

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

Location	Sample Date:	Sample Matrix	Matrix Notes	Organic Compounds in Soil (mg/kg [ppm])																		Inorganics in Soil			Metals 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	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-C,D)pyrene	Napthalene	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
PN20	09/20/10	Cuttings		95	13	82	0.082	BDL	0.048	0.29	0.019	0.0099	0.012	BDL	BDL	BDL	0.0067	BDL	BDL	0.039	BDL	0.12	0.013	2.4	29	7.9	2.4	6800	BDL	11	BDL	14	7.9	BDL	4.8	1.2	BDL	30



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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

Monday October 11, 2010

Report Number: L479883

Samples Received: 09/21/10

Client Project:

Description: PN20 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

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

October 11, 2010

Date Received : September 21, 2010
Description : PN20 Cuttings
Sample ID : PN20 CUTTINGS 092010
Collected By : Blair Rollins
Collection Date : 09/20/10 11:40

ESC Sample # : L479883-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	09/29/10	1
Chromium, Trivalent	11.	0.50	mg/kg	Calc.	09/25/10	1
ORP	24.		mV	2580	09/28/10	1
pH	7.9		su	9045D	09/28/10	1
Sodium Adsorption Ratio	29.			Calc.	09/23/10	1
Specific Conductance	2400		umhos/cm	9050AMod	09/28/10	1
Mercury	BDL	0.020	mg/kg	7471	09/23/10	1
Arsenic	2.4	1.0	mg/kg	6010B	09/25/10	1
Barium	6800	1.2	mg/kg	6010B	09/26/10	5
Cadmium	BDL	0.25	mg/kg	6010B	09/25/10	1
Chromium	11.	0.50	mg/kg	6010B	09/25/10	1
Copper	14.	1.0	mg/kg	6010B	09/25/10	1
Lead	7.9	0.25	mg/kg	6010B	09/25/10	1
Nickel	4.8	1.0	mg/kg	6010B	09/25/10	1
Selenium	1.2	1.0	mg/kg	6010B	09/25/10	1
Silver	BDL	0.50	mg/kg	6010B	09/25/10	1
Zinc	30.	1.5	mg/kg	6010B	09/25/10	1
Benzene	0.082	0.025	mg/kg	8021/8015	09/22/10	50
Toluene	BDL	0.25	mg/kg	8021/8015	09/22/10	50
Ethylbenzene	0.048	0.025	mg/kg	8021/8015	09/22/10	50
Total Xylene	0.29	0.075	mg/kg	8021/8015	09/22/10	50
TPH (GC/FID) Low Fraction	13.	5.0	mg/kg	GRO	09/22/10	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.6		% Rec.	8021/8015	09/22/10	50
a,a,a-Trifluorotoluene(PID)	104.		% Rec.	8021/8015	09/22/10	50
TPH (GC/FID) High Fraction	82.	4.0	mg/kg	3546/DRO	09/24/10	1
Surrogate recovery(%)						
o-Terphenyl	77.3		% Rec.	3546/DRO	09/24/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.0099	0.0060	mg/kg	8270C-SIM	09/25/10	1
Acenaphthene	0.019	0.0060	mg/kg	8270C-SIM	09/25/10	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Benzo(a)anthracene	0.012	0.0060	mg/kg	8270C-SIM	09/25/10	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L479883-01 (PH) - 7.9@18.8c



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October 11, 2010

Date Received : September 21, 2010
Description : PN20 Cuttings
Sample ID : PN20 CUTTINGS 092010
Collected By : Blair Rollins
Collection Date : 09/20/10 11:40

ESC Sample # : L479883-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Chrysene	0.0067	0.0060	mg/kg	8270C-SIM	09/25/10	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Fluorene	0.039	0.0060	mg/kg	8270C-SIM	09/25/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Naphthalene	0.12	0.0060	mg/kg	8270C-SIM	09/25/10	1
Phenanthrene	0.056	0.0060	mg/kg	8270C-SIM	09/25/10	1
Pyrene	0.013	0.0060	mg/kg	8270C-SIM	09/25/10	1
1-Methylnaphthalene	0.14	0.0060	mg/kg	8270C-SIM	09/25/10	1
2-Methylnaphthalene	0.26	0.0060	mg/kg	8270C-SIM	09/25/10	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/25/10	1
Surrogate Recovery						
Nitrobenzene-d5	154.		% Rec.	8270C-SIM	09/25/10	1
2-Fluorobiphenyl	57.2		% Rec.	8270C-SIM	09/25/10	1
p-Terphenyl-d14	86.1		% Rec.	8270C-SIM	09/25/10	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: 10/11/10 09:29 Printed: 10/11/10 09:29
L479883-01 (PH) - 7.9@18.8c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L479883-01	WG499702	SAMP	Benzo(a)anthracene	R1393029	J3
	WG499702	SAMP	Nitrobenzene-d5	R1393029	J1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
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.

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
10/11/10 at 09:29:26

TSR Signing Reports: 358
R5 - Desired TAT

Log all samples beginning with different sample numbers to separate reports. Example- M34 N
PIT and M34 S PIT go on one L# together, but M34 S PIT and E34 S PIT would go on separate L #s.

Sample: L479883-01 Account: ENCANACO Received: 09/21/10 09:00 Due Date: 09/28/10 00:00 RPT Date: 10/11/10 09:29
Changed sample ID per Blaire. jw 10/11



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Est. 1970

October 11, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG499414	09/22/10 05:05
Ethylbenzene	< .0005	mg/kg			WG499414	09/22/10 05:05
Toluene	< .005	mg/kg			WG499414	09/22/10 05:05
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG499414	09/22/10 05:05
Total Xylene	< .0015	mg/kg			WG499414	09/22/10 05:05
a,a,a-Trifluorotoluene(FID)		% Rec.	99.57	59-128	WG499414	09/22/10 05:05
a,a,a-Trifluorotoluene(PID)		% Rec.	104.3	54-144	WG499414	09/22/10 05:05
Mercury	< .02	mg/kg			WG499432	09/23/10 09:12
1-Methylnaphthalene	< .006	mg/kg			WG499702	09/24/10 10:20
2-Chloronaphthalene	< .006	mg/kg			WG499702	09/24/10 10:20
2-Methylnaphthalene	< .006	mg/kg			WG499702	09/24/10 10:20
Acenaphthene	< .006	mg/kg			WG499702	09/24/10 10:20
Acenaphthylene	< .006	mg/kg			WG499702	09/24/10 10:20
Anthracene	< .006	mg/kg			WG499702	09/24/10 10:20
Benzo(a)anthracene	< .006	mg/kg			WG499702	09/24/10 10:20
Benzo(a)pyrene	< .006	mg/kg			WG499702	09/24/10 10:20
Benzo(b)fluoranthene	< .006	mg/kg			WG499702	09/24/10 10:20
Benzo(g,h,i)perylene	< .006	mg/kg			WG499702	09/24/10 10:20
Benzo(k)fluoranthene	< .006	mg/kg			WG499702	09/24/10 10:20
Chrysene	< .006	mg/kg			WG499702	09/24/10 10:20
Dibenz(a,h)anthracene	< .006	mg/kg			WG499702	09/24/10 10:20
Fluoranthene	< .006	mg/kg			WG499702	09/24/10 10:20
Fluorene	< .006	mg/kg			WG499702	09/24/10 10:20
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG499702	09/24/10 10:20
Naphthalene	< .006	mg/kg			WG499702	09/24/10 10:20
Phenanthrene	< .006	mg/kg			WG499702	09/24/10 10:20
Pyrene	< .006	mg/kg			WG499702	09/24/10 10:20
2-Fluorobiphenyl		% Rec.	60.90	21-120	WG499702	09/24/10 10:20
Nitrobenzene-d5		% Rec.	53.30	33-114	WG499702	09/24/10 10:20
p-Terphenyl-d14		% Rec.	76.73	18-142	WG499702	09/24/10 10:20
TPH (GC/FID) High Fraction	< 4	ppm			WG499632	09/24/10 06:44
o-Terphenyl		% Rec.	64.29	50-150	WG499632	09/24/10 06:44
Arsenic	< 1	mg/kg			WG499714	09/24/10 22:43
Barium	< .25	mg/kg			WG499714	09/24/10 22:43
Cadmium	< .25	mg/kg			WG499714	09/24/10 22:43
Chromium	< .5	mg/kg			WG499714	09/24/10 22:43
Copper	< 1	mg/kg			WG499714	09/24/10 22:43
Lead	< .25	mg/kg			WG499714	09/24/10 22:43
Nickel	< 1	mg/kg			WG499714	09/24/10 22:43
Selenium	< 1	mg/kg			WG499714	09/24/10 22:43
Silver	< .5	mg/kg			WG499714	09/24/10 22:43
Zinc	< 1.5	mg/kg			WG499714	09/24/10 22:43
pH	4.70	su			WG500155	09/28/10 09:10
Specific Conductance	1.60	umhos/cm			WG500459	09/28/10 15:20
Chromium,Hexavalent	< 2	mg/kg			WG499825	09/29/10 17:15

* 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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October 11, 2010

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Mercury	mg/kg	0	0		0	20	L479855-11	WG499432
Arsenic	mg/kg	6.20	5.40		14.0	20	L479956-01	WG499714
Barium	mg/kg	82.0	77.0		6.17	20	L479956-01	WG499714
Cadmium	mg/kg	0	0		0	20	L479956-01	WG499714
Chromium	mg/kg	12.0	11.0		7.86	20	L479956-01	WG499714
Copper	mg/kg	10.0	10.0		3.92	20	L479956-01	WG499714
Lead	mg/kg	13.0	13.0		0	20	L479956-01	WG499714
Nickel	mg/kg	12.0	10.4		10.9	20	L479956-01	WG499714
Selenium	mg/kg	3.00	2.70		10.5	20	L479956-01	WG499714
Silver	mg/kg	0	0		0	20	L479956-01	WG499714
Zinc	mg/kg	39.0	35.2		9.73	20	L479956-01	WG499714
pH	su	7.50	7.50		0	1	L479532-05	WG500155
pH	su	9.00	8.90		1.12*	1	L480766-02	WG500155
ORP	mV	0	0		0	20	L478322-03	WG500447
ORP	mV	21.0	22.0		4.65	20	L478322-41	WG500447
Specific Conductance	umhos/cm	2400	2400		1.57	20	L480766-01	WG500459
Specific Conductance	umhos/cm	13.0	10.0		26.1*	20	L480810-02	WG500459
Chromium, Hexavalent	mg/kg	0	0		0	20	L479883-01	WG499825
Chromium, Hexavalent	mg/kg	0	0		0	20	L480766-02	WG499825

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0505	101.	76-113	WG499414
Ethylbenzene	mg/kg	.05	0.0526	105.	78-115	WG499414
Toluene	mg/kg	.05	0.0525	105.	76-114	WG499414
Total Xylene	mg/kg	.15	0.161	107.	81-118	WG499414
a,a,a-Trifluorotoluene(PID)				102.5	54-144	WG499414
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.09	111.	67-135	WG499414
a,a,a-Trifluorotoluene(FID)				93.98	59-128	WG499414
Mercury	mg/kg	8.77	9.61	110.	71.6-127.7	WG499432
1-Methylnaphthalene	mg/kg	.033	0.0189	57.4	41-110	WG499702
2-Chloronaphthalene	mg/kg	.033	0.0202	61.3	43-109	WG499702
2-Methylnaphthalene	mg/kg	.033	0.0181	54.9	38-104	WG499702
Acenaphthene	mg/kg	.033	0.0195	59.1	48-103	WG499702
Acenaphthylene	mg/kg	.033	0.0191	57.7	43-106	WG499702
Anthracene	mg/kg	.033	0.0201	60.9	51-110	WG499702
Benzo(a)anthracene	mg/kg	.033	0.0182	55.3	38-126	WG499702
Benzo(a)pyrene	mg/kg	.033	0.0204	61.9	47-118	WG499702
Benzo(b)fluoranthene	mg/kg	.033	0.0218	66.0	47-118	WG499702
Benzo(g,h,i)perylene	mg/kg	.033	0.0189	57.3	40-125	WG499702
Benzo(k)fluoranthene	mg/kg	.033	0.0196	59.5	45-121	WG499702
Chrysene	mg/kg	.033	0.0201	60.8	35-135	WG499702
Dibenz(a,h)anthracene	mg/kg	.033	0.0195	59.0	41-124	WG499702
Fluoranthene	mg/kg	.033	0.0216	65.5	50-114	WG499702

* 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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Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known	Val	Result			
Fluorene	mg/kg	.033		0.0204	61.9	49-109	WG499702
Indeno(1,2,3-cd)pyrene	mg/kg	.033		0.0192	58.1	40-126	WG499702
Naphthalene	mg/kg	.033		0.0166	50.4	36-100	WG499702
Phenanthrene	mg/kg	.033		0.0213	64.4	46-108	WG499702
Pyrene	mg/kg	.033		0.0201	60.9	30-136	WG499702
2-Fluorobiphenyl					55.85	21-120	WG499702
Nitrobenzene-d5					47.39	33-114	WG499702
p-Terphenyl-d14					65.74	18-142	WG499702
TPH (GC/FID) High Fraction	ppm	60		47.7	79.4	50-150	WG499632
o-Terphenyl					84.73	50-150	WG499632
Arsenic	mg/kg	192		187.	97.4	78.6-120.8	WG499714
Barium	mg/kg	420		429.	102.	78.8-121.4	WG499714
Cadmium	mg/kg	70.1		67.9	96.9	78.5-121.5	WG499714
Chromium	mg/kg	168		173.	103.	80.4-120.2	WG499714
Copper	mg/kg	122		133.	109.	81.6-119.7	WG499714
Lead	mg/kg	113		112.	99.1	77.3-122.1	WG499714
Nickel	mg/kg	74.1		76.3	103.	78.8-121.2	WG499714
Selenium	mg/kg	176		176.	100.	75.6-125.0	WG499714
Silver	mg/kg	115		114.	99.1	66-133.9	WG499714
Zinc	mg/kg	437		431.	98.6	78.5-121.7	WG499714
pH	su	6.92		6.90	99.7	98.9-102.0	WG500155
ORP	mV	229		220.	96.1	95.6-104.37	WG500447
Specific Conductance	umhos/cm	406		420.	103.	85-115	WG500459
Chromium, Hexavalent	mg/kg	100		79.2	79.2	50-143	WG499825

Analyte	Units	Laboratory Control		Sample	%Rec	Limit	RPD	Limit	Batch
		Result	Ref	Duplicate					
Benzene	mg/kg	0.0511	0.0505		102.	76-113	1.17	20	WG499414
Ethylbenzene	mg/kg	0.0522	0.0526		104.	78-115	0.800	20	WG499414
Toluene	mg/kg	0.0517	0.0525		103.	76-114	1.66	20	WG499414
Total Xylene	mg/kg	0.158	0.161		106.	81-118	1.62	20	WG499414
a,a,a-Trifluorotoluene(PID)					102.3	54-144			WG499414
TPH (GC/FID) Low Fraction	mg/kg	5.56	6.09		101.	67-135	8.96	20	WG499414
a,a,a-Trifluorotoluene(FID)					89.94	59-128			WG499414
1-Methylnaphthalene	mg/kg	0.0220	0.0189		67.0	41-110	14.9	24	WG499702
2-Chloronaphthalene	mg/kg	0.0247	0.0202		75.0	43-109	19.8	21	WG499702
2-Methylnaphthalene	mg/kg	0.0221	0.0181		67.0	38-104	19.7	24	WG499702
Acenaphthene	mg/kg	0.0222	0.0195		67.0	48-103	12.8	20	WG499702
Acenaphthylene	mg/kg	0.0221	0.0191		67.0	43-106	14.8	20	WG499702
Anthracene	mg/kg	0.0243	0.0201		74.0	51-110	19.0	22	WG499702
Benzo(a)anthracene	mg/kg	0.0229	0.0182		70.0	38-126	22.8*	20	WG499702
Benzo(a)pyrene	mg/kg	0.0244	0.0204		74.0	47-118	17.8	20	WG499702
Benzo(b)fluoranthene	mg/kg	0.0246	0.0218		74.0	47-118	12.2	29	WG499702
Benzo(g,h,i)perylene	mg/kg	0.0227	0.0189		69.0	40-125	18.1	20	WG499702

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L479883

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Tax I.D. 62-0814289

Est. 1970

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzo(k)fluoranthene	mg/kg	0.0247	0.0196	75.0	45-121	23.0	31	WG499702
Chrysene	mg/kg	0.0238	0.0201	72.0	35-135	17.1	20	WG499702
Dibenz(a,h)anthracene	mg/kg	0.0231	0.0195	70.0	41-124	17.2	20	WG499702
Fluoranthene	mg/kg	0.0258	0.0216	78.0	50-114	17.6	20	WG499702
Fluorene	mg/kg	0.0241	0.0204	73.0	49-109	16.4	19	WG499702
Indeno(1,2,3-cd)pyrene	mg/kg	0.0230	0.0192	70.0	40-126	18.2	20	WG499702
Naphthalene	mg/kg	0.0201	0.0166	61.0	36-100	18.9	24	WG499702
Phenanthrene	mg/kg	0.0254	0.0213	77.0	46-108	17.8	21	WG499702
Pyrene	mg/kg	0.0238	0.0201	72.0	30-136	16.8	20	WG499702
2-Fluorobiphenyl				62.93	21-120			WG499702
Nitrobenzene-d5				57.70	33-114			WG499702
p-Terphenyl-d14				76.20	18-142			WG499702
TPH (GC/FID) High Fraction	ppm	46.2	47.7	77.0	50-150	3.21	25	WG499632
o-Terphenyl				73.80	50-150			WG499632
pH	su	6.90	6.90	100.	98.9-102.0	0	20	WG500155
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG500447
Specific Conductance	umhos/	420.	420.	103.	85-115	0	20	WG500459
Chromium, Hexavalent	mg/kg	69.8	79.2	70.0	50-143	12.6	20	WG499825

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Benzene	mg/kg	0.293	0.0600	.05	93.1	32-137	L479818-01	WG499414
Ethylbenzene	mg/kg	0.247	0.0140	.05	93.3	10-150	L479818-01	WG499414
Toluene	mg/kg	0.420	0.250	.05	67.8	20-142	L479818-01	WG499414
Total Xylene	mg/kg	0.868	0.250	.15	82.4	16-141	L479818-01	WG499414
a,a,a-Trifluorotoluene(PID)					102.0	54-144		WG499414
TPH (GC/FID) Low Fraction	mg/kg	4.16	0	5.5	75.6	55-109	L479941-07	WG499414
a,a,a-Trifluorotoluene(FID)					91.50	59-128		WG499414
Mercury	mg/kg	0.263	0	.25	105.	70-130	L479855-11	WG499432
Arsenic	mg/kg	52.2	5.40	50	93.6	75-125	L479956-01	WG499714
Barium	mg/kg	129.	77.0	50	104.	75-125	L479956-01	WG499714
Cadmium	mg/kg	48.8	0	50	97.6	75-125	L479956-01	WG499714
Chromium	mg/kg	63.4	11.0	50	105.	75-125	L479956-01	WG499714
Copper	mg/kg	62.1	10.0	50	104.	75-125	L479956-01	WG499714
Lead	mg/kg	62.4	13.0	50	98.8	75-125	L479956-01	WG499714
Nickel	mg/kg	60.7	10.4	50	101.	75-125	L479956-01	WG499714
Selenium	mg/kg	49.4	2.70	50	93.4	75-125	L479956-01	WG499714
Silver	mg/kg	47.9	0	50	95.8	75-125	L479956-01	WG499714
Zinc	mg/kg	85.8	35.2	50	101.	75-125	L479956-01	WG499714
1-Methylnaphthalene	mg/kg	0.0216	0	.033	65.4	19-131	L479926-11	WG499702
2-Chloronaphthalene	mg/kg	0.0230	0	.033	69.6	38-117	L479926-11	WG499702
2-Methylnaphthalene	mg/kg	0.0237	0	.033	71.8	18-125	L479926-11	WG499702

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Acenaphthene	mg/kg	0.0217	0	.033	65.9	31-120	L479926-11	WG499702
Acenaphthylene	mg/kg	0.0229	0	.033	69.5	34-116	L479926-11	WG499702
Anthracene	mg/kg	0.0216	0	.033	65.5	32-131	L479926-11	WG499702
Benzo(a)anthracene	mg/kg	0.0186	0	.033	56.4	32-131	L479926-11	WG499702
Benzo(a)pyrene	mg/kg	0.0199	0	.033	60.4	28-130	L479926-11	WG499702
Benzo(b)fluoranthene	mg/kg	0.0211	0	.033	63.9	37-130	L479926-11	WG499702
Benzo(g,h,i)perylene	mg/kg	0.0182	0	.033	55.2	10-134	L479926-11	WG499702
Benzo(k)fluoranthene	mg/kg	0.0187	0	.033	56.6	31-129	L479926-11	WG499702
Chrysene	mg/kg	0.0197	0	.033	59.8	25-137	L479926-11	WG499702
Dibenz(a,h)anthracene	mg/kg	0.0170	0	.033	51.4	20-134	L479926-11	WG499702
Fluoranthene	mg/kg	0.0236	0	.033	71.6	27-138	L479926-11	WG499702
Fluorene	mg/kg	0.0224	0	.033	67.8	26-136	L479926-11	WG499702
Indeno(1,2,3-cd)pyrene	mg/kg	0.0180	0	.033	54.4	16-135	L479926-11	WG499702
Naphthalene	mg/kg	0.0205	0	.033	62.1	22-121	L479926-11	WG499702
Phenanthrene	mg/kg	0.0234	0	.033	71.0	27-133	L479926-11	WG499702
Pyrene	mg/kg	0.0224	0	.033	67.9	22-133	L479926-11	WG499702
2-Fluorobiphenyl					66.70	21-120		WG499702
Nitrobenzene-d5					59.12	33-114		WG499702
p-Terphenyl-d14					65.88	18-142		WG499702
Chromium,Hexavalent	mg/kg	25.8	5.60	20	101.	50-150	L478554-02	WG499825

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	3.97	4.16	72.3	55-109	4.47	20	L479941-07	WG499414
a,a,a-Trifluorotoluene(FID)				92.53	59-128				WG499414
Benzene	mg/kg	0.251	0.293	76.6	32-137	15.2	39	L479818-01	WG499414
Ethylbenzene	mg/kg	0.237	0.247	89.4	10-150	4.03	44	L479818-01	WG499414
Toluene	mg/kg	0.301	0.420	20.6	20-142	32.8	42	L479818-01	WG499414
Total Xylene	mg/kg	0.792	0.868	72.3	16-141	9.12	46	L479818-01	WG499414
a,a,a-Trifluorotoluene(PID)				100.2	54-144				WG499414
Mercury	mg/kg	0.259	0.263	104.	70-130	1.53	20	L479855-11	WG499432
Arsenic	mg/kg	51.8	52.2	92.8	75-125	0.769	20	L479956-01	WG499714
Barium	mg/kg	125.	129.	96.0	75-125	3.15	20	L479956-01	WG499714
Cadmium	mg/kg	48.2	48.8	96.4	75-125	1.24	20	L479956-01	WG499714
Chromium	mg/kg	63.4	63.4	105.	75-125	0	20	L479956-01	WG499714
Copper	mg/kg	61.0	62.1	102.	75-125	1.79	20	L479956-01	WG499714
Lead	mg/kg	62.2	62.4	98.4	75-125	0.321	20	L479956-01	WG499714
Nickel	mg/kg	59.9	60.7	99.0	75-125	1.33	20	L479956-01	WG499714
Selenium	mg/kg	50.4	49.4	95.4	75-125	2.00	20	L479956-01	WG499714
Silver	mg/kg	47.2	47.9	94.4	75-125	1.47	20	L479956-01	WG499714
Zinc	mg/kg	83.3	85.8	96.2	75-125	2.96	20	L479956-01	WG499714
1-Methylnaphthalene	mg/kg	0.0215	0.0216	65.1	19-131	0.550	30	L479926-11	WG499702
2-Chloronaphthalene	mg/kg	0.0226	0.0230	68.4	38-117	1.82	26	L479926-11	WG499702
2-Methylnaphthalene	mg/kg	0.0219	0.0237	66.5	18-125	7.72	29	L479926-11	WG499702
Acenaphthene	mg/kg	0.0214	0.0217	64.8	31-120	1.60	30	L479926-11	WG499702
Acenaphthylene	mg/kg	0.0222	0.0229	67.3	34-116	3.24	29	L479926-11	WG499702
Anthracene	mg/kg	0.0235	0.0216	71.1	32-131	8.19	26	L479926-11	WG499702
Benzo(a)anthracene	mg/kg	0.0251	0.0186	76.0	32-131	29.5	31	L479926-11	WG499702
Benzo(a)pyrene	mg/kg	0.0258	0.0199	78.1	28-130	25.5	28	L479926-11	WG499702
Benzo(b)fluoranthene	mg/kg	0.0291	0.0211	88.2	37-130	31.9	41	L479926-11	WG499702

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Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Benzo(g,h,i)perylene	mg/kg	0.0231	0.0182	70.0	10-134	23.6	26	L479926-11	WG499702	
Benzo(k)fluoranthene	mg/kg	0.0220	0.0187	66.6	31-129	16.1	42	L479926-11	WG499702	
Chrysene	mg/kg	0.0254	0.0197	77.0	25-137	25.2*	22	L479926-11	WG499702	
Dibenz(a,h)anthracene	mg/kg	0.0201	0.0170	61.0	20-134	17.1	25	L479926-11	WG499702	
Fluoranthene	mg/kg	0.0348	0.0236	105.	27-138	38.1*	35	L479926-11	WG499702	
Fluorene	mg/kg	0.0229	0.0224	69.3	26-136	2.20	30	L479926-11	WG499702	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0219	0.0180	66.4	16-135	19.9	26	L479926-11	WG499702	
Naphthalene	mg/kg	0.0196	0.0205	59.5	22-121	4.22	30	L479926-11	WG499702	
Phenanthrene	mg/kg	0.0305	0.0234	92.4	27-133	26.2	36	L479926-11	WG499702	
Pyrene	mg/kg	0.0301	0.0224	91.1	22-133	29.2	33	L479926-11	WG499702	
2-Fluorobiphenyl				67.08	21-120				WG499702	
Nitrobenzene-d5				59.82	33-114				WG499702	
p-Terphenyl-d14				72.14	18-142				WG499702	
Chromium,Hexavalent	mg/kg	21.9	25.8	81.5	50-150	16.4	20	L478554-02	WG499825	

Batch number /Run number / Sample number cross reference

WG499414: R1387709: L479883-01
WG499432: R1390450: L479883-01
WG499206: R1390708: L479883-01
WG499702: R1393029: L479883-01
WG499632: R1393628: L479883-01
WG499714: R1393870: L479883-01
WG499825: R1397748: L479883-01
WG500155: R1398109: L479883-01
WG500447: R1398128: L479883-01
WG500459: R1398929: L479883-01

* * 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.