



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

Mr. Ryan Smith
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Thursday June 18, 2015

Report Number: L770241

Samples Received: 06/10/15

Client Project:

Description: Ryan Gulch Pit Sampling

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, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Ryan Smith
WPX Energy
1058 County Road 215
Parachute, CO 81635

June 18, 2015

Date Received : June 10, 2015
Description : Ryan Gulch Pit Sampling
Sample ID : PT3075/MAUTZ RANCH
Collected By : Ryan Smith
Collection Date : 06/09/15 11:45

ESC Sample # : L770241-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	140	10.	mg/l	8015D/GRO	06/17/15	100
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	96.9		% Rec.	8015D/GRO	06/17/15	1
Methanol	72.	1.0	mg/l	8015M	06/16/15	50
Volatile Organics						
Benzene	13.	0.25	mg/l	8260B	06/17/15	250
Ethylbenzene	0.84	0.25	mg/l	8260B	06/17/15	250
n-Hexane	BDL	2.5	mg/l	8260B	06/17/15	250
Toluene	27.	1.2	mg/l	8260B	06/17/15	250
Xylenes, Total	14.	0.75	mg/l	8260B	06/17/15	250
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	06/17/15	1
Dibromofluoromethane	92.4		% Rec.	8260B	06/17/15	1
a,a,a-Trifluorotoluene	109.		% Rec.	8260B	06/17/15	1
4-Bromofluorobenzene	106.		% Rec.	8260B	06/17/15	1
TPH (GC/FID) High Fraction	81.	2.0	mg/l	3511/8015	06/12/15	20
Surrogate recovery(%) o-Terphenyl	117.		% Rec.	3511/8015	06/12/15	20

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: 06/18/15 16:52 Printed: 06/18/15 16:52



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REPORT OF ANALYSIS

June 18, 2015

Mr. Ryan Smith
WPX Energy
1058 County Road 215
Parachute, CO 81635

Date Received : June 10, 2015
Description : Ryan Gulch Pit Sampling
Sample ID : PT7200/NE RG PIT
Collected By : Ryan Smith
Collection Date : 06/09/15 09:54

ESC Sample # : L770241-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	1.4	0.50	mg/l	8015D/GRO	06/17/15	5
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	99.0		% Rec.	8015D/GRO	06/17/15	1
Methanol	7.2	1.0	mg/l	8015M	06/16/15	50
Volatile Organics						
Benzene	0.21	0.010	mg/l	8260B	06/17/15	10
Ethylbenzene	0.012	0.010	mg/l	8260B	06/17/15	10
n-Hexane	BDL	0.10	mg/l	8260B	06/17/15	10
Toluene	0.43	0.050	mg/l	8260B	06/17/15	10
Xylenes, Total	0.22	0.030	mg/l	8260B	06/17/15	10
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	06/17/15	1
Dibromofluoromethane	95.8		% Rec.	8260B	06/17/15	1
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	06/17/15	1
4-Bromofluorobenzene	108.		% Rec.	8260B	06/17/15	1
TPH (GC/FID) High Fraction	6.9	0.10	mg/l	3511/8015	06/11/15	1
Surrogate recovery(%) o-Terphenyl	92.8		% Rec.	3511/8015	06/11/15	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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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L770241-01	WG794854	SAMP	o-Terphenyl	R3043397	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
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.



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) High Fraction	< .1	mg/l			WG794854	06/11/15 13:39
o-Terphenyl		% Rec.	102.0	50-150	WG794854	06/11/15 13:39
Methanol	< .02	mg/l			WG796059	06/16/15 14:26
TPH (GC/FID) Low Fraction	< .1	mg/l			WG796267	06/17/15 11:05
a,a,a-Trifluorotoluene(FID)		% Rec.	99.70	62-128	WG796267	06/17/15 11:05
Benzene	< .001	mg/l			WG796215	06/17/15 11:49
Ethylbenzene	< .001	mg/l			WG796215	06/17/15 11:49
n-Hexane	< .01	mg/l			WG796215	06/17/15 11:49
Toluene	< .005	mg/l			WG796215	06/17/15 11:49
Xylenes, Total	< .003	mg/l			WG796215	06/17/15 11:49
4-Bromofluorobenzene		% Rec.	101.0	80.1-120	WG796215	06/17/15 11:49
Dibromofluoromethane		% Rec.	93.30	79-121	WG796215	06/17/15 11:49
Toluene-d8		% Rec.	99.10	90-115	WG796215	06/17/15 11:49
a,a,a-Trifluorotoluene		% Rec.	111.0	90.4-116	WG796215	06/17/15 11:49

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) High Fraction	mg/l	1.5	1.62	108.	50-150	WG794854
o-Terphenyl				113.0	50-150	WG794854
Methanol	mg/l	.5	0.445	89.0	70-130	WG796059
TPH (GC/FID) Low Fraction	mg/l	5.5	4.45	80.8	67-132	WG796267
a,a,a-Trifluorotoluene(FID)				96.00	62-128	WG796267
Benzene	mg/l	.025	0.0217	86.6	73-122	WG796215
Ethylbenzene	mg/l	.025	0.0260	104.	80.9-121	WG796215
n-Hexane	mg/l	.025	0.0217	87.0	59.5-132	WG796215
Toluene	mg/l	.025	0.0249	99.7	77.9-116	WG796215
Xylenes, Total	mg/l	.075	0.0808	108.	79.2-122	WG796215
4-Bromofluorobenzene				110.0	80.1-120	WG796215
Dibromofluoromethane				88.80	79-121	WG796215
Toluene-d8				101.0	90-115	WG796215
a,a,a-Trifluorotoluene				110.0	90.4-116	WG796215

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) High Fraction	mg/l	1.73	1.62	115.	50-150	7.01	20	WG794854
o-Terphenyl				113.0	50-150			WG794854
Methanol	mg/l	0.448	0.445	90.0	70-130	0.770	20	WG796059
TPH (GC/FID) Low Fraction	mg/l	4.45	4.45	81.0	67-132	0.140	20	WG796267
a,a,a-Trifluorotoluene(FID)				95.00	62-128			WG796267

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



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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/l	0.0232	0.0217	93.0	73-122	6.89	20	WG796215
Ethylbenzene	mg/l	0.0279	0.0260	111.	80.9-121	7.02	20	WG796215
n-Hexane	mg/l	0.0239	0.0217	95.0	59.5-132	9.32	20	WG796215
Toluene	mg/l	0.0263	0.0249	105.	77.9-116	5.36	20	WG796215
Xylenes, Total	mg/l	0.0817	0.0808	109.	79.2-122	1.10	20	WG796215
4-Bromofluorobenzene				104.0	80.1-120			WG796215
Dibromofluoromethane				89.20	79-121			WG796215
Toluene-d8				102.0	90-115			WG796215
a,a,a-Trifluorotoluene				109.0	90.4-116			WG796215

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Methanol	mg/l	0.455	0.0243	.5	86.0	70-130	L770036-03	WG796059
Benzene	mg/l	0.0219	0.0	.025	88.0	58.6-133	L770955-05	WG796215
Ethylbenzene	mg/l	0.0251	0.0	.025	100.	62.7-136	L770955-05	WG796215
n-Hexane	mg/l	0.0227	0.0	.025	91.0	38.7-146	L770955-05	WG796215
Toluene	mg/l	0.0242	0.0	.025	97.0	67.8-124	L770955-05	WG796215
Xylenes, Total	mg/l	0.0760	0.0	.075	100.	65.6-133	L770955-05	WG796215
4-Bromofluorobenzene					108.0	80.1-120		WG796215
Dibromofluoromethane					94.00	79-121		WG796215
Toluene-d8					102.0	90-115		WG796215
a,a,a-Trifluorotoluene					111.0	90.4-116		WG796215
TPH (GC/FID) Low Fraction	mg/l	4.78	1.79	5.5	54.0	50-143	L770059-01	WG796267
a,a,a-Trifluorotoluene(FID)					94.80	62-128		WG796267

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Methanol	mg/l	0.437	0.455	82.6	70-130	4.09	20	L770036-03	WG796059
Benzene	mg/l	0.0225	0.0219	90.1	58.6-133	2.66	20	L770955-05	WG796215
Ethylbenzene	mg/l	0.0261	0.0251	104.	62.7-136	3.72	20	L770955-05	WG796215
n-Hexane	mg/l	0.0244	0.0227	97.8	38.7-146	7.24	20	L770955-05	WG796215
Toluene	mg/l	0.0233	0.0242	93.3	67.8-124	3.55	20	L770955-05	WG796215
Xylenes, Total	mg/l	0.0753	0.0760	100.	65.6-133	0.840	20	L770955-05	WG796215
4-Bromofluorobenzene				101.0	80.1-120				WG796215
Dibromofluoromethane				96.80	79-121				WG796215
Toluene-d8				96.90	90-115				WG796215
a,a,a-Trifluorotoluene				105.0	90.4-116				WG796215
TPH (GC/FID) Low Fraction	mg/l	4.71	4.78	53.0	50-143	1.55	20	L770059-01	WG796267
a,a,a-Trifluorotoluene(FID)				94.30	62-128				WG796267

Batch number /Run number / Sample number cross reference

WG794854: R3042850 R3043397: L770241-01 02
WG796059: R3044000: L770241-01
WG796267: R3044030: L770241-01
WG796215: R3044120: L770241-01

* * 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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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.