12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Wednesday May 13, 2015

Report Number: L762730
Samples Received: 05/02/15
Client Project: KP 44-20-691

Description: KP 44-20-691

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: Alan Harvill

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

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

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

May 13, 2015

ESC Sample # : L762730-01

Site ID : KP 44-20-691

Project # : KP 44-20-691

Date Received : May 02, 2015
Description : KP 44-20-691

Sample ID : KP 44-20-691

Collected By :
Collection Date : 05/01/15 10:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	59.	1.0	mg/l	300.0	05/02/15	1
Chloride	7900	100	mg/l	300.0	05/12/15	100
Fluoride	BDL	0.10	mg/l	300.0	05/13/15	1
Nitrate	BDL	0.10	mg/l	300.0	05/02/15	1
Nitrite	BDL	0.10	mg/l	300.0	05/02/15	1
Sulfate	BDL	5.0	mg/l	300.0	05/02/15	1
Alkalinity	1600	200	mg/l	2320 B-2011	05/11/15	10
Hardness, Total (mg/L as CaCO3)	600	150	mg/l	130.1	05/08/15	5
pH	7.4		su	4500H+ B-2011	05/05/15	1
Specific Conductance	25000		umhos/cm	120.1	05/07/15	1
Dissolved Solids	15000	10.	mg/l	2540 C-2011	05/09/15	1
Mercury,Dissolved	BDL	0.00020	mg/l	245.1	05/06/15	1
Arsenic,Dissolved	BDL	0.20	mg/l	200.7	05/05/15	10
Barium,Dissolved	7.1	0.050	mg/l	200.7	05/05/15	10
Calcium,Dissolved	170	10.	mg/l	200.7	05/05/15	10
Chromium,Dissolved	BDL	0.10	mg/l	200.7	05/05/15	10
Lead,Dissolved	BDL	0.050	mg/l	200.7	05/05/15	10
Selenium,Dissolved	BDL	0.20	mg/l	200.7	05/05/15	10
Silver,Dissolved	BDL	0.10	mg/l	200.7	05/05/15	10
Volatile Organics						
Benzene	3.2	0.10	mg/l	624	05/06/15	100
Bromodichloromethane	BDL	0.10	mg/l	624	05/06/15	100
Bromoform	BDL	0.10	mg/l	624	05/06/15	100
Bromomethane	BDL	0.50	mg/l	624	05/06/15	100
Carbon tetrachloride	BDL	0.10	mg/l	624	05/06/15	100
Chlorobenzene	BDL	0.10	mg/l	624	05/06/15	100
Chlorodibromomethane	BDL	0.10	mg/l	624	05/06/15	100
Chloroethane	BDL	0.50	mg/l	624	05/06/15	100
2-Chloroethyl vinyl ether	BDL	5.0	mg/l	624	05/06/15	100
Chloroform	BDL	0.50	mg/l	624	05/06/15	100
Chloromethane	BDL	0.25	mg/l	624	05/06/15	100
1,2-Dichlorobenzene	BDL	0.10	mg/l	624	05/06/15	100
1,3-Dichlorobenzene	BDL	0.10	mg/l	624	05/06/15	100
1,4-Dichlorobenzene	BDL	0.10	mg/l	624	05/06/15	100
Dichlorodifluoromethane	BDL	0.50	mg/l	624	05/06/15	100
1,1-Dichloroethane	BDL	0.10	mg/l	624	05/06/15	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762730-01 (PH) - 7.4 at 20.2c

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REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

May 13, 2015

ESC Sample # : L762730-01

Site ID : KP 44-20-691

Project # : KP 44-20-691

Date Received : May 02, 2015
Description : KP 44-20-691

Sample ID : KP 44-20-691

Collected By :
Collection Date : 05/01/15 10:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichloroethane	BDL	0.10	mg/l	624	05/06/15	100
1,1-Dichloroethene	BDL	0.10	mg/l	624	05/06/15	100
trans-1,2-Dichloroethene	BDL	0.10	mg/l	624	05/06/15	100
1,2-Dichloropropane	BDL	0.10	mg/l	624	05/06/15	100
cis-1,3-Dichloropropene	BDL	0.10	mg/l	624	05/06/15	100
trans-1,3-Dichloropropene	BDL	0.10	mg/l	624	05/06/15	100
Ethylbenzene	0.27	0.10	mg/l	624	05/06/15	100
Methylene Chloride	BDL	0.50	mg/l	624	05/06/15	100
Methyl tert-butyl ether	BDL	0.50	mg/l	624	05/06/15	100
Naphthalene	BDL	0.50	mg/l	624	05/06/15	100
1,1,2,2-Tetrachloroethane	BDL	0.10	mg/l	624	05/06/15	100
Tetrachloroethene	BDL	0.10	mg/l	624	05/06/15	100
Toluene	6.5	0.50	mg/l	624	05/06/15	100
1,1,1-Trichloroethane	BDL	0.10	mg/l	624	05/06/15	100
1,1,2-Trichloroethane	BDL	0.10	mg/l	624	05/06/15	100
Trichloroethene	BDL	0.10	mg/l	624	05/06/15	100
Trichlorofluoromethane	BDL	0.50	mg/l	624	05/06/15	100
Vinyl chloride	BDL	0.10	mg/l	624	05/06/15	100
Xylenes, Total	4.1	0.30	mg/l	624	05/06/15	100
Surrogate Recovery						
Toluene-d8	99.5		% Rec.	624	05/06/15	1
Dibromofluoromethane	96.2		% Rec.	624	05/06/15	1
a,a,a-Trifluorotoluene	109.		% Rec.	624	05/06/15	1
4-Bromofluorobenzene	101.		% Rec.	624	05/06/15	1
Base/Neutral Extractables						
Acenaphthene	0.0012	0.0010	mg/l	625	05/06/15	1
Acenaphthylene	BDL	0.0010	mg/l	625	05/06/15	1
Anthracene	0.0011	0.0010	mg/l	625	05/06/15	1
Benzidine	BDL	0.010	mg/l	625	05/06/15	1
Benzo(a)anthracene	BDL	0.0010	mg/l	625	05/06/15	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	625	05/06/15	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	625	05/06/15	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	625	05/06/15	1
Benzo(a)pyrene	BDL	0.0010	mg/l	625	05/06/15	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	625	05/06/15	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	625	05/06/15	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	625	05/06/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	625	05/06/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	625	05/06/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	625	05/06/15	1
Chrysene	BDL	0.0010	mg/l	625	05/06/15	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	625	05/06/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	625	05/06/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762730-01 (PH) - 7.4 at 20.2c

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REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

May 13, 2015

ESC Sample # : L762730-01

Date Received : May 02, 2015
Description : KP 44-20-691

Site ID : KP 44-20-691

Sample ID : KP 44-20-691

Project # : KP 44-20-691

Collected By :
Collection Date : 05/01/15 10:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2,4-Dinitrotoluene	BDL	0.010	mg/l	625	05/06/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	625	05/06/15	1
1,2-Diphenylhydrazine	BDL	0.010	mg/l	625	05/06/15	1
Fluoranthene	BDL	0.0010	mg/l	625	05/06/15	1
Fluorene	0.0046	0.0010	mg/l	625	05/06/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	625	05/06/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	625	05/06/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	625	05/06/15	1
Hexachloroethane	BDL	0.010	mg/l	625	05/06/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	625	05/06/15	1
Isophorone	BDL	0.010	mg/l	625	05/06/15	1
Naphthalene	0.032	0.0010	mg/l	625	05/06/15	1
Nitrobenzene	BDL	0.010	mg/l	625	05/06/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	625	05/06/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	625	05/06/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	625	05/06/15	1
Phenanthrene	0.0050	0.0010	mg/l	625	05/06/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Diethyl phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Dimethyl phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	625	05/06/15	1
Pyrene	BDL	0.0010	mg/l	625	05/06/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	625	05/06/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	625	05/06/15	1
2-Chlorophenol	BDL	0.010	mg/l	625	05/06/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	625	05/06/15	1
2,4-Dimethylphenol	0.11	0.010	mg/l	625	05/06/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	625	05/06/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	625	05/06/15	1
2-Nitrophenol	BDL	0.010	mg/l	625	05/06/15	1
4-Nitrophenol	BDL	0.010	mg/l	625	05/06/15	1
Pentachlorophenol	BDL	0.010	mg/l	625	05/06/15	1
Phenol	0.15	0.010	mg/l	625	05/06/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	625	05/06/15	1
Surrogate Recovery						
Nitrobenzene-d5	78.3		% Rec.	625	05/06/15	1
2-Fluorobiphenyl	51.3		% Rec.	625	05/06/15	1
p-Terphenyl-d14	63.3		% Rec.	625	05/06/15	1
Phenol-d5	33.0		% Rec.	625	05/06/15	1
2-Fluorophenol	39.8		% Rec.	625	05/06/15	1
2,4,6-Tribromophenol	49.0		% Rec.	625	05/06/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 05/13/15 22:15 Printed: 05/13/15 22:15
L762730-01 (PH) - 7.4 at 20.2c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L762730-01	WG786417	SAMP	2-Chloroethyl vinyl ether	R3035284	J3
	WG786680	SAMP	pH	R3035141	T8
	WG786936	SAMP	Mercury,Dissolved	R3035413	J6O1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
O1	(ESC) The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
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 Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography 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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Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Bromide	< 1	mg/l			WG786303	05/02/15 11:11
Nitrate	< .1	mg/l			WG786303	05/02/15 11:11
Nitrite	< .1	mg/l			WG786303	05/02/15 11:11
Sulfate	< 5	mg/l			WG786303	05/02/15 11:11
Arsenic,Dissolved	< .02	mg/l			WG786716	05/05/15 18:01
Calcium,Dissolved	< 1	mg/l			WG786716	05/05/15 18:01
Chromium,Dissolved	< .01	mg/l			WG786716	05/05/15 18:01
Lead,Dissolved	< .005	mg/l			WG786716	05/05/15 18:01
Selenium,Dissolved	< .02	mg/l			WG786716	05/05/15 18:01
Silver,Dissolved	< .01	mg/l			WG786716	05/05/15 18:01
Barium,Dissolved	< .005	mg/l			WG786716	05/05/15 22:48
1,1,1-Trichloroethane	< .001	mg/l			WG786417	05/06/15 01:19
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG786417	05/06/15 01:19
1,1,2-Trichloroethane	< .001	mg/l			WG786417	05/06/15 01:19
1,1-Dichloroethane	< .001	mg/l			WG786417	05/06/15 01:19
1,1-Dichloroethene	< .001	mg/l			WG786417	05/06/15 01:19
1,2-Dichlorobenzene	< .001	mg/l			WG786417	05/06/15 01:19
1,2-Dichloroethane	< .001	mg/l			WG786417	05/06/15 01:19
1,2-Dichloropropane	< .001	mg/l			WG786417	05/06/15 01:19
1,3-Dichlorobenzene	< .001	mg/l			WG786417	05/06/15 01:19
1,4-Dichlorobenzene	< .001	mg/l			WG786417	05/06/15 01:19
2-Chloroethyl vinyl ether	< .05	mg/l			WG786417	05/06/15 01:19
Benzene	< .001	mg/l			WG786417	05/06/15 01:19
Bromodichloromethane	< .001	mg/l			WG786417	05/06/15 01:19
Bromoform	< .001	mg/l			WG786417	05/06/15 01:19
Bromomethane	< .005	mg/l			WG786417	05/06/15 01:19
Carbon tetrachloride	< .001	mg/l			WG786417	05/06/15 01:19
Chlorobenzene	< .001	mg/l			WG786417	05/06/15 01:19
Chlorodibromomethane	< .001	mg/l			WG786417	05/06/15 01:19
Chloroethane	< .005	mg/l			WG786417	05/06/15 01:19
Chloroform	< .005	mg/l			WG786417	05/06/15 01:19
Chloromethane	< .0025	mg/l			WG786417	05/06/15 01:19
cis-1,3-Dichloropropene	< .001	mg/l			WG786417	05/06/15 01:19
Dichlorodifluoromethane	< .005	mg/l			WG786417	05/06/15 01:19
Ethylbenzene	< .001	mg/l			WG786417	05/06/15 01:19
Methyl tert-butyl ether	< .001	mg/l			WG786417	05/06/15 01:19
Methylene Chloride	< .005	mg/l			WG786417	05/06/15 01:19
Naphthalene	< .005	mg/l			WG786417	05/06/15 01:19
Tetrachloroethene	< .001	mg/l			WG786417	05/06/15 01:19
Toluene	< .005	mg/l			WG786417	05/06/15 01:19
trans-1,2-Dichloroethene	< .001	mg/l			WG786417	05/06/15 01:19
trans-1,3-Dichloropropene	< .001	mg/l			WG786417	05/06/15 01:19
Trichloroethene	< .001	mg/l			WG786417	05/06/15 01:19
Trichlorofluoromethane	< .005	mg/l			WG786417	05/06/15 01:19
Vinyl chloride	< .001	mg/l			WG786417	05/06/15 01:19
Xylenes, Total	< .003	mg/l			WG786417	05/06/15 01:19
4-Bromofluorobenzene		% Rec.	97.30	71-126	WG786417	05/06/15 01:19
Dibromofluoromethane		% Rec.	94.00	78.3-121	WG786417	05/06/15 01:19
Toluene-d8		% Rec.	96.00	88.5-111	WG786417	05/06/15 01:19
a,a,a-Trifluorotoluene		% Rec.	106.0	85-114	WG786417	05/06/15 01:19
Mercury,Dissolved	< .0002	mg/l			WG786936	05/06/15 23:18

* 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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Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Specific Conductance	1.05	umhos/cm			WG787279	05/07/15 15:24
Hardness, Total (mg/L as CaCO3)	< 30	mg/l			WG787461	05/08/15 15:23
Dissolved Solids	< 10	mg/l			WG787143	05/09/15 13:39
Alkalinity	< 20	mg/l			WG788008	05/11/15 06:53
Chloride	< 1	mg/l			WG788312	05/12/15 09:22
Fluoride	< .1	mg/l			WG788618	05/13/15 12:40
1,2,4-Trichlorobenzene	< .01	mg/l			WG786843	05/06/15 03:32
2,4,6-Trichlorophenol	< .01	mg/l			WG786843	05/06/15 03:32
2,4-Dichlorophenol	< .01	mg/l			WG786843	05/06/15 03:32
2,4-Dimethylphenol	< .01	mg/l			WG786843	05/06/15 03:32
2,4-Dinitrophenol	< .01	mg/l			WG786843	05/06/15 03:32
2,4-Dinitrotoluene	< .01	mg/l			WG786843	05/06/15 03:32
2,6-Dinitrotoluene	< .01	mg/l			WG786843	05/06/15 03:32
2-Chloronaphthalene	< .001	mg/l			WG786843	05/06/15 03:32
2-Chlorophenol	< .01	mg/l			WG786843	05/06/15 03:32
2-Nitrophenol	< .01	mg/l			WG786843	05/06/15 03:32
3,3-Dichlorobenzidine	< .01	mg/l			WG786843	05/06/15 03:32
4,6-Dinitro-2-methylphenol	< .01	mg/l			WG786843	05/06/15 03:32
4-Bromophenyl-phenylether	< .01	mg/l			WG786843	05/06/15 03:32
4-Chloro-3-methylphenol	< .01	mg/l			WG786843	05/06/15 03:32
4-Chlorophenyl-phenylether	< .01	mg/l			WG786843	05/06/15 03:32
4-Nitrophenol	< .01	mg/l			WG786843	05/06/15 03:32
Acenaphthene	< .001	mg/l			WG786843	05/06/15 03:32
Acenaphthylene	< .001	mg/l			WG786843	05/06/15 03:32
Anthracene	< .001	mg/l			WG786843	05/06/15 03:32
1,2-Diphenylhydrazine	< .01	mg/l			WG786843	05/06/15 03:32
Benzidine	< .01	mg/l			WG786843	05/06/15 03:32
Benzo(a)anthracene	< .001	mg/l			WG786843	05/06/15 03:32
Benzo(a)pyrene	< .001	mg/l			WG786843	05/06/15 03:32
Benzo(b)fluoranthene	< .001	mg/l			WG786843	05/06/15 03:32
Benzo(g,h,i)perylene	< .001	mg/l			WG786843	05/06/15 03:32
Benzo(k)fluoranthene	< .001	mg/l			WG786843	05/06/15 03:32
Benzylbutyl phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Bis(2-chlorethoxy)methane	< .01	mg/l			WG786843	05/06/15 03:32
Bis(2-chloroethyl)ether	< .01	mg/l			WG786843	05/06/15 03:32
Bis(2-chloroisopropyl)ether	< .01	mg/l			WG786843	05/06/15 03:32
Bis(2-ethylhexyl)phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Chrysene	< .001	mg/l			WG786843	05/06/15 03:32
Di-n-butyl phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Di-n-octyl phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Dibenz(a,h)anthracene	< .001	mg/l			WG786843	05/06/15 03:32
Diethyl phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Dimethyl phthalate	< .003	mg/l			WG786843	05/06/15 03:32
Fluoranthene	< .001	mg/l			WG786843	05/06/15 03:32
Fluorene	< .001	mg/l			WG786843	05/06/15 03:32
Hexachloro-1,3-butadiene	< .01	mg/l			WG786843	05/06/15 03:32
Hexachlorobenzene	< .001	mg/l			WG786843	05/06/15 03:32

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Est. 1970

WPX Energy
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1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Hexachlorocyclopentadiene	< .01	mg/l			WG786843	05/06/15 03:32
Hexachloroethane	< .01	mg/l			WG786843	05/06/15 03:32
Indeno(1,2,3-cd)pyrene	< .001	mg/l			WG786843	05/06/15 03:32
Isophorone	< .01	mg/l			WG786843	05/06/15 03:32
n-Nitrosodi-n-propylamine	< .01	mg/l			WG786843	05/06/15 03:32
n-Nitrosodimethylamine	< .01	mg/l			WG786843	05/06/15 03:32
n-Nitrosodiphenylamine	< .01	mg/l			WG786843	05/06/15 03:32
Naphthalene	< .001	mg/l			WG786843	05/06/15 03:32
Nitrobenzene	< .01	mg/l			WG786843	05/06/15 03:32
Pentachlorophenol	< .001	mg/l			WG786843	05/06/15 03:32
Phenanthrene	< .001	mg/l			WG786843	05/06/15 03:32
Phenol	< .01	mg/l			WG786843	05/06/15 03:32
Pyrene	< .001	mg/l			WG786843	05/06/15 03:32
2,4,6-Tribromophenol		% Rec.	71.60	11.2-130	WG786843	05/06/15 03:32
2-Fluorobiphenyl		% Rec.	63.70	29.5-131	WG786843	05/06/15 03:32
2-Fluorophenol		% Rec.	47.20	10-77.9	WG786843	05/06/15 03:32
Nitrobenzene-d5		% Rec.	65.60	21.8-123	WG786843	05/06/15 03:32
Phenol-d5		% Rec.	31.70	5-70.1	WG786843	05/06/15 03:32
p-Terphenyl-d14		% Rec.	64.00	29.3-137	WG786843	05/06/15 03:32

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Bromide	mg/l	0.0	0.0	0.0	20	L762688-02	WG786303
Nitrate	mg/l	2.80	2.67	4.00	20	L762688-02	WG786303
Nitrite	mg/l	0.0	0.0	0.0	20	L762688-02	WG786303
Sulfate	mg/l	46.0	46.5	0.0	20	L762688-02	WG786303
Bromide	mg/l	59.0	58.7	0.0	20	L762730-01	WG786303
Nitrate	mg/l	0.0	0.0	0.0	20	L762730-01	WG786303
Nitrite	mg/l	0.0	0.0	0.0	20	L762730-01	WG786303
Sulfate	mg/l	0.0	0.0	0.0	20	L762730-01	WG786303
pH	su	6.40	6.50	0.772	1	L762443-01	WG786680
pH	su	7.40	7.40	0.542	1	L762730-01	WG786680
Specific Conductance	umhos/cm	4300	4300	0.466	20	L762258-01	WG787279
Specific Conductance	umhos/cm	770.	770.	0.521	20	L763289-01	WG787279
Hardness, Total (mg/L as CaCO3)	mg/l	60.0	58.9	1.85	20	L762744-01	WG787461
Hardness, Total (mg/L as CaCO3)	mg/l	62.0	60.0	3.28	20	L762913-02	WG787461
Dissolved Solids	mg/l	15000	14800	1.88	5	L762730-01	WG787143
Alkalinity	mg/l	600.	560.	6.90	20	L761991-01	WG788008
Alkalinity	mg/l	940.	940.	0.426	20	L761991-02	WG788008
Chloride	mg/l	15.0	15.2	0.0	20	L764341-08	WG788312

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Bromide	mg/l	40	39.9	100.	90-110	WG786303
Nitrate	mg/l	8	8.24	103.	90-110	WG786303

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Quality Assurance Report
Level II

L762730

May 13, 2015

		Laboratory Control Sample				
Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Nitrite	mg/l	8	7.94	99.0	90-110	WG786303
Sulfate	mg/l	40	40.1	100.	90-110	WG786303
pH	su	7.84	7.76	99.0	98.3-101.7	WG786680
Arsenic,Dissolved	mg/l	1	1.08	108.	85-115	WG786716
Calcium,Dissolved	mg/l	10	9.49	95.0	85-115	WG786716
Chromium,Dissolved	mg/l	1	0.982	98.0	85-115	WG786716
Lead,Dissolved	mg/l	1	0.983	98.0	85-115	WG786716
Selenium,Dissolved	mg/l	1	1.11	111.	85-115	WG786716
Silver,Dissolved	mg/l	1	1.02	102.	85-115	WG786716
Barium,Dissolved	mg/l	1	0.965	97.0	85-115	WG786716
1,1,1-Trichloroethane	mg/l	.025	0.0258	103.	73.2-123	WG786417
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0234	93.6	70.7-122	WG786417
1,1,2-Trichloroethane	mg/l	.025	0.0246	98.2	77.7-118	WG786417
1,1-Dichloroethane	mg/l	.025	0.0217	86.8	70.7-126	WG786417
1,1-Dichloroethene	mg/l	.025	0.0216	86.4	67.8-129	WG786417
1,2-Dichlorobenzene	mg/l	.025	0.0245	97.8	78.4-117	WG786417
1,2-Dichloroethane	mg/l	.025	0.0266	106.	68.8-124	WG786417
1,2-Dichloropropane	mg/l	.025	0.0224	89.5	76.5-119	WG786417
1,3-Dichlorobenzene	mg/l	.025	0.0250	99.8	70.8-128	WG786417
1,4-Dichlorobenzene	mg/l	.025	0.0243	97.1	78.8-115	WG786417
2-Chloroethyl vinyl ether	mg/l	.125	0.118	94.3	43.8-150	WG786417
Benzene	mg/l	.025	0.0204	81.5	74.8-121	WG786417
Bromodichloromethane	mg/l	.025	0.0266	107.	75.1-116	WG786417
Bromoform	mg/l	.025	0.0300	120.	67.5-130	WG786417
Bromomethane	mg/l	.025	0.0207	82.8	49.9-162	WG786417
Carbon tetrachloride	mg/l	.025	0.0269	107.	70.2-123	WG786417
Chlorobenzene	mg/l	.025	0.0240	96.0	78.1-119	WG786417
Chlorodibromomethane	mg/l	.025	0.0285	114.	74-121	WG786417
Chloroethane	mg/l	.025	0.0186	74.3	61.7-135	WG786417
Chloroform	mg/l	.025	0.0227	90.9	76-121	WG786417
Chloromethane	mg/l	.025	0.0187	74.7	61.5-129	WG786417
cis-1,3-Dichloropropene	mg/l	.025	0.0243	97.0	78.2-120	WG786417
Dichlorodifluoromethane	mg/l	.025	0.0236	94.2	54.8-135	WG786417
Ethylbenzene	mg/l	.025	0.0239	95.7	78.8-122	WG786417
Methyl tert-butyl ether	mg/l	.025	0.0208	83.2	71.2-126	WG786417
Methylene Chloride	mg/l	.025	0.0196	78.5	70.3-120	WG786417
Naphthalene	mg/l	.025	0.0221	88.2	68.4-128	WG786417
Tetrachloroethene	mg/l	.025	0.0268	107.	72.6-126	WG786417
Toluene	mg/l	.025	0.0220	88.1	79.7-116	WG786417
trans-1,2-Dichloroethene	mg/l	.025	0.0209	83.7	72.6-121	WG786417
trans-1,3-Dichloropropene	mg/l	.025	0.0232	92.9	74.3-123	WG786417
Trichloroethene	mg/l	.025	0.0241	96.2	77.7-118	WG786417
Trichlorofluoromethane	mg/l	.025	0.0240	96.1	63.5-135	WG786417
Vinyl chloride	mg/l	.025	0.0191	76.3	65.9-128	WG786417
Xylenes, Total	mg/l	.075	0.0711	94.8	78.7-121	WG786417
4-Bromofluorobenzene				96.10	71-126	WG786417
Dibromofluoromethane				100.0	78.3-121	WG786417
Toluene-d8				99.40	88.5-111	WG786417
a,a,a-Trifluorotoluene				107.0	85-114	WG786417
1,2,4-Trichlorobenzene	mg/l	.05	0.0288	57.7	22.9-96.1	WG786843
2,4,6-Trichlorophenol	mg/l	.05	0.0417	83.3	29.8-107	WG786843

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Quality Assurance Report
Level II

L762730

May 13, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
2,4-Dichlorophenol	mg/l	.05	0.0383	76.6	31.4-103	WG786843
2,4-Dimethylphenol	mg/l	.05	0.0388	77.7	31.9-107	WG786843
2,4-Dinitrophenol	mg/l	.05	0.0352	70.3	24.2-128	WG786843
2,4-Dinitrotoluene	mg/l	.05	0.0436	87.2	31.2-105	WG786843
2,6-Dinitrotoluene	mg/l	.05	0.0427	85.3	30.6-106	WG786843
2-Chloronaphthalene	mg/l	.05	0.0356	71.2	33.6-105	WG786843
2-Chlorophenol	mg/l	.05	0.0325	65.1	26.2-91.5	WG786843
2-Nitrophenol	mg/l	.05	0.0387	77.3	25.9-106	WG786843
3,3-Dichlorobenzidine	mg/l	.05	0.0395	78.9	27.2-142	WG786843
4,6-Dinitro-2-methylphenol	mg/l	.05	0.0430	86.1	18.4-148	WG786843
4-Bromophenyl-phenylether	mg/l	.05	0.0411	82.1	40.7-116	WG786843
4-Chloro-3-methylphenol	mg/l	.05	0.0403	80.6	35.7-100	WG786843
4-Chlorophenyl-phenylether	mg/l	.05	0.0405	80.9	39-113	WG786843
4-Nitrophenol	mg/l	.05	0.0215	42.9	10-52.7	WG786843
Acenaphthene	mg/l	.05	0.0373	74.5	38.7-109	WG786843
Acenaphthylene	mg/l	.05	0.0375	75.1	36-106	WG786843
Anthracene	mg/l	.05	0.0397	79.5	43.6-113	WG786843
1,2-Diphenylhydrazine	mg/l	.05	0.0387	77.4	37.6-111	WG786843
Benzidine	mg/l	.05	0.0232	46.4	10-165.2	WG786843
Benzo(a)anthracene	mg/l	.05	0.0379	75.9	51.2-112	WG786843
Benzo(a)pyrene	mg/l	.05	0.0393	78.5	45.6-106	WG786843
Benzo(b)fluoranthene	mg/l	.05	0.0384	76.9	47.6-111	WG786843
Benzo(g,h,i)perylene	mg/l	.05	0.0423	84.6	45.2-117	WG786843
Benzo(k)fluoranthene	mg/l	.05	0.0395	79.0	49.4-114	WG786843
Benzylbutyl phthalate	mg/l	.05	0.0405	81.0	31.8-123	WG786843
Bis(2-chlorethoxy)methane	mg/l	.05	0.0331	66.2	37.2-111	WG786843
Bis(2-chloroethyl)ether	mg/l	.05	0.0280	56.0	22.6-108	WG786843
Bis(2-chloroisopropyl)ether	mg/l	.05	0.0326	65.2	32.9-100	WG786843
Bis(2-ethylhexyl)phthalate	mg/l	.05	0.0428	85.7	36.9-134	WG786843
Chrysene	mg/l	.05	0.0378	75.5	54.6-120	WG786843
Di-n-butyl phthalate	mg/l	.05	0.0422	84.4	41.8-120	WG786843
Di-n-octyl phthalate	mg/l	.05	0.0422	84.3	39.7-112	WG786843
Dibenz(a,h)anthracene	mg/l	.05	0.0420	84.0	42.8-118	WG786843
Diethyl phthalate	mg/l	.05	0.0432	86.4	36.5-129	WG786843
Dimethyl phthalate	mg/l	.05	0.0427	85.4	35.3-128	WG786843
Fluoranthene	mg/l	.05	0.0399	79.9	45.9-115	WG786843
Fluorene	mg/l	.05	0.0400	79.9	41-112	WG786843
Hexachloro-1,3-butadiene	mg/l	.05	0.0302	60.5	16.1-104	WG786843
Hexachlorobenzene	mg/l	.05	0.0424	84.9	38.5-116	WG786843
Hexachlorocyclopentadiene	mg/l	.05	0.0243	48.5	10-121	WG786843
Hexachloroethane	mg/l	.05	0.0246	49.2	16.5-89.8	WG786843
Indeno(1,2,3-cd)pyrene	mg/l	.05	0.0426	85.1	45-116	WG786843
Isophorone	mg/l	.05	0.0381	76.2	35.4-112	WG786843
n-Nitrosodi-n-propylamine	mg/l	.05	0.0342	68.4	33.2-106	WG786843
n-Nitrosodimethylamine	mg/l	.05	0.0158	31.5	10-80.1	WG786843
n-Nitrosodiphenylamine	mg/l	.05	0.0395	79.1	44.4-113	WG786843
Naphthalene	mg/l	.05	0.0296	59.2	32.2-101	WG786843
Nitrobenzene	mg/l	.05	0.0332	66.5	31.4-106	WG786843
Pentachlorophenol	mg/l	.05	0.0400	80.0	10-97.4	WG786843
Phenanthrene	mg/l	.05	0.0369	73.7	46.4-113	WG786843
Phenol	mg/l	.05	0.0167	33.4	10-57.9	WG786843
Pyrene	mg/l	.05	0.0390	78.0	46.3-117	WG786843
2,4,6-Tribromophenol				96.40	11.2-130	WG786843
2-Fluorobiphenyl				75.40	29.5-131	WG786843
2-Fluorophenol				47.50	10-77.9	WG786843
Nitrobenzene-d5				68.90	21.8-123	WG786843
Phenol-d5				33.70	5-70.1	WG786843
p-Terphenyl-d14				69.30	29.3-137	WG786843

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Quality Assurance Report
Level II

L762730

May 13, 2015

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Mercury,Dissolved	mg/l	.003	0.00298	99.0	85-115	WG786936
Specific Conductance	umhos/cm	534	550.	103.	85-115	WG787279
Hardness, Total (mg/L as CaCO3)	mg/l	200	204.	102.	85-115	WG787461
Dissolved Solids	mg/l	8800	8720	99.1	85-115	WG787143
Alkalinity	mg/l	100	101.	101.	85-115	WG788008
Chloride	mg/l	40	38.9	97.0	90-110	WG788312
Fluoride	mg/l	8	7.94	99.0	90-110	WG788618

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Bromide	mg/l	40.1	39.9	100.	90-110	0.0	20	WG786303
Nitrate	mg/l	8.28	8.24	103.	90-110	0.0	20	WG786303
Nitrite	mg/l	8.17	7.94	102.	90-110	3.00	20	WG786303
Sulfate	mg/l	40.4	40.1	101.	90-110	1.00	20	WG786303
pH	su	7.77	7.76	99.0	98.3-101.7	0.129	20	WG786680
Arsenic,Dissolved	mg/l	1.07	1.08	107.	85-115	0.0	20	WG786716
Calcium,Dissolved	mg/l	9.43	9.49	94.0	85-115	1.00	20	WG786716
Chromium,Dissolved	mg/l	0.985	0.982	98.0	85-115	0.0	20	WG786716
Lead,Dissolved	mg/l	0.975	0.983	98.0	85-115	1.00	20	WG786716
Selenium,Dissolved	mg/l	1.10	1.11	110.	85-115	0.0	20	WG786716
Silver,Dissolved	mg/l	1.02	1.02	102.	85-115	0.0	20	WG786716
Barium,Dissolved	mg/l	0.962	0.965	96.0	85-115	0.0	20	WG786716
1,1,1-Trichloroethane	mg/l	0.0262	0.0258	105.	73.2-123	1.66	20	WG786417
1,1,2,2-Tetrachloroethane	mg/l	0.0236	0.0234	94.0	70.7-122	0.620	20	WG786417
1,1,2-Trichloroethane	mg/l	0.0238	0.0246	95.0	77.7-118	2.98	20	WG786417
1,1-Dichloroethane	mg/l	0.0212	0.0217	85.0	70.7-126	2.40	20	WG786417
1,1-Dichloroethene	mg/l	0.0224	0.0216	90.0	67.8-129	3.81	20	WG786417
1,2-Dichlorobenzene	mg/l	0.0249	0.0245	100.	78.4-117	1.79	20	WG786417
1,2-Dichloroethane	mg/l	0.0249	0.0266	100.	68.8-124	6.42	20	WG786417
1,2-Dichloropropane	mg/l	0.0210	0.0224	84.0	76.5-119	6.51	20	WG786417
1,3-Dichlorobenzene	mg/l	0.0267	0.0250	107.	70.8-128	6.72	20	WG786417
1,4-Dichlorobenzene	mg/l	0.0241	0.0243	96.0	78.8-115	0.820	20	WG786417
2-Chloroethyl vinyl ether	mg/l	0.0850	0.118	68.0	43.8-150	32.4*	20	WG786417
Benzene	mg/l	0.0199	0.0204	80.0	74.8-121	2.22	20	WG786417
Bromodichloromethane	mg/l	0.0245	0.0266	98.0	75.1-116	8.20	20	WG786417
Bromoform	mg/l	0.0303	0.0300	121.	67.5-130	1.02	20	WG786417
Bromomethane	mg/l	0.0218	0.0207	87.0	49.9-162	5.16	20	WG786417
Carbon tetrachloride	mg/l	0.0260	0.0269	104.	70.2-123	3.24	20	WG786417
Chlorobenzene	mg/l	0.0256	0.0240	102.	78.1-119	6.43	20	WG786417

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Est. 1970

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

		Laboratory Control Sample				Duplicate		
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Chlorodibromomethane	mg/l	0.0275	0.0285	110.	74-121	3.40	20	WG786417
Chloroethane	mg/l	0.0197	0.0186	79.0	61.7-135	5.74	20	WG786417
Chloroform	mg/l	0.0220	0.0227	88.0	76-121	3.34	20	WG786417
Chloromethane	mg/l	0.0188	0.0187	75.0	61.5-129	0.580	20	WG786417
cis-1,3-Dichloropropene	mg/l	0.0228	0.0243	91.0	78.2-120	5.99	20	WG786417
Dichlorodifluoromethane	mg/l	0.0241	0.0236	96.0	54.8-135	2.34	20	WG786417
Ethylbenzene	mg/l	0.0248	0.0239	99.0	78.8-122	3.45	20	WG786417
Methyl tert-butyl ether	mg/l	0.0197	0.0208	79.0	71.2-126	5.32	20	WG786417
Methylene Chloride	mg/l	0.0203	0.0196	81.0	70.3-120	3.46	20	WG786417
Naphthalene	mg/l	0.0212	0.0221	85.0	68.4-128	4.01	20	WG786417
Tetrachloroethene	mg/l	0.0280	0.0268	112.	72.6-126	4.33	20	WG786417
Toluene	mg/l	0.0213	0.0220	85.0	79.7-116	3.46	20	WG786417
trans-1,2-Dichloroethene	mg/l	0.0205	0.0209	82.0	72.6-121	2.16	20	WG786417
trans-1,3-Dichloropropene	mg/l	0.0221	0.0232	88.0	74.3-123	4.78	20	WG786417
Trichloroethene	mg/l	0.0231	0.0241	92.0	77.7-118	4.14	20	WG786417
Trichlorofluoromethane	mg/l	0.0240	0.0240	96.0	63.5-135	0.290	20	WG786417
Vinyl chloride	mg/l	0.0195	0.0191	78.0	65.9-128	2.20	20	WG786417
Xylenes, Total	mg/l	0.0736	0.0711	98.0	78.7-121	3.40	20	WG786417
4-Bromofluorobenzene				100.0	71-126			WG786417
Dibromofluoromethane				99.40	78.3-121			WG786417
Toluene-d8				95.90	88.5-111			WG786417
a,a,a-Trifluorotoluene				107.0	85-114			WG786417
1,2,4-Trichlorobenzene	mg/l	0.0280	0.0288	56.0	22.9-96.1	2.84	27.5	WG786843
2,4,6-Trichlorophenol	mg/l	0.0395	0.0417	79.0	29.8-107	5.25	24.1	WG786843
2,4-Dichlorophenol	mg/l	0.0359	0.0383	72.0	31.4-103	6.48	24.9	WG786843
2,4-Dimethylphenol	mg/l	0.0362	0.0388	72.0	31.9-107	7.15	25.7	WG786843
2,4-Dinitrophenol	mg/l	0.0308	0.0352	62.0	24.2-128	13.4	20.5	WG786843
2,4-Dinitrotoluene	mg/l	0.0391	0.0436	78.0	31.2-105	10.8	22	WG786843
2,6-Dinitrotoluene	mg/l	0.0386	0.0427	77.0	30.6-106	10.1	23.1	WG786843
2-Chloronaphthalene	mg/l	0.0334	0.0356	67.0	33.6-105	6.25	23	WG786843
2-Chlorophenol	mg/l	0.0315	0.0325	63.0	26.2-91.5	3.33	26.5	WG786843
2-Nitrophenol	mg/l	0.0375	0.0387	75.0	25.9-106	3.08	26.9	WG786843
3,3-Dichlorobenzidine	mg/l	0.0386	0.0395	77.0	27.2-142	2.29	22.3	WG786843
4,6-Dinitro-2-methylphenol	mg/l	0.0412	0.0430	82.0	18.4-148	4.43	24.4	WG786843
4-Bromophenyl-phenylether	mg/l	0.0382	0.0411	76.0	40.7-116	7.19	21	WG786843
4-Chloro-3-methylphenol	mg/l	0.0366	0.0403	73.0	35.7-100	9.61	22.9	WG786843
4-Chlorophenyl-phenylether	mg/l	0.0358	0.0405	72.0	39-113	12.3	20.9	WG786843
4-Nitrophenol	mg/l	0.0202	0.0215	40.0	10-52.7	5.97	40	WG786843
Acenaphthene	mg/l	0.0332	0.0373	66.0	38.7-109	11.6	21.5	WG786843
Acenaphthylene	mg/l	0.0333	0.0375	67.0	36-106	11.9	21	WG786843
Anthracene	mg/l	0.0373	0.0397	74.0	43.6-113	6.43	18.8	WG786843
1,2-Diphenylhydrazine	mg/l	0.0346	0.0387	69.0	37.6-111	11.2	21.1	WG786843
Benzidine	mg/l	0.0259	0.0232	52.0	10-165.2	11.2	40	WG786843
Benzo(a)anthracene	mg/l	0.0355	0.0379	71.0	51.2-112	6.68	20	WG786843
Benzo(a)pyrene	mg/l	0.0372	0.0393	74.0	45.6-106	5.47	20	WG786843
Benzo(b)fluoranthene	mg/l	0.0367	0.0384	73.0	47.6-111	4.72	20	WG786843
Benzo(g,h,i)perylene	mg/l	0.0385	0.0423	77.0	45.2-117	9.32	20	WG786843
Benzo(k)fluoranthene	mg/l	0.0356	0.0395	71.0	49.4-114	10.3	20	WG786843
Benzylbutyl phthalate	mg/l	0.0379	0.0405	76.0	31.8-123	6.68	20.7	WG786843
Bis(2-chlorethoxy)methane	mg/l	0.0309	0.0331	62.0	37.2-111	6.84	24.1	WG786843
Bis(2-chloroethyl)ether	mg/l	0.0259	0.0280	52.0	22.6-108	7.72	27.9	WG786843
Bis(2-chloroisopropyl)ether	mg/l	0.0303	0.0326	61.0	32.9-100	7.16	25.1	WG786843
Bis(2-ethylhexyl)phthalate	mg/l	0.0387	0.0428	77.0	36.9-134	10.2	23.6	WG786843
Chrysene	mg/l	0.0351	0.0378	70.0	54.6-120	7.38	20	WG786843
Di-n-butyl phthalate	mg/l	0.0397	0.0422	79.0	41.8-120	6.09	20.2	WG786843
Di-n-octyl phthalate	mg/l	0.0393	0.0422	79.0	39.7-112	6.94	21.1	WG786843
Dibenz(a,h)anthracene	mg/l	0.0388	0.0420	78.0	42.8-118	7.80	20	WG786843

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L762730

May 13, 2015

Analyte	Units	Laboratory Control Sample Result	Ref	%Rec	Limit	RPD	Limit	Batch
Diethyl phthalate	mg/l	0.0394	0.0432	79.0	36.5-129	9.06	20	WG786843
Dimethyl phthalate	mg/l	0.0397	0.0427	79.0	35.3-128	7.32	20.8	WG786843
Fluoranthene	mg/l	0.0378	0.0399	76.0	45.9-115	5.47	20	WG786843
Fluorene	mg/l	0.0354	0.0400	71.0	41-112	12.2	20.2	WG786843
Hexachloro-1,3-butadiene	mg/l	0.0286	0.0302	57.0	16.1-104	5.49	31.2	WG786843
Hexachlorobenzene	mg/l	0.0402	0.0424	80.0	38.5-116	5.32	20.1	WG786843
Hexachlorocyclopentadiene	mg/l	0.0225	0.0243	45.0	10-121	7.59	27.9	WG786843
Hexachloroethane	mg/l	0.0253	0.0246	51.0	16.5-89.8	2.84	30.7	WG786843
Indeno(1,2,3-cd)pyrene	mg/l	0.0388	0.0426	78.0	45-116	9.26	20	WG786843
Isophorone	mg/l	0.0364	0.0381	73.0	35.4-112	4.52	21.5	WG786843
n-Nitrosodi-n-propylamine	mg/l	0.0315	0.0342	63.0	33.2-106	8.13	23.7	WG786843
n-Nitrosodimethylamine	mg/l	0.0155	0.0158	31.0	10-80.1	1.37	37.5	WG786843
n-Nitrosodiphenylamine	mg/l	0.0372	0.0395	74.0	44.4-113	6.18	20	WG786843
Naphthalene	mg/l	0.0288	0.0296	58.0	32.2-101	2.61	23.8	WG786843
Nitrobenzene	mg/l	0.0322	0.0332	64.0	31.4-106	3.27	25.7	WG786843
Pentachlorophenol	mg/l	0.0374	0.0400	75.0	10-97.4	6.79	35.1	WG786843
Phenanthrene	mg/l	0.0348	0.0369	70.0	46.4-113	5.77	20	WG786843
Phenol	mg/l	0.0163	0.0167	32.0	10-57.9	2.71	35	WG786843
Pyrene	mg/l	0.0371	0.0390	74.0	46.3-117	4.88	20	WG786843
2,4,6-Tribromophenol				89.90	11.2-130			WG786843
2-Fluorobiphenyl				66.10	29.5-131			WG786843
2-Fluorophenol				45.00	10-77.9			WG786843
Nitrobenzene-d5				63.70	21.8-123			WG786843
Phenol-d5				31.20	5-70.1			WG786843
p-Terphenyl-d14				60.60	29.3-137			WG786843
Mercury,Dissolved	mg/l	0.00324	0.00298	108.	85-115	8.00	20	WG786936
Specific Conductance	umhos/	546.	550.	102.	85-115	0.730	20	WG787279
Hardness, Total (mg/L as CaCO3)	mg/l	204.	204.	102.	85-115	0.0	20	WG787461
Dissolved Solids	mg/l	8740	8720	99.0	85-115	0.229	5	WG787143
Alkalinity	mg/l	101.	101.	101.	85-115	0.0	20	WG788008
Chloride	mg/l	39.6	38.9	99.0	90-110	2.00	20	WG788312
Fluoride	mg/l	7.94	7.94	99.0	90-110	0.0	20	WG788618

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Bromide	mg/l	46.9	0.0	50	94.0	80-120	L762688-03	WG786303
Nitrate	mg/l	5.43	0.522	5	98.0	80-120	L762688-03	WG786303
Nitrite	mg/l	4.73	0.0	5	95.0	80-120	L762688-03	WG786303
Sulfate	mg/l	64.7	15.5	50	98.0	80-120	L762688-03	WG786303
Arsenic,Dissolved	mg/l	1.08	-0.000914	1	110.	75-125	L762345-01	WG786716
Calcium,Dissolved	mg/l	38.2	29.7	10	85.0	75-125	L762345-01	WG786716
Chromium,Dissolved	mg/l	0.959	0.000543	1	96.0	75-125	L762345-01	WG786716

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Quality Assurance Report
Level II

L762730

May 13, 2015

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Lead,Dissolved	mg/l	0.979	0.00203	1	98.0	75-125	L762345-01	WG786716
Selenium,Dissolved	mg/l	1.13	-0.000351	1	110.	75-125	L762345-01	WG786716
Silver,Dissolved	mg/l	1.02	0.000964	1	100.	75-125	L762345-01	WG786716
Arsenic,Dissolved	mg/l	1.09	-0.00307	1	110.	75-125	L762345-02	WG786716
Barium,Dissolved	mg/l	1.09	0.0122	1	110.	75-125	L762345-02	WG786716
Calcium,Dissolved	mg/l	50.3	41.7	10	86.0	75-125	L762345-02	WG786716
Chromium,Dissolved	mg/l	0.969	0.000648	1	97.0	75-125	L762345-02	WG786716
Lead,Dissolved	mg/l	0.971	0.00125	1	97.0	75-125	L762345-02	WG786716
Selenium,Dissolved	mg/l	1.14	0.00177	1	110.	75-125	L762345-02	WG786716
Silver,Dissolved	mg/l	1.03	0.000788	1	100.	75-125	L762345-02	WG786716
Barium,Dissolved	mg/l	0.961	0.00909	1	95.0	75-125	L762345-01	WG786716
1,1,1-Trichloroethane	mg/l	0.0238	0.0	.025	95.0	58.7-134	L762837-01	WG786417
1,1,2,2-Tetrachloroethane	mg/l	0.0231	0.0	.025	92.0	56-132	L762837-01	WG786417
1,1,2-Trichloroethane	mg/l	0.0233	0.0	.025	93.0	66.3-125	L762837-01	WG786417
1,1-Dichloroethane	mg/l	0.0198	0.0	.025	79.0	58.5-132	L762837-01	WG786417
1,1-Dichloroethene	mg/l	0.0187	0.0	.025	75.0	51.1-140	L762837-01	WG786417
1,2-Dichlorobenzene	mg/l	0.0237	0.0	.025	95.0	68.2-123	L762837-01	WG786417
1,2-Dichloroethane	mg/l	0.0244	0.0	.025	98.0	60-126	L762837-01	WG786417
1,2-Dichloropropane	mg/l	0.0197	0.0	.025	79.0	64.2-123	L762837-01	WG786417
1,3-Dichlorobenzene	mg/l	0.0250	0.0	.025	100.	63.1-131	L762837-01	WG786417
1,4-Dichlorobenzene	mg/l	0.0220	0.0	.025	88.0	68.6-123	L762837-01	WG786417
2-Chloroethyl vinyl ether	mg/l	0.0955	0.0	.125	76.0	10-155	L762837-01	WG786417
Benzene	mg/l	0.0181	0.0	.025	72.0	54.3-133	L762837-01	WG786417
Bromodichloromethane	mg/l	0.0243	0.0	.025	97.0	63.9-121	L762837-01	WG786417
Bromoform	mg/l	0.0286	0.0	.025	110.	59.5-134	L762837-01	WG786417
Bromomethane	mg/l	0.0168	0.0	.025	67.0	41.7-155	L762837-01	WG786417
Carbon tetrachloride	mg/l	0.0233	0.0	.025	93.0	55.7-134	L762837-01	WG786417
Chlorobenzene	mg/l	0.0231	0.0	.025	92.0	67-125	L762837-01	WG786417
Chlorodibromomethane	mg/l	0.0266	0.0	.025	110.	64.3-125	L762837-01	WG786417
Chloroethane	mg/l	0.0151	0.0	.025	60.0	51.5-136	L762837-01	WG786417
Chloroform	mg/l	0.0211	0.0	.025	85.0	63-129	L762837-01	WG786417
Chloromethane	mg/l	0.0134	0.0	.025	54.0	42.4-135	L762837-01	WG786417
cis-1,3-Dichloropropene	mg/l	0.0219	0.0	.025	88.0	66.4-125	L762837-01	WG786417
Dichlorodifluoromethane	mg/l	0.0197	0.0	.025	79.0	40.6-144	L762837-01	WG786417
Ethylbenzene	mg/l	0.0228	0.0	.025	91.0	61.4-133	L762837-01	WG786417
Methyl tert-butyl ether	mg/l	0.0190	0.0	.025	76.0	57.7-134	L762837-01	WG786417
Methylene Chloride	mg/l	0.0183	0.0	.025	73.0	58.1-122	L762837-01	WG786417
Naphthalene	mg/l	0.0202	0.0	.025	81.0	58-135	L762837-01	WG786417
Tetrachloroethene	mg/l	0.0253	0.0	.025	100.	53-139	L762837-01	WG786417
Toluene	mg/l	0.0197	0.0	.025	79.0	61.4-130	L762837-01	WG786417
trans-1,2-Dichloroethene	mg/l	0.0187	0.00104	.025	70.0	56.5-129	L762837-01	WG786417
trans-1,3-Dichloropropene	mg/l	0.0215	0.0	.025	86.0	64.1-128	L762837-01	WG786417
Trichloroethene	mg/l	0.0220	0.000443	.025	86.0	44.1-149	L762837-01	WG786417
Trichlorofluoromethane	mg/l	0.0203	0.0	.025	81.0	49.6-145	L762837-01	WG786417
Vinyl chloride	mg/l	0.0154	0.000467	.025	60.0	47.8-137	L762837-01	WG786417
Xylenes, Total	mg/l	0.0674	0.0	.075	90.0	63.3-131	L762837-01	WG786417
4-Bromofluorobenzene					101.0	71-126		WG786417
Dibromofluoromethane					100.0	78.3-121		WG786417
Toluene-d8					98.20	88.5-111		WG786417
a,a,a-Trifluorotoluene					106.0	85-114		WG786417
Mercury,Dissolved	mg/l	0.000111	-0.000005	.003	4.00*	70-130	L762730-01	WG786936
Hardness, Total (mg/L as CaCO3)	mg/l	205.	60.4	150	96.0	80-120	L762982-06	WG787461

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Quality Assurance Report
Level II

L762730

May 13, 2015

		Matrix Spike						
Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Alkalinity	mg/l	381.	320.	100	61.0*	80-120	L763788-01	WG788008
Chloride	mg/l	70.4	21.2	50	98.0	80-120	L764346-03	WG788312

		Matrix Spike Duplicate							
Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Bromide	mg/l	48.3	46.9	96.7	80-120	3.00	20	L762688-03	WG786303
Nitrate	mg/l	5.55	5.43	100.	80-120	2.00	20	L762688-03	WG786303
Nitrite	mg/l	4.87	4.73	97.3	80-120	3.00	20	L762688-03	WG786303
Sulfate	mg/l	65.9	64.7	101.	80-120	2.00	20	L762688-03	WG786303
Arsenic,Dissolved	mg/l	1.09	1.08	109.	75-125	1.00	20	L762345-01	WG786716
Calcium,Dissolved	mg/l	38.2	38.2	85.2	75-125	0.0	20	L762345-01	WG786716
Chromium,Dissolved	mg/l	0.964	0.959	96.3	75-125	0.0	20	L762345-01	WG786716
Lead,Dissolved	mg/l	0.983	0.979	98.1	75-125	0.0	20	L762345-01	WG786716
Selenium,Dissolved	mg/l	1.12	1.13	112.	75-125	0.0	20	L762345-01	WG786716
Silver,Dissolved	mg/l	1.03	1.02	102.	75-125	0.0	20	L762345-01	WG786716
Arsenic,Dissolved	mg/l	1.09	1.09	109.	75-125	0.0	20	L762345-02	WG786716
Barium,Dissolved	mg/l	1.09	1.09	107.	75-125	0.0	20	L762345-02	WG786716
Calcium,Dissolved	mg/l	50.1	50.3	83.6	75-125	1.00	20	L762345-02	WG786716
Chromium,Dissolved	mg/l	0.967	0.969	96.6	75-125	0.0	20	L762345-02	WG786716
Lead,Dissolved	mg/l	0.971	0.971	97.0	75-125	0.0	20	L762345-02	WG786716
Selenium,Dissolved	mg/l	1.13	1.14	113.	75-125	1.00	20	L762345-02	WG786716
Silver,Dissolved	mg/l	1.04	1.03	104.	75-125	0.0	20	L762345-02	WG786716
Barium,Dissolved	mg/l	0.959	0.961	95.0	75-125	0.0	20	L762345-01	WG786716
1,1,1-Trichloroethane	mg/l	0.0247	0.0238	98.8	58.7-134	3.79	20	L762837-01	WG786417
1,1,2,2-Tetrachloroethane	mg/l	0.0255	0.0231	102.	56-132	9.91	22.2	L762837-01	WG786417
1,1,2-Trichloroethane	mg/l	0.0241	0.0233	96.6	66.3-125	3.67	20	L762837-01	WG786417
1,1-Dichloroethane	mg/l	0.0201	0.0198	80.3	58.5-132	1.40	20	L762837-01	WG786417
1,1-Dichloroethene	mg/l	0.0196	0.0187	78.5	51.1-140	4.67	20.2	L762837-01	WG786417
1,2-Dichlorobenzene	mg/l	0.0243	0.0237	97.4	68.2-123	2.73	20	L762837-01	WG786417
1,2-Dichloroethane	mg/l	0.0251	0.0244	100.	60-126	2.67	20	L762837-01	WG786417
1,2-Dichloropropane	mg/l	0.0206	0.0197	82.6	64.2-123	4.67	20	L762837-01	WG786417
1,3-Dichlorobenzene	mg/l	0.0261	0.0250	104.	63.1-131	4.32	20	L762837-01	WG786417
1,4-Dichlorobenzene	mg/l	0.0231	0.0220	92.4	68.6-123	4.71	20	L762837-01	WG786417
2-Chloroethyl vinyl ether	mg/l	0.106	0.0955	85.0	10-155	10.6	20	L762837-01	WG786417
Benzene	mg/l	0.0186	0.0181	74.6	54.3-133	2.76	20	L762837-01	WG786417
Bromodichloromethane	mg/l	0.0252	0.0243	101.	63.9-121	3.56	20	L762837-01	WG786417
Bromoform	mg/l	0.0296	0.0286	118.	59.5-134	3.37	20.5	L762837-01	WG786417
Bromomethane	mg/l	0.0172	0.0168	68.8	41.7-155	2.69	21.9	L762837-01	WG786417
Carbon tetrachloride	mg/l	0.0249	0.0233	99.6	55.7-134	6.60	20	L762837-01	WG786417
Chlorobenzene	mg/l	0.0237	0.0231	94.8	67-125	2.70	20	L762837-01	WG786417
Chlorodibromomethane	mg/l	0.0281	0.0266	112.	64.3-125	5.47	20.8	L762837-01	WG786417
Chloroethane	mg/l	0.0166	0.0151	66.3	51.5-136	9.45	40	L762837-01	WG786417
Chloroform	mg/l	0.0217	0.0211	86.7	63-129	2.50	20	L762837-01	WG786417
Chloromethane	mg/l	0.0145	0.0134	58.0	42.4-135	7.69	20	L762837-01	WG786417
cis-1,3-Dichloropropene	mg/l	0.0231	0.0219	92.3	66.4-125	5.30	20	L762837-01	WG786417
Dichlorodifluoromethane	mg/l	0.0201	0.0197	80.6	40.6-144	2.12	20.2	L762837-01	WG786417
Ethylbenzene	mg/l	0.0237	0.0228	94.9	61.4-133	4.16	20	L762837-01	WG786417
Methyl tert-butyl ether	mg/l	0.0207	0.0190	82.9	57.7-134	8.76	20	L762837-01	WG786417
Methylene Chloride	mg/l	0.0190	0.0183	75.8	58.1-122	3.36	20	L762837-01	WG786417
Naphthalene	mg/l	0.0221	0.0202	88.4	58-135	9.22	25.5	L762837-01	WG786417
Tetrachloroethene	mg/l	0.0262	0.0253	105.	53-139	3.25	20	L762837-01	WG786417

* 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

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Toluene	mg/l	0.0209	0.0197	83.7	61.4-130	5.90	20	L762837-01	WG786417
trans-1,2-Dichloroethene	mg/l	0.0192	0.0187	72.5	56.5-129	2.59	20	L762837-01	WG786417
trans-1,3-Dichloropropene	mg/l	0.0238	0.0215	95.2	64.1-128	10.0	20	L762837-01	WG786417
Trichloroethene	mg/l	0.0227	0.0220	89.0	44.1-149	3.28	20	L762837-01	WG786417
Trichlorofluoromethane	mg/l	0.0214	0.0203	85.6	49.6-145	5.56	21.2	L762837-01	WG786417
Vinyl chloride	mg/l	0.0165	0.0154	64.3	47.8-137	6.97	20	L762837-01	WG786417
Xylenes, Total	mg/l	0.0700	0.0674	93.3	63.3-131	3.67	20	L762837-01	WG786417
4-Bromofluorobenzene				103.0	71-126				WG786417
Dibromofluoromethane				97.00	78.3-121				WG786417
Toluene-d8				99.20	88.5-111				WG786417
a,a,a-Trifluorotoluene				106.0	85-114				WG786417
Mercury,Dissolved	mg/l	0.000114	0.000111	4.01*	70-130	0.0	20	L762730-01	WG786936
Hardness, Total (mg/L as CaCO3)	mg/l	206.	205.	97.1	80-120	0.487	20	L762982-06	WG787461
Alkalinity	mg/l	384.	381.	64.0*	80-120	0.784	20	L763788-01	WG788008
Chloride	mg/l	68.9	70.4	95.5	80-120	2.00	20	L764346-03	WG788312

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG786303: R3034734: L762730-01
WG786680: R3035141: L762730-01

* 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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Quality Assurance Report
Level II

L762730

May 13, 2015

WG786716: R3035165 R3035168: L762730-01
WG786417: R3035284: L762730-01
WG786843: R3035292 R3035826: L762730-01
WG786936: R3035413: L762730-01
WG787279: R3035658: L762730-01
WG787461: R3035862: L762730-01
WG787143: R3035951: L762730-01
WG788008: R3036115: L762730-01
WG788312: R3036507: L762730-01
WG788618: R3036759: L762730-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762730

May 13, 2015

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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Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Friday May 22, 2015

Report Number: L762733
Samples Received: 05/02/15
Client Project: KP 44-20-691

Description: KP 44-20-691

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: Alan Harvill

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

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

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

May 22,2015

ESC Sample # : L762733-01

Date Received : May 02, 2015
Description : KP 44-20-691

Site ID : KP 44-20-691

Sample ID : KP 44-20-691

Project : KP 44-20-691

Collected By :
Collection Date : 05/01/15 10:35

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
Gross Alpha	ATTACH TO CO		pCi/l	15.	7110 B-	05/19/15 0000	ARF	1
Gross Beta	ATTACH TO CO		pCi/l		900.0	05/19/15 0000	ARF	1

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)
Limit - Maximum Contaminant Level as established by the US EPA
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 05/22/15 15:47 Printed: 05/22/15 15:47
L762733-01 (GROSS ALPHA) - subcontracted to GEL Labs
L762733-01 (GROSS BETA) - subcontracted to GEL Labs

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WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L762733

May 22, 2015

Batch number /Run number / Sample number cross reference

WG786578: R3038810: L762733-01

* * 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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Quality Assurance Report
Level II

L762733

May 22, 2015

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.

Chain of Custody Page ___ of ___

ESC LABORATORIES — YOUR LAB OF CHOICE

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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # L762733
B183

Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

Company Name/Address:	Billing Information:
WPX Energy 1058 County Road 215 Parachute, CO 81635	WPX Energy 1058 County Road 215 Parachute, CO 81635 Quote # WILPCO012315S2
Report to: Karolina Blaney	Email To: karolina.blaney@wpxenergy.com
Project Description: KP 44-20-691	City/State Collected:
Phone: 970-683-2295 Fax:	Client Project # KP 44-20-691
Collected by (print):	Site/Facility ID # KP 44-20-691
Collected by (signature): Immediately Packed on Ice N ___ Y ___	Rush? (Lab MUST Be Notified) ___ Same Day ....200% ___ Next Day ....100% ___ Two Day ....50% ___ Three Day 25%

Lab Project #

P.O. #

Date Results Needed

Email? ___No ___Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	see attached	Rem./Contaminant	Sample # (lab only)
KP 44-20-691	Grab	WW		5/1/15	10:35	12	X		C1

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: Quote # WILPCO0420155, 6194 4945 2174

pH _____ Temp _____

Flow _____ Other _____

Hold #

Condition: (lab use only) JWS

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Karolina Blaney	5/1/2015	3 pm	
	5.1.15	1730	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.4 °C Bottles Received: 12

Date: 5/2/15 Time: 09:00

COC Seal Intact: ___Y ___N ___NA

pH Checked: 12 NCF:

1762790
1762733

•	VOLATILE ORGANIC COMPOUNDS	EPA METHOD 624 (GC/MS)
•	SEMI-VOLATILE ORGANIC COMPOUNDS	EPA METHOD 625 (GC/MS)
•	DISSOLVED METALS	EPA METHOD 200.7 (ICP)
•	DISSOLVED INORGANICS (NON-METALS)	EPA METHOD 300.0 (IC)
o	Br,Cl,F,Nitrate/Nitrite, Sulfate	
•	GENERAL WATER QUALITY PARAMETERS	
o	SPECIFIC CONDUCTANCE	EPA METHOD 300.0 (IC)
o	HARDNESS	EPA METHOD 130.1
o	TOTAL DISSOLVED SOLIDS	EPA METHOD 160.1
o	pH	EPA METHOD 150.2
o	ALKALINITY	EPA METHOD 310.1
•	GROSS ALPHA AND BETA RADIOACTIVITY	EPA METHOD 900.1

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
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www.gel.com

May 22, 2015

Ms. Janice Cozby
Environmental Science Corporation
12065 Lebanon Road
Mount Juliet, Tennessee 37122

Re: Radiochemistry Analysis
Work Order: 372341

Dear Ms. Cozby:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 05, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Julie Robinson

Julie Robinson
Project Manager

Purchase Order: S21879
Chain of Custody: WG786578
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

ENVL001 Environmental Science Corporation

Client SDG: 372341 GEL Work Order: 372341

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

Reviewed by Julie Robinson

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 22, 2015

Company : Environmental Science Corporation
Address : 12065 Lebanon Road

Mount Juliet, Tennessee 37122
Contact: Ms. Janice Cozby
Project: Radiochemistry Analysis

Client Sample ID: L762733-01
Project: ENVL00307
Sample ID: 372341001
Client ID: ENVL001
Matrix: Drinking Water (Potable)
Collect Date: 01-MAY-15 10:35
Receive Date: 05-MAY-15
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
Gross Alpha/Beta in Drinking Water EPA 900.0 "As Received"												
Alpha	U	2.76	+/-64.3	117	3.00	pCi/L		KXB2	05/19/15	0748	1477782	1
Beta	U	33.0	+/-35.8	59.8	4.00	pCi/L						

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 900.0	

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

QC Summary

Report Date: May 22, 2015

Environmental Science Corporation
12065 Lebanon Road
Mount Juliet, Tennessee

Contact: **Ms. Janice Cozby**

Workorder: **372341**

Parmname			NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow														
Batch 1477782														
QC1203316062	LCS													
Alpha			81.1				94.6	pCi/L		117	(80%-120%)	KXB2	05/18/15	18:09
			Uncertainty				+/-8.66							
Beta			314				360	pCi/L		115	(80%-120%)			
			Uncertainty				+/-12.9							
QC1203316061	MB													
Alpha						U	-0.401	pCi/L					05/19/15	07:48
			Uncertainty				+/-0.927							
Beta						U	-0.696	pCi/L						
			Uncertainty				+/-1.35							
QC1203316065	372129008	MS												
Alpha			486	U	-0.748		586	pCi/L		120	(70%-130%)		05/18/15	18:08
			Uncertainty		+/-1.40		+/-59.3							
Beta			1890		3.41		2020	pCi/L		107	(70%-130%)			
			Uncertainty		+/-0.941		+/-74.2							
QC1203316066	372129008	MSD												
Alpha			486	U	-0.748		623	pCi/L	6.26	128	(0%-20%)		05/18/15	18:09
			Uncertainty		+/-1.40		+/-60.0							
Beta			1890		3.41		2180	pCi/L	8.06	116	(0%-20%)			
			Uncertainty		+/-0.941		+/-78.4							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit

QC Summary

Workorder: **372341**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Chain of Custody and Supporting Documentation

372341

Sub-Contract Chain of Custody

Environmental Science Corp.
12065 Lebanon Road
Mt. Juliet , TN 37122
(615) 773-9756 (615) 758-5859 fa

Sub-Contract Lab : __GEL____
City / State : _____Charleston, SC_____
Results Needed by : ___06/01/2015_____
ESC Purchase Order # : __S21879_____

WORKGROUP	**WG786578**
Date Created :	05/04/2015

Send Reports To : ____Janice Cozby jcozby@esclabsciences.com____

SAMPLENO / Container #	MATRIX	Date / Time Collected	PARAMETER	Code	METHOD	Comments
L762733-01	**DW**	05/01/2015 1035	**Gross Alpha**	GA	900.0	CO Client
18474855 18474854						
L762733-01	**DW**	05/01/2015 1035	**Gross Beta**	GB	**900.0**	CO Client
18474855 18474854						

Relinquished by _____ Date: _____
Received by : _____ Date: 050515 0850
Relinquished by _____ Date: _____
Received by : _____ Date: _____

Page : 1

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: ENVL		**SDG/AR/COC/Work Order:** 372341	
Received By: L Taylor		**Date Received:** 050515	
Suspected Hazard Information	**Yes** / **No**	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
COC/Samples marked as radioactive?		Maximum Net Counts Observed* (Observed Counts - Area Background Counts):	
Classified Radioactive II or III by RSO?		If yes, Were swipes taken of sample contatiners < action levels?	ex pm
COC/Samples marked containing PCBs?			
Package, COC, and/or Samples marked as beryllium or asbestos containing?		If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.	
Shipped as a DOT Hazardous?		Hazard Class Shipped:	UN#:
Samples identified as Foreign Soil?			

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) 3 *all temperatures are recorded in Celsius
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: EL109202149499 Secondary Temperature Device Serial # (if Applicable):
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples (EPA 6850) have headspace as required?		✓		Sample ID's and containers affected:
7	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
8	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
9	Samples received within holding time?	✓			ID's and tests affected:
10	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
11	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
12	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
13	Are sample containers identifiable as GEL provided?			✓	
14	COC form is properly signed in relinquished/received sections?			✓	
15	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 6381 3036 1635 1646

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials HH Date 050515 Page 1 of 1 GL-CHL-SR-001 Rev 1

There are no "Data Exception Reports" associated with this analytical report.

List of current GEL Certifications as of 22 May 2015

State	Certification
Alaska	UST−110
Arkansas	88−0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC000122013−10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−12−00283, P330−12−00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013−10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC000122013−10
Nebraska	NE−OS−26−13
Nevada	SC000122014−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68−00485
Plant Material Permit	PDEP−12−00260
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−15−10
Utah NELAP	SC000122015−17
Vermont	VT87156
Virginia NELAP	460202
Washington	C780