40 - 140 %

QA/QC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

Yes

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality No 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.

- 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.

GROUNDWATER ANALYTICAL

EPA Method 8270C Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID: W1F04-S01 Project. Buzzards Bay/3871-000 Client: Geolnsight, Inc. Laboratory ID: 76039-05 Sampled: 08-24-04 10:45 Received: 08-26-04 16:00 Cleaned Up: 08-30-04 22:30 Extracted: 08-31-04 16:00 Analyzed: 09-01-04 17:38

Container: Preservation: QC Batch ID:

Matrix:

Soil

120 mL Amber Glass

Cool

Instrument ID:

SV-1486-P MS-6 HP 6890

Sample Weight:

15 g

Final Volume: Percent Solids:

1 mL 65

Dilution Factor:

nalyst	:	IJ.
,		,,,

nalyst:	IJ

91-20-3	Analyte			
	Naphthalene		Units	Reporting Limit
91-57-6	2-Methylnaphthalene	BRL	ug/Kg	15
208-96-8	Acenaphthylene	BRL	ug/Kg	15
83-32-9	Acenaphthene	BRL	ug/Kg	15
86-73-7	Fluorene	BRL	ug/Kg	15
85-01-8	Phenanthrene	BRL	ug/Kg	15
120-12-7	Anthracene	BRL	ug/Kg	15 -
206-44-0	Fluoranthene	BRL	ug/Kg	15
129-00-0	Pyrene	BRL	ug/Kg	15
56-55-3	Benzo[a]anthracene	BRL	ug/Kg	15
218-01-9	Chrysene	BRL	ug/Kg	15
205-99-2	Benzo[b]fluoranthene	BRL	ug/Kg	15
207-08-9	Benzo[k]fluoranthene	BRL	ug/Kg	15
0-32-8	Benzo[a]pyrene	BRL	ug/Kg	15
93-39-5	Indeno[1,2,3-c,d]pyrene	BRL	ug/Kg	15
3-70-3	Dibenzo[a,h]anthracene	BRL	ug/Kg	15
91-24-2	Benzo[g,h,i]perylene	BRL	ug/Kg	$\frac{15}{15}$ —
	mpound	BRL	ug/Kg	- 15

CM Surrogate Compound	Spiked Measure		15 15
Nitrobenzene-d5		Recovery	OC Limits
2-Fluorobiphenyl	1,000 310	31 %	
	1,000 300	30 %	30 - 130 %
Terphenyl-d14			30 - 130 %
	1,000 490	49 %	20 120 %

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3630C. Results are reported on a dry weight basis.

Report Notations:

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.



Field ID:

W1C02-MS01

Project: Buzzards Bay/3871-000

Client:

Geolnsight, Inc. 76039-06

Laboratory ID: Sampled: Received:

Extracted:

08-25-04 08:05 08-26-04 16:00 08-26-04 20:00 08-31-04 17:42

Analyzed (AL): Analyzed (AR): Analyst:

08-31-04 18:27 MM

Container:

Preservation:

Cont

Soil

QC Batch ID:

EP-1935-M

Instrument ID: Sample Weight: GC-9 Agilent 6890 16 g

120 mL Amber Glass

Final Volume: % Solids:

1 mL 61

Aliphatic Dilution Factor: 1

Atomatic Dilution Factor:	1	
AND	Units	Reporting Limit
BRI,	me/Kg	47

	oncentration	CS Units Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg 47
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg 47
n-C11 to n-C22 Aromatic Hydrocarbons † 6	BRL	mg/Kg 47
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons [†]	BRL	mg/Kg 47

QC Surrogate C	ompound	Spiked	Measured	Recovery	QCLinis
Fractionation:	2-Fluorobiphenyl	4.2	2.9	69 %	40 - 140 %
	2-Bromonaphthalene	4.2	2.3	54 %	40 - 140 %
Extraction:	Chloro-octadecane	4.2	2.6	61 %	40 - 140 %
	ortho -Terpheny!	4.2	2.7	65 %	40 - 140 %

QA/QC Certification

- 1. Were all QA/QC procedures required by the method followed?
- 2. Were all performance/acceptance standards for the required QA/QC procedures achieved?

Yes Yes

3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?

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.

- 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.

GROUNDWATER ANALYTICAL

EPA Method 8270C Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID: W1C02-MS01

Project: Buzzards Bay/3871-000

Client: Geolnsight, Inc.

Laboratory ID: 76039-06

Sampled: 08-25-04 08:05 08-26-04 16:00 Received: 08-30-04 22:30 Cleaned Up:

Extracted: 08-31-04 16:00 Analyzed: 09-01-04 02:26

Analyst: Ш Matrix: Soil

Container:

120 mL Amber Glass Preservation: Cool

QC Batch ID: SV-1486-P

Instrument ID:

MS-6 HP 6890

Sample Weight:

16 g

Final Volume: Percent Solids:

1 mL 61

Dilution Factor:

1

CAS Number	Analyte .	Concentration	A STATE OF THE STA		
91-20-3	Naphthalene		Notes	Units	Reporting Limit
91-5 <i>7</i> -6	2-Methylnaphthalene			ug/Kg	16
208-96-8	Acenaphthylene	<u>i</u>		ug/Kg	16
83-32-9	Acenaphthene	BRL_		ug/Kg	16
86-73-7	Fluorene	BRL_		ug/Kg	16
85-01-8	Phenanthrene	BRL		ug/Kg	16
120-12-7	Anthracene	6j		ид/Кд	16
206-44-0	Fluoranthene	BRL		ид/Кд	16
129-00-0	Pyrene			ug/Kg	16
56-55-3		8 j		ug/Kg	16
218-01-9	Benzo[a]anthracene	BRL		ug/Kg	16
205-99-2	Chrysene	6 j		ug/Kg	16
	Benzo[b]fluoranthene	6 j		ug/Kg	16
207-08-9	Benzo[k]fluoranthene	5 i		ug/Kg	
50-32-8	Benzo[a]pyrene	5 i			16
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	 -	ug/Kg	16
i3-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	16
91-24-2	Benzo[g,h,i]perylene			ug/Kg	16_
C Surrogate Co		BRL	· · · · · · · · · · · · · · · · · · ·	ug/Kg	16

QC Surrogate Compound	Spiked	Masterad	ACCOUNT OF THE PARTY OF THE PAR	
Nitrobenzene-d5	1.100	430		QCLimits —
2-Fluorobiphenyl	1,100	430	40 %	30 - 130 %
Terphenyl-d14	1,100	810	40 %	30 - 130 %
	,.00	010	76 %	20 120 0

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Sample extraction performed by EPA Method 3545. Cleanup performed by EPA Method 3630C. 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.

Indicates an estimated value detected below the reporting limit for the analyte.



Matrix Spike and Matrix Spike Duplicate MA DEP Extractable Petroleum Hydrocarbons by GC/FID

Field ID: Project:

W2A02

Client:

Buzzards Bay Geolnsight, Inc.

Matrix:

Solid Cool

Container: Preservation: 120 mL Amber Glass

Laboratory ID: Sampled: Received: Extracted: Analyzed (AL):

Analyzed (AR):

QC Batch ID:

Instrument ID:

Final Volume:

% Solids:

Sample Weight:

Analyst:

08-26-04 16:00 09-03-04 17:00 09-09-04 05:41 09-09-04 06:25 MM

EP-1942-M

15 g

1 mL

59

GC-9 Agilent 6890

76039-02

Parent Sample

08-24-04 08:45

08-26-04 16:00 09-03-04 17:00 09-09-04 07:10 09-09-04 07:54 MM

Matrix Spike

08-24-04 OB:45

76039-02MS

EP-1942-M GC-9 Agilent 6890 15 g 1 mL

59

мм

EP-1942-M

Spike Duplicate

76039-02MSD

08-24-04 08:45

08-26-04 16:00

09-03-04 17:00

09-09-04 08:39

09-09-04 10:19

GC-9 Agilent 6890

Aliphatic Dilution Factor: 1 Aromatic Dilution Factor: 1

		Unspilled Sample (ng/Kg)	AdS Spiked (mg/g)	Measured for Me	MS Recovery	MSD Spiked (mg/kg)	MSD Measured (mg/kg)	MSD Recovery	BPD	OC-Lin	elis RED
111-84-2	n-Nonane (C ₉)	BRL	5.6	2.1	38 % t	5.5	1.8	32 % t	19 %	TOTAL TRANSPORT	
629-59-4	n -Tetradecane (C ₁₄)	BRL	5.6	3.4	61%	5.5	3.1	56 %		40 - 140%	50 %
629-92-5	n -Nonadecane (C ₁₉)	BRL	5.6	4.2	74 %	5.5	3.4		10 %	40 - 140%	50 %
112-95-8	n-Eicosane (C ₂₀)	BRL	5.6	3.5	63 %	5.5		61 %	21 %	40 - 140%	50 %
630-02-4	n-Octacosane (C ₂₈)	BRL	5.6	4.1	73 %		3.2	58 %	9 %	40 - 140%	50 %
91-20-3	Naphthalene	BRL				5.5	3.5	62 %	17 %	40 - 140%	50 %
·			5.6	2.4	42 %	5.5	2.5	45 %	4 %	40 - 140%	50 %
33-32-9	Acenaphthene	BRL	5.6	3.6	65 %	5.5	3.8	69 %	6 %	40 - 140%	
120-12-7	Anthracene	BRL	5.6	4.2	75 %	5.5	3.4				50 %
129-00-0	Pyrene	BRL	5.6	4.0				61 %	21 %	40 - 140%	50 %
218-01-9	 				71 %	5.5	5.1	92 %	24 %	40 - 140%	50 %
216-01-9	Chrysene	BRL	5.6	3.7	67 %	5.5	5.7	104 %	42 %	40 - 140%	50 %

QC Surrogate	Compound	The state of the s		- Sur	ogate Recov	20 A AND 1		2000	
Fractionation:	2-Fluorobiphenyl	68%	2.7	2.4	73%	3.5		700	OC Smils
	2-Bromonaphthalene	67%	2.7	2.5	64%	3.5	3.1	70% 64%	40 - 140 %
Extraction:	Chloro-octadecane	66%	2.7	2.1	75%	3.5	2.7	59%	40 - 140 % 40 - 140 %
	ortho-Terphenyl	65%	2.7	2.3	72%	3.5	3.1	57%	40 - 140 %

Method Reference:

Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Sample extraction performed by microwave accelerated solvent extraction. Results are reported on a dry weight basis.

Report Notations:

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.

Spike recovery outside recommended limits.