



**J30 595 (Location: 335584)**  
**Pit (Facility: 431150)**  
**Encana Oil & Gas (USA) Inc. (Operator: 100185)**

#### **REPORT OF WORK COMPLETED**

- Form 27 (Doc: 2232927) (Rem: 7765)
- Form 27 (Doc: 2232928) (Rem: 7767)

Encana Oil & Gas (USA) Inc. (Encana) is submitting this Form 4 (Report of Work Completed and Notification of Completion) to document closure of a two-celled lined earthen pit on the J30 595 well pad in the North Parachute area of operation in Garfield County.

This location was acquired from Williams Production Company (Williams) in July, 2011. The pit associated with these closure efforts was out of service with the liner removed at the time of operator transfer. In discussions during the acquisition/divestiture process, Williams reported pit closure efforts which included removal and disposal of the liner, excavation of impacted material from the pit bottom, and stockpiling excavated material on location.

Encana carried out pit and material characterization efforts in July and September, 2011. Discrete grab samples were collected from the pit excavation and stockpile and sent to the lab for analysis. Lab results did not identify any concentrations/levels for soils in the pit excavation or adjacent soil stockpile that indicated hydrocarbon impacts, or unusual levels for any of the other constituents of concern in COGCC Table 910-1.

#### **NOTIFICATION OF COMPLETION**

The arsenic concentrations identified in the pit bottom and soil stockpile are above the allowable concentration in Table 910-1 but are within the range of background values for this area. Based on these results and Footnote 1 to COGCC Table 910-1, Encana requests that the COGCC consider the higher range of background arsenic values as the allowable concentration for this constituent.

After receipt of laboratory results demonstrating compliance for the soil stockpile and remediated pit bottom, stockpiled material was returned to the pit bottom, and the pit was backfilled and reclaimed.

If the information provided here is satisfactory, please close the associated remediation project, and pit facility, and provide documentation of these record closures.

#### **ATTACHMENTS**

1. Topographic Location Map
2. Laboratory Results Summary Table
3. Laboratory Reports

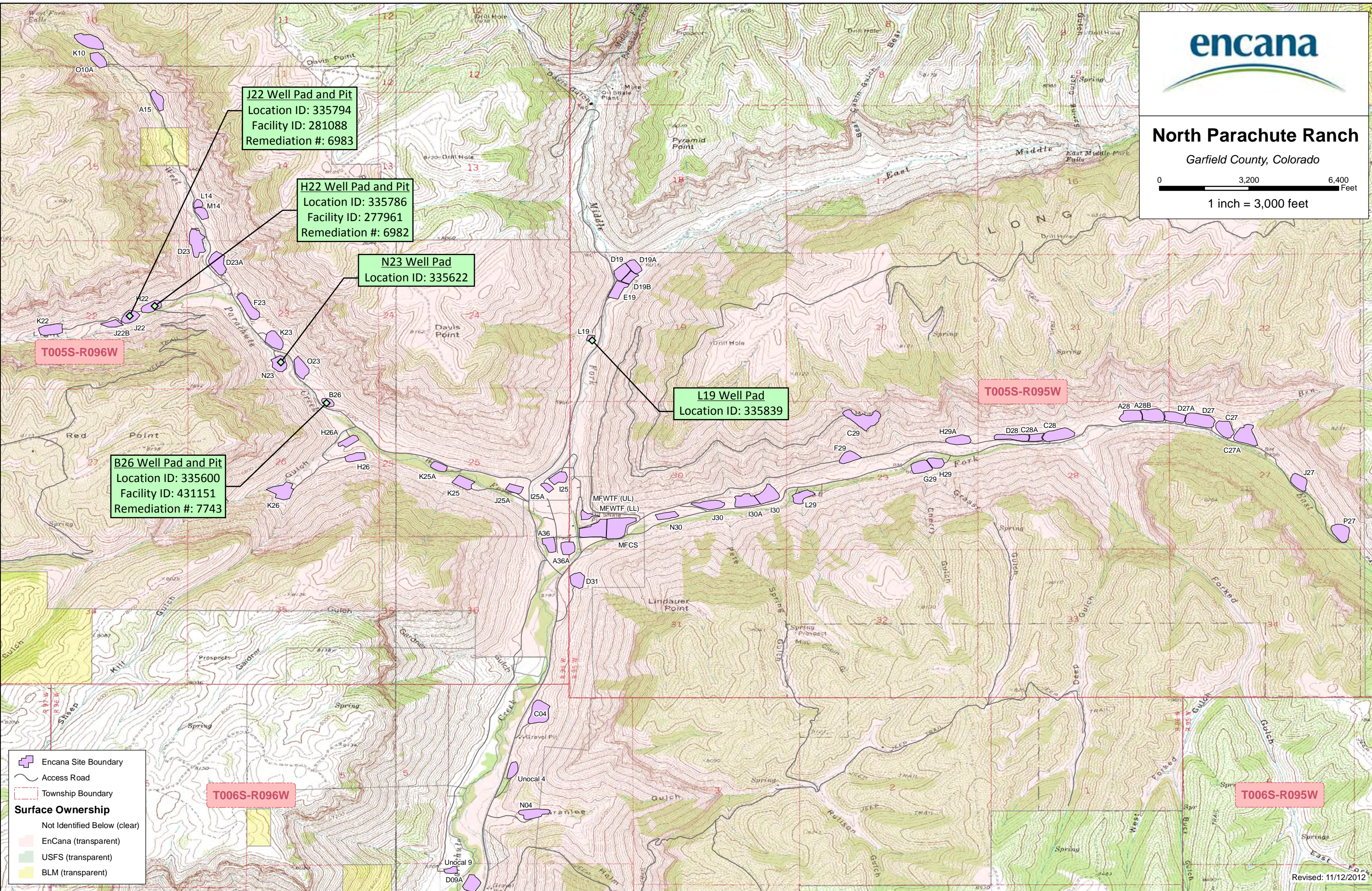


## North Parachute Ranch

Garfield County, Colorado

0 3,200 6,400 Feet

1 inch = 3,000 feet



Laboratory Results Summary Table

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	TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	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	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	Silver	Zinc	
				500			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	
J30	07/19/11	Pit	East pit bottom, SE	44	BDL	44					BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.032	BDL																
J30	07/19/11	Pit	East pit Ss wall	38	BDL	38					BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.017	BDL																
J30	07/19/11	Pit	East pit bottom	34	BDL	34	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.007	BDL	0.044	0.0097	0.23	2.5	8.3	9.5	3200	0.91	20	BDL	25	23	BDL	18	BDL	BDL	57
J30	07/19/11	Pit	East pit S wall	32	BDL	32					BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.031	BDL																
J30	07/19/11	Pit	East pit NW wall	15	BDL	15					BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.0064	BDL	0.024	BDL															
J30	07/19/11	Pit	West pit bottom east	100	BDL	100					BDL	BDL	0.0091	0.024	BDL	0.0072	0.018	BDL	0.018	0.016	0.007	0.054	0.017																
J30	07/19/11	Pit	West pit bottom, west	96	BDL	96					0.007	BDL	BDL	0.012	BDL	BDL	0.015	BDL	0.011	0.019	BDL	0.1	0.011																
J30	07/19/11	Pit	West pit, south wall	66	BDL	66					BDL	BDL	BDL	BDL	BDL	BDL	0.0062	BDL	BDL	0.0097	BDL	0.051	BDL																
J30	07/19/11	Pit	West pit bottom	59	BDL	59	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.0089	BDL	0.007	BDL	BDL	0.021	0.0068	0.35	7.4	8.7	23	980	1.4	20	BDL	28	26	BDL	26	BDL	BDL	52	
J30	07/19/11	Pit	West pit, north wall	29	BDL	29					BDL	BDL	BDL	BDL	BDL	BDL	0.0068	BDL	BDL	BDL	BDL	0.018	BDL																
J30	09/01/11	Pit	Spoil West - West	14	BDL	14	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL																
J30	09/01/11	Pit	Spoil West - South	11	BDL	11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL																
J30	09/01/11	Pit	Spoil West - East	8.2	BDL	8.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.26	1.6	8.8	61	370	0.96	22	BDL	21	13	BDL	64	50	BDL	43	



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Est. 1970

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

## Report Summary

Wednesday August 03, 2011

Report Number: L527269

Samples Received: 07/21/11

Client Project:

Description: RPE-30-595 East Pit

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

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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

August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPB-071911 4-6IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:18

ESC Sample # : L527269-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	07/26/11	1
Chromium, Trivalent	20.	2.0	mg/kg	Calc.	07/23/11	1
ORP	80.		mV	2580	07/25/11	1
pH	8.3		su	9045D	07/28/11	1
Sodium Adsorption Ratio	2.5			Calc.	07/26/11	1
Specific Conductance	230		umhos/cm	9050AMod	07/22/11	1
Mercury	BDL	0.020	mg/kg	7471	07/23/11	1
Arsenic	9.5	5.0	mg/kg	6010B	07/23/11	5
Barium	3200	0.25	mg/kg	6010B	07/23/11	1
Cadmium	0.91	0.25	mg/kg	6010B	07/23/11	1
Chromium	20.	0.50	mg/kg	6010B	07/23/11	1
Copper	25.	1.0	mg/kg	6010B	07/23/11	1
Lead	23.	0.25	mg/kg	6010B	07/23/11	1
Nickel	18.	5.0	mg/kg	6010B	07/23/11	5
Selenium	BDL	5.0	mg/kg	6010B	07/23/11	5
Silver	BDL	0.50	mg/kg	6010B	07/23/11	1
Zinc	57.	1.5	mg/kg	6010B	07/23/11	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.2		% Rec.	602/8015	07/22/11	5
Methanol	BDL	0.10	mg/kg	8015M	07/22/11	1
Ethanol	BDL	0.10	mg/kg	8015M	07/22/11	1
Volatile Organics						
Acetone	BDL	0.25	mg/kg	8260B	07/22/11	5
Benzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromochloromethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromodichloromethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromoform	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromomethane	BDL	0.025	mg/kg	8260B	07/22/11	5
Carbon disulfide	BDL	0.0050	mg/kg	8260B	07/22/11	5
Carbon tetrachloride	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chlorodibromomethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chloroethane	BDL	0.025	mg/kg	8260B	07/22/11	5

BDL - Below Detection Limit  
Det. Limit - Practical Quantitation Limit(PQL)  
L527269-01 (PH) - 8.3@22.0c

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Sample ID : RPE30595-EPB-071911 4-6IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:18

ESC Sample # : L527269-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloroform	BDL	0.025	mg/kg	8260B	07/22/11	5
Chloromethane	BDL	0.012	mg/kg	8260B	07/22/11	5
Cyclohexane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dibromo-3-Chloropropane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,2-Dibromoethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Dichlorodifluoromethane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,1-Dichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,3-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,4-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
cis-1,2-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
trans-1,2-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichloropropane	BDL	0.0050	mg/kg	8260B	07/22/11	5
cis-1,3-Dichloropropene	BDL	0.0050	mg/kg	8260B	07/22/11	5
trans-1,3-Dichloropropene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
n-Hexane	BDL	0.050	mg/kg	8260B	07/22/11	5
2-Hexanone	BDL	0.050	mg/kg	8260B	07/22/11	5
Isopropylbenzene	BDL	0.050	mg/kg	8260B	07/22/11	5
2-Butanone (MEK)	BDL	0.050	mg/kg	8260B	07/22/11	5
Methyl Acetate	BDL	0.10	mg/kg	8260B	07/22/11	5
Methyl Cyclohexane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Methylene Chloride	BDL	0.025	mg/kg	8260B	07/22/11	5
4-Methyl-2-pentanone (MIBK)	BDL	0.050	mg/kg	8260B	07/22/11	5
Methyl tert-butyl ether	BDL	0.0050	mg/kg	8260B	07/22/11	5
Styrene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,2,2-Tetrachloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Tetrachloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Toluene	BDL	0.025	mg/kg	8260B	07/22/11	5
1,2,3-Trichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2,4-Trichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,1-Trichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,2-Trichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Trichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Trichlorofluoromethane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,1,2-Trichloro-1,2,2-trifluoro	BDL	0.0050	mg/kg	8260B	07/22/11	5
Vinyl chloride	BDL	0.0050	mg/kg	8260B	07/22/11	5
o-Xylene	BDL	0.0050	mg/kg	8260B	07/22/11	5
m&p-Xylene	BDL	0.010	mg/kg	8260B	07/22/11	5
Xylenes, Total	BDL	0.015	mg/kg	8260B	07/22/11	5
Surrogate Recovery						
Toluene-d8	95.9		% Rec.	8260B	07/22/11	5

BDL - Below Detection Limit  
Det. Limit - Practical Quantitation Limit(PQL)  
L527269-01 (PH) - 8.3@22.0c



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REPORT OF ANALYSIS

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August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPB-071911 4-6IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:18

ESC Sample # : L527269-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Dibromofluoromethane	110.		% Rec.	8260B	07/22/11	5
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	07/22/11	5
4-Bromofluorobenzene	82.3		% Rec.	8260B	07/22/11	5
TPH (GC/FID) High Fraction	34.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%)						
o-Terphenyl	87.7		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Fluorene	0.0070	0.0060	mg/kg	8270C-SIM	07/23/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Naphthalene	0.044	0.0060	mg/kg	8270C-SIM	07/23/11	1
Phenanthrene	0.027	0.0060	mg/kg	8270C-SIM	07/23/11	1
Pyrene	0.0097	0.0060	mg/kg	8270C-SIM	07/23/11	1
1-Methylnaphthalene	0.036	0.0060	mg/kg	8270C-SIM	07/23/11	1
2-Methylnaphthalene	0.084	0.0060	mg/kg	8270C-SIM	07/23/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Surrogate Recovery						
Nitrobenzene-d5	105.		% Rec.	8270C-SIM	07/23/11	1
2-Fluorobiphenyl	103.		% Rec.	8270C-SIM	07/23/11	1
p-Terphenyl-d14	120.		% Rec.	8270C-SIM	07/23/11	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: 08/02/11 16:55 Revised: 08/03/11 09:37  
L527269-01 (PH) - 8.3@22.0c

REPORT OF ANALYSIS

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

August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPWSW-071911 8-10IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:06

ESC Sample # : L527269-02

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.2		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	38.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	97.0		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Naphthalene	0.017	0.0060	mg/kg	8270C-SIM	08/01/11	1
Phenanthrene	0.011	0.0060	mg/kg	8270C-SIM	08/01/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
1-Methylnaphthalene	0.018	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Methylnaphthalene	0.036	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Surrogate Recovery						
Nitrobenzene-d5	54.9		% Rec.	8270C-SIM	08/01/11	1
2-Fluorobiphenyl	62.8		% Rec.	8270C-SIM	08/01/11	1
p-Terphenyl-d14	54.3		% Rec.	8270C-SIM	08/01/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 08/02/11 16:55 Revised: 08/03/11 09:37

REPORT OF ANALYSIS

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

August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPWNW-071911 8-10IN

ESC Sample # : L527269-03

Site ID : RPE-30-595

Collected By : Brennan Graff  
Collection Date : 07/19/11 15:10

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.1		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	15.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	82.3		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluorene	0.0064	0.0060	mg/kg	8270C-SIM	08/01/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Naphthalene	0.024	0.0060	mg/kg	8270C-SIM	08/01/11	1
Phenanthrene	0.017	0.0060	mg/kg	8270C-SIM	08/01/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
1-Methylnaphthalene	0.022	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Methylnaphthalene	0.060	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Surrogate Recovery						
Nitrobenzene-d5	61.9		% Rec.	8270C-SIM	08/01/11	1
2-Fluorobiphenyl	70.1		% Rec.	8270C-SIM	08/01/11	1
p-Terphenyl-d14	60.0		% Rec.	8270C-SIM	08/01/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Est. 1970

REPORT OF ANALYSIS

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

August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPWS-071911 6-8IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:14

ESC Sample # : L527269-04

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.4		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	32.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	81.3		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Naphthalene	0.031	0.0060	mg/kg	8270C-SIM	08/01/11	1
Phenanthrene	0.019	0.0060	mg/kg	8270C-SIM	08/01/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
1-Methylnaphthalene	0.037	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Methylnaphthalene	0.065	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Surrogate Recovery						
Nitrobenzene-d5	70.3		% Rec.	8270C-SIM	08/01/11	1
2-Fluorobiphenyl	72.1		% Rec.	8270C-SIM	08/01/11	1
p-Terphenyl-d14	61.2		% Rec.	8270C-SIM	08/01/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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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

August 03, 2011

Date Received : July 21, 2011  
Description : RPE-30-595 East Pit  
Sample ID : RPE30595-EPBSE-071911 6-8IN  
Collected By : Brennan Graff  
Collection Date : 07/19/11 15:21

ESC Sample # : L527269-05

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	98.0		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	44.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	79.6		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Naphthalene	0.032	0.0060	mg/kg	8270C-SIM	08/01/11	1
Phenanthrene	0.015	0.0060	mg/kg	8270C-SIM	08/01/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
1-Methylnaphthalene	0.031	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Methylnaphthalene	0.060	0.0060	mg/kg	8270C-SIM	08/01/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/01/11	1
Surrogate Recovery						
Nitrobenzene-d5	73.3		% Rec.	8270C-SIM	08/01/11	1
2-Fluorobiphenyl	71.6		% Rec.	8270C-SIM	08/01/11	1
p-Terphenyl-d14	59.8		% Rec.	8270C-SIM	08/01/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L527269-01	WG546924	SAMP	Barium	R1780510	V
	WG546924	SAMP	Lead	R1780510	J3
	WG546924	SAMP	Selenium	R1780510	OJ6
	WG546858	SAMP	1,2-Dichlorobenzene	R1781772	J4
	WG546858	SAMP	Styrene	R1781772	J4

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
V	(ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries.

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.



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Est. 1970

August 03, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG546850	07/22/11 08:35
a,a,a-Trifluorotoluene(FID)		% Rec.	99.67	59-128	WG546850	07/22/11 08:35
Specific Conductance	1.30	umhos/cm			WG546877	07/22/11 15:44
1-Methylnaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Chloronaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Methylnaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
Acenaphthene	< .006	mg/kg			WG546951	07/22/11 23:24
Acenaphthylene	< .006	mg/kg			WG546951	07/22/11 23:24
Anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(a)anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(a)pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(b)fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(g,h,i)perylene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(k)fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Chrysene	< .006	mg/kg			WG546951	07/22/11 23:24
Dibenz(a,h)anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Fluorene	< .006	mg/kg			WG546951	07/22/11 23:24
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
Naphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
Phenanthrene	< .006	mg/kg			WG546951	07/22/11 23:24
Pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Fluorobiphenyl		% Rec.	73.12	34-129	WG546951	07/22/11 23:24
Nitrobenzene-d5		% Rec.	70.35	14-141	WG546951	07/22/11 23:24
p-Terphenyl-d14		% Rec.	74.00	25-139	WG546951	07/22/11 23:24
Ethanol	< .1	mg/kg			WG546892	07/22/11 11:33
Methanol	< .1	mg/kg			WG546892	07/22/11 11:33
Arsenic	< 1	mg/kg			WG546924	07/23/11 10:10
Barium	< .25	mg/kg			WG546924	07/23/11 10:10
Cadmium	< .25	mg/kg			WG546924	07/23/11 10:10
Chromium	< .5	mg/kg			WG546924	07/23/11 10:10
Copper	< 1	mg/kg			WG546924	07/23/11 10:10
Lead	< .25	mg/kg			WG546924	07/23/11 10:10
Nickel	< 1	mg/kg			WG546924	07/23/11 10:10
Selenium	< 1	mg/kg			WG546924	07/23/11 10:10
Silver	< .5	mg/kg			WG546924	07/23/11 10:10
Zinc	< 1.5	mg/kg			WG546924	07/23/11 10:10
1,1,1-Trichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2-Trichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1-Dichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2,3-Trichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2,4-Trichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG546858	07/22/11 05:00
1,2-Dibromoethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00

\* 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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August 03, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1,2-Dichloropropane	< .001	mg/kg			WG546858	07/22/11 05:00
1,3-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,4-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
2-Butanone (MEK)	< .01	mg/kg			WG546858	07/22/11 05:00
2-Hexanone	< .01	mg/kg			WG546858	07/22/11 05:00
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG546858	07/22/11 05:00
Acetone	< .05	mg/kg			WG546858	07/22/11 05:00
Benzene	< .001	mg/kg			WG546858	07/22/11 05:00
Bromochloromethane	< .001	mg/kg			WG546858	07/22/11 05:00
Bromodichloromethane	< .001	mg/kg			WG546858	07/22/11 05:00
Bromoform	< .001	mg/kg			WG546858	07/22/11 05:00
Bromomethane	< .005	mg/kg			WG546858	07/22/11 05:00
Carbon disulfide	< .001	mg/kg			WG546858	07/22/11 05:00
Carbon tetrachloride	< .001	mg/kg			WG546858	07/22/11 05:00
Chlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
Chlorodibromomethane	< .001	mg/kg			WG546858	07/22/11 05:00
Chloroethane	< .005	mg/kg			WG546858	07/22/11 05:00
Chloroform	< .005	mg/kg			WG546858	07/22/11 05:00
Chloromethane	< .0025	mg/kg			WG546858	07/22/11 05:00
cis-1,2-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
cis-1,3-Dichloropropene	< .001	mg/kg			WG546858	07/22/11 05:00
Cyclohexane	< .001	mg/kg			WG546858	07/22/11 05:00
Dichlorodifluoromethane	< .005	mg/kg			WG546858	07/22/11 05:00
Ethylbenzene	< .001	mg/kg			WG546858	07/22/11 05:00
Isopropylbenzene	< .001	mg/kg			WG546858	07/22/11 05:00
m&p-Xylene	< .002	mg/kg			WG546858	07/22/11 05:00
Methyl Acetate	< .02	mg/kg			WG546858	07/22/11 05:00
Methyl Cyclohexane	< .001	mg/kg			WG546858	07/22/11 05:00
Methyl tert-butyl ether	< .001	mg/kg			WG546858	07/22/11 05:00
Methylene Chloride	< .005	mg/kg			WG546858	07/22/11 05:00
n-Hexane	< .01	mg/kg			WG546858	07/22/11 05:00
o-Xylene	< .001	mg/kg			WG546858	07/22/11 05:00
Styrene	< .001	mg/kg			WG546858	07/22/11 05:00
Tetrachloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
Toluene	< .005	mg/kg			WG546858	07/22/11 05:00
trans-1,2-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
trans-1,3-Dichloropropene	< .001	mg/kg			WG546858	07/22/11 05:00
Trichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
Trichlorofluoromethane	< .005	mg/kg			WG546858	07/22/11 05:00
Vinyl chloride	< .001	mg/kg			WG546858	07/22/11 05:00
Xylenes, Total	< .003	mg/kg			WG546858	07/22/11 05:00
4-Bromofluorobenzene		% Rec.	87.90	59-140	WG546858	07/22/11 05:00
Dibromofluoromethane		% Rec.	105.1	63-139	WG546858	07/22/11 05:00
Toluene-d8		% Rec.	95.09	84-116	WG546858	07/22/11 05:00
a,a,a-Trifluorotoluene		% Rec.	101.6	80-118	WG546858	07/22/11 05:00
Mercury	< .02	mg/kg			WG546851	07/23/11 12:58
Chromium,Hexavalent	< 2	mg/kg			WG547008	07/26/11 11:06
TPH (GC/FID) High Fraction	< 4	ppm			WG547177	07/27/11 10:30
o-Terphenyl		% Rec.	58.42	50-150	WG547177	07/27/11 10:30
pH	4.30	su			WG547126	07/28/11 16:28

\* 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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Est. 1970

August 03, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1-Methylnaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Chloronaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Methylnaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
Acenaphthene	< .006	mg/kg			WG547942	08/01/11 10:59
Acenaphthylene	< .006	mg/kg			WG547942	08/01/11 10:59
Anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(a)anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(a)pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(b)fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(g,h,i)perylene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(k)fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Chrysene	< .006	mg/kg			WG547942	08/01/11 10:59
Dibenz(a,h)anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Fluorene	< .006	mg/kg			WG547942	08/01/11 10:59
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
Naphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
Phenanthrene	< .006	mg/kg			WG547942	08/01/11 10:59
Pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Fluorobiphenyl		% Rec.	83.03	34-129	WG547942	08/01/11 10:59
Nitrobenzene-d5		% Rec.	77.80	14-141	WG547942	08/01/11 10:59
p-Terphenyl-d14		% Rec.	83.74	25-139	WG547942	08/01/11 10:59

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Specific Conductance	umhos/cm	560.	530.		5.50	20	L527010-01	WG546877
Barium	mg/kg	3900	3200		19.7	20	L527269-01	WG546924
Cadmium	mg/kg	0.790	0.910		14.1	20	L527269-01	WG546924
Chromium	mg/kg	19.0	20.0		7.25	20	L527269-01	WG546924
Copper	mg/kg	26.0	25.0		2.76	20	L527269-01	WG546924
Lead	mg/kg	29.0	23.0		21.7*	20	L527269-01	WG546924
Silver	mg/kg	0	0		0	20	L527269-01	WG546924
Zinc	mg/kg	60.0	57.0		5.79	20	L527269-01	WG546924
Arsenic	mg/kg	11.0	9.50		14.6	20	L527269-01	WG546924
Nickel	mg/kg	17.0	18.0		4.55	20	L527269-01	WG546924
Selenium	mg/kg	0	0		0	20	L527269-01	WG546924
Mercury	mg/kg	0.120	0.120		0.830	20	L527261-01	WG546851
ORP	mV	85.0	84.0		1.18	20	L527636-01	WG547165
Chromium, Hexavalent	mg/kg	120.	120.		0.971	20	L527071-14	WG547008
pH	su	7.50	7.50		0	1	L527083-01	WG547126
pH	su	8.10	8.10		0	1	L527641-02	WG547126

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.08	110.	67-135	WG546850
a,a,a-Trifluorotoluene(FID)				103.1	59-128	WG546850

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

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L527269

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Est. 1970

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Specific Conductance	umhos/cm	445	450.	101.	85-115	WG546877
1-Methylnaphthalene	mg/kg	.033	0.0239	72.3	48-113	WG546951
2-Chloronaphthalene	mg/kg	.033	0.0243	73.5	51-114	WG546951
2-Methylnaphthalene	mg/kg	.033	0.0240	72.8	44-109	WG546951
Acenaphthene	mg/kg	.033	0.0254	77.0	52-108	WG546951
Acenaphthylene	mg/kg	.033	0.0257	77.8	51-110	WG546951
Anthracene	mg/kg	.033	0.0262	79.5	58-120	WG546951
Benzo(a)anthracene	mg/kg	.033	0.0280	84.9	54-110	WG546951
Benzo(a)pyrene	mg/kg	.033	0.0256	77.5	56-118	WG546951
Benzo(b)fluoranthene	mg/kg	.033	0.0252	76.5	55-114	WG546951
Benzo(g,h,i)perylene	mg/kg	.033	0.0290	88.0	48-130	WG546951
Benzo(k)fluoranthene	mg/kg	.033	0.0250	75.6	55-122	WG546951
Chrysene	mg/kg	.033	0.0250	75.8	57-118	WG546951
Dibenz(a,h)anthracene	mg/kg	.033	0.0275	83.4	53-122	WG546951
Fluoranthene	mg/kg	.033	0.0255	77.2	58-118	WG546951
Fluorene	mg/kg	.033	0.0253	76.8	54-109	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0280	84.7	51-125	WG546951
Naphthalene	mg/kg	.033	0.0230	69.7	45-105	WG546951
Phenanthrene	mg/kg	.033	0.0264	79.9	53-114	WG546951
Pyrene	mg/kg	.033	0.0281	85.1	53-121	WG546951
2-Fluorobiphenyl				75.04	34-129	WG546951
Nitrobenzene-d5				70.45	14-141	WG546951
p-Terphenyl-d14				78.55	25-139	WG546951
Ethanol	mg/kg	.5	0.428	85.6	70-130	WG546892
Methanol	mg/kg	.5	0.378	75.7	70-130	WG546892
Arsenic	mg/kg	192	173.	90.1	78.6-120.8	WG546924
Barium	mg/kg	420	376.	89.5	78.8-121.4	WG546924
Cadmium	mg/kg	70.1	70.3	100.	78.5-121.5	WG546924
Chromium	mg/kg	168	169.	101.	80.4-120.2	WG546924
Copper	mg/kg	122	124.	102.	81.6-119.7	WG546924
Lead	mg/kg	113	104.	92.0	77.3-122.1	WG546924
Nickel	mg/kg	74.1	82.4	111.	78.8-121.2	WG546924
Selenium	mg/kg	176	176.	100.	75.6-125.0	WG546924
Silver	mg/kg	115	107.	93.0	66-133.9	WG546924
Zinc	mg/kg	437	412.	94.3	78.5-121.7	WG546924
1,1,1-Trichloroethane	mg/kg	.025	0.0243	97.1	62-135	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0187	75.0	74-129	WG546858
1,1,2-Trichloroethane	mg/kg	.025	0.0202	80.7	77-124	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	.025	0.0303	121.	49-155	WG546858
1,1-Dichloroethane	mg/kg	.025	0.0247	98.8	61-134	WG546858
1,1-Dichloroethene	mg/kg	.025	0.0323	129.	53-136	WG546858
1,2,3-Trichlorobenzene	mg/kg	.025	0.0228	91.2	62-146	WG546858
1,2,4-Trichlorobenzene	mg/kg	.025	0.0235	94.1	61-148	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0180	72.1	61-134	WG546858
1,2-Dibromoethane	mg/kg	.025	0.0195	77.9	76-127	WG546858
1,2-Dichlorobenzene	mg/kg	.025	0.0205	82.2	77-123	WG546858
1,2-Dichloroethane	mg/kg	.025	0.0206	82.3	58-141	WG546858
1,2-Dichloropropane	mg/kg	.025	0.0212	84.7	71-128	WG546858
1,3-Dichlorobenzene	mg/kg	.025	0.0222	88.6	71-132	WG546858
1,4-Dichlorobenzene	mg/kg	.025	0.0210	84.2	72-123	WG546858
2-Butanone (MEK)	mg/kg	.125	0.0961	76.9	51-131	WG546858

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
2-Hexanone	mg/kg	.125	0.101	80.9	62-145	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.103	82.6	61-143	WG546858
Acetone	mg/kg	.125	0.108	86.5	44-140	WG546858
Benzene	mg/kg	.025	0.0230	92.2	65-128	WG546858
Bromochloromethane	mg/kg	.025	0.0227	90.9	73-130	WG546858
Bromodichloromethane	mg/kg	.025	0.0201	80.4	66-126	WG546858
Bromoform	mg/kg	.025	0.0191	76.3	64-139	WG546858
Bromomethane	mg/kg	.025	0.0250	99.9	41-175	WG546858
Carbon disulfide	mg/kg	.025	0.0274	110.	36-161	WG546858
Carbon tetrachloride	mg/kg	.025	0.0250	99.9	60-140	WG546858
Chlorobenzene	mg/kg	.025	0.0213	85.4	75-125	WG546858
Chlorodibromomethane	mg/kg	.025	0.0194	77.4	72-137	WG546858
Chloroethane	mg/kg	.025	0.0261	105.	44-159	WG546858
Chloroform	mg/kg	.025	0.0227	90.8	63-123	WG546858
Chloromethane	mg/kg	.025	0.0213	85.0	42-149	WG546858
cis-1,2-Dichloroethene	mg/kg	.025	0.0240	95.9	71-129	WG546858
cis-1,3-Dichloropropene	mg/kg	.025	0.0213	85.1	73-132	WG546858
Dichlorodifluoromethane	mg/kg	.025	0.0221	88.2	26-186	WG546858
Ethylbenzene	mg/kg	.025	0.0227	90.7	74-128	WG546858
Isopropylbenzene	mg/kg	.025	0.0253	101.	73-130	WG546858
m&p-Xylene	mg/kg	.05	0.0469	93.7	73-127	WG546858
Methyl tert-butyl ether	mg/kg	.025	0.0208	83.3	44-148	WG546858
Methylene Chloride	mg/kg	.025	0.0221	88.5	57-129	WG546858
n-Hexane	mg/kg	.025	0.0212	84.8	28-169	WG546858
o-Xylene	mg/kg	.025	0.0221	88.3	75-129	WG546858
Styrene	mg/kg	.025	0.0162	64.7*	76-133	WG546858
Tetrachloroethene	mg/kg	.025	0.0234	93.5	65-135	WG546858
Toluene	mg/kg	.025	0.0212	84.9	70-120	WG546858
trans-1,2-Dichloroethene	mg/kg	.025	0.0235	93.9	61-133	WG546858
trans-1,3-Dichloropropene	mg/kg	.025	0.0186	74.4	70-135	WG546858
Trichloroethene	mg/kg	.025	0.0230	92.0	71-126	WG546858
Trichlorofluoromethane	mg/kg	.025	0.0276	110.	52-147	WG546858
Vinyl chloride	mg/kg	.025	0.0228	91.4	50-151	WG546858
Xylenes, Total	mg/kg	.075	0.0689	91.9	74-127	WG546858
4-Bromofluorobenzene				89.38	59-140	WG546858
Dibromofluoromethane				97.36	63-139	WG546858
Toluene-d8				93.93	84-116	WG546858
a,a,a-Trifluorotoluene				94.96	80-118	WG546858
Mercury	mg/kg	8.77	10.6	121.	71.6-127.7	WG546851
ORP	mV	229	230.	100.	95.6-104.37	WG547165
Chromium, Hexavalent	mg/kg	132	91.8	69.5	50-150	WG547008
TPH (GC/FID) High Fraction	ppm	60	47.5	79.1	50-150	WG547177
o-Terphenyl				58.59	50-150	WG547177
pH	su	6.3	6.30	100.	97.98-102.02	WG547126
1-Methylnaphthalene	mg/kg	.033	0.0257	77.9	48-113	WG547942
2-Chloronaphthalene	mg/kg	.033	0.0246	74.7	51-114	WG547942
2-Methylnaphthalene	mg/kg	.033	0.0240	72.8	44-109	WG547942

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Est. 1970

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Acenaphthene	mg/kg	.033	0.0261	79.1	52-108	WG547942
Acenaphthylene	mg/kg	.033	0.0263	79.8	51-110	WG547942
Anthracene	mg/kg	.033	0.0277	84.0	58-120	WG547942
Benzo(a)anthracene	mg/kg	.033	0.0286	86.5	54-110	WG547942
Benzo(a)pyrene	mg/kg	.033	0.0277	84.1	56-118	WG547942
Benzo(b)fluoranthene	mg/kg	.033	0.0289	87.5	55-114	WG547942
Benzo(g,h,i)perylene	mg/kg	.033	0.0284	86.1	48-130	WG547942
Benzo(k)fluoranthene	mg/kg	.033	0.0274	83.0	55-122	WG547942
Chrysene	mg/kg	.033	0.0282	85.4	57-118	WG547942
Dibenz(a,h)anthracene	mg/kg	.033	0.0279	84.4	53-122	WG547942
Fluoranthene	mg/kg	.033	0.0274	82.9	58-118	WG547942
Fluorene	mg/kg	.033	0.0273	82.7	54-109	WG547942
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0282	85.5	51-125	WG547942
Naphthalene	mg/kg	.033	0.0247	74.7	45-105	WG547942
Phenanthrene	mg/kg	.033	0.0230	69.8	53-114	WG547942
Pyrene	mg/kg	.033	0.0275	83.4	53-121	WG547942
2-Fluorobiphenyl				77.95	34-129	WG547942
Nitrobenzene-d5				74.78	14-141	WG547942
p-Terphenyl-d14				81.37	25-139	WG547942

Analyte	Units	Laboratory Control Sample Duplicate		%Rec	Limit	RPD	Limit	Batch
		Result	Ref					
TPH (GC/FID) Low Fraction	mg/kg	6.18	6.08	112.	67-135	1.71	20	WG546850
a,a,a-Trifluorotoluene(FID)				104.2	59-128			WG546850
Specific Conductance	umhos/	450.	450.	101.	85-115	0	20	WG546877
1-Methylnaphthalene	mg/kg	0.0237	0.0239	72.0	48-113	0.657	24	WG546951
2-Chloronaphthalene	mg/kg	0.0236	0.0243	71.0	51-114	2.84	24	WG546951
2-Methylnaphthalene	mg/kg	0.0240	0.0240	73.0	44-109	0.0348	24	WG546951
Acenaphthene	mg/kg	0.0238	0.0254	72.0	52-108	6.33	22	WG546951
Acenaphthylene	mg/kg	0.0244	0.0257	74.0	51-110	5.17	21	WG546951
Anthracene	mg/kg	0.0260	0.0262	79.0	58-120	0.959	20	WG546951
Benzo(a)anthracene	mg/kg	0.0279	0.0280	84.0	54-110	0.575	22	WG546951
Benzo(a)pyrene	mg/kg	0.0265	0.0256	80.0	56-118	3.32	21	WG546951
Benzo(b)fluoranthene	mg/kg	0.0273	0.0252	83.0	55-114	7.92	20	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0305	0.0290	92.0	48-130	4.83	20	WG546951
Benzo(k)fluoranthene	mg/kg	0.0243	0.0250	74.0	55-122	2.46	25	WG546951
Chrysene	mg/kg	0.0267	0.0250	81.0	57-118	6.33	20	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0288	0.0275	87.0	53-122	4.57	20	WG546951
Fluoranthene	mg/kg	0.0250	0.0255	76.0	58-118	1.75	20	WG546951
Fluorene	mg/kg	0.0246	0.0253	74.0	54-109	3.04	20	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0289	0.0280	88.0	51-125	3.47	21	WG546951
Naphthalene	mg/kg	0.0222	0.0230	67.0	45-105	3.35	24	WG546951
Phenanthrene	mg/kg	0.0256	0.0264	77.0	53-114	3.14	20	WG546951
Pyrene	mg/kg	0.0279	0.0281	84.0	53-121	0.838	20	WG546951
2-Fluorobiphenyl				70.51	34-129			WG546951
Nitrobenzene-d5				67.08	14-141			WG546951
p-Terphenyl-d14				79.07	25-139			WG546951
Ethanol	mg/kg	0.467	0.428	93.0	70-130	8.77	20	WG546892
Methanol	mg/kg	0.409	0.378	82.0	70-130	7.86	20	WG546892
1,1,1-Trichloroethane	mg/kg	0.0216	0.0243	86.0	62-135	11.6	20	WG546858

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Analyte	Units	Laboratory Control			Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref		%Rec					
1,1,2,2-Tetrachloroethane	mg/kg	0.0192	0.0187		77.0		74-129	2.38	20	WG546858
1,1,2-Trichloroethane	mg/kg	0.0198	0.0202		79.0		77-124	1.88	20	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0269	0.0303		107.		49-155	11.9	20	WG546858
1,1-Dichloroethane	mg/kg	0.0220	0.0247		88.0		61-134	11.6	20	WG546858
1,1-Dichloroethene	mg/kg	0.0275	0.0323		110.		53-136	15.9	20	WG546858
1,2,3-Trichlorobenzene	mg/kg	0.0214	0.0228		86.0		62-146	6.14	20	WG546858
1,2,4-Trichlorobenzene	mg/kg	0.0223	0.0235		89.0		61-148	5.09	20	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	0.0168	0.0180		67.0		61-134	7.22	21	WG546858
1,2-Dibromoethane	mg/kg	0.0195	0.0195		78.0		76-127	0.170	20	WG546858
1,2-Dichlorobenzene	mg/kg	0.0189	0.0205		75*		77-123	8.55	20	WG546858
1,2-Dichloroethane	mg/kg	0.0197	0.0206		79.0		58-141	4.54	20	WG546858
1,2-Dichloropropane	mg/kg	0.0203	0.0212		81.0		71-128	4.50	20	WG546858
1,3-Dichlorobenzene	mg/kg	0.0214	0.0222		86.0		71-132	3.50	20	WG546858
1,4-Dichlorobenzene	mg/kg	0.0196	0.0210		78.0		72-123	6.88	20	WG546858
2-Butanone (MEK)	mg/kg	0.0978	0.0961		78.0		51-131	1.75	25	WG546858
2-Hexanone	mg/kg	0.102	0.101		82.0		62-145	1.04	23	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	0.101	0.103		81.0		61-143	2.36	23	WG546858
Acetone	mg/kg	0.116	0.108		93.0		44-140	7.08	25	WG546858
Benzene	mg/kg	0.0208	0.0230		83.0		65-128	10.3	20	WG546858
Bromochloromethane	mg/kg	0.0208	0.0227		83.0		73-130	8.89	20	WG546858
Bromodichloromethane	mg/kg	0.0186	0.0201		74.0		66-126	7.76	20	WG546858
Bromoform	mg/kg	0.0195	0.0191		78.0		64-139	2.14	20	WG546858
Bromomethane	mg/kg	0.0219	0.0250		88.0		41-175	12.9	20	WG546858
Carbon disulfide	mg/kg	0.0239	0.0274		96.0		36-161	13.7	20	WG546858
Carbon tetrachloride	mg/kg	0.0228	0.0250		91.0		60-140	9.18	20	WG546858
Chlorobenzene	mg/kg	0.0205	0.0213		82.0		75-125	3.97	20	WG546858
Chlorodibromomethane	mg/kg	0.0194	0.0194		78.0		72-137	0.370	20	WG546858
Chloroethane	mg/kg	0.0225	0.0261		90.0		44-159	14.9	20	WG546858
Chloroform	mg/kg	0.0204	0.0227		82.0		63-123	10.5	20	WG546858
Chloromethane	mg/kg	0.0188	0.0213		75.0		42-149	12.3	20	WG546858
cis-1,2-Dichloroethene	mg/kg	0.0206	0.0240		82.0		71-129	14.9	20	WG546858
cis-1,3-Dichloropropene	mg/kg	0.0203	0.0213		81.0		73-132	4.89	20	WG546858
Dichlorodifluoromethane	mg/kg	0.0183	0.0221		73.0		26-186	18.6	22	WG546858
Ethylbenzene	mg/kg	0.0221	0.0227		88.0		74-128	2.76	20	WG546858
Isopropylbenzene	mg/kg	0.0244	0.0253		98.0		73-130	3.48	20	WG546858
m&p-Xylene	mg/kg	0.0447	0.0469		89.0		73-127	4.74	20	WG546858
Methyl tert-butyl ether	mg/kg	0.0205	0.0208		82.0		44-148	1.36	20	WG546858
Methylene Chloride	mg/kg	0.0212	0.0221		85.0		57-129	4.16	20	WG546858
n-Hexane	mg/kg	0.0190	0.0212		76.0		28-169	10.8	20	WG546858
o-Xylene	mg/kg	0.0208	0.0221		83.0		75-129	6.08	20	WG546858
Styrene	mg/kg	0.0158	0.0162		63*		76-133	2.40	20	WG546858
Tetrachloroethene	mg/kg	0.0221	0.0234		88.0		65-135	5.36	20	WG546858
Toluene	mg/kg	0.0201	0.0212		80.0		70-120	5.60	20	WG546858
trans-1,2-Dichloroethene	mg/kg	0.0216	0.0235		86.0		61-133	8.17	20	WG546858
trans-1,3-Dichloropropene	mg/kg	0.0187	0.0186		75.0		70-135	0.460	20	WG546858
Trichloroethene	mg/kg	0.0210	0.0230		84.0		71-126	9.24	20	WG546858
Trichlorofluoromethane	mg/kg	0.0245	0.0276		98.0		52-147	11.7	20	WG546858
Vinyl chloride	mg/kg	0.0200	0.0228		80.0		50-151	13.4	20	WG546858
Xylenes, Total	mg/kg	0.0655	0.0689		87.0		74-127	5.17	20	WG546858
4-Bromofluorobenzene					96.61		59-140			WG546858
Dibromofluoromethane					97.26		63-139			WG546858
Toluene-d8					95.90		84-116			WG546858
a,a,a-Trifluorotoluene					97.31		80-118			WG546858
ORP	mV	240.	230.		105*		95.6-104.37	4.26	20	WG547165
Chromium, Hexavalent	mg/kg	93.4	91.8		71.0		50-150	1.73	20	WG547008

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

August 03, 2011

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) High Fraction	ppm	45.0	47.5	75.0	50-150	5.33	25	WG547177
o-Terphenyl				55.42	50-150			WG547177
pH	su	6.20	6.30	98.0	97.98-102.02	1.60	20	WG547126
1-Methylnaphthalene	mg/kg	0.0244	0.0257	74.0	48-113	5.19	24	WG547942
2-Chloronaphthalene	mg/kg	0.0244	0.0246	74.0	51-114	1.02	24	WG547942
2-Methylnaphthalene	mg/kg	0.0237	0.0240	72.0	44-109	1.40	24	WG547942
Acenaphthene	mg/kg	0.0255	0.0261	77.0	52-108	2.20	22	WG547942
Acenaphthylene	mg/kg	0.0254	0.0263	77.0	51-110	3.75	21	WG547942
Anthracene	mg/kg	0.0277	0.0277	84.0	58-120	0.263	20	WG547942
Benzo(a)anthracene	mg/kg	0.0279	0.0286	85.0	54-110	2.19	22	WG547942
Benzo(a)pyrene	mg/kg	0.0273	0.0277	83.0	56-118	1.58	21	WG547942
Benzo(b)fluoranthene	mg/kg	0.0280	0.0289	85.0	55-114	3.02	20	WG547942
Benzo(g,h,i)perylene	mg/kg	0.0284	0.0284	86.0	48-130	0.0518	20	WG547942
Benzo(k)fluoranthene	mg/kg	0.0280	0.0274	85.0	55-122	2.26	25	WG547942
Chrysene	mg/kg	0.0284	0.0282	86.0	57-118	0.843	20	WG547942
Dibenz(a,h)anthracene	mg/kg	0.0276	0.0279	84.0	53-122	0.821	20	WG547942
Fluoranthene	mg/kg	0.0271	0.0274	82.0	58-118	0.911	20	WG547942
Fluorene	mg/kg	0.0261	0.0273	79.0	54-109	4.52	20	WG547942
Indeno(1,2,3-cd)pyrene	mg/kg	0.0276	0.0282	84.0	51-125	2.17	21	WG547942
Naphthalene	mg/kg	0.0246	0.0247	74.0	45-105	0.409	24	WG547942
Phenanthrene	mg/kg	0.0239	0.0230	72.0	53-114	3.64	20	WG547942
Pyrene	mg/kg	0.0270	0.0275	82.0	53-121	1.83	20	WG547942
2-Fluorobiphenyl				78.87	34-129			WG547942
Nitrobenzene-d5				74.70	14-141			WG547942
p-Terphenyl-d14				79.60	25-139			WG547942

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
TPH (GC/FID) Low Fraction	mg/kg	21.6	0	5.5	78.6	55-109	L527266-01	WG546850
a,a,a-Trifluorotoluene(FID)					98.19	59-128		WG546850
1-Methylnaphthalene	mg/kg	0.0323	0	.033	97.9	25-155	L527337-01	WG546951
2-Chloronaphthalene	mg/kg	0.0322	0	.033	97.6	31-153	L527337-01	WG546951
2-Methylnaphthalene	mg/kg	0.0321	0	.033	97.3	22-172	L527337-01	WG546951
Acenaphthene	mg/kg	0.0330	0	.033	100.	43-133	L527337-01	WG546951
Acenaphthylene	mg/kg	0.0333	0	.033	101.	42-146	L527337-01	WG546951
Anthracene	mg/kg	0.0348	0	.033	106.	38-153	L527337-01	WG546951
Benzo(a)anthracene	mg/kg	0.0342	0	.033	104.	31-142	L527337-01	WG546951
Benzo(a)pyrene	mg/kg	0.0311	0	.033	94.2	26-152	L527337-01	WG546951
Benzo(b)fluoranthene	mg/kg	0.0313	0	.033	95.0	10-188	L527337-01	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0358	0	.033	108.	10-176	L527337-01	WG546951
Benzo(k)fluoranthene	mg/kg	0.0312	0	.033	94.6	22-163	L527337-01	WG546951
Chrysene	mg/kg	0.0316	0	.033	95.7	26-146	L527337-01	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0347	0	.033	105.	10-160	L527337-01	WG546951
Fluoranthene	mg/kg	0.0335	0	.033	101.	23-160	L527337-01	WG546951
Fluorene	mg/kg	0.0325	0	.033	98.5	44-143	L527337-01	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0348	0	.033	106.	10-157	L527337-01	WG546951
Naphthalene	mg/kg	0.0305	0	.033	92.5	22-156	L527337-01	WG546951
Phenanthrene	mg/kg	0.0341	0	.033	103.	23-164	L527337-01	WG546951
Pyrene	mg/kg	0.0341	0	.033	103.	12-170	L527337-01	WG546951
2-Fluorobiphenyl					100.2	34-129		WG546951
Nitrobenzene-d5					95.04	14-141		WG546951
p-Terphenyl-d14					96.98	25-139		WG546951

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Ethanol	mg/kg	0.527	0	.5	105.	70-130	L527097-04	WG546892
Methanol	mg/kg	0.466	0	.5	93.2	70-130	L527097-04	WG546892
Barium	mg/kg	3310	3200	50	220.*	75-125	L527269-01	WG546924
Cadmium	mg/kg	44.4	0.910	50	87.0	75-125	L527269-01	WG546924
Chromium	mg/kg	68.4	20.0	50	96.8	75-125	L527269-01	WG546924
Copper	mg/kg	76.5	25.0	50	103.	75-125	L527269-01	WG546924
Lead	mg/kg	68.9	23.0	50	91.8	75-125	L527269-01	WG546924
Silver	mg/kg	50.3	0	50	101.	75-125	L527269-01	WG546924
Zinc	mg/kg	105.	57.0	50	96.0	75-125	L527269-01	WG546924
Arsenic	mg/kg	60.5	9.50	10	102.	75-125	L527269-01	WG546924
Nickel	mg/kg	68.7	18.0	10	101.	75-125	L527269-01	WG546924
Selenium	mg/kg	36.2	0	10	72.4*	75-125	L527269-01	WG546924
Mercury	mg/kg	0.339	0.120	.25	87.6	70-130	L527261-01	WG546851
Chromium, Hexavalent	mg/kg	16.8	0	20	84.0	50-150	L527257-01	WG547008
1,1,1-Trichloroethane	mg/kg	1.42	0	.025	104.	23-147	L527252-01	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	1.51	0	.025	110.	18-150	L527252-01	WG546858
1,1,2-Trichloroethane	mg/kg	1.54	0	.025	112.	35-140	L527252-01	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.28	0	.025	92.9	10-145	L527252-01	WG546858
1,1-Dichloroethane	mg/kg	1.33	0	.025	97.0	24-148	L527252-01	WG546858
1,1-Dichloroethene	mg/kg	1.08	0	.025	78.6	10-149	L527252-01	WG546858
1,2,3-Trichlorobenzene	mg/kg	1.51	0	.025	110.	10-129	L527252-01	WG546858
1,2,4-Trichlorobenzene	mg/kg	1.52	0	.025	110.	10-119	L527252-01	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	1.34	0	.025	97.3	19-145	L527252-01	WG546858
1,2-Dibromoethane	mg/kg	1.54	0	.025	112.	24-145	L527252-01	WG546858
1,2-Dichlorobenzene	mg/kg	1.51	0	.025	110.	12-130	L527252-01	WG546858
1,2-Dichloroethane	mg/kg	1.38	0	.025	100.	21-155	L527252-01	WG546858
1,2-Dichloropropane	mg/kg	1.39	0	.025	101.	28-144	L527252-01	WG546858
1,3-Dichlorobenzene	mg/kg	1.67	0	.025	121.	10-129	L527252-01	WG546858
1,4-Dichlorobenzene	mg/kg	1.46	0	.025	106.	10-121	L527252-01	WG546858
2-Butanone (MEK)	mg/kg	6.64	0	.125	96.6	21-143	L527252-01	WG546858
2-Hexanone	mg/kg	7.39	0	.125	108.	22-151	L527252-01	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	6.76	0	.125	98.3	31-151	L527252-01	WG546858
Acetone	mg/kg	6.01	0.210	.125	84.3	13-158	L527252-01	WG546858
Benzene	mg/kg	1.42	0	.025	103.	16-143	L527252-01	WG546858
Bromochloromethane	mg/kg	1.55	0	.025	113.	25-152	L527252-01	WG546858
Bromodichloromethane	mg/kg	1.42	0	.025	103.	27-139	L527252-01	WG546858
Bromoform	mg/kg	1.27	0	.025	92.1	21-144	L527252-01	WG546858
Bromomethane	mg/kg	1.32	0	.025	95.8	0-180	L527252-01	WG546858
Carbon disulfide	mg/kg	1.12	0	.025	81.1	10-156	L527252-01	WG546858
Carbon tetrachloride	mg/kg	1.41	0	.025	102.	12-149	L527252-01	WG546858
Chlorobenzene	mg/kg	1.57	0	.025	114.	17-134	L527252-01	WG546858
Chlorodibromomethane	mg/kg	1.60	0	.025	116.	28-147	L527252-01	WG546858
Chloroethane	mg/kg	0.248	0	.025	18.0	0-172	L527252-01	WG546858
Chloroform	mg/kg	1.44	0	.025	104.	28-138	L527252-01	WG546858
Chloromethane	mg/kg	1.47	0	.025	107.	10-158	L527252-01	WG546858
cis-1,2-Dichloroethene	mg/kg	1.49	0	.025	108.	21-147	L527252-01	WG546858
cis-1,3-Dichloropropene	mg/kg	1.44	0	.025	104.	17-145	L527252-01	WG546858
Dichlorodifluoromethane	mg/kg	1.55	0	.025	113.	0-192	L527252-01	WG546858
Ethylbenzene	mg/kg	1.62	0	.025	118.	12-137	L527252-01	WG546858
Isopropylbenzene	mg/kg	1.63	0	.025	119.	14-134	L527252-01	WG546858
m&p-Xylene	mg/kg	3.17	0	.05	115.	10-135	L527252-01	WG546858

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Tax I.D. 62-0814289

Est. 1970

August 03, 2011

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Methyl tert-butyl ether	mg/kg	1.44	0	.025	105.	21-157	L527252-01	WG546858
Methylene Chloride	mg/kg	1.30	0.00980	.025	93.7	12-149	L527252-01	WG546858
n-Hexane	mg/kg	1.37	0	.025	99.7	10-129	L527252-01	WG546858
o-Xylene	mg/kg	1.65	0	.025	120.	14-140	L527252-01	WG546858
Styrene	mg/kg	1.49	0	.025	109.	10-140	L527252-01	WG546858
Tetrachloroethene	mg/kg	1.49	0	.025	109.	10-131	L527252-01	WG546858
Toluene	mg/kg	1.40	0.00487	.025	101.	12-136	L527252-01	WG546858
trans-1,2-Dichloroethene	mg/kg	1.39	0	.025	101.	10-143	L527252-01	WG546858
trans-1,3-Dichloropropene	mg/kg	1.36	0	.025	98.8	16-147	L527252-01	WG546858
Trichloroethene	mg/kg	1.45	0	.025	106.	10-155	L527252-01	WG546858
Trichlorofluoromethane	mg/kg	0.516	0	.025	37.6	10-154	L527252-01	WG546858
Vinyl chloride	mg/kg	1.41	0	.025	102.	10-159	L527252-01	WG546858
Xylenes, Total	mg/kg	4.83	0	.075	117.	10-138	L527252-01	WG546858

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	21.3	21.6	77.3	55-109	1.71	20	L527266-01	WG546850
a,a,a-Trifluorotoluene(FID)				100.8	59-128				WG546850
1-Methylnaphthalene	mg/kg	0.0288	0.0323	87.3	25-155	11.4	27	L527337-01	WG546951
2-Chloronaphthalene	mg/kg	0.0289	0.0322	87.5	31-153	10.9	22	L527337-01	WG546951
2-Methylnaphthalene	mg/kg	0.0285	0.0321	86.4	22-172	11.8	29	L527337-01	WG546951
Acenaphthene	mg/kg	0.0315	0.0330	95.4	43-133	4.69	26	L527337-01	WG546951
Acenaphthylene	mg/kg	0.0316	0.0333	95.8	42-146	5.03	22	L527337-01	WG546951
Anthracene	mg/kg	0.0352	0.0348	107.	38-153	0.962	27	L527337-01	WG546951
Benzo(a)anthracene	mg/kg	0.0361	0.0342	109.	31-142	5.41	31	L527337-01	WG546951
Benzo(a)pyrene	mg/kg	0.0317	0.0311	96.1	26-152	2.08	32	L527337-01	WG546951
Benzo(b)fluoranthene	mg/kg	0.0314	0.0313	95.3	10-188	0.309	33	L527337-01	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0373	0.0358	113.	10-176	4.12	30	L527337-01	WG546951
Benzo(k)fluoranthene	mg/kg	0.0322	0.0312	97.6	22-163	3.08	29	L527337-01	WG546951
Chrysene	mg/kg	0.0331	0.0316	100.	26-146	4.84	30	L527337-01	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0364	0.0347	110.	10-160	4.64	39	L527337-01	WG546951
Fluoranthene	mg/kg	0.0346	0.0335	105.	23-160	3.25	22	L527337-01	WG546951
Fluorene	mg/kg	0.0318	0.0325	96.4	44-143	2.19	23	L527337-01	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0362	0.0348	110.	10-157	3.75	40	L527337-01	WG546951
Naphthalene	mg/kg	0.0271	0.0305	82.1	22-156	12.0	27	L527337-01	WG546951
Phenanthrene	mg/kg	0.0349	0.0341	106.	23-164	2.47	25	L527337-01	WG546951
Pyrene	mg/kg	0.0361	0.0341	110.	12-170	5.85	24	L527337-01	WG546951
2-Fluorobiphenyl				93.83	34-129				WG546951
Nitrobenzene-d5				85.53	14-141				WG546951
p-Terphenyl-d14				102.0	25-139				WG546951
Ethanol	mg/kg	0.548	0.527	110.	70-130	3.84	20	L527097-04	WG546892
Methanol	mg/kg	0.488	0.466	97.5	70-130	4.58	20	L527097-04	WG546892
Barium	mg/kg	2990	3310	0*	75-125	10.2	20	L527269-01	WG546924
Cadmium	mg/kg	43.3	44.4	84.8	75-125	2.51	20	L527269-01	WG546924
Chromium	mg/kg	65.6	68.4	91.2	75-125	4.18	20	L527269-01	WG546924
Copper	mg/kg	78.2	76.5	106.	75-125	2.20	20	L527269-01	WG546924
Lead	mg/kg	65.7	68.9	85.4	75-125	4.75	20	L527269-01	WG546924
Silver	mg/kg	49.4	50.3	98.8	75-125	1.81	20	L527269-01	WG546924
Zinc	mg/kg	101.	105.	88.0	75-125	3.88	20	L527269-01	WG546924
Arsenic	mg/kg	70.4	60.5	122.	75-125	15.1	20	L527269-01	WG546924
Nickel	mg/kg	73.8	68.7	112.	75-125	7.16	20	L527269-01	WG546924
Selenium	mg/kg	36.8	36.2	73.6*	75-125	1.64	20	L527269-01	WG546924

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August 03, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	0.288	0.339	67.2*	70-130	16.3	20	L527261-01	WG546851
Chromium, Hexavalent	mg/kg	15.2	16.8	76.0	50-150	10.0	20	L527257-01	WG547008
1,1,1-Trichloroethane	mg/kg	1.36	1.42	98.7	23-147	4.81	32	L527252-01	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	1.48	1.51	108.	18-150	1.98	33	L527252-01	WG546858
1,1,2-Trichloroethane	mg/kg	1.53	1.54	111.	35-140	0.760	29	L527252-01	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.18	1.28	86.0	10-145	7.67	35	L527252-01	WG546858
1,1-Dichloroethane	mg/kg	1.27	1.33	92.4	24-148	4.85	31	L527252-01	WG546858
1,1-Dichloroethene	mg/kg	0.979	1.08	71.2	10-149	9.87	34	L527252-01	WG546858
1,2,3-Trichlorobenzene	mg/kg	1.50	1.51	109.	10-129	0.490	43	L527252-01	WG546858
1,2,4-Trichlorobenzene	mg/kg	1.48	1.52	108.	10-119	2.38	44	L527252-01	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	1.32	1.34	95.8	19-145	1.62	35	L527252-01	WG546858
1,2-Dibromoethane	mg/kg	1.53	1.54	111.	24-145	0.750	31	L527252-01	WG546858
1,2-Dichlorobenzene	mg/kg	1.54	1.51	112.	12-130	1.87	35	L527252-01	WG546858
1,2-Dichloroethane	mg/kg	1.35	1.38	98.1	21-155	2.30	29	L527252-01	WG546858
1,2-Dichloropropane	mg/kg	1.38	1.39	100.	28-144	1.02	30	L527252-01	WG546858
1,3-Dichlorobenzene	mg/kg	1.71	1.67	124.	10-129	2.24	38	L527252-01	WG546858
1,4-Dichlorobenzene	mg/kg	1.49	1.46	108.	10-121	2.06	36	L527252-01	WG546858
2-Butanone (MEK)	mg/kg	6.62	6.64	96.2	21-143	0.390	37	L527252-01	WG546858
2-Hexanone	mg/kg	7.31	7.39	106.	22-151	1.12	38	L527252-01	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	6.63	6.76	96.5	31-151	1.88	36	L527252-01	WG546858
Acetone	mg/kg	5.77	6.01	80.9	13-158	4.00	34	L527252-01	WG546858
Benzene	mg/kg	1.37	1.42	99.3	16-143	3.60	31	L527252-01	WG546858
Bromochloromethane	mg/kg	1.50	1.55	109.	25-152	3.51	29	L527252-01	WG546858
Bromodichloromethane	mg/kg	1.39	1.42	101.	27-139	2.02	30	L527252-01	WG546858
Bromoform	mg/kg	1.23	1.27	89.8	21-144	2.54	34	L527252-01	WG546858
Bromomethane	mg/kg	1.20	1.32	87.2	0-180	9.40	41	L527252-01	WG546858
Carbon disulfide	mg/kg	0.984	1.12	71.5	10-156	12.6	38	L527252-01	WG546858
Carbon tetrachloride	mg/kg	1.33	1.41	96.4	12-149	6.03	34	L527252-01	WG546858
Chlorobenzene	mg/kg	1.58	1.57	115.	17-134	0.680	34	L527252-01	WG546858
Chlorodibromomethane	mg/kg	1.57	1.60	114.	28-147	2.08	32	L527252-01	WG546858
Chloroethane	mg/kg	0.236	0.248	17.1	0-172	5.09	38	L527252-01	WG546858
Chloroform	mg/kg	1.39	1.44	101.	28-138	3.02	30	L527252-01	WG546858
Chloromethane	mg/kg	1.37	1.47	99.8	10-158	7.05	35	L527252-01	WG546858
cis-1,2-Dichloroethene	mg/kg	1.41	1.49	102.	21-147	5.51	31	L527252-01	WG546858
cis-1,3-Dichloropropene	mg/kg	1.40	1.44	102.	17-145	2.19	32	L527252-01	WG546858
Dichlorodifluoromethane	mg/kg	1.46	1.55	106.	0-192	6.27	38	L527252-01	WG546858
Ethylbenzene	mg/kg	1.60	1.62	116.	12-137	1.39	36	L527252-01	WG546858
Isopropylbenzene	mg/kg	1.64	1.63	119.	14-134	0.460	37	L527252-01	WG546858
m&p-Xylene	mg/kg	3.14	3.17	114.	10-135	0.850	37	L527252-01	WG546858
Methyl tert-butyl ether	mg/kg	1.37	1.44	99.6	21-157	5.13	31	L527252-01	WG546858
Methylene Chloride	mg/kg	1.23	1.30	88.8	12-149	5.42	31	L527252-01	WG546858
n-Hexane	mg/kg	1.26	1.37	91.9	10-129	8.12	42	L527252-01	WG546858
o-Xylene	mg/kg	1.65	1.65	120.	14-140	0.220	35	L527252-01	WG546858
Styrene	mg/kg	1.49	1.49	108.	10-140	0.580	35	L527252-01	WG546858
Tetrachloroethene	mg/kg	1.48	1.49	108.	10-131	0.710	35	L527252-01	WG546858
Toluene	mg/kg	1.36	1.40	98.8	12-136	2.29	32	L527252-01	WG546858
trans-1,2-Dichloroethene	mg/kg	1.28	1.39	92.9	10-143	8.09	33	L527252-01	WG546858
trans-1,3-Dichloropropene	mg/kg	1.31	1.36	95.5	16-147	3.34	32	L527252-01	WG546858
Trichloroethene	mg/kg	1.43	1.45	104.	10-155	1.28	33	L527252-01	WG546858
Trichlorofluoromethane	mg/kg	0.537	0.516	39.0	10-154	3.85	32	L527252-01	WG546858
Vinyl chloride	mg/kg	1.31	1.41	95.0	10-159	7.27	36	L527252-01	WG546858
Xylenes, Total	mg/kg	4.79	4.83	116.	10-138	0.630	36	L527252-01	WG546858

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

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

Parachute, CO 81635

Quality Assurance Report  
Level II

L527269

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

August 03, 2011

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Batch number /Run number / Sample number cross reference

WG546850: R1777175: L527269-01 02 03 04 05  
WG546877: R1778670: L527269-01  
WG546951: R1778970: L527269-01  
WG546892: R1779370: L527269-01  
WG546924: R1780510: L527269-01  
WG546858: R1781772: L527269-01  
WG546851: R1781912: L527269-01  
WG547165: R1782790: L527269-01  
WG547008: R1783490: L527269-01  
WG547219: R1784230: L527269-01  
WG547177: R1788531: L527269-01 02 03 04 05  
WG547126: R1790910: L527269-01  
WG547942: R1797810: L527269-02 03 04 05

\* \* Calculations are performed prior to rounding of reported values.

\* 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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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.



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

## Report Summary

Friday August 05, 2011

Report Number: L527266

Samples Received: 07/21/11

Client Project:

Description: RPE-30-595

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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPB-071911 6-8 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:49

ESC Sample # : L527266-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	07/26/11	1
Chromium, Trivalent	20.	2.0	mg/kg	Calc.	07/23/11	1
ORP	69.		mV	2580	07/25/11	1
pH	8.7		su	9045D	07/28/11	1
Sodium Adsorption Ratio	7.4			Calc.	07/26/11	1
Specific Conductance	350		umhos/cm	9050AMod	07/22/11	1
Mercury	BDL	0.020	mg/kg	7471	07/23/11	1
Arsenic	23.	5.0	mg/kg	6010B	07/23/11	5
Barium	980	0.25	mg/kg	6010B	07/23/11	1
Cadmium	1.4	0.25	mg/kg	6010B	07/23/11	1
Chromium	20.	0.50	mg/kg	6010B	07/23/11	1
Copper	28.	1.0	mg/kg	6010B	07/23/11	1
Lead	26.	0.25	mg/kg	6010B	07/23/11	1
Nickel	26.	5.0	mg/kg	6010B	07/23/11	5
Selenium	BDL	5.0	mg/kg	6010B	07/23/11	5
Silver	BDL	0.50	mg/kg	6010B	07/23/11	1
Zinc	52.	1.5	mg/kg	6010B	07/23/11	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	98.2		% Rec.	602/8015	07/22/11	5
Methanol	BDL	0.10	mg/kg	8015M	07/22/11	1
Ethanol	BDL	0.10	mg/kg	8015M	07/22/11	1
Volatile Organics						
Acetone	BDL	0.25	mg/kg	8260B	07/22/11	5
Benzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromochloromethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromodichloromethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromoform	BDL	0.0050	mg/kg	8260B	07/22/11	5
Bromomethane	BDL	0.025	mg/kg	8260B	07/22/11	5
Carbon disulfide	BDL	0.0050	mg/kg	8260B	07/22/11	5
Carbon tetrachloride	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chlorodibromomethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Chloroethane	BDL	0.025	mg/kg	8260B	07/22/11	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L527266-01 (SV8270PAHSIM) - IS/SURR failed on lower dilution.

L527266-01 (PH) - 8.7@22.1c

REPORT OF ANALYSIS

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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPB-071911 6-8 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:49

ESC Sample # : L527266-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloroform	BDL	0.025	mg/kg	8260B	07/22/11	5
Chloromethane	BDL	0.012	mg/kg	8260B	07/22/11	5
Cyclohexane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dibromo-3-Chloropropane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,2-Dibromoethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Dichlorodifluoromethane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,1-Dichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,3-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,4-Dichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
cis-1,2-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
trans-1,2-Dichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2-Dichloropropane	BDL	0.0050	mg/kg	8260B	07/22/11	5
cis-1,3-Dichloropropene	BDL	0.0050	mg/kg	8260B	07/22/11	5
trans-1,3-Dichloropropene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
n-Hexane	BDL	0.050	mg/kg	8260B	07/22/11	5
2-Hexanone	BDL	0.050	mg/kg	8260B	07/22/11	5
Isopropylbenzene	BDL	0.050	mg/kg	8260B	07/22/11	5
2-Butanone (MEK)	BDL	0.050	mg/kg	8260B	07/22/11	5
Methyl Acetate	BDL	0.10	mg/kg	8260B	07/22/11	5
Methyl Cyclohexane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Methylene Chloride	BDL	0.025	mg/kg	8260B	07/22/11	5
4-Methyl-2-pentanone (MIBK)	BDL	0.050	mg/kg	8260B	07/22/11	5
Methyl tert-butyl ether	BDL	0.0050	mg/kg	8260B	07/22/11	5
Styrene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,2,2-Tetrachloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Tetrachloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Toluene	BDL	0.025	mg/kg	8260B	07/22/11	5
1,2,3-Trichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,2,4-Trichlorobenzene	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,1-Trichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
1,1,2-Trichloroethane	BDL	0.0050	mg/kg	8260B	07/22/11	5
Trichloroethene	BDL	0.0050	mg/kg	8260B	07/22/11	5
Trichlorofluoromethane	BDL	0.025	mg/kg	8260B	07/22/11	5
1,1,2-Trichloro-1,2,2-trifluoro	BDL	0.0050	mg/kg	8260B	07/22/11	5
Vinyl chloride	BDL	0.0050	mg/kg	8260B	07/22/11	5
o-Xylene	BDL	0.0050	mg/kg	8260B	07/22/11	5
m&p-Xylene	BDL	0.010	mg/kg	8260B	07/22/11	5
Xylenes, Total	BDL	0.015	mg/kg	8260B	07/22/11	5
Surrogate Recovery						
Toluene-d8	95.6		% Rec.	8260B	07/22/11	5

BDL - Below Detection Limit  
Det. Limit - Practical Quantitation Limit(PQL)  
L527266-01 (SV8270PAHSIM) - IS/SURR failed on lower dilution.  
L527266-01 (PH) - 8.7@22.1c

REPORT OF ANALYSIS

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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPB-071911 6-8 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:49

ESC Sample # : L527266-01

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Dibromofluoromethane	109.		% Rec.	8260B	07/22/11	5
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	07/22/11	5
4-Bromofluorobenzene	84.2		% Rec.	8260B	07/22/11	5
TPH (GC/FID) High Fraction	59.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%)						
o-Terphenyl	77.8		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Benzo(a)pyrene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Benzo(b)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Benzo(g,h,i)perylene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Benzo(k)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Chrysene	0.0089	0.0060	mg/kg	8270C-SIM	07/23/11	1
Dibenz(a,h)anthracene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Fluoranthene	0.0074	0.0060	mg/kg	8270C-SIM	07/23/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.030	mg/kg	8270C-SIM	07/25/11	5
Naphthalene	0.021	0.0060	mg/kg	8270C-SIM	07/23/11	1
Phenanthrene	0.016	0.0060	mg/kg	8270C-SIM	07/23/11	1
Pyrene	0.0068	0.0060	mg/kg	8270C-SIM	07/23/11	1
1-Methylnaphthalene	0.019	0.0060	mg/kg	8270C-SIM	07/23/11	1
2-Methylnaphthalene	0.046	0.0060	mg/kg	8270C-SIM	07/23/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	07/23/11	1
Surrogate Recovery						
Nitrobenzene-d5	84.2		% Rec.	8270C-SIM	07/23/11	1
2-Fluorobiphenyl	98.0		% Rec.	8270C-SIM	07/23/11	1
p-Terphenyl-d14	121.		% Rec.	8270C-SIM	07/23/11	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: 08/05/11 09:48 Printed: 08/05/11 10:21

L527266-01 (SV8270PAHSIM) - IS/SURR failed on lower dilution.

L527266-01 (PH) - 8.7@22.1c



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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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPBE-071911 8-10 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:43

ESC Sample # : L527266-02

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.9		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	100	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	69.8		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthylene	0.012	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)anthracene	0.0091	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)pyrene	0.0072	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(b)fluoranthene	0.024	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(g,h,i)perylene	0.010	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Chrysene	0.018	0.0060	mg/kg	8270C-SIM	08/02/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Fluoranthene	0.018	0.0060	mg/kg	8270C-SIM	08/02/11	1
Fluorene	0.016	0.0060	mg/kg	8270C-SIM	08/02/11	1
Indeno(1,2,3-cd)pyrene	0.0069	0.0060	mg/kg	8270C-SIM	08/03/11	1
Naphthalene	0.054	0.0060	mg/kg	8270C-SIM	08/02/11	1
Phenanthrene	0.041	0.0060	mg/kg	8270C-SIM	08/02/11	1
Pyrene	0.017	0.0060	mg/kg	8270C-SIM	08/02/11	1
1-Methylnaphthalene	0.053	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Methylnaphthalene	0.12	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Surrogate Recovery						
Nitrobenzene-d5	42.8		% Rec.	8270C-SIM	08/02/11	1
2-Fluorobiphenyl	40.3		% Rec.	8270C-SIM	08/02/11	1
p-Terphenyl-d14	75.0		% Rec.	8270C-SIM	08/02/11	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: 08/05/11 09:48 Printed: 08/05/11 10:21

REPORT OF ANALYSIS

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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPWN-071911 4-6 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:47

ESC Sample # : L527266-03

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.6		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	29.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	80.1		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Chrysene	0.0068	0.0060	mg/kg	8270C-SIM	08/02/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Naphthalene	0.018	0.0060	mg/kg	8270C-SIM	08/02/11	1
Phenanthrene	0.017	0.0060	mg/kg	8270C-SIM	08/02/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
1-Methylnaphthalene	0.023	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Methylnaphthalene	0.044	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Surrogate Recovery						
Nitrobenzene-d5	56.4		% Rec.	8270C-SIM	08/02/11	1
2-Fluorobiphenyl	54.2		% Rec.	8270C-SIM	08/02/11	1
p-Terphenyl-d14	57.0		% Rec.	8270C-SIM	08/02/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPWS-071911 4-6 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:54

ESC Sample # : L527266-04

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.1		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	66.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	66.6		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthylene	0.0097	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Chrysene	0.0062	0.0060	mg/kg	8270C-SIM	08/02/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Fluorene	0.0097	0.0060	mg/kg	8270C-SIM	08/02/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Naphthalene	0.051	0.0060	mg/kg	8270C-SIM	08/02/11	1
Phenanthrene	0.026	0.0060	mg/kg	8270C-SIM	08/02/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
1-Methylnaphthalene	0.046	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Methylnaphthalene	0.089	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Surrogate Recovery						
Nitrobenzene-d5	90.1		% Rec.	8270C-SIM	08/02/11	1
2-Fluorobiphenyl	70.4		% Rec.	8270C-SIM	08/02/11	1
p-Terphenyl-d14	64.0		% Rec.	8270C-SIM	08/02/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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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

August 05, 2011

Date Received : July 21, 2011  
Description : RPE-30-595  
Sample ID : RPE30595-WPBW-071911 6-8 IN  
Collected By : Brennen Graff  
Collection Date : 07/19/11 15:56

ESC Sample # : L527266-05

Site ID : RPE-30-595

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	07/22/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.2		% Rec.	602/8015	07/22/11	5
TPH (GC/FID) High Fraction	96.	4.0	mg/kg	3546/DRO	07/27/11	1
Surrogate recovery(%) o-Terphenyl	109.		% Rec.	3546/DRO	07/27/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthene	0.0069	0.0060	mg/kg	8270C-SIM	08/02/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(b)fluoranthene	0.012	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(g,h,i)perylene	0.0064	0.0060	mg/kg	8270C-SIM	08/03/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Chrysene	0.015	0.0060	mg/kg	8270C-SIM	08/02/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Fluoranthene	0.011	0.0060	mg/kg	8270C-SIM	08/02/11	1
Fluorene	0.019	0.0060	mg/kg	8270C-SIM	08/02/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	08/03/11	1
Naphthalene	0.10	0.0060	mg/kg	8270C-SIM	08/02/11	1
Phenanthrene	0.060	0.0060	mg/kg	8270C-SIM	08/02/11	1
Pyrene	0.011	0.0060	mg/kg	8270C-SIM	08/02/11	1
1-Methylnaphthalene	0.10	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Methylnaphthalene	0.22	0.0060	mg/kg	8270C-SIM	08/02/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	08/02/11	1
Surrogate Recovery						
Nitrobenzene-d5	59.0		% Rec.	8270C-SIM	08/02/11	1
2-Fluorobiphenyl	46.4		% Rec.	8270C-SIM	08/02/11	1
p-Terphenyl-d14	62.4		% Rec.	8270C-SIM	08/02/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L527266-01	WG546924	SAMP	Selenium	R1780510	O
	WG546951	SAMP	Benzo(a)pyrene	R1778970	O
	WG546951	SAMP	Benzo(b)fluoranthene	R1778970	O
	WG546951	SAMP	Benzo(g,h,i)perylene	R1778970	O
	WG546951	SAMP	Benzo(k)fluoranthene	R1778970	O
	WG546951	SAMP	Dibenz(a,h)anthracene	R1778970	O
	WG546951	SAMP	Indeno(1,2,3-cd)pyrene	R1778970	O
	WG546858	SAMP	1,2-Dichlorobenzene	R1781772	J4
	WG546858	SAMP	Styrene	R1781772	J4

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J4	The associated batch QC was outside the established quality control range for accuracy.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

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.



YOUR LAB OF CHOICE

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

Parachute, CO 81635

Quality Assurance Report  
Level II

L527266

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

August 05, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG546850	07/22/11 08:35
a,a,a-Trifluorotoluene(FID)		% Rec.	99.67	59-128	WG546850	07/22/11 08:35
Specific Conductance	1.30	umhos/cm			WG546877	07/22/11 15:44
1-Methylnaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Chloronaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Methylnaphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
Acenaphthene	< .006	mg/kg			WG546951	07/22/11 23:24
Acenaphthylene	< .006	mg/kg			WG546951	07/22/11 23:24
Anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(a)anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(a)pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(b)fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(g,h,i)perylene	< .006	mg/kg			WG546951	07/22/11 23:24
Benzo(k)fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Chrysene	< .006	mg/kg			WG546951	07/22/11 23:24
Dibenz(a,h)anthracene	< .006	mg/kg			WG546951	07/22/11 23:24
Fluoranthene	< .006	mg/kg			WG546951	07/22/11 23:24
Fluorene	< .006	mg/kg			WG546951	07/22/11 23:24
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
Naphthalene	< .006	mg/kg			WG546951	07/22/11 23:24
Phenanthrene	< .006	mg/kg			WG546951	07/22/11 23:24
Pyrene	< .006	mg/kg			WG546951	07/22/11 23:24
2-Fluorobiphenyl		% Rec.	73.12	34-129	WG546951	07/22/11 23:24
Nitrobenzene-d5		% Rec.	70.35	14-141	WG546951	07/22/11 23:24
p-Terphenyl-d14		% Rec.	74.00	25-139	WG546951	07/22/11 23:24
Ethanol	< .1	mg/kg			WG546892	07/22/11 11:33
Methanol	< .1	mg/kg			WG546892	07/22/11 11:33
Arsenic	< 1	mg/kg			WG546924	07/23/11 10:10
Barium	< .25	mg/kg			WG546924	07/23/11 10:10
Cadmium	< .25	mg/kg			WG546924	07/23/11 10:10
Chromium	< .5	mg/kg			WG546924	07/23/11 10:10
Copper	< 1	mg/kg			WG546924	07/23/11 10:10
Lead	< .25	mg/kg			WG546924	07/23/11 10:10
Nickel	< 1	mg/kg			WG546924	07/23/11 10:10
Selenium	< 1	mg/kg			WG546924	07/23/11 10:10
Silver	< .5	mg/kg			WG546924	07/23/11 10:10
Zinc	< 1.5	mg/kg			WG546924	07/23/11 10:10
1,1,1-Trichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2-Trichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1-Dichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,1-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2,3-Trichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2,4-Trichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG546858	07/22/11 05:00
1,2-Dibromoethane	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,2-Dichloroethane	< .001	mg/kg			WG546858	07/22/11 05:00

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

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



YOUR LAB OF CHOICE

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Parachute, CO 81635

Quality Assurance Report  
Level II

L527266

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

Tax I.D. 62-0814289

Est. 1970

August 05, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1,2-Dichloropropane	< .001	mg/kg			WG546858	07/22/11 05:00
1,3-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
1,4-Dichlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
2-Butanone (MEK)	< .01	mg/kg			WG546858	07/22/11 05:00
2-Hexanone	< .01	mg/kg			WG546858	07/22/11 05:00
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG546858	07/22/11 05:00
Acetone	< .05	mg/kg			WG546858	07/22/11 05:00
Benzene	< .001	mg/kg			WG546858	07/22/11 05:00
Bromochloromethane	< .001	mg/kg			WG546858	07/22/11 05:00
Bromodichloromethane	< .001	mg/kg			WG546858	07/22/11 05:00
Bromoform	< .001	mg/kg			WG546858	07/22/11 05:00
Bromomethane	< .005	mg/kg			WG546858	07/22/11 05:00
Carbon disulfide	< .001	mg/kg			WG546858	07/22/11 05:00
Carbon tetrachloride	< .001	mg/kg			WG546858	07/22/11 05:00
Chlorobenzene	< .001	mg/kg			WG546858	07/22/11 05:00
Chlorodibromomethane	< .001	mg/kg			WG546858	07/22/11 05:00
Chloroethane	< .005	mg/kg			WG546858	07/22/11 05:00
Chloroform	< .005	mg/kg			WG546858	07/22/11 05:00
Chloromethane	< .0025	mg/kg			WG546858	07/22/11 05:00
cis-1,2-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
cis-1,3-Dichloropropene	< .001	mg/kg			WG546858	07/22/11 05:00
Cyclohexane	< .001	mg/kg			WG546858	07/22/11 05:00
Dichlorodifluoromethane	< .005	mg/kg			WG546858	07/22/11 05:00
Ethylbenzene	< .001	mg/kg			WG546858	07/22/11 05:00
Isopropylbenzene	< .001	mg/kg			WG546858	07/22/11 05:00
m&p-Xylene	< .002	mg/kg			WG546858	07/22/11 05:00
Methyl Acetate	< .02	mg/kg			WG546858	07/22/11 05:00
Methyl Cyclohexane	< .001	mg/kg			WG546858	07/22/11 05:00
Methyl tert-butyl ether	< .001	mg/kg			WG546858	07/22/11 05:00
Methylene Chloride	< .005	mg/kg			WG546858	07/22/11 05:00
n-Hexane	< .01	mg/kg			WG546858	07/22/11 05:00
o-Xylene	< .001	mg/kg			WG546858	07/22/11 05:00
Styrene	< .001	mg/kg			WG546858	07/22/11 05:00
Tetrachloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
Toluene	< .005	mg/kg			WG546858	07/22/11 05:00
trans-1,2-Dichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
trans-1,3-Dichloropropene	< .001	mg/kg			WG546858	07/22/11 05:00
Trichloroethene	< .001	mg/kg			WG546858	07/22/11 05:00
Trichlorofluoromethane	< .005	mg/kg			WG546858	07/22/11 05:00
Vinyl chloride	< .001	mg/kg			WG546858	07/22/11 05:00
Xylenes, Total	< .003	mg/kg			WG546858	07/22/11 05:00
4-Bromofluorobenzene		% Rec.	87.90	59-140	WG546858	07/22/11 05:00
Dibromofluoromethane		% Rec.	105.1	63-139	WG546858	07/22/11 05:00
Toluene-d8		% Rec.	95.09	84-116	WG546858	07/22/11 05:00
a,a,a-Trifluorotoluene		% Rec.	101.6	80-118	WG546858	07/22/11 05:00
Mercury	< .02	mg/kg			WG546851	07/23/11 12:58
Chromium,Hexavalent	< 2	mg/kg			WG547008	07/26/11 11:06
TPH (GC/FID) High Fraction	< 4	ppm			WG547075	07/27/11 14:15
o-Terphenyl		% Rec.	84.31	50-150	WG547075	07/27/11 14:15
TPH (GC/FID) High Fraction	< 4	ppm			WG547531	07/27/11 18:59
o-Terphenyl		% Rec.	86.15	50-150	WG547531	07/27/11 18:59

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

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Est. 1970

August 05, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
pH	4.30	su			WG547126	07/28/11 16:28
1-Methylnaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Chloronaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Methylnaphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
Acenaphthene	< .006	mg/kg			WG547942	08/01/11 10:59
Acenaphthylene	< .006	mg/kg			WG547942	08/01/11 10:59
Anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(a)anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(a)pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(b)fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(g,h,i)perylene	< .006	mg/kg			WG547942	08/01/11 10:59
Benzo(k)fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Chrysene	< .006	mg/kg			WG547942	08/01/11 10:59
Dibenz(a,h)anthracene	< .006	mg/kg			WG547942	08/01/11 10:59
Fluoranthene	< .006	mg/kg			WG547942	08/01/11 10:59
Fluorene	< .006	mg/kg			WG547942	08/01/11 10:59
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
Naphthalene	< .006	mg/kg			WG547942	08/01/11 10:59
Phenanthrene	< .006	mg/kg			WG547942	08/01/11 10:59
Pyrene	< .006	mg/kg			WG547942	08/01/11 10:59
2-Fluorobiphenyl		% Rec.	83.03	34-129	WG547942	08/01/11 10:59
Nitrobenzene-d5		% Rec.	77.80	14-141	WG547942	08/01/11 10:59
p-Terphenyl-d14		% Rec.	83.74	25-139	WG547942	08/01/11 10:59

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Specific Conductance	umhos/cm	560.	530.	5.50	20	L527010-01	WG546877
Barium	mg/kg	3900	3200	19.7	20	L527269-01	WG546924
Cadmium	mg/kg	0.790	0.910	14.1	20	L527269-01	WG546924
Chromium	mg/kg	19.0	20.0	7.25	20	L527269-01	WG546924
Copper	mg/kg	26.0	25.0	2.76	20	L527269-01	WG546924
Lead	mg/kg	29.0	23.0	21.7*	20	L527269-01	WG546924
Silver	mg/kg	0	0	0	20	L527269-01	WG546924
Zinc	mg/kg	60.0	57.0	5.79	20	L527269-01	WG546924
Arsenic	mg/kg	11.0	9.50	14.6	20	L527269-01	WG546924
Nickel	mg/kg	17.0	18.0	4.55	20	L527269-01	WG546924
Selenium	mg/kg	0	0	0	20	L527269-01	WG546924
Mercury	mg/kg	0.120	0.120	0.830	20	L527261-01	WG546851
ORP	mV	85.0	84.0	1.18	20	L527636-01	WG547165
Chromium, Hexavalent	mg/kg	120.	120.	0.971	20	L527071-14	WG547008
pH	su	7.50	7.50	0	1	L527083-01	WG547126
pH	su	8.10	8.10	0	1	L527641-02	WG547126

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.08	110.	67-135	WG546850
a,a,a-Trifluorotoluene(FID)				103.1	59-128	WG546850
Specific Conductance	umhos/cm	445	450.	101.	85-115	WG546877
1-Methylnaphthalene	mg/kg	.033	0.0239	72.3	48-113	WG546951
2-Chloronaphthalene	mg/kg	.033	0.0243	73.5	51-114	WG546951
2-Methylnaphthalene	mg/kg	.033	0.0240	72.8	44-109	WG546951
Acenaphthene	mg/kg	.033	0.0254	77.0	52-108	WG546951
Acenaphthylene	mg/kg	.033	0.0257	77.8	51-110	WG546951
Anthracene	mg/kg	.033	0.0262	79.5	58-120	WG546951
Benzo(a)anthracene	mg/kg	.033	0.0280	84.9	54-110	WG546951
Benzo(a)pyrene	mg/kg	.033	0.0256	77.5	56-118	WG546951
Benzo(b)fluoranthene	mg/kg	.033	0.0252	76.5	55-114	WG546951
Benzo(g,h,i)perylene	mg/kg	.033	0.0290	88.0	48-130	WG546951
Benzo(k)fluoranthene	mg/kg	.033	0.0250	75.6	55-122	WG546951
Chrysene	mg/kg	.033	0.0250	75.8	57-118	WG546951
Dibenz(a,h)anthracene	mg/kg	.033	0.0275	83.4	53-122	WG546951
Fluoranthene	mg/kg	.033	0.0255	77.2	58-118	WG546951
Fluorene	mg/kg	.033	0.0253	76.8	54-109	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0280	84.7	51-125	WG546951
Naphthalene	mg/kg	.033	0.0230	69.7	45-105	WG546951
Phenanthrene	mg/kg	.033	0.0264	79.9	53-114	WG546951
Pyrene	mg/kg	.033	0.0281	85.1	53-121	WG546951
2-Fluorobiphenyl				75.04	34-129	WG546951
Nitrobenzene-d5				70.45	14-141	WG546951
p-Terphenyl-d14				78.55	25-139	WG546951
Ethanol	mg/kg	.5	0.428	85.6	70-130	WG546892
Methanol	mg/kg	.5	0.378	75.7	70-130	WG546892
Arsenic	mg/kg	192	173.	90.1	78.6-120.8	WG546924
Barium	mg/kg	420	376.	89.5	78.8-121.4	WG546924
Cadmium	mg/kg	70.1	70.3	100.	78.5-121.5	WG546924
Chromium	mg/kg	168	169.	101.	80.4-120.2	WG546924
Copper	mg/kg	122	124.	102.	81.6-119.7	WG546924
Lead	mg/kg	113	104.	92.0	77.3-122.1	WG546924
Nickel	mg/kg	74.1	82.4	111.	78.8-121.2	WG546924
Selenium	mg/kg	176	176.	100.	75.6-125.0	WG546924
Silver	mg/kg	115	107.	93.0	66-133.9	WG546924
Zinc	mg/kg	437	412.	94.3	78.5-121.7	WG546924
1,1,1-Trichloroethane	mg/kg	.025	0.0243	97.1	62-135	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0187	75.0	74-129	WG546858
1,1,2-Trichloroethane	mg/kg	.025	0.0202	80.7	77-124	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	.025	0.0303	121.	49-155	WG546858
1,1-Dichloroethane	mg/kg	.025	0.0247	98.8	61-134	WG546858
1,1-Dichloroethene	mg/kg	.025	0.0323	129.	53-136	WG546858
1,2,3-Trichlorobenzene	mg/kg	.025	0.0228	91.2	62-146	WG546858
1,2,4-Trichlorobenzene	mg/kg	.025	0.0235	94.1	61-148	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0180	72.1	61-134	WG546858
1,2-Dibromoethane	mg/kg	.025	0.0195	77.9	76-127	WG546858
1,2-Dichlorobenzene	mg/kg	.025	0.0205	82.2	77-123	WG546858
1,2-Dichloroethane	mg/kg	.025	0.0206	82.3	58-141	WG546858
1,2-Dichloropropane	mg/kg	.025	0.0212	84.7	71-128	WG546858

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,3-Dichlorobenzene	mg/kg	.025	0.0222	88.6	71-132	WG546858
1,4-Dichlorobenzene	mg/kg	.025	0.0210	84.2	72-123	WG546858
2-Butanone (MEK)	mg/kg	.125	0.0961	76.9	51-131	WG546858
2-Hexanone	mg/kg	.125	0.101	80.9	62-145	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.103	82.6	61-143	WG546858
Acetone	mg/kg	.125	0.108	86.5	44-140	WG546858
Benzene	mg/kg	.025	0.0230	92.2	65-128	WG546858
Bromochloromethane	mg/kg	.025	0.0227	90.9	73-130	WG546858
Bromodichloromethane	mg/kg	.025	0.0201	80.4	66-126	WG546858
Bromoform	mg/kg	.025	0.0191	76.3	64-139	WG546858
Bromomethane	mg/kg	.025	0.0250	99.9	41-175	WG546858
Carbon disulfide	mg/kg	.025	0.0274	110.	36-161	WG546858
Carbon tetrachloride	mg/kg	.025	0.0250	99.9	60-140	WG546858
Chlorobenzene	mg/kg	.025	0.0213	85.4	75-125	WG546858
Chlorodibromomethane	mg/kg	.025	0.0194	77.4	72-137	WG546858
Chloroethane	mg/kg	.025	0.0261	105.	44-159	WG546858
Chloroform	mg/kg	.025	0.0227	90.8	63-123	WG546858
Chloromethane	mg/kg	.025	0.0213	85.0	42-149	WG546858
cis-1,2-Dichloroethene	mg/kg	.025	0.0240	95.9	71-129	WG546858
cis-1,3-Dichloropropene	mg/kg	.025	0.0213	85.1	73-132	WG546858
Dichlorodifluoromethane	mg/kg	.025	0.0221	88.2	26-186	WG546858
Ethylbenzene	mg/kg	.025	0.0227	90.7	74-128	WG546858
Isopropylbenzene	mg/kg	.025	0.0253	101.	73-130	WG546858
m&p-Xylene	mg/kg	.05	0.0469	93.7	73-127	WG546858
Methyl tert-butyl ether	mg/kg	.025	0.0208	83.3	44-148	WG546858
Methylene Chloride	mg/kg	.025	0.0221	88.5	57-129	WG546858
n-Hexane	mg/kg	.025	0.0212	84.8	28-169	WG546858
o-Xylene	mg/kg	.025	0.0221	88.3	75-129	WG546858
Styrene	mg/kg	.025	0.0162	64.7*	76-133	WG546858
Tetrachloroethene	mg/kg	.025	0.0234	93.5	65-135	WG546858
Toluene	mg/kg	.025	0.0212	84.9	70-120	WG546858
trans-1,2-Dichloroethene	mg/kg	.025	0.0235	93.9	61-133	WG546858
trans-1,3-Dichloropropene	mg/kg	.025	0.0186	74.4	70-135	WG546858
Trichloroethene	mg/kg	.025	0.0230	92.0	71-126	WG546858
Trichlorofluoromethane	mg/kg	.025	0.0276	110.	52-147	WG546858
Vinyl chloride	mg/kg	.025	0.0228	91.4	50-151	WG546858
Xylenes, Total	mg/kg	.075	0.0689	91.9	74-127	WG546858
4-Bromofluorobenzene				89.38	59-140	WG546858
Dibromofluoromethane				97.36	63-139	WG546858
Toluene-d8				93.93	84-116	WG546858
a,a,a-Trifluorotoluene				94.96	80-118	WG546858
Mercury	mg/kg	8.77	10.6	121.	71.6-127.7	WG546851
ORP	mV	229	230.	100.	95.6-104.37	WG547165
Chromium, Hexavalent	mg/kg	132	91.8	69.5	50-150	WG547008
TPH (GC/FID) High Fraction	ppm	60	49.2	82.0	50-150	WG547075
o-Terphenyl				75.40	50-150	WG547075
TPH (GC/FID) High Fraction	ppm	60	52.4	87.3	50-150	WG547531
o-Terphenyl				75.71	50-150	WG547531

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Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known Val	Result	Result			
pH	su	6.3	6.30		100.	97.98-102.02	WG547126
1-Methylnaphthalene	mg/kg	.033	0.0257		77.9	48-113	WG547942
2-Chloronaphthalene	mg/kg	.033	0.0246		74.7	51-114	WG547942
2-Methylnaphthalene	mg/kg	.033	0.0240		72.8	44-109	WG547942
Acenaphthene	mg/kg	.033	0.0261		79.1	52-108	WG547942
Acenaphthylene	mg/kg	.033	0.0263		79.8	51-110	WG547942
Anthracene	mg/kg	.033	0.0277		84.0	58-120	WG547942
Benzo(a)anthracene	mg/kg	.033	0.0286		86.5	54-110	WG547942
Benzo(a)pyrene	mg/kg	.033	0.0277		84.1	56-118	WG547942
Benzo(b)fluoranthene	mg/kg	.033	0.0289		87.5	55-114	WG547942
Benzo(g,h,i)perylene	mg/kg	.033	0.0284		86.1	48-130	WG547942
Benzo(k)fluoranthene	mg/kg	.033	0.0274		83.0	55-122	WG547942
Chrysene	mg/kg	.033	0.0282		85.4	57-118	WG547942
Dibenz(a,h)anthracene	mg/kg	.033	0.0279		84.4	53-122	WG547942
Fluoranthene	mg/kg	.033	0.0274		82.9	58-118	WG547942
Fluorene	mg/kg	.033	0.0273		82.7	54-109	WG547942
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0282		85.5	51-125	WG547942
Naphthalene	mg/kg	.033	0.0247		74.7	45-105	WG547942
Phenanthrene	mg/kg	.033	0.0230		69.8	53-114	WG547942
Pyrene	mg/kg	.033	0.0275		83.4	53-121	WG547942
2-Fluorobiphenyl					77.95	34-129	WG547942
Nitrobenzene-d5					74.78	14-141	WG547942
p-Terphenyl-d14					81.37	25-139	WG547942

Analyte	Units	Laboratory Control		Sample	%Rec	Limit	RPD	Limit	Batch
		Result	Ref	Duplicate					
TPH (GC/FID) Low Fraction	mg/kg	6.18	6.08		112.	67-135	1.71	20	WG546850
a,a,a-Trifluorotoluene(FID)					104.2	59-128			WG546850
Specific Conductance	umhos/	450.	450.		101.	85-115	0	20	WG546877
1-Methylnaphthalene	mg/kg	0.0237	0.0239		72.0	48-113	0.657	24	WG546951
2-Chloronaphthalene	mg/kg	0.0236	0.0243		71.0	51-114	2.84	24	WG546951
2-Methylnaphthalene	mg/kg	0.0240	0.0240		73.0	44-109	0.0348	24	WG546951
Acenaphthene	mg/kg	0.0238	0.0254		72.0	52-108	6.33	22	WG546951
Acenaphthylene	mg/kg	0.0244	0.0257		74.0	51-110	5.17	21	WG546951
Anthracene	mg/kg	0.0260	0.0262		79.0	58-120	0.959	20	WG546951
Benzo(a)anthracene	mg/kg	0.0279	0.0280		84.0	54-110	0.575	22	WG546951
Benzo(a)pyrene	mg/kg	0.0265	0.0256		80.0	56-118	3.32	21	WG546951
Benzo(b)fluoranthene	mg/kg	0.0273	0.0252		83.0	55-114	7.92	20	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0305	0.0290		92.0	48-130	4.83	20	WG546951
Benzo(k)fluoranthene	mg/kg	0.0243	0.0250		74.0	55-122	2.46	25	WG546951
Chrysene	mg/kg	0.0267	0.0250		81.0	57-118	6.33	20	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0288	0.0275		87.0	53-122	4.57	20	WG546951
Fluoranthene	mg/kg	0.0250	0.0255		76.0	58-118	1.75	20	WG546951
Fluorene	mg/kg	0.0246	0.0253		74.0	54-109	3.04	20	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0289	0.0280		88.0	51-125	3.47	21	WG546951
Naphthalene	mg/kg	0.0222	0.0230		67.0	45-105	3.35	24	WG546951
Phenanthrene	mg/kg	0.0256	0.0264		77.0	53-114	3.14	20	WG546951
Pyrene	mg/kg	0.0279	0.0281		84.0	53-121	0.838	20	WG546951
2-Fluorobiphenyl					70.51	34-129			WG546951
Nitrobenzene-d5					67.08	14-141			WG546951
p-Terphenyl-d14					79.07	25-139			WG546951

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Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Ethanol	mg/kg	0.467	0.428	93.0		70-130	8.77	20	WG546892
Methanol	mg/kg	0.409	0.378	82.0		70-130	7.86	20	WG546892
1,1,1-Trichloroethane	mg/kg	0.0216	0.0243	86.0		62-135	11.6	20	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	0.0192	0.0187	77.0		74-129	2.38	20	WG546858
1,1,2-Trichloroethane	mg/kg	0.0198	0.0202	79.0		77-124	1.88	20	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0269	0.0303	107.		49-155	11.9	20	WG546858
1,1-Dichloroethane	mg/kg	0.0220	0.0247	88.0		61-134	11.6	20	WG546858
1,1-Dichloroethene	mg/kg	0.0275	0.0323	110.		53-136	15.9	20	WG546858
1,2,3-Trichlorobenzene	mg/kg	0.0214	0.0228	86.0		62-146	6.14	20	WG546858
1,2,4-Trichlorobenzene	mg/kg	0.0223	0.0235	89.0		61-148	5.09	20	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	0.0168	0.0180	67.0		61-134	7.22	21	WG546858
1,2-Dibromoethane	mg/kg	0.0195	0.0195	78.0		76-127	0.170	20	WG546858
1,2-Dichlorobenzene	mg/kg	0.0189	0.0205	75*		77-123	8.55	20	WG546858
1,2-Dichloroethane	mg/kg	0.0197	0.0206	79.0		58-141	4.54	20	WG546858
1,2-Dichloropropane	mg/kg	0.0203	0.0212	81.0		71-128	4.50	20	WG546858
1,3-Dichlorobenzene	mg/kg	0.0214	0.0222	86.0		71-132	3.50	20	WG546858
1,4-Dichlorobenzene	mg/kg	0.0196	0.0210	78.0		72-123	6.88	20	WG546858
2-Butanone (MEK)	mg/kg	0.0978	0.0961	78.0		51-131	1.75	25	WG546858
2-Hexanone	mg/kg	0.102	0.101	82.0		62-145	1.04	23	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	0.101	0.103	81.0		61-143	2.36	23	WG546858
Acetone	mg/kg	0.116	0.108	93.0		44-140	7.08	25	WG546858
Benzene	mg/kg	0.0208	0.0230	83.0		65-128	10.3	20	WG546858
Bromochloromethane	mg/kg	0.0208	0.0227	83.0		73-130	8.89	20	WG546858
Bromodichloromethane	mg/kg	0.0186	0.0201	74.0		66-126	7.76	20	WG546858
Bromoform	mg/kg	0.0195	0.0191	78.0		64-139	2.14	20	WG546858
Bromomethane	mg/kg	0.0219	0.0250	88.0		41-175	12.9	20	WG546858
Carbon disulfide	mg/kg	0.0239	0.0274	96.0		36-161	13.7	20	WG546858
Carbon tetrachloride	mg/kg	0.0228	0.0250	91.0		60-140	9.18	20	WG546858
Chlorobenzene	mg/kg	0.0205	0.0213	82.0		75-125	3.97	20	WG546858
Chlorodibromomethane	mg/kg	0.0194	0.0194	78.0		72-137	0.370	20	WG546858
Chloroethane	mg/kg	0.0225	0.0261	90.0		44-159	14.9	20	WG546858
Chloroform	mg/kg	0.0204	0.0227	82.0		63-123	10.5	20	WG546858
Chloromethane	mg/kg	0.0188	0.0213	75.0		42-149	12.3	20	WG546858
cis-1,2-Dichloroethene	mg/kg	0.0206	0.0240	82.0		71-129	14.9	20	WG546858
cis-1,3-Dichloropropene	mg/kg	0.0203	0.0213	81.0		73-132	4.89	20	WG546858
Dichlorodifluoromethane	mg/kg	0.0183	0.0221	73.0		26-186	18.6	22	WG546858
Ethylbenzene	mg/kg	0.0221	0.0227	88.0		74-128	2.76	20	WG546858
Isopropylbenzene	mg/kg	0.0244	0.0253	98.0		73-130	3.48	20	WG546858
m&p-Xylene	mg/kg	0.0447	0.0469	89.0		73-127	4.74	20	WG546858
Methyl tert-butyl ether	mg/kg	0.0205	0.0208	82.0		44-148	1.36	20	WG546858
Methylene Chloride	mg/kg	0.0212	0.0221	85.0		57-129	4.16	20	WG546858
n-Hexane	mg/kg	0.0190	0.0212	76.0		28-169	10.8	20	WG546858
o-Xylene	mg/kg	0.0208	0.0221	83.0		75-129	6.08	20	WG546858
Styrene	mg/kg	0.0158	0.0162	63*		76-133	2.40	20	WG546858
Tetrachloroethene	mg/kg	0.0221	0.0234	88.0		65-135	5.36	20	WG546858
Toluene	mg/kg	0.0201	0.0212	80.0		70-120	5.60	20	WG546858
trans-1,2-Dichloroethene	mg/kg	0.0216	0.0235	86.0		61-133	8.17	20	WG546858
trans-1,3-Dichloropropene	mg/kg	0.0187	0.0186	75.0		70-135	0.460	20	WG546858
Trichloroethene	mg/kg	0.0210	0.0230	84.0		71-126	9.24	20	WG546858
Trichlorofluoromethane	mg/kg	0.0245	0.0276	98.0		52-147	11.7	20	WG546858
Vinyl chloride	mg/kg	0.0200	0.0228	80.0		50-151	13.4	20	WG546858
Xylenes, Total	mg/kg	0.0655	0.0689	87.0		74-127	5.17	20	WG546858
4-Bromofluorobenzene				96.61		59-140			WG546858
Dibromofluoromethane				97.26		63-139			WG546858
Toluene-d8				95.90		84-116			WG546858
a,a,a-Trifluorotoluene				97.31		80-118			WG546858

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

Parachute, CO 81635

Quality Assurance Report  
Level II

L527266

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(615) 758-5858  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

August 05, 2011

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
ORP	mV	240.	230.	105*		95.6-104.37	4.26	20	WG547165
Chromium, Hexavalent	mg/kg	93.4	91.8	71.0		50-150	1.73	20	WG547008
TPH (GC/FID) High Fraction o-Terphenyl	ppm	49.4	49.2	82.0 79.38		50-150 50-150	0.376	25	WG547075 WG547075
TPH (GC/FID) High Fraction o-Terphenyl	ppm	49.6	52.4	83.0 69.61		50-150 50-150	5.43	25	WG547531 WG547531
pH	su	6.20	6.30	98.0		97.98-102.02	1.60	20	WG547126
1-Methylnaphthalene	mg/kg	0.0244	0.0257	74.0		48-113	5.19	24	WG547942
2-Chloronaphthalene	mg/kg	0.0244	0.0246	74.0		51-114	1.02	24	WG547942
2-Methylnaphthalene	mg/kg	0.0237	0.0240	72.0		44-109	1.40	24	WG547942
Acenaphthene	mg/kg	0.0255	0.0261	77.0		52-108	2.20	22	WG547942
Acenaphthylene	mg/kg	0.0254	0.0263	77.0		51-110	3.75	21	WG547942
Anthracene	mg/kg	0.0277	0.0277	84.0		58-120	0.263	20	WG547942
Benzo(a)anthracene	mg/kg	0.0279	0.0286	85.0		54-110	2.19	22	WG547942
Benzo(a)pyrene	mg/kg	0.0273	0.0277	83.0		56-118	1.58	21	WG547942
Benzo(b)fluoranthene	mg/kg	0.0280	0.0289	85.0		55-114	3.02	20	WG547942
Benzo(g,h,i)perylene	mg/kg	0.0284	0.0284	86.0		48-130	0.0518	20	WG547942
Benzo(k)fluoranthene	mg/kg	0.0280	0.0274	85.0		55-122	2.26	25	WG547942
Chrysene	mg/kg	0.0284	0.0282	86.0		57-118	0.843	20	WG547942
Dibenz(a,h)anthracene	mg/kg	0.0276	0.0279	84.0		53-122	0.821	20	WG547942
Fluoranthene	mg/kg	0.0271	0.0274	82.0		58-118	0.911	20	WG547942
Fluorene	mg/kg	0.0261	0.0273	79.0		54-109	4.52	20	WG547942
Indeno(1,2,3-cd)pyrene	mg/kg	0.0276	0.0282	84.0		51-125	2.17	21	WG547942
Naphthalene	mg/kg	0.0246	0.0247	74.0		45-105	0.409	24	WG547942
Phenanthrene	mg/kg	0.0239	0.0230	72.0		53-114	3.64	20	WG547942
Pyrene	mg/kg	0.0270	0.0275	82.0		53-121	1.83	20	WG547942
2-Fluorobiphenyl				78.87		34-129			WG547942
Nitrobenzene-d5				74.70		14-141			WG547942
p-Terphenyl-d14				79.60		25-139			WG547942

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
TPH (GC/FID) Low Fraction	mg/kg	21.6	0	5.5	78.6	55-109	L527266-01	WG546850
a,a,a-Trifluorotoluene(FID)					98.19	59-128		WG546850
1-Methylnaphthalene	mg/kg	0.0323	0	.033	97.9	25-155	L527337-01	WG546951
2-Chloronaphthalene	mg/kg	0.0322	0	.033	97.6	31-153	L527337-01	WG546951
2-Methylnaphthalene	mg/kg	0.0321	0	.033	97.3	22-172	L527337-01	WG546951
Acenaphthene	mg/kg	0.0330	0	.033	100.	43-133	L527337-01	WG546951
Acenaphthylene	mg/kg	0.0333	0	.033	101.	42-146	L527337-01	WG546951
Anthracene	mg/kg	0.0348	0	.033	106.	38-153	L527337-01	WG546951
Benzo(a)anthracene	mg/kg	0.0342	0	.033	104.	31-142	L527337-01	WG546951
Benzo(a)pyrene	mg/kg	0.0311	0	.033	94.2	26-152	L527337-01	WG546951
Benzo(b)fluoranthene	mg/kg	0.0313	0	.033	95.0	10-188	L527337-01	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0358	0	.033	108.	10-176	L527337-01	WG546951
Benzo(k)fluoranthene	mg/kg	0.0312	0	.033	94.6	22-163	L527337-01	WG546951

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Chrysene	mg/kg	0.0316	0	.033	95.7	26-146	L527337-01	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0347	0	.033	105.	10-160	L527337-01	WG546951
Fluoranthene	mg/kg	0.0335	0	.033	101.	23-160	L527337-01	WG546951
Fluorene	mg/kg	0.0325	0	.033	98.5	44-143	L527337-01	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0348	0	.033	106.	10-157	L527337-01	WG546951
Naphthalene	mg/kg	0.0305	0	.033	92.5	22-156	L527337-01	WG546951
Phenanthrene	mg/kg	0.0341	0	.033	103.	23-164	L527337-01	WG546951
Pyrene	mg/kg	0.0341	0	.033	103.	12-170	L527337-01	WG546951
2-Fluorobiphenyl					100.2	34-129		WG546951
Nitrobenzene-d5					95.04	14-141		WG546951
p-Terphenyl-d14					96.98	25-139		WG546951
Ethanol	mg/kg	0.527	0	.5	105.	70-130	L527097-04	WG546892
Methanol	mg/kg	0.466	0	.5	93.2	70-130	L527097-04	WG546892
Barium	mg/kg	3310	3200	50	220.*	75-125	L527269-01	WG546924
Cadmium	mg/kg	44.4	0.910	50	87.0	75-125	L527269-01	WG546924
Chromium	mg/kg	68.4	20.0	50	96.8	75-125	L527269-01	WG546924
Copper	mg/kg	76.5	25.0	50	103.	75-125	L527269-01	WG546924
Lead	mg/kg	68.9	23.0	50	91.8	75-125	L527269-01	WG546924
Silver	mg/kg	50.3	0	50	101.	75-125	L527269-01	WG546924
Zinc	mg/kg	105.	57.0	50	96.0	75-125	L527269-01	WG546924
Arsenic	mg/kg	60.5	9.50	10	102.	75-125	L527269-01	WG546924
Nickel	mg/kg	68.7	18.0	10	101.	75-125	L527269-01	WG546924
Selenium	mg/kg	36.2	0	10	72.4*	75-125	L527269-01	WG546924
Mercury	mg/kg	0.339	0.120	.25	87.6	70-130	L527261-01	WG546851
Chromium, Hexavalent	mg/kg	16.8	0	20	84.0	50-150	L527257-01	WG547008
1,1,1-Trichloroethane	mg/kg	1.42	0	.025	104.	23-147	L527252-01	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	1.51	0	.025	110.	18-150	L527252-01	WG546858
1,1,2-Trichloroethane	mg/kg	1.54	0	.025	112.	35-140	L527252-01	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.28	0	.025	92.9	10-145	L527252-01	WG546858
1,1-Dichloroethane	mg/kg	1.33	0	.025	97.0	24-148	L527252-01	WG546858
1,1-Dichloroethene	mg/kg	1.08	0	.025	78.6	10-149	L527252-01	WG546858
1,2,3-Trichlorobenzene	mg/kg	1.51	0	.025	110.	10-129	L527252-01	WG546858
1,2,4-Trichlorobenzene	mg/kg	1.52	0	.025	110.	10-119	L527252-01	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	1.34	0	.025	97.3	19-145	L527252-01	WG546858
1,2-Dibromoethane	mg/kg	1.54	0	.025	112.	24-145	L527252-01	WG546858
1,2-Dichlorobenzene	mg/kg	1.51	0	.025	110.	12-130	L527252-01	WG546858
1,2-Dichloroethane	mg/kg	1.38	0	.025	100.	21-155	L527252-01	WG546858
1,2-Dichloropropane	mg/kg	1.39	0	.025	101.	28-144	L527252-01	WG546858
1,3-Dichlorobenzene	mg/kg	1.67	0	.025	121.	10-129	L527252-01	WG546858
1,4-Dichlorobenzene	mg/kg	1.46	0	.025	106.	10-121	L527252-01	WG546858
2-Butanone (MEK)	mg/kg	6.64	0	.125	96.6	21-143	L527252-01	WG546858
2-Hexanone	mg/kg	7.39	0	.125	108.	22-151	L527252-01	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	6.76	0	.125	98.3	31-151	L527252-01	WG546858
Acetone	mg/kg	6.01	0.210	.125	84.3	13-158	L527252-01	WG546858
Benzene	mg/kg	1.42	0	.025	103.	16-143	L527252-01	WG546858
Bromochloromethane	mg/kg	1.55	0	.025	113.	25-152	L527252-01	WG546858
Bromodichloromethane	mg/kg	1.42	0	.025	103.	27-139	L527252-01	WG546858
Bromoform	mg/kg	1.27	0	.025	92.1	21-144	L527252-01	WG546858
Bromomethane	mg/kg	1.32	0	.025	95.8	0-180	L527252-01	WG546858

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Est. 1970

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref	Res				
Carbon disulfide	mg/kg	1.12	0	.025	81.1	10-156	L527252-01	WG546858
Carbon tetrachloride	mg/kg	1.41	0	.025	102.	12-149	L527252-01	WG546858
Chlorobenzene	mg/kg	1.57	0	.025	114.	17-134	L527252-01	WG546858
Chlorodibromomethane	mg/kg	1.60	0	.025	116.	28-147	L527252-01	WG546858
Chloroethane	mg/kg	0.248	0	.025	18.0	0-172	L527252-01	WG546858
Chloroform	mg/kg	1.44	0	.025	104.	28-138	L527252-01	WG546858
Chloromethane	mg/kg	1.47	0	.025	107.	10-158	L527252-01	WG546858
cis-1,2-Dichloroethene	mg/kg	1.49	0	.025	108.	21-147	L527252-01	WG546858
cis-1,3-Dichloropropene	mg/kg	1.44	0	.025	104.	17-145	L527252-01	WG546858
Dichlorodifluoromethane	mg/kg	1.55	0	.025	113.	0-192	L527252-01	WG546858
Ethylbenzene	mg/kg	1.62	0	.025	118.	12-137	L527252-01	WG546858
Isopropylbenzene	mg/kg	1.63	0	.025	119.	14-134	L527252-01	WG546858
m&p-Xylene	mg/kg	3.17	0	.05	115.	10-135	L527252-01	WG546858
Methyl tert-butyl ether	mg/kg	1.44	0	.025	105.	21-157	L527252-01	WG546858
Methylene Chloride	mg/kg	1.30	0.00980	.025	93.7	12-149	L527252-01	WG546858
n-Hexane	mg/kg	1.37	0	.025	99.7	10-129	L527252-01	WG546858
o-Xylene	mg/kg	1.65	0	.025	120.	14-140	L527252-01	WG546858
Styrene	mg/kg	1.49	0	.025	109.	10-140	L527252-01	WG546858
Tetrachloroethene	mg/kg	1.49	0	.025	109.	10-131	L527252-01	WG546858
Toluene	mg/kg	1.40	0.00487	.025	101.	12-136	L527252-01	WG546858
trans-1,2-Dichloroethene	mg/kg	1.39	0	.025	101.	10-143	L527252-01	WG546858
trans-1,3-Dichloropropene	mg/kg	1.36	0	.025	98.8	16-147	L527252-01	WG546858
Trichloroethene	mg/kg	1.45	0	.025	106.	10-155	L527252-01	WG546858
Trichlorofluoromethane	mg/kg	0.516	0	.025	37.6	10-154	L527252-01	WG546858
Vinyl chloride	mg/kg	1.41	0	.025	102.	10-159	L527252-01	WG546858
Xylenes, Total	mg/kg	4.83	0	.075	117.	10-138	L527252-01	WG546858
TPH (GC/FID) High Fraction	ppm	139.	100.	60	65.1	50-150	L527266-02	WG547075
o-Terphenyl					78.79	50-150		WG547075
TPH (GC/FID) High Fraction	ppm	49.9	0	60	83.1	50-150	L527450-04	WG547531
o-Terphenyl					72.76	50-150		WG547531

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	21.3	21.6	77.3	55-109	1.71	20	L527266-01	WG546850
a,a,a-Trifluorotoluene(FID)				100.8	59-128				WG546850
1-Methylnaphthalene	mg/kg	0.0288	0.0323	87.3	25-155	11.4	27	L527337-01	WG546951
2-Chloronaphthalene	mg/kg	0.0289	0.0322	87.5	31-153	10.9	22	L527337-01	WG546951
2-Methylnaphthalene	mg/kg	0.0285	0.0321	86.4	22-172	11.8	29	L527337-01	WG546951
Acenaphthene	mg/kg	0.0315	0.0330	95.4	43-133	4.69	26	L527337-01	WG546951
Acenaphthylene	mg/kg	0.0316	0.0333	95.8	42-146	5.03	22	L527337-01	WG546951
Anthracene	mg/kg	0.0352	0.0348	107.	38-153	0.962	27	L527337-01	WG546951
Benzo(a)anthracene	mg/kg	0.0361	0.0342	109.	31-142	5.41	31	L527337-01	WG546951
Benzo(a)pyrene	mg/kg	0.0317	0.0311	96.1	26-152	2.08	32	L527337-01	WG546951
Benzo(b)fluoranthene	mg/kg	0.0314	0.0313	95.3	10-188	0.309	33	L527337-01	WG546951
Benzo(g,h,i)perylene	mg/kg	0.0373	0.0358	113.	10-176	4.12	30	L527337-01	WG546951
Benzo(k)fluoranthene	mg/kg	0.0322	0.0312	97.6	22-163	3.08	29	L527337-01	WG546951
Chrysene	mg/kg	0.0331	0.0316	100.	26-146	4.84	30	L527337-01	WG546951
Dibenz(a,h)anthracene	mg/kg	0.0364	0.0347	110.	10-160	4.64	39	L527337-01	WG546951
Fluoranthene	mg/kg	0.0346	0.0335	105.	23-160	3.25	22	L527337-01	WG546951
Fluorene	mg/kg	0.0318	0.0325	96.4	44-143	2.19	23	L527337-01	WG546951
Indeno(1,2,3-cd)pyrene	mg/kg	0.0362	0.0348	110.	10-157	3.75	40	L527337-01	WG546951
Naphthalene	mg/kg	0.0271	0.0305	82.1	22-156	12.0	27	L527337-01	WG546951

\* 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  
Level II

L527266

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Tax I.D. 62-0814289

Est. 1970

August 05, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Phenanthrene	mg/kg	0.0349	0.0341	106.	23-164	2.47	25	L527337-01	WG546951
Pyrene	mg/kg	0.0361	0.0341	110.	12-170	5.85	24	L527337-01	WG546951
2-Fluorobiphenyl				93.83	34-129				WG546951
Nitrobenzene-d5				85.53	14-141				WG546951
p-Terphenyl-d14				102.0	25-139				WG546951
Ethanol	mg/kg	0.548	0.527	110.	70-130	3.84	20	L527097-04	WG546892
Methanol	mg/kg	0.488	0.466	97.5	70-130	4.58	20	L527097-04	WG546892
Barium	mg/kg	2990	3310	0*	75-125	10.2	20	L527269-01	WG546924
Cadmium	mg/kg	43.3	44.4	84.8	75-125	2.51	20	L527269-01	WG546924
Chromium	mg/kg	65.6	68.4	91.2	75-125	4.18	20	L527269-01	WG546924
Copper	mg/kg	78.2	76.5	106.	75-125	2.20	20	L527269-01	WG546924
Lead	mg/kg	65.7	68.9	85.4	75-125	4.75	20	L527269-01	WG546924
Silver	mg/kg	49.4	50.3	98.8	75-125	1.81	20	L527269-01	WG546924
Zinc	mg/kg	101.	105.	88.0	75-125	3.88	20	L527269-01	WG546924
Arsenic	mg/kg	70.4	60.5	122.	75-125	15.1	20	L527269-01	WG546924
Nickel	mg/kg	73.8	68.7	112.	75-125	7.16	20	L527269-01	WG546924
Selenium	mg/kg	36.8	36.2	73.6*	75-125	1.64	20	L527269-01	WG546924
Mercury	mg/kg	0.288	0.339	67.2*	70-130	16.3	20	L527261-01	WG546851
Chromium, Hexavalent	mg/kg	15.2	16.8	76.0	50-150	10.0	20	L527257-01	WG547008
1,1,1-Trichloroethane	mg/kg	1.36	1.42	98.7	23-147	4.81	32	L527252-01	WG546858
1,1,2,2-Tetrachloroethane	mg/kg	1.48	1.51	108.	18-150	1.98	33	L527252-01	WG546858
1,1,2-Trichloroethane	mg/kg	1.53	1.54	111.	35-140	0.760	29	L527252-01	WG546858
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.18	1.28	86.0	10-145	7.67	35	L527252-01	WG546858
1,1-Dichloroethane	mg/kg	1.27	1.33	92.4	24-148	4.85	31	L527252-01	WG546858
1,1-Dichloroethene	mg/kg	0.979	1.08	71.2	10-149	9.87	34	L527252-01	WG546858
1,2,3-Trichlorobenzene	mg/kg	1.50	1.51	109.	10-129	0.490	43	L527252-01	WG546858
1,2,4-Trichlorobenzene	mg/kg	1.48	1.52	108.	10-119	2.38	44	L527252-01	WG546858
1,2-Dibromo-3-Chloropropane	mg/kg	1.32	1.34	95.8	19-145	1.62	35	L527252-01	WG546858
1,2-Dibromoethane	mg/kg	1.53	1.54	111.	24-145	0.750	31	L527252-01	WG546858
1,2-Dichlorobenzene	mg/kg	1.54	1.51	112.	12-130	1.87	35	L527252-01	WG546858
1,2-Dichloroethane	mg/kg	1.35	1.38	98.1	21-155	2.30	29	L527252-01	WG546858
1,2-Dichloropropane	mg/kg	1.38	1.39	100.	28-144	1.02	30	L527252-01	WG546858
1,3-Dichlorobenzene	mg/kg	1.71	1.67	124.	10-129	2.24	38	L527252-01	WG546858
1,4-Dichlorobenzene	mg/kg	1.49	1.46	108.	10-121	2.06	36	L527252-01	WG546858
2-Butanone (MEK)	mg/kg	6.62	6.64	96.2	21-143	0.390	37	L527252-01	WG546858
2-Hexanone	mg/kg	7.31	7.39	106.	22-151	1.12	38	L527252-01	WG546858
4-Methyl-2-pentanone (MIBK)	mg/kg	6.63	6.76	96.5	31-151	1.88	36	L527252-01	WG546858
Acetone	mg/kg	5.77	6.01	80.9	13-158	4.00	34	L527252-01	WG546858
Benzene	mg/kg	1.37	1.42	99.3	16-143	3.60	31	L527252-01	WG546858
Bromochloromethane	mg/kg	1.50	1.55	109.	25-152	3.51	29	L527252-01	WG546858
Bromodichloromethane	mg/kg	1.39	1.42	101.	27-139	2.02	30	L527252-01	WG546858
Bromoform	mg/kg	1.23	1.27	89.8	21-144	2.54	34	L527252-01	WG546858
Bromomethane	mg/kg	1.20	1.32	87.2	0-180	9.40	41	L527252-01	WG546858
Carbon disulfide	mg/kg	0.984	1.12	71.5	10-156	12.6	38	L527252-01	WG546858
Carbon tetrachloride	mg/kg	1.33	1.41	96.4	12-149	6.03	34	L527252-01	WG546858
Chlorobenzene	mg/kg	1.58	1.57	115.	17-134	0.680	34	L527252-01	WG546858
Chlorodibromomethane	mg/kg	1.57	1.60	114.	28-147	2.08	32	L527252-01	WG546858
Chloroethane	mg/kg	0.236	0.248	17.1	0-172	5.09	38	L527252-01	WG546858
Chloroform	mg/kg	1.39	1.44	101.	28-138	3.02	30	L527252-01	WG546858

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

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Est. 1970

August 05, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chloromethane	mg/kg	1.37	1.47	99.8	10-158	7.05	35	L527252-01	WG546858
cis-1,2-Dichloroethene	mg/kg	1.41	1.49	102.	21-147	5.51	31	L527252-01	WG546858
cis-1,3-Dichloropropene	mg/kg	1.40	1.44	102.	17-145	2.19	32	L527252-01	WG546858
Dichlorodifluoromethane	mg/kg	1.46	1.55	106.	0-192	6.27	38	L527252-01	WG546858
Ethylbenzene	mg/kg	1.60	1.62	116.	12-137	1.39	36	L527252-01	WG546858
Isopropylbenzene	mg/kg	1.64	1.63	119.	14-134	0.460	37	L527252-01	WG546858
m&p-Xylene	mg/kg	3.14	3.17	114.	10-135	0.850	37	L527252-01	WG546858
Methyl tert-butyl ether	mg/kg	1.37	1.44	99.6	21-157	5.13	31	L527252-01	WG546858
Methylene Chloride	mg/kg	1.23	1.30	88.8	12-149	5.42	31	L527252-01	WG546858
n-Hexane	mg/kg	1.26	1.37	91.9	10-129	8.12	42	L527252-01	WG546858
o-Xylene	mg/kg	1.65	1.65	120.	14-140	0.220	35	L527252-01	WG546858
Styrene	mg/kg	1.49	1.49	108.	10-140	0.580	35	L527252-01	WG546858
Tetrachloroethene	mg/kg	1.48	1.49	108.	10-131	0.710	35	L527252-01	WG546858
Toluene	mg/kg	1.36	1.40	98.8	12-136	2.29	32	L527252-01	WG546858
trans-1,2-Dichloroethene	mg/kg	1.28	1.39	92.9	10-143	8.09	33	L527252-01	WG546858
trans-1,3-Dichloropropene	mg/kg	1.31	1.36	95.5	16-147	3.34	32	L527252-01	WG546858
Trichloroethene	mg/kg	1.43	1.45	104.	10-155	1.28	33	L527252-01	WG546858
Trichlorofluoromethane	mg/kg	0.537	0.516	39.0	10-154	3.85	32	L527252-01	WG546858
Vinyl chloride	mg/kg	1.31	1.41	95.0	10-159	7.27	36	L527252-01	WG546858
Xylenes, Total	mg/kg	4.79	4.83	116.	10-138	0.630	36	L527252-01	WG546858
TPH (GC/FID) High Fraction	ppm	137.	139.	62.4	50-150	1.20	25	L527266-02	WG547075
o-Terphenyl				78.82	50-150				WG547075
TPH (GC/FID) High Fraction	ppm	46.7	49.9	77.8	50-150	6.55	25	L527450-04	WG547531
o-Terphenyl				65.64	50-150				WG547531

Batch number /Run number / Sample number cross reference

WG546850: R1777175: L527266-01 02 03 04 05  
WG546877: R1778670: L527266-01  
WG546951: R1778970: L527266-01  
WG546892: R1779370: L527266-01  
WG546924: R1780510: L527266-01  
WG546858: R1781772: L527266-01  
WG546851: R1781912: L527266-01  
WG547165: R1782790: L527266-01  
WG547008: R1783490: L527266-01  
WG547219: R1784230: L527266-01  
WG547075: R1787510: L527266-01 02 03 04  
WG547531: R1788532: L527266-05  
WG547126: R1790910: L527266-01  
WG547942: R1797810: L527266-02 03 04 05

\* \* Calculations are performed prior to rounding of reported values.

\* 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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Est. 1970

August 05, 2011

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.



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

## Report Summary

Wednesday September 07, 2011

Report Number: L534090

Samples Received: 09/02/11

Client Project:

Description: J30-Spoil

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

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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 07, 2011

Date Received : September 02, 2011  
Description : J30-Spoil  
Sample ID : J30-SPOILWE-090111 16-18IN  
Collected By : Brennen Graff  
Collection Date : 09/01/11 10:50

ESC Sample # : L534090-01

Site ID : J30

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	09/07/11	1
Chromium, Trivalent	22.	2.0	mg/kg	Calc.	09/06/11	1
ORP	46.		mV	2580	09/07/11	1
pH	8.8		su	9045D	09/07/11	1
Sodium Adsorption Ratio	1.6			Calc.	09/07/11	1
Specific Conductance	260		umhos/cm	9050AMod	09/06/11	1
Mercury	BDL	0.020	mg/kg	7471	09/06/11	1
Arsenic	61.	5.0	mg/kg	6010B	09/06/11	5
Barium	370	0.25	mg/kg	6010B	09/06/11	1
Cadmium	0.96	0.25	mg/kg	6010B	09/06/11	1
Chromium	22.	0.50	mg/kg	6010B	09/06/11	1
Copper	21.	1.0	mg/kg	6010B	09/06/11	1
Lead	13.	0.25	mg/kg	6010B	09/06/11	1
Nickel	64.	5.0	mg/kg	6010B	09/06/11	5
Selenium	50.	5.0	mg/kg	6010B	09/06/11	5
Silver	BDL	0.50	mg/kg	6010B	09/06/11	1
Zinc	43.	1.5	mg/kg	6010B	09/06/11	1
Benzene	BDL	0.0025	mg/kg	8021/8015	09/05/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/05/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/05/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/05/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/05/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	103.		% Rec.	8021/8015	09/05/11	5
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021/8015	09/05/11	5
TPH (GC/FID) High Fraction	8.2	4.0	mg/kg	3546/DRO	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	59.1		% Rec.	3546/DRO	09/05/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1

BDL - Below Detection Limit  
Det. Limit - Practical Quantitation Limit(PQL)  
L534090-01 (PH) - 8.79@20.5c



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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 07, 2011

Date Received : September 02, 2011  
Description : J30-Spoil  
Sample ID : J30-SPOILWE-090111 16-18IN  
Collected By : Brennen Graff  
Collection Date : 09/01/11 10:50

ESC Sample # : L534090-01

Site ID : J30

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Surrogate Recovery						
Nitrobenzene-d5	70.2		% Rec.	8270C-SIM	09/07/11	1
2-Fluorobiphenyl	76.1		% Rec.	8270C-SIM	09/07/11	1
p-Terphenyl-d14	83.5		% Rec.	8270C-SIM	09/07/11	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: 09/07/11 16:29 Printed: 09/07/11 16:55  
L534090-01 (PH) - 8.79@20.5c

REPORT OF ANALYSIS

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

September 07, 2011

Date Received : September 02, 2011  
Description : J30-Spoil  
Sample ID : J30-SPOILWS-090111 16-18IN  
Collected By : Brennen Graff  
Collection Date : 09/01/11 10:53

ESC Sample # : L534090-02

Site ID : J30

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/04/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/04/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/04/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/04/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/04/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	90.4		% Rec.	8021/8015	09/04/11	5
a,a,a-Trifluorotoluene(PID)	93.2		% Rec.	8021/8015	09/04/11	5
TPH (GC/FID) High Fraction	11.	4.0	mg/kg	3546/DRO	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	69.4		% Rec.	3546/DRO	09/05/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Surrogate Recovery						
Nitrobenzene-d5	79.7		% Rec.	8270C-SIM	09/07/11	1
2-Fluorobiphenyl	90.2		% Rec.	8270C-SIM	09/07/11	1
p-Terphenyl-d14	87.8		% Rec.	8270C-SIM	09/07/11	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: 09/07/11 16:29 Printed: 09/07/11 16:55

REPORT OF ANALYSIS

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

September 07, 2011

Date Received : September 02, 2011  
Description : J30-Spoil  
Sample ID : J30-SPOILWW-090111 16-18IN  
Collected By : Brennen Graff  
Collection Date : 09/01/11 10:55

ESC Sample # : L534090-03

Site ID : J30

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021/8015	09/04/11	5
Toluene	BDL	0.025	mg/kg	8021/8015	09/04/11	5
Ethylbenzene	BDL	0.0025	mg/kg	8021/8015	09/04/11	5
Total Xylene	BDL	0.0075	mg/kg	8021/8015	09/04/11	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	09/04/11	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	90.4		% Rec.	8021/8015	09/04/11	5
a,a,a-Trifluorotoluene(PID)	93.8		% Rec.	8021/8015	09/04/11	5
TPH (GC/FID) High Fraction	14.	4.0	mg/kg	3546/DRO	09/05/11	1
Surrogate recovery(%)						
o-Terphenyl	66.3		% Rec.	3546/DRO	09/05/11	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Acenaphthylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Naphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Phenanthrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
1-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Methylnaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
2-Chloronaphthalene	BDL	0.0060	mg/kg	8270C-SIM	09/07/11	1
Surrogate Recovery						
Nitrobenzene-d5	83.7		% Rec.	8270C-SIM	09/07/11	1
2-Fluorobiphenyl	79.7		% Rec.	8270C-SIM	09/07/11	1
p-Terphenyl-d14	93.2		% Rec.	8270C-SIM	09/07/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L534090-01	WG553915	SAMP	ORP	R1847892	T8

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
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.



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Tax I.D. 62-0814289

Est. 1970

September 07, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG553521	09/04/11 01:21
Ethylbenzene	< .0005	mg/kg			WG553521	09/04/11 01:21
Toluene	< .005	mg/kg			WG553521	09/04/11 01:21
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553521	09/04/11 01:21
Total Xylene	< .0015	mg/kg			WG553521	09/04/11 01:21
a,a,a-Trifluorotoluene(FID)		% Rec.	91.04	59-128	WG553521	09/04/11 01:21
a,a,a-Trifluorotoluene(PID)		% Rec.	94.86	54-144	WG553521	09/04/11 01:21
TPH (GC/FID) High Fraction	< 4	ppm			WG553585	09/04/11 13:49
o-Terphenyl		% Rec.	85.59	50-150	WG553585	09/04/11 13:49
Benzene	< .0005	mg/kg			WG553567	09/04/11 23:40
Ethylbenzene	< .0005	mg/kg			WG553567	09/04/11 23:40
Toluene	< .005	mg/kg			WG553567	09/04/11 23:40
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG553567	09/04/11 23:40
Total Xylene	< .0015	mg/kg			WG553567	09/04/11 23:40
a,a,a-Trifluorotoluene(FID)		% Rec.	93.29	59-128	WG553567	09/04/11 23:40
a,a,a-Trifluorotoluene(PID)		% Rec.	92.96	54-144	WG553567	09/04/11 23:40
Mercury	< .02	mg/kg			WG553593	09/06/11 02:25
Arsenic	< 1	mg/kg			WG553618	09/06/11 14:44
Barium	< .25	mg/kg			WG553618	09/06/11 14:44
Cadmium	< .25	mg/kg			WG553618	09/06/11 14:44
Chromium	< .5	mg/kg			WG553618	09/06/11 14:44
Copper	< 1	mg/kg			WG553618	09/06/11 14:44
Lead	< .25	mg/kg			WG553618	09/06/11 14:44
Nickel	< 1	mg/kg			WG553618	09/06/11 14:44
Selenium	< 1	mg/kg			WG553618	09/06/11 14:44
Silver	< .5	mg/kg			WG553618	09/06/11 14:44
Zinc	< 1.5	mg/kg			WG553618	09/06/11 14:44
Specific Conductance	1.50	umhos/cm			WG553613	09/06/11 16:46
Chromium, Hexavalent	< 2	mg/kg			WG553527	09/07/11 11:40
pH	4.80	su			WG553635	09/07/11 11:57
1-Methylnaphthalene	< .006	mg/kg			WG553955	09/07/11 15:01
2-Chloronaphthalene	< .006	mg/kg			WG553955	09/07/11 15:01
2-Methylnaphthalene	< .006	mg/kg			WG553955	09/07/11 15:01
Acenaphthene	< .006	mg/kg			WG553955	09/07/11 15:01
Acenaphthylene	< .006	mg/kg			WG553955	09/07/11 15:01
Anthracene	< .006	mg/kg			WG553955	09/07/11 15:01
Benzo(a)anthracene	< .006	mg/kg			WG553955	09/07/11 15:01
Benzo(a)pyrene	< .006	mg/kg			WG553955	09/07/11 15:01
Benzo(b)fluoranthene	< .006	mg/kg			WG553955	09/07/11 15:01
Benzo(g,h,i)perylene	< .006	mg/kg			WG553955	09/07/11 15:01
Benzo(k)fluoranthene	< .006	mg/kg			WG553955	09/07/11 15:01
Chrysene	< .006	mg/kg			WG553955	09/07/11 15:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG553955	09/07/11 15:01

\* 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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Est. 1970

September 07, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Fluoranthene	< .006	mg/kg			WG553955	09/07/11 15:01
Fluorene	< .006	mg/kg			WG553955	09/07/11 15:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG553955	09/07/11 15:01
Naphthalene	< .006	mg/kg			WG553955	09/07/11 15:01
Phenanthrene	< .006	mg/kg			WG553955	09/07/11 15:01
Pyrene	< .006	mg/kg			WG553955	09/07/11 15:01
2-Fluorobiphenyl		% Rec.	88.17	34-129	WG553955	09/07/11 15:01
Nitrobenzene-d5		% Rec.	77.78	14-141	WG553955	09/07/11 15:01
p-Terphenyl-d14		% Rec.	94.93	25-139	WG553955	09/07/11 15:01

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/kg	1.20	1.38	10.7	20	L533983-01	WG553593
Selenium	mg/kg	0	0	0	20	L534310-02	WG553618
Arsenic	mg/kg	2.80	2.50	13.1	20	L534310-02	WG553618
Barium	mg/kg	2000	240.	158.*	20	L534310-02	WG553618
Cadmium	mg/kg	0.510	0.600	16.0	20	L534310-02	WG553618
Chromium	mg/kg	8.80	8.60	1.96	20	L534310-02	WG553618
Copper	mg/kg	11.0	9.80	9.71	20	L534310-02	WG553618
Lead	mg/kg	7.60	8.70	13.8	20	L534310-02	WG553618
Nickel	mg/kg	7.20	8.20	13.1	20	L534310-02	WG553618
Silver	mg/kg	0	0	0	20	L534310-02	WG553618
Zinc	mg/kg	34.0	33.0	4.15	20	L534310-02	WG553618
Specific Conductance	umhos/cm	940.	820.	13.1	20	L533944-10	WG553613
Specific Conductance	umhos/cm	1500	1800	20.9*	20	L534310-02	WG553613
Chromium,Hexavalent	mg/kg	0	0	0	20	L534090-01	WG553527
Chromium,Hexavalent	mg/kg	0	0	0	20	L529250-02	WG553527
ORP	mV	51.0	52.0	1.94	20	L533651-01	WG553915
ORP	mV	56.0	54.0	3.64	20	L534302-05	WG553915
pH	su	6.60	6.60	0.760	1	L533952-01	WG553635
pH	su	2.40	2.40	0.830	1	L534293-04	WG553635

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0457	91.4	76-113	WG553521
Ethylbenzene	mg/kg	.05	0.0482	96.5	78-115	WG553521
Toluene	mg/kg	.05	0.0504	101.	76-114	WG553521
Total Xylene	mg/kg	.15	0.144	96.1	81-118	WG553521
a,a,a-Trifluorotoluene(PID)				94.52	54-144	WG553521
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.45	117.	67-135	WG553521
a,a,a-Trifluorotoluene(FID)				96.72	59-128	WG553521
TPH (GC/FID) High Fraction	ppm	60	60.8	101.	50-150	WG553585
o-Terphenyl				104.9	50-150	WG553585

\* Performance of this Analyte is outside of established criteria.  
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September 07, 2011

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Benzene	mg/kg	.05	0.0512	102.	76-113	WG553567
Ethylbenzene	mg/kg	.05	0.0563	113.	78-115	WG553567
Toluene	mg/kg	.05	0.0546	109.	76-114	WG553567
Total Xylene	mg/kg	.15	0.164	109.	81-118	WG553567
a,a,a-Trifluorotoluene(PID)				106.4	54-144	WG553567
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.94	126.	67-135	WG553567
a,a,a-Trifluorotoluene(FID)				108.4	59-128	WG553567
Mercury	mg/kg	3.77	4.26	113.	71.6-128	WG553593
Arsenic	mg/kg	92.6	91.6	98.9	82.9-117	WG553618
Barium	mg/kg	169	165.	97.6	82.8-117	WG553618
Cadmium	mg/kg	61.8	60.9	98.5	83.3-117	WG553618
Chromium	mg/kg	71.3	72.5	102.	81.8-118	WG553618
Copper	mg/kg	81.2	91.0	112.	83.9-116	WG553618
Lead	mg/kg	92.4	95.2	103.	83.3-117	WG553618
Nickel	mg/kg	59.1	62.1	105.	83.8-116	WG553618
Selenium	mg/kg	89.5	90.6	101.	79-121	WG553618
Silver	mg/kg	34.4	35.1	102.	66.3-134	WG553618
Zinc	mg/kg	141	136.	96.5	80.9-119	WG553618
Specific Conductance	umhos/cm	427	420.	98.4	85-115	WG553613
Chromium,Hexavalent	mg/kg	132	99.4	75.3	50-150	WG553527
ORP	mV	229	220.	96.1	95.6-104.37	WG553915
pH	su	9.04	9.00	99.6	98-101	WG553635
1-Methylnaphthalene	mg/kg	.033	0.0244	73.8	48-113	WG553955
2-Chloronaphthalene	mg/kg	.033	0.0247	74.9	51-114	WG553955
2-Methylnaphthalene	mg/kg	.033	0.0254	77.1	44-109	WG553955
Acenaphthene	mg/kg	.033	0.0244	73.9	52-108	WG553955
Acenaphthylene	mg/kg	.033	0.0254	77.1	51-110	WG553955
Anthracene	mg/kg	.033	0.0253	76.8	58-120	WG553955
Benzo(a)anthracene	mg/kg	.033	0.0278	84.3	54-110	WG553955
Benzo(a)pyrene	mg/kg	.033	0.0276	83.5	56-118	WG553955
Benzo(b)fluoranthene	mg/kg	.033	0.0262	79.3	55-114	WG553955
Benzo(g,h,i)perylene	mg/kg	.033	0.0269	81.6	48-130	WG553955
Benzo(k)fluoranthene	mg/kg	.033	0.0266	80.7	55-122	WG553955
Chrysene	mg/kg	.033	0.0247	74.8	57-118	WG553955
Dibenz(a,h)anthracene	mg/kg	.033	0.0284	85.9	53-122	WG553955
Fluoranthene	mg/kg	.033	0.0261	79.1	58-118	WG553955
Fluorene	mg/kg	.033	0.0260	78.9	54-109	WG553955
Indeno(1,2,3-cd)pyrene	mg/kg	.033	0.0283	85.6	51-125	WG553955
Naphthalene	mg/kg	.033	0.0221	66.9	45-105	WG553955
Phenanthrene	mg/kg	.033	0.0236	71.6	53-114	WG553955
Pyrene	mg/kg	.033	0.0260	78.7	53-121	WG553955
2-Fluorobiphenyl				76.68	34-129	WG553955
Nitrobenzene-d5				63.77	14-141	WG553955
p-Terphenyl-d14				84.35	25-139	WG553955

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

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September 07, 2011

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Benzene	mg/kg	0.0460	0.0457	92.0		76-113	0.650	20	WG553521
Ethylbenzene	mg/kg	0.0483	0.0482	97.0		78-115	0.190	20	WG553521
Toluene	mg/kg	0.0508	0.0504	102.		76-114	0.790	20	WG553521
Total Xylene	mg/kg	0.140	0.144	93.0		81-118	2.82	20	WG553521
a,a,a-Trifluorotoluene(PID)				94.66		54-144			WG553521
TPH (GC/FID) Low Fraction	mg/kg	6.69	6.45	122.		67-135	3.66	20	WG553521
a,a,a-Trifluorotoluene(FID)				96.82		59-128			WG553521
TPH (GC/FID) High Fraction	ppm	58.6	60.8	98.0		50-150	3.67	20	WG553585
o-Terphenyl				98.05		50-150			WG553585
TPH (GC/FID) Low Fraction	mg/kg	6.09	6.94	111.		67-135	13.2	20	WG553567
a,a,a-Trifluorotoluene(FID)				114.9		59-128			WG553567
Benzene	mg/kg	0.0524	0.0512	105.		76-113	2.37	20	WG553567
Ethylbenzene	mg/kg	0.0563	0.0563	113.		78-115	0.0700	20	WG553567
Toluene	mg/kg	0.0552	0.0546	110.		76-114	1.02	20	WG553567
Total Xylene	mg/kg	0.165	0.164	110.		81-118	0.420	20	WG553567
a,a,a-Trifluorotoluene(PID)				102.6		54-144			WG553567
Specific Conductance	umhos/	420.	420.	98.0		85-115	0	20	WG553613
Chromium,Hexavalent	mg/kg	91.0	99.4	69.0		50-150	8.82	20	WG553527
ORP	mV	220.	220.	96.0		95.6-104.37	0	20	WG553915
pH	su	9.00	9.00	100.		98-101	0	20	WG553635
1-Methylnaphthalene	mg/kg	0.0285	0.0244	86.0		48-113	15.8	24	WG553955
2-Chloronaphthalene	mg/kg	0.0278	0.0247	84.0		51-114	11.9	24	WG553955
2-Methylnaphthalene	mg/kg	0.0287	0.0254	87.0		44-109	12.1	24	WG553955
Acenaphthene	mg/kg	0.0274	0.0244	83.0		52-108	11.6	22	WG553955
Acenaphthylene	mg/kg	0.0291	0.0254	88.0		51-110	13.5	21	WG553955
Anthracene	mg/kg	0.0302	0.0253	92.0		58-120	17.5	20	WG553955
Benzo(a)anthracene	mg/kg	0.0293	0.0278	89.0		54-110	5.25	22	WG553955
Benzo(a)pyrene	mg/kg	0.0317	0.0276	96.0		56-118	14.1	21	WG553955
Benzo(b)fluoranthene	mg/kg	0.0313	0.0262	95.0		55-114	18.0	20	WG553955
Benzo(g,h,i)perylene	mg/kg	0.0305	0.0269	92.0		48-130	12.4	20	WG553955
Benzo(k)fluoranthene	mg/kg	0.0314	0.0266	95.0		55-122	16.3	25	WG553955
Chrysene	mg/kg	0.0294	0.0247	89.0		57-118	17.4	20	WG553955
Dibenz(a,h)anthracene	mg/kg	0.0321	0.0284	97.0		53-122	12.3	20	WG553955
Fluoranthene	mg/kg	0.0311	0.0261	94.0		58-118	17.4	20	WG553955
Fluorene	mg/kg	0.0300	0.0260	91.0		54-109	14.3	20	WG553955
Indeno(1,2,3-cd)pyrene	mg/kg	0.0315	0.0283	95.0		51-125	10.9	21	WG553955
Naphthalene	mg/kg	0.0255	0.0221	77.0		45-105	14.6	24	WG553955
Phenanthrene	mg/kg	0.0283	0.0236	86.0		53-114	17.9	20	WG553955
Pyrene	mg/kg	0.0286	0.0260	87.0		53-121	9.76	20	WG553955
2-Fluorobiphenyl				79.54		34-129			WG553955
Nitrobenzene-d5				72.31		14-141			WG553955
p-Terphenyl-d14				92.41		25-139			WG553955

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Quality Assurance Report  
Level II

L534090

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Tax I.D. 62-0814289

Est. 1970

September 07, 2011

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Benzene	mg/kg	0.187	0	.05	74.7	32-137	L534043-01	WG553521
Ethylbenzene	mg/kg	0.190	0	.05	76.1	10-150	L534043-01	WG553521
Toluene	mg/kg	0.199	0	.05	79.5	20-142	L534043-01	WG553521
Total Xylene	mg/kg	0.563	0.00210	.15	74.8	16-141	L534043-01	WG553521
a,a,a-Trifluorotoluene(PID)					93.81	54-144		WG553521
TPH (GC/FID) Low Fraction	mg/kg	24.3	0	5.5	88.2	55-109	L534043-01	WG553521
a,a,a-Trifluorotoluene(FID)					94.46	59-128		WG553521
Benzene	mg/kg	0.232	0	.05	92.8	32-137	L534090-01	WG553567
Ethylbenzene	mg/kg	0.219	0	.05	87.6	10-150	L534090-01	WG553567
Toluene	mg/kg	0.231	0	.05	92.3	20-142	L534090-01	WG553567
Total Xylene	mg/kg	0.634	0	.15	84.5	16-141	L534090-01	WG553567
a,a,a-Trifluorotoluene(PID)					99.51	54-144		WG553567
TPH (GC/FID) Low Fraction	mg/kg	26.6	0	5.5	96.8	55-109	L534090-01	WG553567
a,a,a-Trifluorotoluene(FID)					101.2	59-128		WG553567
Mercury	mg/kg	1.55	1.38	.05	68.0*	70-130	L533983-01	WG553593
Selenium	mg/kg	52.6	0	10	105.	75-125	L534310-02	WG553618
Arsenic	mg/kg	49.6	2.50	50	94.2	75-125	L534310-02	WG553618
Barium	mg/kg	822.	240.	50	1160*	75-125	L534310-02	WG553618
Cadmium	mg/kg	44.1	0.600	50	87.0	75-125	L534310-02	WG553618
Chromium	mg/kg	57.5	8.60	50	97.8	75-125	L534310-02	WG553618
Copper	mg/kg	63.5	9.80	50	107.	75-125	L534310-02	WG553618
Lead	mg/kg	55.2	8.70	50	93.0	75-125	L534310-02	WG553618
Nickel	mg/kg	55.7	8.20	50	95.0	75-125	L534310-02	WG553618
Silver	mg/kg	50.5	0	50	101.	75-125	L534310-02	WG553618
Zinc	mg/kg	78.4	33.0	50	90.8	75-125	L534310-02	WG553618
TPH (GC/FID) High Fraction	ppm	60.1	2.50	60	96.0	50-150	L534043-02	WG553585
o-Terphenyl					83.39	50-150		WG553585
Chromium, Hexavalent	mg/kg	15.4	0	20	77.0	50-150	L531184-01	WG553527

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.200	0.187	80.2	32-137	7.09	39	L534043-01	WG553521
Ethylbenzene	mg/kg	0.209	0.190	83.6	10-150	9.33	44	L534043-01	WG553521
Toluene	mg/kg	0.213	0.199	85.2	20-142	6.92	42	L534043-01	WG553521
Total Xylene	mg/kg	0.617	0.563	82.0	16-141	9.20	46	L534043-01	WG553521
a,a,a-Trifluorotoluene(PID)				93.50	54-144				WG553521
TPH (GC/FID) Low Fraction	mg/kg	25.1	24.3	91.4	55-109	3.55	20	L534043-01	WG553521
a,a,a-Trifluorotoluene(FID)				94.80	59-128				WG553521
Benzene	mg/kg	0.259	0.232	103.	32-137	10.8	39	L534090-01	WG553567
Ethylbenzene	mg/kg	0.242	0.219	96.7	10-150	9.91	44	L534090-01	WG553567
Toluene	mg/kg	0.257	0.231	103.	20-142	10.8	42	L534090-01	WG553567
Total Xylene	mg/kg	0.700	0.634	93.3	16-141	9.94	46	L534090-01	WG553567
a,a,a-Trifluorotoluene(PID)				102.5	54-144				WG553567
TPH (GC/FID) Low Fraction	mg/kg	26.1	26.6	94.8	55-109	2.07	20	L534090-01	WG553567
a,a,a-Trifluorotoluene(FID)				104.4	59-128				WG553567

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	1.73	1.55	140.*	70-130	11.0	20	L533983-01	WG553593
Arsenic	mg/kg	48.2	49.6	91.4	75-125	2.86	20	L534310-02	WG553618
Barium	mg/kg	1310	822.	2140*	75-125	45.8*	20	L534310-02	WG553618
Cadmium	mg/kg	42.7	44.1	84.2	75-125	3.23	20	L534310-02	WG553618
Chromium	mg/kg	56.6	57.5	96.0	75-125	1.58	20	L534310-02	WG553618
Copper	mg/kg	62.5	63.5	105.	75-125	1.59	20	L534310-02	WG553618
Lead	mg/kg	54.0	55.2	90.6	75-125	2.20	20	L534310-02	WG553618
Nickel	mg/kg	54.6	55.7	92.8	75-125	1.99	20	L534310-02	WG553618
Silver	mg/kg	49.0	50.5	98.0	75-125	3.02	20	L534310-02	WG553618
Zinc	mg/kg	77.5	78.4	89.0	75-125	1.15	20	L534310-02	WG553618
Selenium	mg/kg	47.0	52.6	94.0	75-125	11.2	20	L534310-02	WG553618
TPH (GC/FID) High Fraction	ppm	60.6	60.1	96.8	50-150	0.803	20	L534043-02	WG553585
o-Terphenyl				89.61	50-150				WG553585
Chromium, Hexavalent	mg/kg	14.0	15.4	70.0	50-150	9.52	20	L531184-01	WG553527

Batch number /Run number / Sample number cross reference

WG553521: R1843572: L534090-02 03  
WG553585: R1843933: L534090-01 02 03  
WG553567: R1844352: L534090-01  
WG553593: R1844972: L534090-01  
WG553618: R1846232: L534090-01  
WG553613: R1846354: L534090-01  
WG553527: R1847592: L534090-01  
WG553915: R1847892: L534090-01  
WG553635: R1848172: L534090-01  
WG553724: R1848212: L534090-01  
WG553955: R1848552: L534090-01 02 03

\* \* 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.