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

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

GROUNDWATER ANALYTICAL

e-mail

To:	Kevin Trainer	**From:**	e-mail reporting GWA
	GeoInsight, Inc.-Westford	**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

Confidential

GROUNDWATER ANALYTICAL

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228 Main Street
Buzzards Bay, MA 02532

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www.groundwateranalytical.com

September 10, 2004

Mr. Kevin Trainer
GeoInsight, 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

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **Buzzards Bay/3871-000**
Client: **GeoInsight, 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**

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-1	W2A02-MS01	Soil	8/24/04 8:00	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272640	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272636	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-2	W2A02-MS02	Soil	8/24/04 8:45	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272646	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272643	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-3	W2A05-MS01	Soil	8/24/04 10:20	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272645	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272638	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-4	W2A05-MS02	Soil	8/24/04 10:45	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272644	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272642	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-5	W1F04-S01	Soil	8/24/04 10:45	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272649	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272639	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-6	W1C02-MS01	Soil	8/25/04 8:05	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272659	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272654	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-7	W1F05-MS01	Soil	8/26/04 10:50	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272655	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272648	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **Buzzards Bay/3871-000**
Client: **GeoInsight, 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**

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-8	W2A14-MS01	Soil	8/26/04 13:15	EPA 8270C PAHs Low Level SIM MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C272653	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a
C272641	120 mL Amber Glass	Proline	BX7591	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-15	W2A02-TP01	Aqueous	8/24/04 8:30	MA DEP EPH with PAHs by 8270C-Mod SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C190947	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-16	W1F04-W01	Aqueous	8/24/04 12:32	MA DEP EPH with PAHs by 8270C-Mod SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C190951	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a
C190948	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-17	W1C02-TP01	Aqueous	8/25/04 8:00	MA DEP EPH with PAHs by 8270C-Mod SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C190950	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-18	W1C02-TP02	Aqueous	8/25/04 8:20	MA DEP EPH with PAHs by 8270C-Mod SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C190949	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-19	W1F05-TP01	Aqueous	8/26/04 10:35	MA DEP EPH with PAHs by 8270C-Mod SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C190945	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-22	W2A02-MS02	Soil	8/24/04 8:45	MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C544184	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-23	W2A02-MS02	Soil	8/24/04 8:45	MA DEP EPH Carbon Ranges Only	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C544183	120 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-25	W1C02-MS01 MSD	Soil	8/25/04 8:05	EPA 8270C PAHs Low Level SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C544098	250 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes
76039-26	W1C02-MS01 MS	Soil	8/25/04 8:05	EPA 8270C PAHs Low Level SIM	

Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship
C544182	250 mL Amber Glass	n/a	n/a	None	n/a	n/a	n/a

GROUNDWATER ANALYTICAL

Data Certification

Project: **Buzzards Bay/3871-000**
Client: **GeoInsight, Inc.**

Lab ID: **76039**
Received: **08-26-04 16:00**

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 8270C: 76039-01,-02,-03,-04,-05,-06,-07,-08,-25,-26
MA DEP EPH: 76039-01,-02,-03,-04,-05,-06,-07,-08,-15,-16,-17,-18,-19,-22,-23

Sample Matrices: Groundwater (X) Soil/Sediment (X) Drinking Water ( ) Other ( )

MCP SW-846 Methods Used (As specified in MA DEP Compendium of Analytical Methods, (check all that apply))								
	8260B ( )	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )
	8270C (X)	8081A ( )	VPH ( )	6020 ( )	9012A[2] ( )
	8082 ( )	8021B ( )	EPH (X)	7000 S[3] ( )	Other ( )

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, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data*?	No
D.	VPH and EPH methods only: 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?	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: 
Printed Name: Jonathan R. Sanford
Position: President
Date: 09-10-04

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	W2A02-MS01	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-01	QC Batch ID:	EP-1935-M
Sampled:	08-24-04 08:00	Instrument ID:	GC-9 Agilent 6890
Received:	08-26-04 16:00	Sample Weight:	15 g
Extracted:	08-26-04 20:00	Final Volume:	1 mL
Analyzed (AL):	08-31-04 20:41	% Solids:	58
Analyzed (AR):	08-31-04 21:25	Aliphatic Dilution Factor:	1
Analyst:	MM	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	51
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		mg/Kg	51
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL		mg/Kg	51
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		mg/Kg	51

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	4.5	3.5	78 %	40 - 140 %
	2-Bromonaphthalene	4.5	3.4	75 %	40 - 140 %
Extraction:	Chloro-octadecane	4.5	1.8	40 %	40 - 140 %
	ortho-Terphenyl	4.5	2.3	50 %	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.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**W2A02-MS02**	Matrix:	**Soil**
Project:	**Buzzards Bay/3871-000**	Container:	**120 mL Amber Glass**
Client:	**GeoInsight, Inc.**	Preservation:	**Cool**
Laboratory ID:	**76039-02**	QC Batch ID:	**EP-1942-M**
Sampled:	**08-24-04 08:45**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**08-26-04 16:00**	Sample Weight:	**15 g**
Extracted:	**09-03-04 17:00**	Final Volume:	**1 mL**
Analyzed (AL):	**09-09-04 05:41**	% Solids:	**59**
Analyzed (AR):	**09-09-04 06:25**	Aliphatic Dilution Factor:	**1**
Analyst:	**MM**	Aromatic Dilution Factor:	**1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	50
n-C19 to n-C36 Aliphatic Hydrocarbons †	64		mg/Kg	50
n-C11 to n-C22 Aromatic Hydrocarbons †◊	77		mg/Kg	50
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	80		mg/Kg	50

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	4.4	3.0	68 %	40 - 140 %
	2-Bromonaphthalene	4.4	2.9	67 %	40 - 140 %
Extraction:	Chloro-octadecane	4.4	2.9	66 %	40 - 140 %
	ortho -Terphenyl	4.4	2.9	65 %	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:

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† 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:	W2A02-MS02	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-02	QC Batch ID:	SV-1486-P
Sampled:	08-24-04 08:45	Instrument ID:	MS-6 HP 6890
Received:	08-26-04 16:00	Sample Weight:	15 g
Cleaned Up:	08-30-04 22:30	Final Volume:	1 mL
Extracted:	08-31-04 16:00	Percent Solids:	59
Analyzed:	08-31-04 23:10	Dilution Factor:	1
Analyst:	JJT		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	13	j	ug/Kg	17
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	17
208-96-8	Acenaphthylene	21		ug/Kg	17
83-32-9	Acenaphthene	12	j	ug/Kg	17
86-73-7	Fluorene	23		ug/Kg	17
85-01-8	Phenanthrene	320		ug/Kg	17
120-12-7	Anthracene	80		ug/Kg	17
206-44-0	Fluoranthene	640		ug/Kg	17
129-00-0	Pyrene	450		ug/Kg	17
56-55-3	Benzo[a]anthracene	230		ug/Kg	17
218-01-9	Chrysene	330		ug/Kg	17
205-99-2	Benzo[b]fluoranthene	230		ug/Kg	17
207-08-9	Benzo[k]fluoranthene	210		ug/Kg	17
50-32-8	Benzo[a]pyrene	340		ug/Kg	17
193-39-5	Indeno[1,2,3-c,d]pyrene	81		ug/Kg	17
53-70-3	Dibenzo[a,h]anthracene	29		ug/Kg	17
191-24-2	Benzo[g,h,i]perylene	95		ug/Kg	17

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	1,100	570	51 %	30 - 130 %
2-Fluorobiphenyl	1,100	380	34 %	30 - 130 %
Terphenyl-d14	1,100	810	73 %	30 - 130 %

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.

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

GROUNDWATER ANALYTICAL

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

Field ID:	W2A02-MS02	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-02	QC Batch ID:	SV-1486-P
Sampled:	08-24-04 08:45	Instrument ID:	MS-6 HP 6890
Received:	08-26-04 16:00	Sample Weight:	15 g
Cleaned Up:	08-30-04 22:30	Final Volume:	1 mL
Extracted:	08-31-04 16:00	Percent Solids:	59
Analyzed:	08-31-04 23:10	Dilution Factor:	1
Analyst:	JJT		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	13	J	ug/Kg	17
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	17
208-96-8	Acenaphthylene	21		ug/Kg	17
83-32-9	Acenaphthene	12	j	ug/Kg	17
86-73-7	Fluorene	23		ug/Kg	17
85-01-8	Phenanthrene	320		ug/Kg	17
120-12-7	Anthracene	80		ug/Kg	17
206-44-0	Fluoranthene	640		ug/Kg	17
129-00-0	Pyrene	450		ug/Kg	17
56-55-3	Benzo[a]anthracene	230		ug/Kg	17
218-01-9	Chrysene	330		ug/Kg	17
205-99-2	Benzo[b]fluoranthene	230		ug/Kg	17
207-08-9	Benzo[k]fluoranthene	210		ug/Kg	17
50-32-8	Benzo[a]pyrene	340		ug/Kg	17
193-39-5	Indeno[1,2,3-c,d]pyrene	81		ug/Kg	17
53-70-3	Dibenzo[a,h]anthracene	29		ug/Kg	17
191-24-2	Benzo[g,h,i]perylene	95		ug/Kg	17

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	1,100	570	51 %	30 - 130 %
2-Fluorobiphenyl	1,100	380	34 %	30 - 130 %
Terphenyl-d14	1,100	810	73 %	30 - 130 %

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.

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

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	W2A05-MS01	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-03	QC Batch ID:	EP-1935-M
Sampled:	08-24-04 10:20	Instrument ID:	GC-9 Agilent 6890
Received:	08-26-04 16:00	Sample Weight:	16 g
Extracted:	08-26-04 20:00	Final Volume:	1 mL
Analyzed (AL):	09-01-04 15:45	% Solids:	76
Analyzed (AR):	09-01-04 16:29	Aliphatic Dilution Factor:	1
Analyst:	MM	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	38
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		mg/Kg	38
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL		mg/Kg	38
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		mg/Kg	38

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	3.4	2.5	74 %	40 - 140 %
	2-Bromonaphthalene	3.4	2.3	68 %	40 - 140 %
Extraction:	Chloro-octadecane	3.4	2.2	65 %	40 - 140 %
	ortho-Terphenyl	3.4	2.5	73 %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	W2A05-MS01	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-03	QC Batch ID:	SV-1486-P
Sampled:	08-24-04 10:20	Instrument ID:	MS-6 HP 6890
Received:	08-26-04 16:00	Sample Weight:	15 g
Cleaned Up:	08-30-04 22:30	Final Volume:	1 mL
Extracted:	08-31-04 16:00	Percent Solids:	76
Analyzed:	09-01-04 00:28	Dilution Factor:	1
Analyst:	JJT		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/Kg	13
91-57-6	2-Methylnaphthalene	BRL		ug/Kg	13
208-96-8	Acenaphthylene	BRL		ug/Kg	13
83-32-9	Acenaphthene	BRL		ug/Kg	13
86-73-7	Fluorene	BRL		ug/Kg	13
85-01-8	Phenanthrene	21		ug/Kg	13
120-12-7	Anthracene	7	j	ug/Kg	13
206-44-0	Fluoranthene	52		ug/Kg	13
129-00-0	Pyrene	42		ug/Kg	13
56-55-3	Benzo[a]anthracene	21		ug/Kg	13
218-01-9	Chrysene	21		ug/Kg	13
205-99-2	Benzo[b]fluoranthene	15		ug/Kg	13
207-08-9	Benzo[k]fluoranthene	17		ug/Kg	13
50-32-8	Benzo[a]pyrene	21		ug/Kg	13
193-39-5	Indeno[1,2,3-c,d]pyrene	7	j	ug/Kg	13
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	13
191-24-2	Benzo[g,h,i]perylene	7	j	ug/Kg	13

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	860	510	60 %	30 - 130 %
2-Fluorobiphenyl	860	380	44 %	30 - 130 %
Terphenyl-d14	860	780	90 %	30 - 130 %

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.

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

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	W2A05-MS02	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-04	QC Batch ID:	EP-1935-M
Sampled:	08-24-04 10:45	Instrument ID:	GC-9 Agilent 6890
Received:	08-26-04 16:00	Sample Weight:	15 g
Extracted:	08-26-04 20:00	Final Volume:	1 mL
Analyzed (AL):	09-01-04 17:14	% Solids:	69
Analyzed (AR):	09-01-04 17:58	Aliphatic Dilution Factor:	1
Analyst:	MM	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	43
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		mg/Kg	43
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL		mg/Kg	43
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons ‡	BRL		mg/Kg	43

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	3.8	3.0	79 %	40 - 140 %
	2-Bromonaphthalene	3.8	2.7	72 %	40 - 140 %
Extraction:	Chloro-octadecane	3.8	2.5	65 %	40 - 140 %
	ortho-Terphenyl	3.8	3.1	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.

† 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:	W2A05-MS02	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-04		
Sampled:	08-24-04 10:45	QC Batch ID:	SV-1486-P
Received:	08-26-04 16:00	Instrument ID:	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:	09-01-04 01:07	Percent Solids:	69
Analyst:	JJT	Dilution Factor:	1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/Kg	14
91-57-6	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	7	j	ug/Kg	14
120-12-7	Anthracene	BRL		ug/Kg	14
206-44-0	Fluoranthene	21		ug/Kg	14
129-00-0	Pyrene	21		ug/Kg	14
56-55-3	Benzo[a]anthracene	16		ug/Kg	14
218-01-9	Chrysene	18		ug/Kg	14
205-99-2	Benzo[b]fluoranthene	12	j	ug/Kg	14
207-08-9	Benzo[k]fluoranthene	16		ug/Kg	14
50-32-8	Benzo[a]pyrene	22		ug/Kg	14
193-39-5	Indeno[1,2,3-c,d]pyrene	7	j	ug/Kg	14
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	14
191-24-2	Benzo[g,h,i]perylene	7	j	ug/Kg	14

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	950	480	50 %	30 - 130 %
2-Fluorobiphenyl	950	370	38 %	30 - 130 %
Terphenyl-d14	950	830	86 %	30 - 130 %

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.

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

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**W1F04-S01**	Matrix:	**Soil**
Project:	**Buzzards Bay/3871-000**	Container:	**120 mL Amber Glass**
Client:	**GeoInsight, Inc.**	Preservation:	**Cool**
Laboratory ID:	**76039-05**	QC Batch ID:	**EP-1935-M**
Sampled:	**08-24-04 10:45**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**08-26-04 16:00**	Sample Weight:	**15 g**
Extracted:	**08-26-04 20:00**	Final Volume:	**1 mL**
Analyzed (AL):	**08-31-04 16:17**	% Solids:	**65**
Analyzed (AR):	**08-31-04 16:58**	Aliphatic Dilution Factor:	**1**
Analyst:	**MM**	Aromatic Dilution Factor:	**1**

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	45
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		mg/Kg	45
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL		mg/Kg	45
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		mg/Kg	45

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	4.0	2.0	50 %	40 - 140 %
	2-Bromonaphthalene	4.0	1.9	49 %	40 - 140 %
Extraction:	Chloro-octadecane	4.0	1.9	49 %	40 - 140 %
	ortho-Terphenyl	4.0	1.9	47 %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	**W1F04-S01**	Matrix:	**Soil**
Project:	**Buzzards Bay/3871-000**	Container:	**120 mL Amber Glass**
Client:	**GeoInsight, Inc.**	Preservation:	**Cool**
Laboratory ID:	**76039-05**	QC Batch ID:	**SV-1486-P**
Sampled:	**08-24-04 10:45**	Instrument ID:	**MS-6 HP 6890**
Received:	**08-26-04 16:00**	Sample Weight:	**15 g**
Cleaned Up:	**08-30-04 22:30**	Final Volume:	**1 mL**
Extracted:	**08-31-04 16:00**	Percent Solids:	**65**
Analyzed:	**09-01-04 17:38**	Dilution Factor:	**1**
Analyst:	**JJT**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/Kg	15
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
50-32-8	Benzo[a]pyrene	BRL		ug/Kg	15
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	15
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	15
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	15

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	1,000	310	**31 %**	30 - 130 %
2-Fluorobiphenyl	1,000	300	**30 %**	30 - 130 %
Terphenyl-d14	1,000	490	**49 %**	30 - 130 %

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.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	**W1C02-MS01**	Matrix:	**Soil**
Project:	**Buzzards Bay/3871-000**	Container:	**120 mL Amber Glass**
Client:	**GeoInsight, Inc.**	Preservation:	**Cool**
Laboratory ID:	**76039-06**	QC Batch ID:	**EP-1935-M**
Sampled:	**08-25-04 08:05**	Instrument ID:	**GC-9 Agilent 6890**
Received:	**08-26-04 16:00**	Sample Weight:	**16 g**
Extracted:	**08-26-04 20:00**	Final Volume:	**1 mL**
Analyzed (AL):	**08-31-04 17:42**	% Solids:	**61**
Analyzed (AR):	**08-31-04 18:27**	Aliphatic Dilution Factor:	**1**
Analyst:	**MM**	Aromatic Dilution Factor:	**1**

EPH Ranges	Concentration	Notes	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 ‡ ◊	BRL		mg/Kg	47
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		mg/Kg	47

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
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 -Terphenyl	4.2	2.7	**65 %**	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.

GROUNDWATER ANALYTICAL

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

Field ID:	W1C02-MS01	Matrix:	Soil
Project:	Buzzards Bay/3871-000	Container:	120 mL Amber Glass
Client:	GeoInsight, Inc.	Preservation:	Cool
Laboratory ID:	76039-06	QC Batch ID:	SV-1486-P
Sampled:	08-25-04 08:05	Instrument ID:	MS-6 HP 6890
Received:	08-26-04 16:00	Sample Weight:	16 g
Cleaned Up:	08-30-04 22:30	Final Volume:	1 mL
Extracted:	08-31-04 16:00	Percent Solids:	61
Analyzed:	09-01-04 02:26	Dilution Factor:	1
Analyst:	JJT		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	6	j	ug/Kg	16
91-57-6	2-Methylnaphthalene	6	j	ug/Kg	16
208-96-8	Acenaphthylene	BRL		ug/Kg	16
83-32-9	Acenaphthene	BRL		ug/Kg	16
86-73-7	Fluorene	BRL		ug/Kg	16
85-01-8	Phenanthrene	6	j	ug/Kg	16
120-12-7	Anthracene	BRL		ug/Kg	16
206-44-0	Fluoranthene	14	j	ug/Kg	16
129-00-0	Pyrene	8	j	ug/Kg	16
56-55-3	Benzo[a]anthracene	BRL		ug/Kg	16
218-01-9	Chrysene	6	j	ug/Kg	16
205-99-2	Benzo[b]fluoranthene	6	j	ug/Kg	16
207-08-9	Benzo[k]fluoranthene	5	j	ug/Kg	16
50-32-8	Benzo[a]pyrene	5	j	ug/Kg	16
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/Kg	16
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/Kg	16
191-24-2	Benzo[g,h,i]perylene	BRL		ug/Kg	16

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	1,100	430	40 %	30 - 130 %
2-Fluorobiphenyl	1,100	430	40 %	30 - 130 %
Terphenyl-d14	1,100	810	76 %	30 - 130 %

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.

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

GROUNDWATER ANALYTICAL

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

Field ID:	W2A02
Project:	Buzzards Bay
Client:	GeoInsight, Inc.
Matrix:	Solid
Container:	120 mL Amber Glass
Preservation:	Cool

	Parent Sample	Matrix Spike	Spike Duplicate
Laboratory ID:	76039-02	76039-02MS	76039-02MSD
Sampled:	08-24-04 08:45	08-24-04 08:45	08-24-04 08:45
Received:	08-26-04 16:00	08-26-04 16:00	08-26-04 16:00
Extracted:	09-03-04 17:00	09-03-04 17:00	09-03-04 17:00
Analyzed (AL):	09-09-04 05:41	09-09-04 07:10	09-09-04 08:39
Analyzed (AR):	09-09-04 06:25	09-09-04 07:54	09-09-04 10:19
Analyst:	MM	MM	MM
QC Batch ID:	EP-1942-M	EP-1942-M	EP-1942-M
Instrument ID:	GC-9 Agilent 6890	GC-9 Agilent 6890	GC-9 Agilent 6890
Sample Weight:	15 g	15 g	15 g
Final Volume:	1 mL	1 mL	1 mL
% Solids:	59	59	59
Aliphatic Dilution Factor:	1	1	1
Aromatic Dilution Factor:	1	1	1

CAS Number	Analyte	Unspiked Sample (mg/Kg)	MS Spiked (mg/Kg)	MS Measured (mg/Kg)	MS Recovery	MSD Spiked (mg/Kg)	MSD Measured (mg/Kg)	MSD Recovery	RPD	QC Limits Spike	QC Limits RPD
111-84-2	*n*-Nonane (C_9)	BRL	5.6	2.1	38 % t	5.5	1.8	32 % t	19 %	40 - 140%	50 %
629-59-4	*n*-Tetradecane (C_{14})	BRL	5.6	3.4	61 %	5.5	3.1	56 %	10 %	40 - 140%	50 %
629-92-5	*n*-Nonadecane (C_{19})	BRL	5.6	4.2	74 %	5.5	3.4	61 %	21 %	40 - 140%	50 %
112-95-8	*n*-Eicosane (C_{20})	BRL	5.6	3.5	63 %	5.5	3.2	58 %	9 %	40 - 140%	50 %
630-02-4	*n*-Octacosane (C_{28})	BRL	5.6	4.1	73 %	5.5	3.5	62 %	17 %	40 - 140%	50 %
91-20-3	Naphthalene	BRL	5.6	2.4	42 %	5.5	2.5	45 %	4 %	40 - 140%	50 %
83-32-9	Acenaphthene	BRL	5.6	3.6	65 %	5.5	3.8	69 %	6 %	40 - 140%	50 %
120-12-7	Anthracene	BRL	5.6	4.2	75 %	5.5	3.4	61 %	21 %	40 - 140%	50 %
129-00-0	Pyrene	BRL	5.6	4.0	71 %	5.5	5.1	92 %	24 %	40 - 140%	50 %
218-01-9	Chrysene	BRL	5.6	3.7	67 %	5.5	5.7	104 %	42 %	40 - 140%	50 %

QC Surrogate Compound		Surrogate Recovery								QC Limits
Fractionation:	2-Fluorobiphenyl	68%	2.7	2.4	73%	3.5	3.1	70%		40 - 140 %
	2-Bromonaphthalene	67%	2.7	2.5	64%	3.5	3.2	64%		40 - 140 %
Extraction:	Chloro-octadecane	66%	2.7	2.1	75%	3.5	2.7	59%		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:

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.

t Spike recovery outside recommended limits.