

Analytes (BDL = Below Detection Limit; ND = Non Detect)

Allowable Concentration -->				Organic Compounds in Soil (mg/kg [ppm])																	Inorganics in Soil			Metals in Soil (mg/kg [ppm])															
Location	Sample Date:	Sample Matrix	Matrix Notes	500	TPH (total volatile and extractable petroleum hydrocarbons)	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
D140U	09/12/11	Cuttings		441.3		1.3	440	0.0094	BDL	BDL	0.023	0.031	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.054	BDL	0.18	BDL	4	43	8.7	3	6300	0.72	17	BDL	22	7.3	0.057	7.7	BDL	BDL	38



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Chris Hines / Jake Harris
EnCana Oil & Gas Inc. - CO
2717 County Road 215, Suite 100
Parachute, CO 81635

Report Summary

Thursday September 22, 2011

Report Number: L535666

Samples Received: 09/13/11

Client Project:

Description: D140U-cuttings

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, PA - 68-02979

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

September 22, 2011

Date Received : September 13, 2011
Description : D140U-cuttings
Sample ID : D140U-CUT-091211 12-14IN
Collected By : Brennen Graff
Collection Date : 09/12/11 10:45

ESC Sample # : L535666-01

Site ID : D140U

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	09/16/11	1
Chromium, Trivalent	17.	2.0	mg/kg	Calc.	09/14/11	1
ORP	87.		mV	2580	09/16/11	1
pH	8.7		su	9045D	09/15/11	1
Sodium Adsorption Ratio	43.			Calc.	09/15/11	1
Specific Conductance	4000		umhos/cm	9050AMod	09/15/11	1
Mercury	0.057	0.020	mg/kg	7471	09/15/11	1
Arsenic	3.0	1.0	mg/kg	6010B	09/14/11	1
Barium	6300	1.2	mg/kg	6010B	09/14/11	5
Cadmium	0.72	0.25	mg/kg	6010B	09/14/11	1
Chromium	17.	0.50	mg/kg	6010B	09/14/11	1
Copper	22.	1.0	mg/kg	6010B	09/14/11	1
Lead	7.3	0.25	mg/kg	6010B	09/14/11	1
Nickel	7.7	1.0	mg/kg	6010B	09/14/11	1
Selenium	BDL	1.0	mg/kg	6010B	09/14/11	1
Silver	BDL	0.50	mg/kg	6010B	09/14/11	1
Zinc	38.	1.5	mg/kg	6010B	09/14/11	1
Benzene	0.0094	0.0025	mg/kg	8021/8015	09/14/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/14/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/14/11	5
Total Xylene	0.023	0.0075	mg/kg	8021/8015	09/14/11	5
TPH (GC/FID) Low Fraction	1.3	0.50	mg/kg	GRO	09/14/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	94.5		% Rec.	8021/8015	09/14/11	5
a,a,a-Trifluorotoluene(PID)	99.4		% Rec.	8021/8015	09/14/11	5
TPH (GC/FID) High Fraction	440	20.	mg/kg	3546/DRO	09/15/11	5
Surrogate recovery(%)						
o-Terphenyl	150.		% Rec.	3546/DRO	09/15/11	5
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Acenaphthene	0.031	0.030	mg/kg	8270C-SIM	09/15/11	5
Acenaphthylene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Benzo(a)anthracene	BDL	0.030	mg/kg	8270C-SIM	09/21/11	5
Benzo(a)pyrene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L535666-01 (PH) - 8.71@20.4c
L535666-01 (CR6) - reducer



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September 22, 2011

Date Received : September 13, 2011
Description : D140U-cuttings
Sample ID : D140U-CUT-091211 12-14IN
Collected By : Brennen Graff
Collection Date : 09/12/11 10:45

ESC Sample # : L535666-01

Site ID : D140U

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Benzo(g,h,i)perylene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Benzo(k)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Chrysene	BDL	0.030	mg/kg	8270C-SIM	09/21/11	5
Dibenz(a,h)anthracene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Fluoranthene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Fluorene	0.054	0.030	mg/kg	8270C-SIM	09/15/11	5
Indeno(1,2,3-cd)pyrene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Naphthalene	0.18	0.030	mg/kg	8270C-SIM	09/15/11	5
Phenanthrene	0.15	0.030	mg/kg	8270C-SIM	09/15/11	5
Pyrene	BDL	0.030	mg/kg	8270C-SIM	09/21/11	5
1-Methylnaphthalene	0.18	0.030	mg/kg	8270C-SIM	09/15/11	5
2-Methylnaphthalene	0.45	0.030	mg/kg	8270C-SIM	09/15/11	5
2-Chloronaphthalene	BDL	0.030	mg/kg	8270C-SIM	09/15/11	5
Surrogate Recovery						
Nitrobenzene-d5	180.		% Rec.	8270C-SIM	09/15/11	5
2-Fluorobiphenyl	66.8		% Rec.	8270C-SIM	09/15/11	5
p-Terphenyl-d14	142.		% Rec.	8270C-SIM	09/21/11	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: 09/22/11 16:53 Printed: 09/22/11 16:54

L535666-01 (PH) - 8.71@20.4c

L535666-01 (CR6) - reducer

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L535666-01	WG555003	SAMP	2-Methylnaphthalene	R1859532	E
	WG555003	SAMP	Nitrobenzene-d5	R1859532	J1
	WG555003	SAMP	p-Terphenyl-d14	R1859532	J1
	WG555502	SAMP	ORP	R1861092	T8
	WG555156	SAMP	Chromium, Hexavalent	R1861393	J6J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
E	GTL (EPA) - Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

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
09/22/11 at 16:54:25

TSR Signing Reports: 358
R5 - Desired TAT

Sample: L535666-01 Account: ENCANACO Received: 09/13/11 09:00 Due Date: 09/21/11 00:00 RPT Date: 09/22/11 16:53



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Quality Assurance Report
Level II

L535666

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Est. 1970

September 22, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG554899	09/13/11 18:15
Ethylbenzene	< .0005	mg/kg			WG554899	09/13/11 18:15
Toluene	< .005	mg/kg			WG554899	09/13/11 18:15
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG554899	09/13/11 18:15
Total Xylene	< .0015	mg/kg			WG554899	09/13/11 18:15
a,a,a-Trifluorotoluene(FID)		% Rec.	94.13	59-128	WG554899	09/13/11 18:15
a,a,a-Trifluorotoluene(PID)		% Rec.	97.39	54-144	WG554899	09/13/11 18:15
Arsenic	< 1	mg/kg			WG554974	09/14/11 10:35
Barium	< .25	mg/kg			WG554974	09/14/11 10:35
Cadmium	< .25	mg/kg			WG554974	09/14/11 10:35
Chromium	< .5	mg/kg			WG554974	09/14/11 10:35
Copper	< 1	mg/kg			WG554974	09/14/11 10:35
Lead	< .25	mg/kg			WG554974	09/14/11 10:35
Nickel	< 1	mg/kg			WG554974	09/14/11 10:35
Selenium	< 1	mg/kg			WG554974	09/14/11 10:35
Silver	< .5	mg/kg			WG554974	09/14/11 10:35
Zinc	< 1.5	mg/kg			WG554974	09/14/11 10:35
TPH (GC/FID) High Fraction	< 4	ppm			WG555118	09/15/11 08:26
o-Terphenyl		% Rec.	92.12	50-150	WG555118	09/15/11 08:26
Specific Conductance	1.90	umhos/cm			WG555097	09/15/11 10:16
1-Methylnaphthalene	< .006	mg/kg			WG555003	09/15/11 11:48
2-Chloronaphthalene	< .006	mg/kg			WG555003	09/15/11 11:48
2-Methylnaphthalene	< .006	mg/kg			WG555003	09/15/11 11:48
Acenaphthene	< .006	mg/kg			WG555003	09/15/11 11:48
Acenaphthylene	< .006	mg/kg			WG555003	09/15/11 11:48
Anthracene	< .006	mg/kg			WG555003	09/15/11 11:48
Benzo(a)anthracene	< .006	mg/kg			WG555003	09/15/11 11:48
Benzo(a)pyrene	< .006	mg/kg			WG555003	09/15/11 11:48
Benzo(b)fluoranthene	< .006	mg/kg			WG555003	09/15/11 11:48
Benzo(g,h,i)perylene	< .006	mg/kg			WG555003	09/15/11 11:48
Benzo(k)fluoranthene	< .006	mg/kg			WG555003	09/15/11 11:48
Chrysene	< .006	mg/kg			WG555003	09/15/11 11:48
Dibenz(a,h)anthracene	< .006	mg/kg			WG555003	09/15/11 11:48
Fluoranthene	< .006	mg/kg			WG555003	09/15/11 11:48
Fluorene	< .006	mg/kg			WG555003	09/15/11 11:48
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG555003	09/15/11 11:48
Naphthalene	< .006	mg/kg			WG555003	09/15/11 11:48
Phenanthrene	< .006	mg/kg			WG555003	09/15/11 11:48
Pyrene	< .006	mg/kg			WG555003	09/15/11 11:48
2-Fluorobiphenyl		% Rec.	75.52	34-129	WG555003	09/15/11 11:48
Nitrobenzene-d5		% Rec.	65.03	14-141	WG555003	09/15/11 11:48
p-Terphenyl-d14		% Rec.	84.43	25-139	WG555003	09/15/11 11:48
pH	4.60	su			WG555161	09/15/11 17:06
Mercury	< .02	mg/kg			WG554914	09/15/11 16:10
Chromium,Hexavalent	< 2	mg/kg			WG555156	09/16/11 12:22

* 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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September 22, 2011

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Arsenic	mg/kg	2.30	2.50	7.90	20		L535658-02	WG554974
Barium	mg/kg	120.	140.	12.1	20		L535658-02	WG554974
Cadmium	mg/kg	0.280	0.310	8.75	20		L535658-02	WG554974
Chromium	mg/kg	12.0	12.0	0.837	20		L535658-02	WG554974
Copper	mg/kg	6.20	6.30	0.957	20		L535658-02	WG554974
Lead	mg/kg	7.10	7.50	5.20	20		L535658-02	WG554974
Nickel	mg/kg	11.0	11.0	0	20		L535658-02	WG554974
Selenium	mg/kg	0	0	0	20		L535658-02	WG554974
Silver	mg/kg	0.240	0.280	17.1	20		L535658-02	WG554974
Zinc	mg/kg	30.0	31.0	2.61	20		L535658-02	WG554974
Specific Conductance	umhos/cm	99.0	98.0	1.02	20		L535580-01	WG555097
Specific Conductance	umhos/cm	1500	1500	2.22	20		L535837-01	WG555097
pH	su	7.30	7.30	0.137	1		L536003-02	WG555161
Mercury	mg/kg	0.0660	0.0760	13.8	20		L535659-04	WG554914
ORP	mV	160.	160.	1.26	20		L535327-05	WG555502
ORP	mV	99.0	89.0	10.6	20		L536166-01	WG555502
Chromium,Hexavalent	mg/kg	0	0	0	20		L536103-01	WG555156
Chromium,Hexavalent	mg/kg	0	0	0	20		L535662-01	WG555156

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0471	94.3	76-113	WG554899
Ethylbenzene	mg/kg	.05	0.0492	98.4	78-115	WG554899
Toluene	mg/kg	.05	0.0521	104.	76-114	WG554899
Total Xylene	mg/kg	.15	0.144	95.8	81-118	WG554899
a,a,a-Trifluorotoluene(PID)	mg/kg	5.5	6.67	97.17	54-144	WG554899
TPH (GC/FID) Low Fraction				121.	67-135	WG554899
a,a,a-Trifluorotoluene(FID)				99.44	59-128	WG554899
Arsenic	mg/kg	92.6	89.6	96.8	82.9-117	WG554974
Barium	mg/kg	169	166.	98.2	82.8-117	WG554974
Cadmium	mg/kg	61.8	60.1	97.2	83.3-117	WG554974
Chromium	mg/kg	71.3	70.9	99.4	81.8-118	WG554974
Copper	mg/kg	81.2	82.9	102.	83.9-116	WG554974
Lead	mg/kg	92.4	91.6	99.1	83.3-117	WG554974
Nickel	mg/kg	59.1	59.3	100.	83.8-116	WG554974
Selenium	mg/kg	89.5	87.2	97.4	79-121	WG554974
Silver	mg/kg	34.4	33.4	97.1	66.3-134	WG554974
Zinc	mg/kg	141	132.	93.6	80.9-119	WG554974
TPH (GC/FID) High Fraction	ppm	60	43.4	72.3	50-150	WG555118
o-Terphenyl				87.62	50-150	WG555118
Specific Conductance	umhos/cm	427	420.	98.4	85-115	WG555097

* 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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L535666

September 22, 2011

Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known Val		Result			
1-Methylnaphthalene	mg/kg	.033		0.0255	77.2	48-113	WG555003
2-Chloronaphthalene	mg/kg	.033		0.0262	79.4	51-114	WG555003
2-Methylnaphthalene	mg/kg	.033		0.0286	86.6	44-109	WG555003
Acenaphthene	mg/kg	.033		0.0248	75.3	52-108	WG555003
Acenaphthylene	mg/kg	.033		0.0267	81.0	51-110	WG555003
Anthracene	mg/kg	.033		0.0270	81.9	58-120	WG555003
Benzo(a)anthracene	mg/kg	.033		0.0300	91.0	54-110	WG555003
Benzo(a)pyrene	mg/kg	.033		0.0301	91.3	56-118	WG555003
Benzo(b)fluoranthene	mg/kg	.033		0.0303	91.8	55-114	WG555003
Benzo(g,h,i)perylene	mg/kg	.033		0.0334	101.	48-130	WG555003
Benzo(k)fluoranthene	mg/kg	.033		0.0277	84.0	55-122	WG555003
Chrysene	mg/kg	.033		0.0266	80.6	57-118	WG555003
Dibenz(a,h)anthracene	mg/kg	.033		0.0336	102.	53-122	WG555003
Fluoranthene	mg/kg	.033		0.0286	86.6	58-118	WG555003
Fluorene	mg/kg	.033		0.0294	89.0	54-109	WG555003
Indeno(1,2,3-cd)pyrene	mg/kg	.033		0.0332	101.	51-125	WG555003
Naphthalene	mg/kg	.033		0.0241	73.0	45-105	WG555003
Phenanthrene	mg/kg	.033		0.0281	85.3	53-114	WG555003
Pyrene	mg/kg	.033		0.0264	80.0	53-121	WG555003
2-Fluorobiphenyl					68.44	34-129	WG555003
Nitrobenzene-d5					72.91	14-141	WG555003
p-Terphenyl-d14					80.87	25-139	WG555003
pH	su	9.04		9.00	99.6	98-101	WG555161
Mercury	mg/kg	3.77		3.42	90.7	71.6-128	WG554914
ORP	mV	229		220.	96.1	95.6-104.37	WG555502
Chromium,Hexavalent	mg/kg	132		104.	78.8	50-150	WG555156

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0470	0.0471	94.0	76-113	0.220	20	WG554899
Ethylbenzene	mg/kg	0.0489	0.0492	98.0	78-115	0.530	20	WG554899
Toluene	mg/kg	0.0514	0.0521	103.	76-114	1.24	20	WG554899
Total Xylene	mg/kg	0.143	0.144	95.0	81-118	0.400	20	WG554899
a,a,a-Trifluorotoluene(PID)				98.04	54-144			WG554899
TPH (GC/FID) Low Fraction	mg/kg	6.64	6.67	121.	67-135	0.520	20	WG554899
a,a,a-Trifluorotoluene(FID)				99.36	59-128			WG554899
TPH (GC/FID) High Fraction	ppm	44.3	43.4	74.0	50-150	2.08	20	WG555118
o-Terphenyl				86.11	50-150			WG555118
Specific Conductance	umhos/	420.	420.	98.0	85-115	0	20	WG555097
1-Methylnaphthalene	mg/kg	0.0267	0.0255	81.0	48-113	4.87	24	WG555003
2-Chloronaphthalene	mg/kg	0.0279	0.0262	85.0	51-114	6.36	24	WG555003
2-Methylnaphthalene	mg/kg	0.0302	0.0286	91.0	44-109	5.44	24	WG555003
Acenaphthene	mg/kg	0.0265	0.0248	80.0	52-108	6.66	22	WG555003

* Performance of this Analyte is outside of established criteria.

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YOUR LAB OF CHOICE

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Chris Hines / Jake Harris
2717 County Road 215, Suite 100

Parachute, CO 81635

Quality Assurance Report
Level II

L535666

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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

September 22, 2011

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Acenaphthylene	mg/kg	0.0273	0.0267	83.0		51-110	2.30	21	WG555003
Anthracene	mg/kg	0.0278	0.0270	84.0		58-120	3.00	20	WG555003
Benzo(a)anthracene	mg/kg	0.0312	0.0300	94.0		54-110	3.72	22	WG555003
Benzo(a)pyrene	mg/kg	0.0299	0.0301	90.0		56-118	0.902	21	WG555003
Benzo(b)fluoranthene	mg/kg	0.0295	0.0303	89.0		55-114	2.75	20	WG555003
Benzo(g,h,i)perylene	mg/kg	0.0335	0.0334	102.		48-130	0.383	20	WG555003
Benzo(k)fluoranthene	mg/kg	0.0274	0.0277	83.0		55-122	0.989	25	WG555003
Chrysene	mg/kg	0.0262	0.0266	79.0		57-118	1.64	20	WG555003
Dibenz(a,h)anthracene	mg/kg	0.0336	0.0336	102.		53-122	0.142	20	WG555003
Fluoranthene	mg/kg	0.0295	0.0286	89.0		58-118	3.19	20	WG555003
Fluorene	mg/kg	0.0285	0.0294	86.0		54-109	2.95	20	WG555003
Indeno(1,2,3-cd)pyrene	mg/kg	0.0336	0.0332	102.		51-125	1.24	21	WG555003
Naphthalene	mg/kg	0.0259	0.0241	78.0		45-105	7.38	24	WG555003
Phenanthrene	mg/kg	0.0271	0.0281	82.0		53-114	3.60	20	WG555003
Pyrene	mg/kg	0.0261	0.0264	79.0		53-121	1.22	20	WG555003
2-Fluorobiphenyl				69.19		34-129			WG555003
Nitrobenzene-d5				73.47		14-141			WG555003
p-Terphenyl-d14				79.39		25-139			WG555003
pH	su	9.00	9.00	100.		98-101	0	20	WG555161
ORP	mV	220.	220.	96.0		95.6-104.37	0	20	WG555502
Chromium,Hexavalent	mg/kg	98.4	104.	74.0		50-150	5.53	20	WG555156

Analyte	Units	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res					
Benzene	mg/kg	0.233	0	.05	93.1	32-137	L535575-01	WG554899
Ethylbenzene	mg/kg	0.235	0	.05	93.9	10-150	L535575-01	WG554899
Toluene	mg/kg	0.254	0	.05	102.	20-142	L535575-01	WG554899
Total Xylene	mg/kg	0.684	0	.15	91.2	16-141	L535575-01	WG554899
a,a,a-Trifluorotoluene(PID)					97.18	54-144		WG554899
TPH (GC/FID) Low Fraction	mg/kg	24.3	0	5.5	88.4	55-109	L535575-01	WG554899
a,a,a-Trifluorotoluene(FID)					97.79	59-128		WG554899
Arsenic	mg/kg	48.1	2.50	50	91.2	75-125	L535658-02	WG554974
Barium	mg/kg	176.	140.	50	72.0*	75-125	L535658-02	WG554974
Cadmium	mg/kg	45.4	0.310	50	90.2	75-125	L535658-02	WG554974
Chromium	mg/kg	76.4	12.0	50	129.*	75-125	L535658-02	WG554974
Copper	mg/kg	53.8	6.30	50	95.0	75-125	L535658-02	WG554974
Lead	mg/kg	53.7	7.50	50	92.4	75-125	L535658-02	WG554974
Nickel	mg/kg	57.4	11.0	50	92.8	75-125	L535658-02	WG554974
Selenium	mg/kg	43.0	0	50	86.0	75-125	L535658-02	WG554974
Silver	mg/kg	46.2	0.280	50	91.8	75-125	L535658-02	WG554974
Zinc	mg/kg	74.5	31.0	50	87.0	75-125	L535658-02	WG554974
Mercury	mg/kg	0.319	0.0760	.25	97.2	70-130	L535659-04	WG554914
Chromium,Hexavalent	mg/kg	1.48	0	20	7.40*	50-150	L535666-01	WG555156
1-Methylnaphthalene	mg/kg	0.0285	0	.033	86.3	25-155	L535685-05	WG555003

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
2-Chloronaphthalene	mg/kg	0.0279	0	.033	84.5	31-153	L535685-05	WG555003
2-Methylnaphthalene	mg/kg	0.0311	0	.033	94.2	22-172	L535685-05	WG555003
Acenaphthene	mg/kg	0.0275	0	.033	83.2	43-133	L535685-05	WG555003
Acenaphthylene	mg/kg	0.0282	0	.033	85.4	42-146	L535685-05	WG555003
Anthracene	mg/kg	0.0269	0	.033	81.5	38-153	L535685-05	WG555003
Benzo(a)anthracene	mg/kg	0.0284	0	.033	86.0	31-142	L535685-05	WG555003
Benzo(a)pyrene	mg/kg	0.0281	0	.033	85.1	26-152	L535685-05	WG555003
Benzo(b)fluoranthene	mg/kg	0.0289	0	.033	87.6	10-188	L535685-05	WG555003
Benzo(g,h,i)perylene	mg/kg	0.0317	0	.033	96.1	10-176	L535685-05	WG555003
Benzo(k)fluoranthene	mg/kg	0.0259	0	.033	78.3	22-163	L535685-05	WG555003
Chrysene	mg/kg	0.0257	0	.033	77.9	26-146	L535685-05	WG555003
Dibenz(a,h)anthracene	mg/kg	0.0319	0	.033	96.8	10-160	L535685-05	WG555003
Fluoranthene	mg/kg	0.0273	0	.033	82.7	23-160	L535685-05	WG555003
Fluorene	mg/kg	0.0284	0	.033	86.0	44-143	L535685-05	WG555003
Indeno(1,2,3-cd)pyrene	mg/kg	0.0317	0	.033	96.0	10-157	L535685-05	WG555003
Naphthalene	mg/kg	0.0270	0	.033	81.9	22-156	L535685-05	WG555003
Phenanthrene	mg/kg	0.0270	0	.033	81.7	23-164	L535685-05	WG555003
Pyrene	mg/kg	0.0257	0	.033	77.9	12-170	L535685-05	WG555003
2-Fluorobiphenyl					71.54	34-129		WG555003
Nitrobenzene-d5					74.79	14-141		WG555003
p-Terphenyl-d14					60.93	25-139		WG555003

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.231	0.233	92.5	32-137	0.660	39	L535575-01	WG554899
Ethylbenzene	mg/kg	0.225	0.235	90.1	10-150	4.10	44	L535575-01	WG554899
Toluene	mg/kg	0.248	0.254	99.2	20-142	2.61	42	L535575-01	WG554899
Total Xylene	mg/kg	0.649	0.684	86.5	16-141	5.28	46	L535575-01	WG554899
a,a,a-Trifluorotoluene(PID)				97.86	54-144				WG554899
TPH (GC/FID) Low Fraction	mg/kg	24.1	24.3	87.5	55-109	1.03	20	L535575-01	WG554899
a,a,a-Trifluorotoluene(FID)				97.88	59-128				WG554899
Arsenic	mg/kg	47.5	48.1	90.0	75-125	1.26	20	L535658-02	WG554974
Barium	mg/kg	171.	176.	62.0*	75-125	2.88	20	L535658-02	WG554974
Cadmium	mg/kg	45.3	45.4	90.0	75-125	0.221	20	L535658-02	WG554974
Chromium	mg/kg	60.6	76.4	97.2	75-125	23.1*	20	L535658-02	WG554974
Copper	mg/kg	53.4	53.8	94.2	75-125	0.746	20	L535658-02	WG554974
Lead	mg/kg	52.9	53.7	90.8	75-125	1.50	20	L535658-02	WG554974
Nickel	mg/kg	55.5	57.4	89.0	75-125	3.37	20	L535658-02	WG554974
Selenium	mg/kg	42.6	43.0	85.2	75-125	0.935	20	L535658-02	WG554974
Silver	mg/kg	46.2	46.2	91.8	75-125	0	20	L535658-02	WG554974
Zinc	mg/kg	72.4	74.5	82.8	75-125	2.86	20	L535658-02	WG554974
Mercury	mg/kg	0.292	0.319	86.4	70-130	8.84	20	L535659-04	WG554914
Chromium,Hexavalent	mg/kg	0.840	1.48	4.20*	50-150	55.2*	20	L535666-01	WG555156
1-Methylnaphthalene	mg/kg	0.0238	0.0285	72.1	25-155	18.0	27	L535685-05	WG555003
2-Chloronaphthalene	mg/kg	0.0242	0.0279	73.3	31-153	14.2	22	L535685-05	WG555003
2-Methylnaphthalene	mg/kg	0.0255	0.0311	77.2	22-172	19.8	29	L535685-05	WG555003
Acenaphthene	mg/kg	0.0237	0.0275	71.8	43-133	14.7	26	L535685-05	WG555003
Acenaphthylene	mg/kg	0.0250	0.0282	75.7	42-146	12.1	22	L535685-05	WG555003
Anthracene	mg/kg	0.0236	0.0269	71.5	38-153	13.0	27	L535685-05	WG555003
Benzo(a)anthracene	mg/kg	0.0251	0.0284	76.0	31-142	12.4	31	L535685-05	WG555003

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Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Benzo(a)pyrene	mg/kg	0.0255	0.0281	77.3	26-152	9.68	32	L535685-05	WG555003	
Benzo(b)fluoranthene	mg/kg	0.0263	0.0289	79.7	10-188	9.46	33	L535685-05	WG555003	
Benzo(g,h,i)perylene	mg/kg	0.0278	0.0317	84.3	10-176	13.0	30	L535685-05	WG555003	
Benzo(k)fluoranthene	mg/kg	0.0228	0.0259	69.0	22-163	12.7	29	L535685-05	WG555003	
Chrysene	mg/kg	0.0222	0.0257	67.3	26-146	14.7	30	L535685-05	WG555003	
Dibenz(a,h)anthracene	mg/kg	0.0281	0.0319	85.2	10-160	12.7	39	L535685-05	WG555003	
Fluoranthene	mg/kg	0.0244	0.0273	74.0	23-160	11.1	22	L535685-05	WG555003	
Fluorene	mg/kg	0.0253	0.0284	76.8	44-143	11.3	23	L535685-05	WG555003	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0281	0.0317	85.2	10-157	11.9	40	L535685-05	WG555003	
Naphthalene	mg/kg	0.0240	0.0270	72.8	22-156	11.7	27	L535685-05	WG555003	
Phenanthrene	mg/kg	0.0240	0.0270	72.6	23-164	11.7	25	L535685-05	WG555003	
Pyrene	mg/kg	0.0227	0.0257	68.8	12-170	12.4	24	L535685-05	WG555003	
2-Fluorobiphenyl				63.53	34-129				WG555003	
Nitrobenzene-d5				62.66	14-141				WG555003	
p-Terphenyl-d14				58.96	25-139				WG555003	

Batch number /Run number / Sample number cross reference

WG554899: R1856592: L535666-01
WG554974: R1857772: L535666-01
WG555118: R1858852: L535666-01
WG555097: R1859072: L535666-01
WG555003: R1859532: L535666-01
WG555161: R1860112: L535666-01
WG554914: R1860195: L535666-01
WG555038: R1860292: L535666-01
WG555502: R1861092: L535666-01
WG555156: R1861393: L535666-01

* * 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.