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Tax I.D. 62-0814289

Est. 1970

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

## Report Summary

Tuesday May 01, 2012

Report Number: L572144


Samples Received: 04/27/12

Client Project: N23 REMEDIATION

Description: N23-H22/J22 Pit Spoils

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:

  
Jared Willis, ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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

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

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REPORT OF ANALYSIS

May 01, 2012

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

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N1-042612 3-12IN
Collected By : SJ
Collection Date : 04/26/12 09:45

ESC Sample # : L572144-01
Site ID : N23
Project # : N23 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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May 01, 2012

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N2-042612 3-12IN
Collected By : SJ
Collection Date : 04/26/12 09:55

ESC Sample # : L572144-02
Site ID : N23
Project # : N23 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

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ESC Sample # : L572144-03

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N3-042612 3-12IN

Site ID : N23

Project # : N23 REMEDIATION

Collected By : SJ
Collection Date : 04/26/12 10:05

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

BDL - Below Detection Limit

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May 01, 2012

Date Received : April 27, 2012  
 Description : N23-H22/J22 Pit Spoils  
 Sample ID : N23-H22/J22-PS-N4-042612 3-12IN  
 Collected By : SJ  
 Collection Date : 04/26/12 10:15

ESC Sample # : L572144-04  
 Site ID : N23  
 Project # : N23 REMEDIATION

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	04/29/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.9		% Rec.	8021/8015	04/29/12	5
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	04/29/12	5
TPH (GC/FID) High Fraction	510	20.	mg/kg	3546/DRO	05/01/12	5
Surrogate recovery(%)						
o-Terphenyl	94.6		% Rec.	3546/DRO	05/01/12	5

BDL - Below Detection Limit

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Parachute, CO 81635

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N5-042612 3-12IN
Collected By : SJ
Collection Date : 04/26/12 10:25

ESC Sample # : L572144-05
Site ID : N23
Project # : N23 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

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ESC Sample # : L572144-06

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N6-042612 3-12IN

Site ID : N23

Collected By : SJ
Collection Date : 04/26/12 10:35

Project # : N23 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

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ESC Sample # : L572144-07

Date Received : April 27, 2012
Description : N23-H22/J22 Pit Spoils
Sample ID : N23-H22/J22-PS-N7-042612 3-12IN

Site ID : N23

Project # : N23 REMEDIATION

Collected By : SJ
Collection Date : 04/26/12 10:45

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery-%, a,a,a-Trifluorotoluene(FID), a,a,a-Trifluorotoluene(PID), TPH (GC/FID) High Fraction, Surrogate recovery(%), o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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May 01, 2012

Date Received : April 27, 2012  
Description : N23-H22/J22 Pit Spoils  
Sample ID : N23-H22/J22-PS-N8-042612 3-12IN  
Collected By : SJ  
Collection Date : 04/26/12 10:55

ESC Sample # : L572144-08

Site ID : N23

Project # : N23 REMEDIATION

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	04/29/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.8		% Rec.	8021/8015	04/29/12	5
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	04/29/12	5
TPH (GC/FID) High Fraction	400	20.	mg/kg	3546/DRO	05/01/12	5
Surrogate recovery(%)						
o-Terphenyl	118.		% Rec.	3546/DRO	05/01/12	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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May 01, 2012

Date Received : April 27, 2012  
 Description : N23-H22/J22 Pit Spoils  
 Sample ID : N23-H22/J22-PS-N9-042612 3-12IN  
 Collected By : SJ  
 Collection Date : 04/26/12 11:05

ESC Sample # : L572144-09  
 Site ID : N23  
 Project # : N23 REMEDIATION

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	04/29/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	93.7		% Rec.	8021/8015	04/29/12	5
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	04/29/12	5
TPH (GC/FID) High Fraction	640	20.	mg/kg	3546/DRO	05/01/12	5
Surrogate recovery(%)						
o-Terphenyl	95.0		% Rec.	3546/DRO	05/01/12	5

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Date Received : April 27, 2012  
 Description : N23-H22/J22 Pit Spoils  
 Sample ID : N23-H22/J22-PS-N10-042612 3-12IN  
 Collected By : SJ  
 Collection Date : 04/26/12 11:15

ESC Sample # : L572144-10  
 Site ID : N23  
 Project # : N23 REMEDIATION

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	04/29/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.1		% Rec.	8021/8015	04/29/12	5
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021/8015	04/29/12	5
TPH (GC/FID) High Fraction	330	4.0	mg/kg	3546/DRO	04/30/12	1
Surrogate recovery(%)						
o-Terphenyl	95.0		% Rec.	3546/DRO	04/30/12	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
L572144-09	WG590122	SAMP	TPH (GC/FID) High Fraction	R2151256	J6

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low

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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Quality Assurance Report  
Level II

L572144

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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG590016	04/29/12 19:10
a,a,a-Trifluorotoluene(FID)		% Rec.	94.25	59-128	WG590016	04/29/12 19:10
a,a,a-Trifluorotoluene(PID)		% Rec.	103.2	54-144	WG590016	04/29/12 19:10
TPH (GC/FID) High Fraction	< 4	ppm			WG590122	04/30/12 18:36
o-Terphenyl		% Rec.	78.97	50-150	WG590122	04/30/12 18:36

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.34	115.	67-135	WG590016
a,a,a-Trifluorotoluene(FID)				100.1	59-128	WG590016
TPH (GC/FID) High Fraction	ppm	60	38.1	63.6	50-150	WG590122
o-Terphenyl				75.90	50-150	WG590122

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	6.45	6.34	117.	67-135	1.70	20	WG590016
a,a,a-Trifluorotoluene(FID)				100.9	59-128			WG590016
TPH (GC/FID) High Fraction	ppm	43.1	38.1	72.0	50-150	12.3	25	WG590122
o-Terphenyl				85.49	50-150			WG590122

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	19.4	0	5.5	70.4	55-109	L572144-01	WG590016
a,a,a-Trifluorotoluene(FID)					97.70	59-128		WG590016
TPH (GC/FID) High Fraction	ppm	651.	640.	60	18.9*	50-150	L572144-09	WG590122
o-Terphenyl					94.70	50-150		WG590122

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	21.7	19.4	79.0	55-109	11.4	20	L572144-01	WG590016
a,a,a-Trifluorotoluene(FID)				98.59	59-128				WG590016
TPH (GC/FID) High Fraction	ppm	635.	651.	0*	50-150	2.56	25	L572144-09	WG590122
o-Terphenyl				98.00	50-150				WG590122

Batch number /Run number / Sample number cross reference

WG590016: R2148433: L572144-01 02 03 04 05 06 07 08 09 10  
WG590122: R2151256: L572144-01 02 03 04 05 06 07 08 09 10

\* \* 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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Parachute, CO 81635

## Report Summary

Friday May 18, 2012

Report Number: L575385

Samples Received: 05/16/12

Client Project: H22/J22 REMEDIATION

Description: N23-H22/J22-Pit Spoils 2nd Lift

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:

Darren Reeder , ESC Representative

### Laboratory Certification Numbers

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FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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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

May 18, 2012

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

Date Received : May 16, 2012
Description : N23-H22/J22-Pit Spoils 2nd Lift
Sample ID : N23-H22/J22-PS-1-051412
Collected By : Shad Johnson
Collection Date : 05/14/12 14:20

ESC Sample # : L575385-01
Site ID : N23
Project # : H22/J22 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 05/18/12 13:05 Printed: 05/18/12 13:05
L575385-01 (DRO) - matrix is thick/dark cannot run lower dilution



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Est. 1970

REPORT OF ANALYSIS

May 18, 2012

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

Date Received : May 16, 2012
Description : N23-H22/J22-Pit Spoils 2nd Lift
Sample ID : N23-H22/J22-PS-2-051412
Collected By : Shad Johnson
Collection Date : 05/14/12 14:30

ESC Sample # : L575385-02
Site ID : N23
Project # : H22/J22 REMEDIATION

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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L575385-02 (DRO) - matrix is thick/dark cannot run lower dilution



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REPORT OF ANALYSIS

May 18, 2012

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

ESC Sample # : L575385-03

Date Received : May 16, 2012
Description : N23-H22/J22-Pit Spoils 2nd Lift

Site ID : N23

Sample ID : N23-H22/J22-PS-3-051412

Project # : H22/J22 REMEDIATION

Collected By : Shad Johnson
Collection Date : 05/14/12 14:40

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

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: 05/18/12 13:05 Printed: 05/18/12 13:05

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L575385-01	WG592967	SAMP	o-Terphenyl	R2175173	J7
L575385-02	WG592967	SAMP	o-Terphenyl	R2175173	J7
L575385-03	WG592967	SAMP	TPH (GC/FID) High Fraction	R2175173	J3J5

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high
J7	Surrogate recovery cannot be used for control limit evaluation due to 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.

Summary of Remarks For Samples Printed  
05/18/12 at 13:05:27

TSR Signing Reports: 358  
R3 - Rush: Two Day

Try not to report benzene as BDL above a 250x dilution. ONLY log soil samples under this account. Waters get logged under ENCRCO.

Sample: L575385-01 Account: ENCANACO Received: 05/16/12 09:00 Due Date: 05/18/12 00:00 RPT Date: 05/18/12 13:05

Sample: L575385-02 Account: ENCANACO Received: 05/16/12 09:00 Due Date: 05/18/12 00:00 RPT Date: 05/18/12 13:05

Sample: L575385-03 Account: ENCANACO Received: 05/16/12 09:00 Due Date: 05/18/12 00:00 RPT Date: 05/18/12 13:05



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

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Quality Assurance Report  
Level II

L575385

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May 18, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG593057	05/16/12 15:58
a,a,a-Trifluorotoluene(FID)		% Rec.	91.57	59-128	WG593057	05/16/12 15:58
TPH (GC/FID) High Fraction	< 4	ppm			WG592967	05/17/12 13:48
o-Terphenyl		% Rec.	77.60	50-150	WG592967	05/17/12 13:48

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.31	115.	67-135	WG593057
a,a,a-Trifluorotoluene(FID)				97.98	59-128	WG593057
TPH (GC/FID) High Fraction	ppm	60	52.4	87.4	50-150	WG592967
o-Terphenyl				75.00	50-150	WG592967

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	6.30	6.31	114.	67-135	0.230	20	WG593057
a,a,a-Trifluorotoluene(FID)				97.91	59-128			WG593057
TPH (GC/FID) High Fraction	ppm	48.6	52.4	81.0	50-150	7.69	23	WG592967
o-Terphenyl				68.77	50-150			WG592967

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	20.7	0	5.5	75.2	55-109	L575383-01	WG593057
a,a,a-Trifluorotoluene(FID)					93.00	59-128		WG593057
TPH (GC/FID) High Fraction	ppm	716.	490.	60	376.*	50-150	L575385-03	WG592967
o-Terphenyl					56.53	50-150		WG592967

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	19.3	20.7	70.1	55-109	7.12	20	L575383-01	WG593057
a,a,a-Trifluorotoluene(FID)				94.35	59-128				WG593057
TPH (GC/FID) High Fraction	ppm	571.	716.	136.	50-150	22.4	25	L575385-03	WG592967
o-Terphenyl				53.34	50-150				WG592967

Batch number /Run number / Sample number cross reference

WG593057: R2173094: L575385-01 02 03  
WG592967: R2175173: L575385-01 02 03

\* \* 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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EnCana Oil & Gas Inc. - CO  
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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 / Matt Kasten  
EnCana Oil & Gas Inc. - CO  
2717 County Road 215, Suite 100  
Parachute, CO 81635

## Report Summary

Wednesday June 20, 2012

Report Number: L580727

Samples Received: 06/16/12

Client Project: J22/H22

Description: N23-H22/J22-PIT SPOIL (4TH LIFT)

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:

T. Alan Harvill , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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

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

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REPORT OF ANALYSIS

June 20, 2012

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

ESC Sample # : L580727-01

Date Received : June 16, 2012  
Description : N23-H22/J22-PIT SPOIL (4TH LIFT)

Site ID : N23

Sample ID : N23-H22/J22-PS-C1-061412

Project # : J22/H22

Collected By : Shad Johnson  
Collection Date : 06/14/12 13:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	22.	5.0	mg/kg	8015D/GRO	06/19/12	50
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	95.1		% Rec.	602/8015	06/19/12	50
TPH (GC/FID) High Fraction	290	4.0	mg/kg	3546/DRO	06/18/12	1
Surrogate recovery(%) o-Terphenyl	74.2		% Rec.	3546/DRO	06/18/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

June 20, 2012

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

ESC Sample # : L580727-02

Date Received : June 16, 2012  
Description : N23-H22/J22-PIT SPOIL (4TH LIFT)

Site ID : N23

Sample ID : N23-H22/J22-PS-C2-061412

Project # : J22/H22

Collected By : Shad Johnson  
Collection Date : 06/14/12 13:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	9.1	5.0	mg/kg	8015D/GRO	06/18/12	50
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	95.8		% Rec.	602/8015	06/18/12	50
TPH (GC/FID) High Fraction	290	4.0	mg/kg	3546/DRO	06/18/12	1
Surrogate recovery(%) o-Terphenyl	68.0		% Rec.	3546/DRO	06/18/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

June 20, 2012

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

ESC Sample # : L580727-03

Date Received : June 16, 2012  
Description : N23-H22/J22-PIT SPOIL (4TH LIFT)

Site ID : N23

Sample ID : N23-H22/J22-PS-C3-061412

Project # : J22/H22

Collected By : Shad Johnson  
Collection Date : 06/14/12 13:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	11.	10.	mg/kg	8015D/GRO	06/18/12	100
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	95.6		% Rec.	602/8015	06/18/12	100
TPH (GC/FID) High Fraction	260	4.0	mg/kg	3546/DRO	06/18/12	1
Surrogate recovery(%) o-Terphenyl	66.5		% Rec.	3546/DRO	06/18/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Summary of Remarks For Samples Printed  
06/20/12 at 10:41:57

TSR Signing Reports: 358  
R3 - Rush: Two Day

Try not to report benzene as BDL above a 250x dilution. ONLY log soil samples under this account. Waters get logged under ENCRCO. Log all PAHs as PAHSIM.

Sample: L580727-01 Account: ENCANACO Received: 06/16/12 09:00 Due Date: 06/20/12 00:00 RPT Date: 06/20/12 10:41

Sample: L580727-02 Account: ENCANACO Received: 06/16/12 09:00 Due Date: 06/20/12 00:00 RPT Date: 06/20/12 10:41

Sample: L580727-03 Account: ENCANACO Received: 06/16/12 09:00 Due Date: 06/20/12 00:00 RPT Date: 06/20/12 10:41



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EnCana Oil & Gas Inc. - CO  
Chris Hines / Matt Kasten  
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Parachute, CO 81635

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Level II

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June 20, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	< .1	mg/kg	94.20	59-128	WG598360	06/18/12 00:02
		% Rec.			WG598360	06/18/12 00:02
TPH (GC/FID) High Fraction o-Terphenyl	< 4	ppm	74.24	50-150	WG598285	06/18/12 10:19
		% Rec.			WG598285	06/18/12 10:19
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	< .1	mg/kg	94.79	59-128	WG598621	06/19/12 17:15
		% Rec.			WG598621	06/19/12 17:15

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	5.5	5.43	98.8	67-135	WG598360
				101.1	59-128	WG598360
TPH (GC/FID) High Fraction o-Terphenyl	ppm	60	47.0	78.3	50-150	WG598285
				72.90	50-150	WG598285
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	5.5	6.79	123.	67-135	WG598621
				100.4	59-128	WG598621

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	5.39	5.43	98.0	67-135	0.740	20	WG598360
				101.3	59-128			WG598360
TPH (GC/FID) High Fraction o-Terphenyl	ppm	49.4	47.0	82.0	50-150	5.17	23	WG598285
				78.91	50-150			WG598285
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	6.88	6.79	125.	67-135	1.32	20	WG598621
				100.8	59-128			WG598621

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	15.5	0	5.5	56.4	55-109	L580729-01	WG598360
					99.08	59-128		WG598360
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	29.1	0	5.5	106.	55-109	L580775-02	WG598621
					99.00	59-128		WG598621

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	16.0	15.5	58.1	55-109	2.87	20	L580729-01	WG598360
				98.13	59-128				WG598360
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene(FID)	mg/kg	29.2	29.1	106.	55-109	0.390	20	L580775-02	WG598621
				98.95	59-128				WG598621

\* 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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EnCana Oil & Gas Inc. - CO  
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Level II

L580727

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June 20, 2012

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Batch number /Run number / Sample number cross reference

WG598360: R2214595: L580727-02 03  
WG598285: R2215633: L580727-01 02 03  
WG598621: R2218074: L580727-01

\* \* 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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June 20, 2012

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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Est. 1970

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

## Report Summary

Friday June 08, 2012

Report Number: L578672


Samples Received: 06/06/12

Client Project: J22/H22

Description: N23-J22/H22 Pit Spoil (3RD Lift)

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:

  
Jared Willis, ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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

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

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Est. 1970

REPORT OF ANALYSIS

June 08, 2012

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

ESC Sample # : L578672-01

Date Received : June 06, 2012
Description : N23-J22/H22 Pit Spoil (3RD Lift)
Sample ID : N23-J22/H22-PS-C1-060512 .5-1.5 FT
Collected By : Shad Johnson
Collection Date : 06/05/12 11:00

Site ID : N23

Project # : J22/H22

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

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: 06/08/12 09:08 Printed: 06/08/12 09:14



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REPORT OF ANALYSIS

June 08, 2012

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

ESC Sample # : L578672-02

Date Received : June 06, 2012
Description : N23-J22/H22 Pit Spoil (3RD Lift)
Sample ID : N23-J22/H22-PS-C2-060512 .5-1.5 FT
Collected By : Shad Johnson
Collection Date : 06/05/12 11:10

Site ID : N23

Project # : J22/H22

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

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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REPORT OF ANALYSIS

June 08, 2012

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

Date Received : June 06, 2012  
Description : N23-J22/H22 Pit Spoil (3RD Lift)  
Sample ID : N23-J22/H22-PS-C3-060512 .5-1.5 FT  
Collected By : Shad Johnson  
Collection Date : 06/05/12 11:20

ESC Sample # : L578672-03  
Site ID : N23  
Project # : J22/H22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	1.1	0.50	mg/kg	8015D/GRO	06/06/12	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	92.3		% Rec.	602/8015	06/06/12	5
TPH (GC/FID) High Fraction	400	20.	mg/kg	3546/DRO	06/08/12	5
Surrogate recovery(%) o-Terphenyl	73.4		% Rec.	3546/DRO	06/08/12	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Parachute, CO 81635

Quality Assurance Report  
Level II

L578672

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June 08, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG596399	06/06/12 15:51
a,a,a-Trifluorotoluene(FID)		% Rec.	93.28	59-128	WG596399	06/06/12 15:51
TPH (GC/FID) High Fraction	< 4	ppm			WG596486	06/07/12 11:26
o-Terphenyl		% Rec.	72.67	50-150	WG596486	06/07/12 11:26

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	6.43	117.	67-135	WG596399
a,a,a-Trifluorotoluene(FID)				99.09	59-128	WG596399
TPH (GC/FID) High Fraction	ppm	60	50.3	83.9	50-150	WG596486
o-Terphenyl				81.47	50-150	WG596486

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	6.59	6.43	120.	67-135	2.43	20	WG596399
a,a,a-Trifluorotoluene(FID)				99.75	59-128			WG596399
TPH (GC/FID) High Fraction	ppm	53.7	50.3	90.0	50-150	6.51	23	WG596486
o-Terphenyl				84.44	50-150			WG596486

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) Low Fraction	mg/kg	24.8	1.10	5.5	86.4	55-109	L578672-01	WG596399
a,a,a-Trifluorotoluene(FID)					97.08	59-128		WG596399
TPH (GC/FID) High Fraction	ppm	35.4	0	60	59.0	50-150	L578481-02	WG596486
o-Terphenyl					47.98*	50-150		WG596486

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	23.5	24.8	81.6	55-109	5.46	20	L578672-01	WG596399
a,a,a-Trifluorotoluene(FID)				96.72	59-128				WG596399
TPH (GC/FID) High Fraction	ppm	37.9	35.4	63.2	50-150	6.86	25	L578481-02	WG596486
o-Terphenyl				51.35	50-150				WG596486

Batch number /Run number / Sample number cross reference

WG596399: R2200093: L578672-01 02 03  
WG596486: R2201355: L578672-01 02 03

\* \* 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.