

				Analytes (BDL = Below Detection Limit; ND = Non Detect)																		Inorganics in Soil			Metals in Soil (mg/kg [ppm])													
Location	Sample Date:	Sample Matrix	Matrix Notes	Organic Compounds in Soil (mg/kg [ppm])																																		
				500	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000		(<12)	(6-9)	0.39	15000	70	120000	23	3100	400	23	1600	390	390	23000
				TPH (total volatile and extractable petroleum hydrocarbons)					Benzene	Toluene	Ethylbenzene	Xylenes - total	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Benzo(A)pyrene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Pyrene	EC (<4 mmhos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium
C31E	11/03/10	Cuttings		191.2	1.2	190	0.0083	0.037	BDL	0.029	BDL	BDL	BDL	BDL	BDL	0.0072	BDL	BDL	BDL	0.017	BDL	0.077	BDL	1.1	20	9	3.6	6700	BDL	16	BDL	14	8.1	0.025	11	2.6	BDL	42



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Est. 1970

Chris Hines or Brad Kieding  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

## Report Summary

Wednesday November 17, 2010

Report Number: L487402

Samples Received: 11/04/10

Client Project: C31E

Description: C31E

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jayred Willis , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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# REPORT OF ANALYSIS

Chris Hines or Brad Kieding  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : C31E

Sample ID : C31E-SEB-11310

Collected By : Jake Harris  
Collection Date : 11/03/10 11:25

ESC Sample # : L487402-01

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	10.	5.0	mg/kg	6010B	11/13/10	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 11/17/10 13:50 Printed: 11/17/10 16:16



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REPORT OF ANALYSIS

Chris Hines or Brad Kieding  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : C31E

Sample ID : C31E-SWB-11310

Collected By : Jake Harris  
Collection Date : 11/03/10 11:05

ESC Sample # : L487402-02

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	8.7	1.0	mg/kg	6010B	11/13/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 11/17/10 13:50 Printed: 11/17/10 16:16



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REPORT OF ANALYSIS

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EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : C31E

Sample ID : C31E-SB-11310

Collected By : Jake Harris  
Collection Date : 11/03/10 11:15

ESC Sample # : L487402-03

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	10.	1.0	mg/kg	6010B	11/13/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 11/17/10 13:50 Printed: 11/17/10 16:16



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REPORT OF ANALYSIS

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Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : C31E

Sample ID : C31E-EB-11310

Collected By : Jake Harris  
Collection Date : 11/03/10 11:35

ESC Sample # : L487402-04

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	8.1	1.0	mg/kg	6010B	11/13/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 11/17/10 13:50 Printed: 11/17/10 16:16

REPORT OF ANALYSIS

Chris Hines or Brad Kieding  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : B36 Cuttings  
Sample ID : C31E-CUTTINGS-11310  
Collected By : Jake Harris  
Collection Date : 11/03/10 10:50

ESC Sample # : L487402-05

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	11/10/10	1
Chromium, Trivalent	16.	0.50	mg/kg	Calc.	11/16/10	1
ORP	9.0		mV	2580	11/10/10	1
pH	9.0		su	9045D	11/10/10	1
Sodium Adsorption Ratio	20.			Calc.	11/14/10	1
Specific Conductance	1100		umhos/cm	9050AMod	11/08/10	1
Mercury	0.025	0.020	mg/kg	7471	11/06/10	1
Arsenic	3.6	1.0	mg/kg	6010B	11/16/10	1
Barium	6700	0.25	mg/kg	6010B	11/16/10	1
Cadmium	BDL	0.25	mg/kg	6010B	11/16/10	1
Chromium	16.	0.50	mg/kg	6010B	11/16/10	1
Copper	14.	1.0	mg/kg	6010B	11/16/10	1
Lead	8.1	0.25	mg/kg	6010B	11/16/10	1
Nickel	11.	1.0	mg/kg	6010B	11/16/10	1
Selenium	2.6	1.0	mg/kg	6010B	11/16/10	1
Silver	BDL	0.50	mg/kg	6010B	11/16/10	1
Zinc	42.	1.5	mg/kg	6010B	11/16/10	1
TPH (GC/FID) Low Fraction	1.2	0.50	mg/kg	8015D/GRO	11/06/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	82.7		% Rec.	602/8015	11/06/10	5
Benzene	0.0083	0.0050	mg/kg	8260B	11/05/10	5
Toluene	0.037	0.025	mg/kg	8260B	11/05/10	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	11/05/10	5
Total Xylenes	0.029	0.015	mg/kg	8260B	11/05/10	5
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	11/05/10	5
Dibromofluoromethane	93.7		% Rec.	8260B	11/05/10	5
a,a,a-Trifluorotoluene	111.		% Rec.	8260B	11/05/10	5
4-Bromofluorobenzene	104.		% Rec.	8260B	11/05/10	5
TPH (GC/FID) High Fraction	190	4.0	mg/kg	3546/DRO	11/08/10	1
Surrogate recovery(%) o-Terphenyl	80.7		% Rec.	3546/DRO	11/08/10	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit  
Det. Limit - Practical Quantitation Limit(PQL)  
L487402-05 (PH) - 9.0@20.7c

REPORT OF ANALYSIS

Chris Hines or Brad Kieding  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

November 17, 2010

Date Received : November 04, 2010  
Description : B36 Cuttings  
Sample ID : C31E-CUTTINGS-11310  
Collected By : Jake Harris  
Collection Date : 11/03/10 10:50

ESC Sample # : L487402-05

Site ID :

Project # : C31E

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Chrysene	0.0072	0.0060	mg/kg	8270C-SIM	11/09/10	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Fluorene	0.017	0.0060	mg/kg	8270C-SIM	11/09/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Naphthalene	0.077	0.0060	mg/kg	8270C-SIM	11/09/10	1
Phenanthrene	0.041	0.0060	mg/kg	8270C-SIM	11/09/10	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
1-Methylnaphthalene	0.046	0.0060	mg/kg	8270C-SIM	11/09/10	1
2-Methylnaphthalene	0.16	0.0060	mg/kg	8270C-SIM	11/09/10	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	11/09/10	1
Surrogate Recovery						
Nitrobenzene-d5	137.		% Rec.	8270C-SIM	11/09/10	1
2-Fluorobiphenyl	68.7		% Rec.	8270C-SIM	11/09/10	1
p-Terphenyl-d14	38.1		% Rec.	8270C-SIM	11/09/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 11/17/10 13:50 Printed: 11/17/10 16:16  
L487402-05 (PH) - 9.0@20.7c



Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L487402-05	WG507117	SAMP	Nitrobenzene-d5	R1465129	J1

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed  
11/17/10 at 16:16:07

TSR Signing Reports: 358  
R5 - Desired TAT

Log all samples beginning with different sample numbers to separate reports. Ex.- M34 N PIT and M34 S PIT go on one L#, but M34 S PIT and E34 S PIT go on separate L #s. Log project # as project name.

Sample: L487402-01 Account: ENCANACO Received: 11/04/10 09:00 Due Date: 11/11/10 00:00 RPT Date: 11/17/10 13:50  
Sample: L487402-02 Account: ENCANACO Received: 11/04/10 09:00 Due Date: 11/11/10 00:00 RPT Date: 11/17/10 13:50  
Sample: L487402-03 Account: ENCANACO Received: 11/04/10 09:00 Due Date: 11/11/10 00:00 RPT Date: 11/17/10 13:50  
Sample: L487402-04 Account: ENCANACO Received: 11/04/10 09:00 Due Date: 11/11/10 00:00 RPT Date: 11/17/10 13:50  
Sample: L487402-05 Account: ENCANACO Received: 11/04/10 09:00 Due Date: 11/11/10 00:00 RPT Date: 11/17/10 13:50



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Chris Hines or Brad Kieding  
2717 County Road 215, Suite 100

Parachute, CO 81635

Quality Assurance Report  
Level II

L487402

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Tax I.D. 62-0814289

Est. 1970

November 17, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG507045	11/06/10 00:14
a,a,a-Trifluorotoluene(FID)		% Rec.	79.54	59-128	WG507045	11/06/10 00:14
Mercury	< .02	mg/kg			WG506986	11/06/10 11:43
Benzene	< .001	mg/kg			WG507034	11/05/10 11:15
Ethylbenzene	< .001	mg/kg			WG507034	11/05/10 11:15
Toluene	< .005	mg/kg			WG507034	11/05/10 11:15
Total Xylenes	< .003	mg/kg			WG507034	11/05/10 11:15
4-Bromofluorobenzene		% Rec.	107.8	59-140	WG507034	11/05/10 11:15
Dibromofluoromethane		% Rec.	97.13	63-139	WG507034	11/05/10 11:15
Toluene-d8		% Rec.	103.6	84-116	WG507034	11/05/10 11:15
a,a,a-Trifluorotoluene		% Rec.	112.0	80-118	WG507034	11/05/10 11:15
TPH (GC/FID) High Fraction	< 4	ppm			WG507106	11/06/10 09:36
o-Terphenyl		% Rec.	76.90	50-150	WG507106	11/06/10 09:36
Specific Conductance	0.910	umhos/cm			WG507155	11/08/10 15:50
1-Methylnaphthalene	< .006	mg/kg			WG507117	11/09/10 12:23
2-Chloronaphthalene	< .006	mg/kg			WG507117	11/09/10 12:23
2-Methylnaphthalene	< .006	mg/kg			WG507117	11/09/10 12:23
Acenaphthene	< .006	mg/kg			WG507117	11/09/10 12:23
Acenaphthylene	< .006	mg/kg			WG507117	11/09/10 12:23
Anthracene	< .006	mg/kg			WG507117	11/09/10 12:23
Benzo(a)anthracene	< .006	mg/kg			WG507117	11/09/10 12:23
Benzo(a)pyrene	< .006	mg/kg			WG507117	11/09/10 12:23
Benzo(b)fluoranthene	< .006	mg/kg			WG507117	11/09/10 12:23
Benzo(g,h,i)perylene	< .006	mg/kg			WG507117	11/09/10 12:23
Benzo(k)fluoranthene	< .006	mg/kg			WG507117	11/09/10 12:23
Chrysene	< .006	mg/kg			WG507117	11/09/10 12:23
Dibenz(a,h)anthracene	< .006	mg/kg			WG507117	11/09/10 12:23
Fluoranthene	< .006	mg/kg			WG507117	11/09/10 12:23
Fluorene	< .006	mg/kg			WG507117	11/09/10 12:23
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG507117	11/09/10 12:23
Naphthalene	< .006	mg/kg			WG507117	11/09/10 12:23
Phenanthrene	< .006	mg/kg			WG507117	11/09/10 12:23
Pyrene	< .006	mg/kg			WG507117	11/09/10 12:23
2-Fluorobiphenyl		% Rec.	87.75	21-120	WG507117	11/09/10 12:23
Nitrobenzene-d5		% Rec.	70.77	33-114	WG507117	11/09/10 12:23
p-Terphenyl-d14		% Rec.	92.21	18-142	WG507117	11/09/10 12:23
Chromium,Hexavalent	< 2	mg/kg			WG507070	11/10/10 12:22
pH	4.60	su			WG507596	11/10/10 15:25
Arsenic	< 1	mg/kg			WG507473	11/13/10 12:40
Arsenic	< 1	mg/kg			WG507472	11/16/10 19:53
Barium	< .25	mg/kg			WG507472	11/16/10 19:53

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Quality Assurance Report  
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November 17, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Cadmium	< .25	mg/kg			WG507472	11/16/10 19:53
Chromium	< .5	mg/kg			WG507472	11/16/10 19:53
Copper	< 1	mg/kg			WG507472	11/16/10 19:53
Lead	< .25	mg/kg			WG507472	11/16/10 19:53
Nickel	< 1	mg/kg			WG507472	11/16/10 19:53
Selenium	< 1	mg/kg			WG507472	11/16/10 19:53
Silver	< .5	mg/kg			WG507472	11/16/10 19:53
Zinc	< 1.5	mg/kg			WG507472	11/16/10 19:53

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Mercury	mg/kg	0.0310	0.0360	14.9	20	L487412-02	WG506986
Specific Conductance	umhos/cm	130.	120.	10.1	20	L487050-08	WG507155
Specific Conductance	umhos/cm	1100	940.	15.6	20	L487403-06	WG507155
Chromium,Hexavalent	mg/kg	0	0	0	20	L487403-06	WG507070
Chromium,Hexavalent	mg/kg	0	0	0	20	L486688-05	WG507070
ORP	mV	23.0	26.0	12.2	20	L486688-01	WG507656
ORP	mV	19.0	26.0	31.1*	20	L487829-01	WG507656
pH	su	8.90	9.10	2.22*	1	L486869-01	WG507596
pH	su	5.70	5.20	9.17*	1	L487829-01	WG507596
Arsenic	mg/kg	8.40	8.80	4.06	20	L487403-04	WG507473
Arsenic	mg/kg	4.00	5.60	33.6*	20	L487539-09	WG507472
Barium	mg/kg	32.0	45.0	35.0*	20	L487539-09	WG507472
Chromium	mg/kg	32.0	37.0	12.9	20	L487539-09	WG507472
Copper	mg/kg	2.60	4.36	51.3*	20	L487539-09	WG507472
Lead	mg/kg	41.0	85.0	70.5*	20	L487539-09	WG507472
Nickel	mg/kg	6.20	9.05	36.9*	20	L487539-09	WG507472
Selenium	mg/kg	7.60	7.80	2.86	20	L487539-09	WG507472
Silver	mg/kg	0	0	0	20	L487539-09	WG507472
Zinc	mg/kg	28.0	40.7	35.6*	20	L487539-09	WG507472
Cadmium	mg/kg	0	0	0	20	L487539-09	WG507472

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.98	109.	67-135	WG507045
a,a,a-Trifluorotoluene(FID)				84.29	59-128	WG507045
Mercury	mg/kg	8.77	11.1	127.	71.6-127.7	WG506986
Benzene	mg/kg	.025	0.0269	107.	65-128	WG507034
Ethylbenzene	mg/kg	.025	0.0292	117.	74-128	WG507034
Toluene	mg/kg	.025	0.0285	114.	70-120	WG507034
Total Xylenes	mg/kg	.075	0.0880	117.	74-127	WG507034

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Parachute, CO 81635

Quality Assurance Report  
Level II

L487402

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 17, 2010

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
4-Bromofluorobenzene				102.4	59-140	
Dibromofluoromethane				99.26	63-139	
Toluene-d8				104.3	84-116	
a,a,a-Trifluorotoluene				110.6	80-118	
TPH (GC/FID) High Fraction	ppm	60	57.2	95.3	50-150	WG507106
o-Terphenyl				86.34	50-150	WG507106
Specific Conductance	umhos/cm	406	420.	103.	85-115	WG507155
1-Methylnaphthalene	mg/kg	.033	0.0247	74.7	41-110	WG507117
2-Chloronaphthalene	mg/kg	.033	0.0241	73.0	43-109	WG507117
2-Methylnaphthalene	mg/kg	.033	0.0238	72.1	38-104	WG507117
Acenaphthene	mg/kg	.033	0.0298	90.2	48-103	WG507117
Acenaphthylene	mg/kg	.033	0.0281	85.1	43-106	WG507117
Anthracene	mg/kg	.033	0.0300	90.9	51-110	WG507117
Benzo(a)anthracene	mg/kg	.033	0.0263	79.6	38-126	WG507117
Benzo(a)pyrene	mg/kg	.033	0.0269	81.6	47-118	WG507117
Benzo(b)fluoranthene	mg/kg	.033	0.0257	78.0	47-118	WG507117
Benzo(g,h,i)perylene	mg/kg	.033	0.0299	90.6	40-125	WG507117
Benzo(k)fluoranthene	mg/kg	.033	0.0292	88.5	45-121	WG507117
Chrysene	mg/kg	.033	0.0294	89.2	35-135	WG507117
Dibenz(a,h)anthracene	mg/kg	.033	0.0310	94.0	41-124	WG507117
Fluoranthene	mg/kg	.033	0.0295	89.3	50-114	WG507117
Fluorene	mg/kg	.033	0.0271	82.2	49-109	WG507117
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0313	94.8	40-126	WG507117
Naphthalene	mg/kg	.033	0.0280	84.7	36-100	WG507117
Phenanthrene	mg/kg	.033	0.0253	76.8	46-108	WG507117
Pyrene	mg/kg	.033	0.0287	86.9	30-136	WG507117
2-Fluorobiphenyl				89.35	21-120	WG507117
Nitrobenzene-d5				69.93	33-114	WG507117
p-Terphenyl-d14				89.66	18-142	WG507117
Chromium, Hexavalent	mg/kg	100	97.6	97.6	50-143	WG507070
ORP	mV	229	220.	96.1	95.6-104.37	WG507656
pH	su	6.92	6.90	99.7	97.98-102.02	WG507596
Arsenic	mg/kg	192	174.	90.6	78.6-120.8	WG507473
Arsenic	mg/kg	192	189.	98.4	78.6-120.8	WG507472
Barium	mg/kg	420	395.	94.0	78.8-121.4	WG507472
Cadmium	mg/kg	70.1	63.0	89.9	78.5-121.5	WG507472
Chromium	mg/kg	168	162.	96.4	80.4-120.2	WG507472
Copper	mg/kg	122	117.	95.9	81.6-119.7	WG507472
Lead	mg/kg	113	112.	99.1	77.3-122.1	WG507472
Nickel	mg/kg	74.1	79.9	108.	78.8-121.2	WG507472
Selenium	mg/kg	176	185.	105.	75.6-125.0	WG507472
Silver	mg/kg	115	109.	94.8	66-133.9	WG507472
Zinc	mg/kg	437	406.	92.9	78.5-121.7	WG507472

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	5.73	5.98	104.	67-135	4.43	20	WG507045
a,a,a-Trifluorotoluene(FID)				83.19	59-128			WG507045
Benzene	mg/kg	0.0264	0.0269	106.	65-128	1.79	20	WG507034
Ethylbenzene	mg/kg	0.0282	0.0292	113.	74-128	3.31	20	WG507034
Toluene	mg/kg	0.0278	0.0285	111.	70-120	2.53	20	WG507034
Total Xylenes	mg/kg	0.0867	0.0880	116.	74-127	1.52	20	WG507034
4-Bromofluorobenzene				102.0	59-140			WG507034
Dibromofluoromethane				97.76	63-139			WG507034
Toluene-d8				103.2	84-116			WG507034
a,a,a-Trifluorotoluene				110.4	80-118			WG507034
TPH (GC/FID) High Fraction	ppm	52.5	57.2	87.0	50-150	8.63	25	WG507106
o-Terphenyl				78.20	50-150			WG507106
Specific Conductance	umhos/	420.	420.	103.	85-115	0	20	WG507155
1-Methylnaphthalene	mg/kg	0.0224	0.0247	68.0	41-110	9.58	24	WG507117
2-Chloronaphthalene	mg/kg	0.0224	0.0241	68.0	43-109	7.10	21	WG507117
2-Methylnaphthalene	mg/kg	0.0221	0.0238	67.0	38-104	7.23	24	WG507117
Acenaphthene	mg/kg	0.0271	0.0298	82.0	48-103	9.34	20	WG507117
Acenaphthylene	mg/kg	0.0264	0.0281	80.0	43-106	6.20	20	WG507117
Anthracene	mg/kg	0.0288	0.0300	87.0	51-110	4.18	22	WG507117
Benzo(a)anthracene	mg/kg	0.0241	0.0263	73.0	38-126	8.49	20	WG507117
Benzo(a)pyrene	mg/kg	0.0255	0.0269	77.0	47-118	5.33	20	WG507117
Benzo(b)fluoranthene	mg/kg	0.0251	0.0257	76.0	47-118	2.55	29	WG507117
Benzo(g,h,i)perylene	mg/kg	0.0287	0.0299	87.0	40-125	4.04	20	WG507117
Benzo(k)fluoranthene	mg/kg	0.0271	0.0292	82.0	45-121	7.53	31	WG507117
Chrysene	mg/kg	0.0284	0.0294	86.0	35-135	3.73	20	WG507117
Dibenz(a,h)anthracene	mg/kg	0.0298	0.0310	90.0	41-124	4.16	20	WG507117
Fluoranthene	mg/kg	0.0287	0.0295	87.0	50-114	2.55	20	WG507117
Fluorene	mg/kg	0.0274	0.0271	83.0	49-109	0.799	19	WG507117
Indeno(1,2,3-cd)pyrene	mg/kg	0.0289	0.0313	88.0	40-126	7.89	20	WG507117
Naphthalene	mg/kg	0.0287	0.0280	87.0	36-100	2.60	24	WG507117
Phenanthrene	mg/kg	0.0244	0.0253	74.0	46-108	3.88	21	WG507117
Pyrene	mg/kg	0.0268	0.0287	81.0	30-136	6.95	20	WG507117
2-Fluorobiphenyl				87.72	21-120			WG507117
Nitrobenzene-d5				70.62	33-114			WG507117
p-Terphenyl-d14				85.74	18-142			WG507117
Chromium,Hexavalent	mg/kg	92.1	97.6	92.0	50-143	5.80	20	WG507070
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG507656
pH	su	6.90	6.90	100.	97.98-102.02	0	20	WG507596

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	19.5	0.405	5.5	69.6	55-109	L487500-03	WG507045
a,a,a-Trifluorotoluene(FID)					80.86	59-128		WG507045

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Mercury	mg/kg	0.274	0.0360	.25	95.2	70-130	L487412-02	WG506986
Benzene	mg/kg	0.0957	0	.025	76.5	16-143	L487273-04	WG507034
Ethylbenzene	mg/kg	0.109	0	.025	87.3	12-137	L487273-04	WG507034
Toluene	mg/kg	0.0921	0	.025	73.6	12-136	L487273-04	WG507034
Total Xylenes	mg/kg	0.320	0	.075	85.3	10-138	L487273-04	WG507034
TPH (GC/FID) High Fraction	ppm	71.3	7.00	60	107.	50-150	L487384-01	WG507106
o-Terphenyl					103.9	50-150		WG507106
Chromium, Hexavalent	mg/kg	7.06	0	20	35.3*	50-150	L486688-06	WG507070
1-Methylnaphthalene	mg/kg	0.0323	0	.033	97.8	19-131	L487313-05	WG507117
2-Chloronaphthalene	mg/kg	0.0318	0	.033	96.3	38-117	L487313-05	WG507117
2-Methylnaphthalene	mg/kg	0.0309	0	.033	93.6	18-125	L487313-05	WG507117
Acenaphthene	mg/kg	0.0275	0	.033	83.3	31-120	L487313-05	WG507117
Acenaphthylene	mg/kg	0.0292	0	.033	88.4	34-116	L487313-05	WG507117
Anthracene	mg/kg	0.0292	0	.033	88.6	32-131	L487313-05	WG507117
Benzo(a)anthracene	mg/kg	0.0286	0	.033	86.8	32-131	L487313-05	WG507117
Benzo(a)pyrene	mg/kg	0.0254	0	.033	76.9	28-130	L487313-05	WG507117
Benzo(b)fluoranthene	mg/kg	0.0292	0	.033	88.6	37-130	L487313-05	WG507117
Benzo(g,h,i)perylene	mg/kg	0.0253	0	.033	76.7	10-134	L487313-05	WG507117
Benzo(k)fluoranthene	mg/kg	0.0261	0	.033	79.2	31-129	L487313-05	WG507117
Chrysene	mg/kg	0.0256	0	.033	77.6	25-137	L487313-05	WG507117
Dibenz(a,h)anthracene	mg/kg	0.0263	0	.033	79.6	20-134	L487313-05	WG507117
Fluoranthene	mg/kg	0.0369	0	.033	112.	27-138	L487313-05	WG507117
Fluorene	mg/kg	0.0328	0	.033	99.4	26-136	L487313-05	WG507117
Indeno(1,2,3-cd)pyrene	mg/kg	0.0260	0	.033	78.9	16-135	L487313-05	WG507117
Naphthalene	mg/kg	0.0282	0	.033	85.4	22-121	L487313-05	WG507117
Phenanthrene	mg/kg	0.0325	0	.033	98.5	27-133	L487313-05	WG507117
Pyrene	mg/kg	0.0245	0	.033	74.3	22-133	L487313-05	WG507117
2-Fluorobiphenyl					86.61	21-120		WG507117
Nitrobenzene-d5					84.87	33-114		WG507117
p-Terphenyl-d14					85.94	18-142		WG507117
Arsenic	mg/kg	53.5	8.80	50	89.4	75-125	L487403-04	WG507473
Arsenic	mg/kg	60.2	5.60	50	109.	75-125	L487539-09	WG507472
Barium	mg/kg	95.8	45.0	50	102.	75-125	L487539-09	WG507472
Chromium	mg/kg	98.2	37.0	50	122.	75-125	L487539-09	WG507472
Copper	mg/kg	58.5	4.36	50	108.	75-125	L487539-09	WG507472
Lead	mg/kg	150.	85.0	50	130.*	75-125	L487539-09	WG507472
Nickel	mg/kg	63.5	9.05	50	109.	75-125	L487539-09	WG507472
Selenium	mg/kg	60.6	7.80	50	106.	75-125	L487539-09	WG507472
Silver	mg/kg	55.2	0	50	110.	75-125	L487539-09	WG507472
Zinc	mg/kg	103.	40.7	50	125.	75-125	L487539-09	WG507472
Cadmium	mg/kg	58.6	0	10	117.	75-125	L487539-09	WG507472

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	18.9	19.5	67.4	55-109	3.12	20	L487500-03	WG507045
a,a,a-Trifluorotoluene(FID)				80.39	59-128				WG507045

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	0.261	0.274	90.0	70-130	4.86	20	L487412-02	WG506986
Benzene	mg/kg	0.108	0.0957	86.1	16-143	11.7	31	L487273-04	WG507034
Ethylbenzene	mg/kg	0.113	0.109	90.2	12-137	3.24	36	L487273-04	WG507034
Toluene	mg/kg	0.0998	0.0921	79.8	12-136	8.05	32	L487273-04	WG507034
Total Xylenes	mg/kg	0.332	0.320	88.4	10-138	3.60	36	L487273-04	WG507034
TPH (GC/FID) High Fraction	ppm	64.8	71.3	96.3	50-150	9.55	25	L487384-01	WG507106
o-Terphenyl				89.52	50-150				WG507106
Chromium, Hexavalent	mg/kg	5.80	7.06	29.0*	50-150	19.6	20	L486688-06	WG507070
1-Methylnaphthalene	mg/kg	0.0317	0.0323	96.1	19-131	1.76	30	L487313-05	WG507117
2-Chloronaphthalene	mg/kg	0.0315	0.0318	95.4	38-117	0.934	26	L487313-05	WG507117
2-Methylnaphthalene	mg/kg	0.0307	0.0309	93.0	18-125	0.625	29	L487313-05	WG507117
Acenaphthene	mg/kg	0.0286	0.0275	86.8	31-120	4.09	30	L487313-05	WG507117
Acenaphthylene	mg/kg	0.0303	0.0292	91.8	34-116	3.70	29	L487313-05	WG507117
Anthracene	mg/kg	0.0298	0.0292	90.2	32-131	1.76	26	L487313-05	WG507117
Benzo(a)anthracene	mg/kg	0.0280	0.0286	85.0	32-131	2.07	31	L487313-05	WG507117
Benzo(a)pyrene	mg/kg	0.0249	0.0254	75.4	28-130	1.90	28	L487313-05	WG507117
Benzo(b)fluoranthene	mg/kg	0.0239	0.0292	72.4	37-130	20.1	41	L487313-05	WG507117
Benzo(g,h,i)perylene	mg/kg	0.0291	0.0253	88.2	10-134	13.9	26	L487313-05	WG507117
Benzo(k)fluoranthene	mg/kg	0.0246	0.0261	74.5	31-129	6.13	42	L487313-05	WG507117
Chrysene	mg/kg	0.0268	0.0256	81.2	25-137	4.62	22	L487313-05	WG507117
Dibenz(a,h)anthracene	mg/kg	0.0299	0.0263	90.5	20-134	12.7	25	L487313-05	WG507117
Fluoranthene	mg/kg	0.0317	0.0369	96.2	27-138	14.9	35	L487313-05	WG507117
Fluorene	mg/kg	0.0323	0.0328	97.8	26-136	1.69	30	L487313-05	WG507117
Indeno(1,2,3-cd)pyrene	mg/kg	0.0297	0.0260	90.0	16-135	13.2	26	L487313-05	WG507117
Naphthalene	mg/kg	0.0285	0.0282	86.3	22-121	0.946	30	L487313-05	WG507117
Phenanthrene	mg/kg	0.0325	0.0325	98.5	27-133	0.0445	36	L487313-05	WG507117
Pyrene	mg/kg	0.0285	0.0245	86.2	22-133	14.9	33	L487313-05	WG507117
2-Fluorobiphenyl				93.33	21-120				WG507117
Nitrobenzene-d5				89.68	33-114				WG507117
p-Terphenyl-d14				94.44	18-142				WG507117
Arsenic	mg/kg	52.6	53.5	87.6	75-125	1.70	20	L487403-04	WG507473
Arsenic	mg/kg	53.9	60.2	96.6	75-125	11.0	20	L487539-09	WG507472
Barium	mg/kg	89.5	95.8	89.0	75-125	6.80	20	L487539-09	WG507472
Chromium	mg/kg	93.6	98.2	113.	75-125	4.80	20	L487539-09	WG507472
Copper	mg/kg	54.6	58.5	100.	75-125	6.90	20	L487539-09	WG507472
Lead	mg/kg	134.	150.	98.0	75-125	11.3	20	L487539-09	WG507472
Nickel	mg/kg	64.1	63.5	110.	75-125	0.940	20	L487539-09	WG507472
Selenium	mg/kg	51.2	60.6	86.8	75-125	16.8	20	L487539-09	WG507472
Silver	mg/kg	50.0	55.2	100.	75-125	9.89	20	L487539-09	WG507472
Zinc	mg/kg	86.2	103.	91.0	75-125	17.8	20	L487539-09	WG507472
Cadmium	mg/kg	54.4	58.6	109.	75-125	7.43	20	L487539-09	WG507472

Batch number /Run number / Sample number cross reference

WG507045: R1459910: L487402-05

WG506986: R1460489: L487402-05

\* Performance of this Analyte is outside of established criteria.

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WG507034: R1460629: L487402-05  
WG507106: R1462030: L487402-05  
WG507155: R1463009: L487402-05  
WG507117: R1465129: L487402-05  
WG507070: R1466669: L487402-05  
WG507656: R1467109: L487402-05  
WG507596: R1467269: L487402-05  
WG507473: R1471789: L487402-01 02 03 04  
WG507456: R1472853: L487402-05  
WG507472: R1477209: L487402-05

\* \* Calculations are performed prior to rounding of reported values .  
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.