ANALYTICAL REPORT

March 15, 2016

XTO Energy - San Juan Division

Sample Delivery Group:	L821825
Samples Received:	03/05/2016
Project Number:	
Description:	Huber Burkett 4-3

Report To: James McDaniel
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

DURLH-3316-1615 L821825-01 Solid

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:15
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG854393	1	03/08/16 15:30	03/09/16 17:24	ST
Calculated Results	WG854801	1	03/08/16 18:11	03/09/16 12:36	LTB
Mercury by Method 7471A	WG854691	1	03/08/16 19:21	03/10/16 15:30	TRB
Metals (ICP) by Method 6010B	WG854801	1	03/08/16 18:11	03/09/16 12:36	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG855422	10	03/11/16 21:29	03/14/16 19:07	KMP
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG855402	5	03/11/16 00:24	03/11/16 14:23	TRF
Total Solids by Method 2540 G-2011	WG854907	1	03/10/16 08:46	03/10/16 08:56	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG855359	5	03/11/16 01:00	03/11/16 11:12	JAH
Wet Chemistry by Method 3060A/7196A	WG854082	1	03/07/16 08:18	03/07/16 12:08	AMC
Wet Chemistry by Method 9045D	WG854348	1	03/07/16 09:42	03/07/16 09:42	AMC
Wet Chemistry by Method 9050AMod	WG854677	1	03/09/16 07:34	03/09/16 07:34	JSS
Wet Chemistry by Method 9056A	WG854598	1	03/10/16 14:52	03/11/16 03:24	DJD

DURLH-3316-1630 L821825-02 Solid

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:30
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG854393	1	03/08/16 15:30	03/09/16 18:34	ST
Calculated Results	WG854801	1	03/08/16 18:11	03/09/16 12:39	LTB
Mercury by Method 7471A	WG854691	1	03/08/16 19:21	03/10/16 15:32	TRB
Metals (ICP) by Method 6010B	WG854801	1	03/08/16 18:11	03/09/16 12:39	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG855422	15	03/11/16 21:29	03/14/16 16:01	KMP
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG855402	1	03/11/16 00:24	03/11/16 11:24	DMG
Total Solids by Method 2540 G-2011	WG854907	1	03/10/16 08:46	03/10/16 08:56	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG854329	5	03/07/16 08:30	03/08/16 00:08	BRA
Wet Chemistry by Method 3060A/7196A	WG854082	1	03/07/16 08:18	03/07/16 12:09	AMC
Wet Chemistry by Method 9045D	WG854348	1	03/07/16 09:42	03/07/16 09:42	AMC
Wet Chemistry by Method 9050AMod	WG854677	1	03/09/16 07:34	03/09/16 07:34	JSS
Wet Chemistry by Method 9056A	WG854598	1	03/10/16 14:52	03/11/16 03:48	DJD

DURLH-3316-1645 L821825-03 Solid

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:45
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG854393	1	03/08/16 15:30	03/09/16 17:27	ST
Calculated Results	WG854801	1	03/08/16 18:11	03/09/16 12:42	LTB
Mercury by Method 7471A	WG854691	1	03/08/16 19:21	03/10/16 15:35	TRB
Metals (ICP) by Method 6010B	WG854801	1	03/08/16 18:11	03/09/16 12:42	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG855422	15	03/11/16 21:29	03/14/16 16:22	KMP
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG855402	1	03/11/16 00:24	03/11/16 11:35	DMG
Total Solids by Method 2540 G-2011	WG854907	1	03/10/16 08:46	03/10/16 08:56	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG854329	5	03/07/16 08:30	03/08/16 00:30	BRA
Wet Chemistry by Method 3060A/7196A	WG854082	1	03/07/16 08:18	03/07/16 12:09	AMC
Wet Chemistry by Method 9045D	WG854348	1	03/07/16 09:42	03/07/16 09:42	AMC
Wet Chemistry by Method 9050AMod	WG854677	1	03/09/16 07:34	03/09/16 07:34	JSS
Wet Chemistry by Method 9056A	WG854598	1	03/10/16 14:52	03/11/16 04:59	DJD

DURLH-3316-1700 L821825-04 Solid

Collected by: Logan Hixon
Collected date/time: 03/03/16 17:00
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG854393	1	03/08/16 15:30	03/09/16 17:30	ST
Calculated Results	WG854801	1	03/08/16 18:11	03/09/16 12:45	LTB
Mercury by Method 7471A	WG854691	1	03/08/16 19:21	03/10/16 15:37	TRB
Metals (ICP) by Method 6010B	WG854801	1	03/08/16 18:11	03/09/16 12:45	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG855422	1	03/11/16 21:29	03/14/16 16:42	KMP
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG855402	1	03/11/16 00:24	03/11/16 11:46	DMG
Total Solids by Method 2540 G-2011	WG854907	1	03/10/16 08:46	03/10/16 08:56	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG854329	5	03/07/16 08:30	03/08/16 00:52	BRA
Wet Chemistry by Method 3060A/7196A	WG854082	1	03/07/16 08:18	03/07/16 12:13	AMC
Wet Chemistry by Method 9045D	WG854348	1	03/07/16 09:42	03/07/16 09:42	AMC
Wet Chemistry by Method 9050AMod	WG854677	1	03/09/16 07:34	03/09/16 07:34	JSS
Wet Chemistry by Method 9056A	WG854598	1	03/10/16 14:52	03/11/16 05:23	DJD

DURLH-3316-1720 L821825-05 Solid

Collected by: Logan Hixon
Collected date/time: 03/03/16 17:20
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG854393	1	03/08/16 15:30	03/09/16 17:33	ST
Calculated Results	WG854801	1	03/08/16 18:11	03/09/16 12:48	LTB
Mercury by Method 7471A	WG854691	1	03/08/16 19:21	03/10/16 15:40	TRB
Metals (ICP) by Method 6010B	WG854801	1	03/08/16 18:11	03/09/16 12:48	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG855422	1	03/11/16 21:29	03/14/16 17:03	KMP
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG855402	1	03/11/16 00:24	03/11/16 11:57	DMG
Total Solids by Method 2540 G-2011	WG854907	1	03/10/16 08:46	03/10/16 08:56	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG854329	5	03/07/16 08:30	03/08/16 01:14	BRA
Wet Chemistry by Method 3060A/7196A	WG854082	1	03/07/16 08:18	03/07/16 12:15	AMC
Wet Chemistry by Method 9045D	WG854348	1	03/07/16 09:42	03/07/16 09:42	AMC
Wet Chemistry by Method 9050AMod	WG854677	1	03/09/16 07:34	03/09/16 07:34	JSS
Wet Chemistry by Method 9056A	WG854598	1	03/10/16 14:52	03/11/16 05:47	DJD

DURLH-3316-1615 L821825-06 Waste

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:15
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG855414	1	03/10/16 18:06	03/10/16 20:04	ST
Preparation by Method 1311	WG855028	1	03/09/16 17:36	03/09/16 17:37	LJN

DURLH-3316-1630 L821825-07 Waste

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:30
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG855414	1	03/10/16 18:06	03/10/16 20:07	ST
Preparation by Method 1311	WG855028	1	03/09/16 17:36	03/09/16 17:37	LJN

DURLH-3316-1645 L821825-08 Waste

Collected by: Logan Hixon
Collected date/time: 03/03/16 16:45
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG855414	1	03/10/16 18:06	03/10/16 20:10	ST
Preparation by Method 1311	WG855028	1	03/09/16 17:36	03/09/16 17:37	LJN

DURLH-3316-1700 L821825-09 Waste

Collected by: Logan Hixon
Collected date/time: 03/03/16 17:00
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG855414	1	03/10/16 18:06	03/10/16 20:31	ST
Preparation by Method 1311	WG855028	1	03/09/16 17:36	03/09/16 17:37	LJN

DURLH-3316-1720 L821825-10 Waste

Collected by: Logan Hixon
Collected date/time: 03/03/16 17:20
Received date/time: 03/05/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG855414	1	03/10/16 18:06	03/10/16 20:34	ST
Preparation by Method 1311	WG855028	1	03/09/16 17:36	03/09/16 17:37	LJN

All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Technical Service Representative

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

ESC Sample ID	Project Sample ID	Method
L821825-01	DURLH-3316-1615	9045D
L821825-02	DURLH-3316-1630	9045D
L821825-03	DURLH-3316-1645	9045D
L821825-04	DURLH-3316-1700	9045D
L821825-05	DURLH-3316-1720	9045D

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.60		1	03/09/2016 17:24	WG854393

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	10.9		2.32	1	03/09/2016 12:36	WG854801

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.2		1	03/10/2016 08:56	WG854907

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.32	1	03/07/2016 12:08	WG854082

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.89		1	03/07/2016 09:42	WG854348

Sample Narrative:

9045D L821825-01 WG854348: 8.89 at 23.8c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	235		1	03/09/2016 07:34	WG854677

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	125		11.6	1	03/11/2016 03:24	WG854598
Sulfate	ND		58.0	1	03/11/2016 03:24	WG854598

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0232	1	03/10/2016 15:30	WG854691

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.08		2.32	1	03/09/2016 12:36	WG854801
Barium	125		0.580	1	03/09/2016 12:36	WG854801
Cadmium	ND		0.580	1	03/09/2016 12:36	WG854801
Chromium	10.9		1.16	1	03/09/2016 12:36	WG854801
Copper	17.7		2.32	1	03/09/2016 12:36	WG854801
Lead	6.90		0.580	1	03/09/2016 12:36	WG854801
Nickel	9.07		2.32	1	03/09/2016 12:36	WG854801
Selenium	ND		2.32	1	03/09/2016 12:36	WG854801

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Silver	ND		1.16	1	03/09/2016 12:36	WG854801
Zinc	40.8		5.80	1	03/09/2016 12:36	WG854801

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00290	5	03/11/2016 11:12	WG855359
Toluene	ND		0.0290	5	03/11/2016 11:12	WG855359
Ethylbenzene	ND		0.00290	5	03/11/2016 11:12	WG855359
Total Xylene	ND		0.00870	5	03/11/2016 11:12	WG855359
TPH (GC/FID) Low Fraction	ND		0.580	5	03/11/2016 11:12	WG855359
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*59.0-128*		*03/11/2016 11:12*	WG855359
(S) a,a,a-Trifluorotoluene(PID)	*102*		*54.0-144*		*03/11/2016 11:12*	WG855359

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		23.2	5	03/11/2016 14:23	WG855402
(S) o-Terphenyl	*72.6*		*50.0-150*		*03/11/2016 14:23*	WG855402

Sample Narrative:

3546/DRO L821825-01 WG855402: Cannot run at lower dilution due to viscosity of extract

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0696	10	03/14/2016 19:07	WG855422
Acenaphthene	ND		0.0696	10	03/14/2016 19:07	WG855422
Acenaphthylene	ND		0.0696	10	03/14/2016 19:07	WG855422
Benzo(a)anthracene	ND		0.0696	10	03/14/2016 19:07	WG855422
Benzo(a)pyrene	ND		0.0696	10	03/14/2016 19:07	WG855422
Benzo(b)fluoranthene	ND		0.0696	10	03/14/2016 19:07	WG855422
Benzo(g,h,i)perylene	ND		0.0696	10	03/14/2016 19:07	WG855422
Benzo(k)fluoranthene	ND		0.0696	10	03/14/2016 19:07	WG855422
Chrysene	ND		0.0696	10	03/14/2016 19:07	WG855422
Dibenz(a,h)anthracene	ND		0.0696	10	03/14/2016 19:07	WG855422
Fluoranthene	0.171		0.0696	10	03/14/2016 19:07	WG855422
Fluorene	ND		0.0696	10	03/14/2016 19:07	WG855422
Indeno(1,2,3-cd)pyrene	ND		0.0696	10	03/14/2016 19:07	WG855422
Naphthalene	ND		0.232	10	03/14/2016 19:07	WG855422
Phenanthrene	0.155		0.0696	10	03/14/2016 19:07	WG855422
Pyrene	0.129		0.0696	10	03/14/2016 19:07	WG855422
1-Methylnaphthalene	ND		0.232	10	03/14/2016 19:07	WG855422
2-Methylnaphthalene	ND		0.232	10	03/14/2016 19:07	WG855422
2-Chloronaphthalene	ND		0.232	10	03/14/2016 19:07	WG855422
(S) p-Terphenyl-d14	*53.4*		*32.2-131*		*03/14/2016 19:07*	WG855422
(S) Nitrobenzene-d5	*50.5*		*22.1-146*		*03/14/2016 19:07*	WG855422
(S) 2-Fluorobiphenyl	*52.9*		*40.6-122*		*03/14/2016 19:07*	WG855422

Sample Narrative:

8270C-SIM L821825-01 WG855422: Dilution due to matrix

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.62		1	03/09/2016 18:34	WG854393

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	13.4		2.71	1	03/09/2016 12:39	WG854801

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.7		1	03/10/2016 08:56	WG854907

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.71	1	03/07/2016 12:09	WG854082

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.60		1	03/07/2016 09:42	WG854348

Sample Narrative:

9045D L821825-02 WG854348: 8.60 at 23.2c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	250		1	03/09/2016 07:34	WG854677

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	130		13.6	1	03/11/2016 03:48	WG854598
Sulfate	ND		67.9	1	03/11/2016 03:48	WG854598

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0271	1	03/10/2016 15:32	WG854691

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.68		2.71	1	03/09/2016 12:39	WG854801
Barium	456		0.679	1	03/09/2016 12:39	WG854801
Cadmium	ND		0.679	1	03/09/2016 12:39	WG854801
Chromium	13.4		1.36	1	03/09/2016 12:39	WG854801
Copper	19.7		2.71	1	03/09/2016 12:39	WG854801
Lead	13.0		0.679	1	03/09/2016 12:39	WG854801
Nickel	12.7		2.71	1	03/09/2016 12:39	WG854801
Selenium	ND		2.71	1	03/09/2016 12:39	WG854801

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Silver	ND		1.36	1	03/09/2016 12:39	WG854801
Zinc	79.8		6.79	1	03/09/2016 12:39	WG854801

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00339	5	03/08/2016 00:08	WG854329
Toluene	ND		0.0339	5	03/08/2016 00:08	WG854329
Ethylbenzene	ND		0.00339	5	03/08/2016 00:08	WG854329
Total Xylene	ND		0.0102	5	03/08/2016 00:08	WG854329
TPH (GC/FID) Low Fraction	ND		0.679	5	03/08/2016 00:08	WG854329
(S) a,a,a-Trifluorotoluene(FID)	*99.7*		*59.0-128*		*03/08/2016 00:08*	WG854329
(S) a,a,a-Trifluorotoluene(PID)	*99.9*		*54.0-144*		*03/08/2016 00:08*	WG854329

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		5.43	1	03/11/2016 11:24	WG855402
(S) o-Terphenyl	*86.7*		*50.0-150*		*03/11/2016 11:24*	WG855402

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.122	15	03/14/2016 16:01	WG855422
Acenaphthene	ND		0.122	15	03/14/2016 16:01	WG855422
Acenaphthylene	ND		0.122	15	03/14/2016 16:01	WG855422
Benzo(a)anthracene	ND		0.122	15	03/14/2016 16:01	WG855422
Benzo(a)pyrene	ND		0.122	15	03/14/2016 16:01	WG855422
Benzo(b)fluoranthene	ND		0.122	15	03/14/2016 16:01	WG855422
Benzo(g,h,i)perylene	ND		0.122	15	03/14/2016 16:01	WG855422
Benzo(k)fluoranthene	ND		0.122	15	03/14/2016 16:01	WG855422
Chrysene	ND		0.122	15	03/14/2016 16:01	WG855422
Dibenz(a,h)anthracene	ND		0.122	15	03/14/2016 16:01	WG855422
Fluoranthene	ND		0.122	15	03/14/2016 16:01	WG855422
Fluorene	ND		0.122	15	03/14/2016 16:01	WG855422
Indeno(1,2,3-cd)pyrene	ND		0.122	15	03/14/2016 16:01	WG855422
Naphthalene	ND		0.407	15	03/14/2016 16:01	WG855422
Phenanthrene	ND		0.122	15	03/14/2016 16:01	WG855422
Pyrene	ND		0.122	15	03/14/2016 16:01	WG855422
1-Methylnaphthalene	ND		0.407	15	03/14/2016 16:01	WG855422
2-Methylnaphthalene	ND		0.407	15	03/14/2016 16:01	WG855422
2-Chloronaphthalene	ND		0.407	15	03/14/2016 16:01	WG855422
(S) p-Terphenyl-d14	*62.8*		*32.2-131*		*03/14/2016 16:01*	WG855422
(S) Nitrobenzene-d5	*72.0*		*22.1-146*		*03/14/2016 16:01*	WG855422
(S) 2-Fluorobiphenyl	*66.6*		*40.6-122*		*03/14/2016 16:01*	WG855422

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	12.9		1	03/09/2016 17:27	WG854393

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	13.0		2.90	1	03/09/2016 12:42	WG854801

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	68.9		1	03/10/2016 08:56	WG854907

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.90	1	03/07/2016 12:09	WG854082

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.31		1	03/07/2016 09:42	WG854348

Sample Narrative:

9045D L821825-03 WG854348: 8.31 at 23.4c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	616		1	03/09/2016 07:34	WG854677

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	266		14.5	1	03/11/2016 04:59	WG854598
Sulfate	ND		72.6	1	03/11/2016 04:59	WG854598

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0290	1	03/10/2016 15:35	WG854691

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.44		2.90	1	03/09/2016 12:42	WG854801
Barium	421		0.726	1	03/09/2016 12:42	WG854801
Cadmium	ND		0.726	1	03/09/2016 12:42	WG854801
Chromium	13.0		1.45	1	03/09/2016 12:42	WG854801
Copper	20.2		2.90	1	03/09/2016 12:42	WG854801
Lead	13.8		0.726	1	03/09/2016 12:42	WG854801
Nickel	12.4		2.90	1	03/09/2016 12:42	WG854801
Selenium	ND		2.90	1	03/09/2016 12:42	WG854801

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Silver	ND		1.45	1	03/09/2016 12:42	WG854801
Zinc	80.6		7.26	1	03/09/2016 12:42	WG854801

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00363	5	03/08/2016 00:30	WG854329
Toluene	ND		0.0363	5	03/08/2016 00:30	WG854329
Ethylbenzene	ND		0.00363	5	03/08/2016 00:30	WG854329
Total Xylene	ND		0.0109	5	03/08/2016 00:30	WG854329
TPH (GC/FID) Low Fraction	ND		0.726	5	03/08/2016 00:30	WG854329
(S) a,a,a-Trifluorotoluene(FID)	*99.8*		*59.0-128*		*03/08/2016 00:30*	WG854329
(S) a,a,a-Trifluorotoluene(PID)	*99.9*		*54.0-144*		*03/08/2016 00:30*	WG854329

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		5.81	1	03/11/2016 11:35	WG855402
(S) o-Terphenyl	*92.9*		*50.0-150*		*03/11/2016 11:35*	WG855402

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.131	15	03/14/2016 16:22	WG855422
Acenaphthene	ND		0.131	15	03/14/2016 16:22	WG855422
Acenaphthylene	ND		0.131	15	03/14/2016 16:22	WG855422
Benzo(a)anthracene	ND		0.131	15	03/14/2016 16:22	WG855422
Benzo(a)pyrene	ND		0.131	15	03/14/2016 16:22	WG855422
Benzo(b)fluoranthene	ND		0.131	15	03/14/2016 16:22	WG855422
Benzo(g,h,i)perylene	ND		0.131	15	03/14/2016 16:22	WG855422
Benzo(k)fluoranthene	ND		0.131	15	03/14/2016 16:22	WG855422
Chrysene	ND		0.131	15	03/14/2016 16:22	WG855422
Dibenz(a,h)anthracene	ND		0.131	15	03/14/2016 16:22	WG855422
Fluoranthene	ND		0.131	15	03/14/2016 16:22	WG855422
Fluorene	ND		0.131	15	03/14/2016 16:22	WG855422
Indeno(1,2,3-cd)pyrene	ND		0.131	15	03/14/2016 16:22	WG855422
Naphthalene	ND		0.436	15	03/14/2016 16:22	WG855422
Phenanthrene	ND		0.131	15	03/14/2016 16:22	WG855422
Pyrene	ND		0.131	15	03/14/2016 16:22	WG855422
1-Methylnaphthalene	ND		0.436	15	03/14/2016 16:22	WG855422
2-Methylnaphthalene	ND		0.436	15	03/14/2016 16:22	WG855422
2-Chloronaphthalene	ND		0.436	15	03/14/2016 16:22	WG855422
(S) p-Terphenyl-d14	*61.3*		*32.2-131*		*03/14/2016 16:22*	WG855422
(S) Nitrobenzene-d5	*68.7*		*22.1-146*		*03/14/2016 16:22*	WG855422
(S) 2-Fluorobiphenyl	*58.9*		*40.6-122*		*03/14/2016 16:22*	WG855422

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.54		1	03/09/2016 17:30	WG854393

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	11.8		2.80	1	03/09/2016 12:45	WG854801

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	71.5		1	03/10/2016 08:56	WG854907

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.80	1	03/07/2016 12:13	WG854082

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10		1	03/07/2016 09:42	WG854348

Sample Narrative:

9045D L821825-04 WG854348: 8.10 a 23.3c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	573		1	03/09/2016 07:34	WG854677

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	203		14.0	1	03/11/2016 05:23	WG854598
Sulfate	ND		69.9	1	03/11/2016 05:23	WG854598

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0280	1	03/10/2016 15:37	WG854691

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.80	1	03/09/2016 12:45	WG854801
Barium	390		0.699	1	03/09/2016 12:45	WG854801
Cadmium	ND		0.699	1	03/09/2016 12:45	WG854801
Chromium	11.8		1.40	1	03/09/2016 12:45	WG854801
Copper	19.2		2.80	1	03/09/2016 12:45	WG854801
Lead	13.3		0.699	1	03/09/2016 12:45	WG854801
Nickel	11.8		2.80	1	03/09/2016 12:45	WG854801
Selenium	ND		2.80	1	03/09/2016 12:45	WG854801

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Silver	ND		1.40	1	03/09/2016 12:45	WG854801
Zinc	74.0		6.99	1	03/09/2016 12:45	WG854801

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00349	5	03/08/2016 00:52	WG854329
Toluene	ND		0.0349	5	03/08/2016 00:52	WG854329
Ethylbenzene	ND		0.00349	5	03/08/2016 00:52	WG854329
Total Xylene	ND		0.0105	5	03/08/2016 00:52	WG854329
TPH (GC/FID) Low Fraction	ND		0.699	5	03/08/2016 00:52	WG854329
(S) a,a,a-Trifluorotoluene(FID)	*99.5*		*59.0-128*		*03/08/2016 00:52*	WG854329
(S) a,a,a-Trifluorotoluene(PID)	*99.8*		*54.0-144*		*03/08/2016 00:52*	WG854329

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		5.59	1	03/11/2016 11:46	WG855402
(S) o-Terphenyl	*80.4*		*50.0-150*		*03/11/2016 11:46*	WG855402

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00839	1	03/14/2016 16:42	WG855422
Acenaphthene	ND		0.00839	1	03/14/2016 16:42	WG855422
Acenaphthylene	ND		0.00839	1	03/14/2016 16:42	WG855422
Benzo(a)anthracene	ND		0.00839	1	03/14/2016 16:42	WG855422
Benzo(a)pyrene	ND		0.00839	1	03/14/2016 16:42	WG855422
Benzo(b)fluoranthene	ND		0.00839	1	03/14/2016 16:42	WG855422
Benzo(g,h,i)perylene	ND		0.00839	1	03/14/2016 16:42	WG855422
Benzo(k)fluoranthene	ND		0.00839	1	03/14/2016 16:42	WG855422
Chrysene	ND		0.00839	1	03/14/2016 16:42	WG855422
Dibenz(a,h)anthracene	ND		0.00839	1	03/14/2016 16:42	WG855422
Fluoranthene	ND		0.00839	1	03/14/2016 16:42	WG855422
Fluorene	ND		0.00839	1	03/14/2016 16:42	WG855422
Indeno(1,2,3-cd)pyrene	ND		0.00839	1	03/14/2016 16:42	WG855422
Naphthalene	ND		0.0280	1	03/14/2016 16:42	WG855422
Phenanthrene	ND		0.00839	1	03/14/2016 16:42	WG855422
Pyrene	ND		0.00839	1	03/14/2016 16:42	WG855422
1-Methylnaphthalene	ND		0.0280	1	03/14/2016 16:42	WG855422
2-Methylnaphthalene	ND		0.0280	1	03/14/2016 16:42	WG855422
2-Chloronaphthalene	ND		0.0280	1	03/14/2016 16:42	WG855422
(S) p-Terphenyl-d14	*51.1*		*32.2-131*		*03/14/2016 16:42*	WG855422
(S) Nitrobenzene-d5	*63.6*		*22.1-146*		*03/14/2016 16:42*	WG855422
(S) 2-Fluorobiphenyl	*68.2*		*40.6-122*		*03/14/2016 16:42*	WG855422

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.0839		1	03/09/2016 17:33	WG854393

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	15.3		2.56	1	03/09/2016 12:48	WG854801

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.0		1	03/10/2016 08:56	WG854907

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.56	1	03/07/2016 12:15	WG854082

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.87		1	03/07/2016 09:42	WG854348

Sample Narrative:

9045D L821825-05 WG854348: 7.87 at 23.5c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	45.4		1	03/09/2016 07:34	WG854677

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	92.3		12.8	1	03/11/2016 05:47	WG854598
Sulfate	ND		64.1	1	03/11/2016 05:47	WG854598

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0266		0.0256	1	03/10/2016 15:40	WG854691

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.87		2.56	1	03/09/2016 12:48	WG854801
Barium	520		0.641	1	03/09/2016 12:48	WG854801
Cadmium	ND		0.641	1	03/09/2016 12:48	WG854801
Chromium	15.3		1.28	1	03/09/2016 12:48	WG854801
Copper	23.0		2.56	1	03/09/2016 12:48	WG854801
Lead	13.8		0.641	1	03/09/2016 12:48	WG854801
Nickel	12.8		2.56	1	03/09/2016 12:48	WG854801
Selenium	ND		2.56	1	03/09/2016 12:48	WG854801

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Silver	ND		1.28	1	03/09/2016 12:48	WG854801
Zinc	76.8		6.41	1	03/09/2016 12:48	WG854801

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00321	5	03/08/2016 01:14	WG854329
Toluene	ND		0.0321	5	03/08/2016 01:14	WG854329
Ethylbenzene	ND		0.00321	5	03/08/2016 01:14	WG854329
Total Xylene	ND		0.00962	5	03/08/2016 01:14	WG854329
TPH (GC/FID) Low Fraction	ND		0.641	5	03/08/2016 01:14	WG854329
(S) a,a,a-Trifluorotoluene(FID)	*99.1*		*59.0-128*		*03/08/2016 01:14*	WG854329
(S) a,a,a-Trifluorotoluene(PID)	*99.3*		*54.0-144*		*03/08/2016 01:14*	WG854329

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		5.13	1	03/11/2016 11:57	WG855402
(S) o-Terphenyl	*83.6*		*50.0-150*		*03/11/2016 11:57*	WG855402

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00769	1	03/14/2016 17:03	WG855422
Acenaphthene	ND		0.00769	1	03/14/2016 17:03	WG855422
Acenaphthylene	ND		0.00769	1	03/14/2016 17:03	WG855422
Benzo(a)anthracene	ND		0.00769	1	03/14/2016 17:03	WG855422
Benzo(a)pyrene	ND		0.00769	1	03/14/2016 17:03	WG855422
Benzo(b)fluoranthene	ND		0.00769	1	03/14/2016 17:03	WG855422
Benzo(g,h,i)perylene	ND		0.00769	1	03/14/2016 17:03	WG855422
Benzo(k)fluoranthene	ND		0.00769	1	03/14/2016 17:03	WG855422
Chrysene	ND		0.00769	1	03/14/2016 17:03	WG855422
Dibenz(a,h)anthracene	ND		0.00769	1	03/14/2016 17:03	WG855422
Fluoranthene	ND		0.00769	1	03/14/2016 17:03	WG855422
Fluorene	ND		0.00769	1	03/14/2016 17:03	WG855422
Indeno(1,2,3-cd)pyrene	ND		0.00769	1	03/14/2016 17:03	WG855422
Naphthalene	ND		0.0256	1	03/14/2016 17:03	WG855422
Phenanthrene	ND		0.00769	1	03/14/2016 17:03	WG855422
Pyrene	ND		0.00769	1	03/14/2016 17:03	WG855422
1-Methylnaphthalene	ND		0.0256	1	03/14/2016 17:03	WG855422
2-Methylnaphthalene	ND		0.0256	1	03/14/2016 17:03	WG855422
2-Chloronaphthalene	ND		0.0256	1	03/14/2016 17:03	WG855422
(S) p-Terphenyl-d14	*50.3*		*32.2-131*		*03/14/2016 17:03*	WG855422
(S) Nitrobenzene-d5	*60.1*		*22.1-146*		*03/14/2016 17:03*	WG855422
(S) 2-Fluorobiphenyl	*63.8*		*40.6-122*		*03/14/2016 17:03*	WG855422

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/9/2016 5:36:11 PM	WG855028

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	03/10/2016 20:04	WG855414

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/9/2016 5:36:11 PM	WG855028

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	03/10/2016 20:07	WG855414

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/9/2016 5:36:11 PM	WG855028

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	03/10/2016 20:10	WG855414

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/9/2016 5:36:11 PM	WG855028

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	03/10/2016 20:31	WG855414

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/9/2016 5:36:11 PM	WG855028

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	03/10/2016 20:34	WG855414

Method Blank (MB)

(MB) 03/10/16 08:56

Analyte	MB Result	MB Qualifier	MB RDL
	%		%
Total Solids	0.00130		

L821825-05 Original Sample (OS) • Duplicate (DUP)

(OS) 03/10/16 08:56 • (DUP) 03/10/16 08:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	78.0	77.7	1	0.434		5

Laboratory Control Sample (LCS)

(LCS) 03/10/16 08:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.1	100	85.0-115	

Method Blank (MB)

(MB) 03/07/16 11:49

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Chromium,Hexavalent	ND		2.00

L821609-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/07/16 11:54 • (DUP) 03/07/16 11:54

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/07/16 11:52 • (LCSD) 03/07/16 11:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	56.9	61.8	62.0	109	109	80.0-120			0.000	20

L821609-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/07/16 11:54 • (MS) 03/07/16 11:54 • (MSD) 03/07/16 11:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	20.0	0.800	11.9	12.0	56.0	56.0	1	75.0-125	J6	J6	0.000	20

L821734-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/07/16 09:42 • (DUP) 03/07/16 09:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.91	5.92	1	0.169		1

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/07/16 09:42 • (LCSD) 03/07/16 09:42

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.31	6.28	6.29	99.5	99.7	98.5-102			0.159	1

Method Blank (MB)

(MB) 03/09/16 07:34

Analyte	MB Result umhos/cm	MB Qualifier	MB RDL umhos/cm
Specific Conductance	1.41		

L821779-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/09/16 07:34 • (DUP) 03/09/16 07:34

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1300	1440	1	10.2		20

L821825-04 Original Sample (OS) • Duplicate (DUP)

(OS) 03/09/16 07:34 • (DUP) 03/09/16 07:34

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	573	620	1	7.88		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/09/16 07:34 • (LCSD) 03/09/16 07:34

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	915	944	936	103	102	90.0-110			0.851	20

Method Blank (MB)

(MB) 03/10/16 16:15

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Chloride	ND		10.0
Sulfate	ND		50.0

L822218-05 Original Sample (OS) • Duplicate (DUP)

(OS) 03/11/16 02:36 • (DUP) 03/11/16 03:00

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	92.8	84.3	1	10		15
Sulfate	150	161	1	7		15

L822218-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/11/16 07:47 • (DUP) 03/11/16 08:11

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	88.0	85.8	1	3		15
Sulfate	74.4	110	1	39	P1	15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/10/16 16:39 • (LCSD) 03/10/16 17:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	210	210	105	105	80-120			0	15
Sulfate	200	212	212	106	106	80-120			0	15

L822218-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/11/16 08:34 • (MS) 03/11/16 08:58 • (MSD) 03/11/16 09:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	500	68.7	572	575	101	101	1	80-120			1	15
Sulfate	500	24.9	534	545	102	104	1	80-120			2	15

Method Blank (MB)

(MB) 03/10/16 14:29

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Mercury	ND		0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/10/16 14:31 • (LCSD) 03/10/16 14:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.275	0.266	92	89	80-120			3	20

L821786-41 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/10/16 14:36 • (MS) 03/10/16 14:39 • (MSD) 03/10/16 14:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.296	0.456	0.416	53	40	1	75-125	J6	J6	9	20

Method Blank (MB)

(MB) 03/09/16 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Arsenic	ND		2.00
Barium	ND		0.500
Cadmium	ND		0.500
Chromium	ND		1.00
Copper	ND		2.00
Lead	ND		0.500
Nickel	ND		2.00
Selenium	ND		2.00
Silver	ND		1.00
Zinc	ND		5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/09/16 12:51 • (LCSD) 03/09/16 11:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	107	105	107	105	80-120			2	20
Barium	100	110	107	110	107	80-120			3	20
Cadmium	100	109	106	109	106	80-120			2	20
Chromium	100	107	105	107	105	80-120			3	20
Copper	100	110	105	110	105	80-120			5	20
Lead	100	110	107	110	107	80-120			3	20
Nickel	100	108	105	108	105	80-120			3	20
Selenium	100	109	108	109	108	80-120			1	20
Silver	100	107	104	107	104	80-120			3	20
Zinc	100	110	107	110	107	80-120			3	20

L821561-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/09/16 11:19 • (MS) 03/09/16 11:38 • (MSD) 03/09/16 11:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	0.287	102	105	101	104	1	75-125			3	20
Barium	100	1.77	106	109	105	107	1	75-125			2	20
Cadmium	100	0.0313	104	107	104	107	1	75-125			3	20

L821561-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/09/16 11:19 • (MS) 03/09/16 11:38 • (MSD) 03/09/16 11:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium	100	0.461	99.9	102	99	102	1	75-125			2	20
Copper	100	0.327	102	105	101	104	1	75-125			3	20
Lead	100	0.738	105	109	105	108	1	75-125			3	20
Nickel	100	0.136	103	106	103	106	1	75-125			3	20
Selenium	100	0.115	105	108	105	107	1	75-125			2	20
Silver	100	ND	102	104	102	104	1	75-125			2	20
Zinc	100	4.04	104	108	100	103	1	75-125			4	20

Method Blank (MB)

(MB) 03/10/16 19:43

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Boron	ND		9.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/10/16 19:46 • (LCSD) 03/10/16 19:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron	10.0	9.30	9.17	93	92	80-120			1	20

L821625-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/10/16 19:52 • (MS) 03/10/16 19:58 • (MSD) 03/10/16 20:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	10.0	0.130	9.39	9.32	93	92	1	75-125			1	20

Method Blank (MB)

(MB) 03/07/16 11:29

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Benzene	ND		0.000500
Toluene	ND		0.00500
Ethylbenzene	ND		0.000500
Total Xylene	ND		0.00150
TPH (GC/FID) Low Fraction	ND		0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*		*59.0-128*
(S) a,a,a-Trifluorotoluene(PID)	*102*		*54.0-144*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/07/16 08:34 • (LCSD) 03/07/16 08:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0502	0.0503	100	101	70.0-130			0.210	20
Toluene	0.0500	0.0512	0.0504	102	101	70.0-130			1.70	20
Ethylbenzene	0.0500	0.0523	0.0515	105	103	70.0-130			1.52	20
Total Xylene	0.150	0.156	0.153	104	102	70.0-130			2.12	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)				*99.3*	*100*	*54.0-144*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/07/16 09:18 • (LCSD) 03/07/16 09:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.07	5.10	92.1	92.7	63.5-137			0.600	20
(S) a,a,a-Trifluorotoluene(FID)				*96.5*	*96.2*	*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)				*108*	*108*	*54.0-144*				

L821614-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/07/16 13:15 • (MS) 03/07/16 13:37 • (MSD) 03/07/16 13:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.000389	0.220	0.231	88.0	92.2	5	49.7-127			4.57	23.5

L821614-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/07/16 13:15 • (MS) 03/07/16 13:37 • (MSD) 03/07/16 13:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Toluene	0.0500	0.00119	0.214	0.224	85.1	89.2	5	49.8-132			4.69	23.5
Ethylbenzene	0.0500	0.000475	0.216	0.225	86.1	89.7	5	40.8-141			4.04	23.8
Total Xylene	0.150	0.00198	0.637	0.665	84.7	88.4	5	41.2-140			4.33	23.7
(S) α,α,α-Trifluorotoluene(FID)					*100*	*99.9*		*59.0-128*				
(S) α,α,α-Trifluorotoluene(PID)					*99.0*	*99.0*		*54.0-144*				

L821614-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/07/16 13:15 • (MS) 03/07/16 14:21 • (MSD) 03/07/16 14:43

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.138	16.6	17.0	60.0	61.3	5	28.5-138			2.06	23.6
(S) α,α,α-Trifluorotoluene(FID)					*81.2*	*81.6*		*59.0-128*				
(S) α,α,α-Trifluorotoluene(PID)					*105*	*105*		*54.0-144*				

Method Blank (MB)

(MB) 03/11/16 04:58

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Benzene	ND		0.000500
Toluene	ND		0.00500
Ethylbenzene	ND		0.000500
Total Xylene	ND		0.00150
TPH (GC/FID) Low Fraction	ND		0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.9*		*59.0-128*
(S) a,a,a-Trifluorotoluene(PID)	*102*		*54.0-144*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/11/16 03:07 • (LCSD) 03/11/16 03:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0435	0.0423	87.0	84.5	70.0-130			2.90	20
Toluene	0.0500	0.0435	0.0418	86.9	83.5	70.0-130			4.00	20
Ethylbenzene	0.0500	0.0445	0.0433	89.0	86.6	70.0-130			2.63	20
Total Xylene	0.150	0.132	0.129	87.9	85.8	70.0-130			2.46	20
(S) a,a,a-Trifluorotoluene(PID)				*102*	*102*	*54.0-144*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/11/16 03:52 • (LCSD) 03/11/16 04:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.29	5.75	114	105	63.5-137			9.02	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*106*	*59.0-128*				

L822047-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/11/16 11:34 • (MS) 03/11/16 11:56 • (MSD) 03/11/16 12:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.000251	0.203	0.198	81.2	79.2	5	49.7-127			2.49	23.5
Toluene	0.0500	0.000341	0.199	0.192	79.4	76.9	5	49.8-132			3.32	23.5
Ethylbenzene	0.0500	0.000141	0.206	0.199	82.3	79.4	5	40.8-141			3.61	23.8

L822047-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/11/16 11:34 • (MS) 03/11/16 11:56 • (MSD) 03/11/16 12:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Total Xylene	0.150	0.000773	0.611	0.590	81.3	78.5	5	41.2-140			3.52	23.7
(S) a,a,a-Trifluorotoluene(FID)					*96.5*	*96.2*		*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)					*102*	*102*		*54.0-144*				

L822047-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/11/16 11:34 • (MS) 03/11/16 12:48 • (MSD) 03/11/16 13:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.0725	31.2	27.6	113	100	5	28.5-138			12.2	23.6
(S) a,a,a-Trifluorotoluene(FID)					*103*	*102*		*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)					*110*	*110*		*54.0-144*				

Method Blank (MB)

(MB) 03/11/16 09:09

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
TPH (GC/FID) High Fraction	ND		4.00
(S) o-Terphenyl	*81.7*		*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/11/16 09:20 • (LCSD) 03/11/16 09:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	60.0	49.8	54.6	82.9	91.0	50.0-150			9.28	20
(S) o-Terphenyl				*90.4*	*91.8*	*50.0-150*				

L821921-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/11/16 10:28 • (MS) 03/11/16 10:39 • (MSD) 03/11/16 10:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	60.0	0.510	49.1	49.5	81.0	81.6	1	50.0-150			0.820	20
(S) o-Terphenyl					*90.0*	*83.9*		*50.0-150*				

Method Blank (MB)

(MB) 03/14/16 11:32

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Anthracene	ND		0.00600
Acenaphthene	ND		0.00600
Acenaphthylene	ND		0.00600
Benzo(a)anthracene	ND		0.00600
Benzo(a)pyrene	ND		0.00600
Benzo(b)fluoranthene	ND		0.00600
Benzo(g,h,i)perylene	ND		0.00600
Benzo(k)fluoranthene	ND		0.00600
Chrysene	ND		0.00600
Dibenz(a,h)anthracene	ND		0.00600
Fluoranthene	ND		0.00600
Fluorene	ND		0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00600
Naphthalene	ND		0.0200
Phenanthrene	ND		0.00600
Pyrene	ND		0.00600
1-Methylnaphthalene	ND		0.0200
2-Methylnaphthalene	ND		0.0200
2-Chloronaphthalene	ND		0.0200
(S) p-Terphenyl-d14	*65.0*		*32.2-131*
(S) Nitrobenzene-d5	*68.5*		*22.1-146*
(S) 2-Fluorobiphenyl	*76.6*		*40.6-122*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/14/16 10:50 • (LCSD) 03/14/16 11:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	0.0651	0.0665	81.3	83.1	50.3-130			2.14	20
Acenaphthene	0.0800	0.0615	0.0634	76.9	79.2	52.4-120			2.94	20
Acenaphthylene	0.0800	0.0616	0.0632	77.0	79.0	49.6-120			2.60	20
Benzo(a)anthracene	0.0800	0.0619	0.0628	77.3	78.5	46.7-125			1.53	20
Benzo(a)pyrene	0.0800	0.0572	0.0575	71.5	71.9	42.3-119			0.570	20
Benzo(b)fluoranthene	0.0800	0.0537	0.0540	67.2	67.6	43.6-124			0.590	20
Benzo(g,h,i)perylene	0.0800	0.0583	0.0596	72.8	74.4	45.1-132			2.20	20
Benzo(k)fluoranthene	0.0800	0.0551	0.0565	68.9	70.7	46.1-131			2.54	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/14/16 10:50 • (LCSD) 03/14/16 11:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chrysene	0.0800	0.0618	0.0629	77.2	78.7	49.5-131			1.83	20
Dibenz(a,h)anthracene	0.0800	0.0654	0.0664	81.7	83.0	44.8-133			1.56	20
Fluoranthene	0.0800	0.0683	0.0700	85.4	87.5	49.3-128			2.42	20
Fluorene	0.0800	0.0602	0.0624	75.3	77.9	50.6-121			3.48	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0635	0.0648	79.4	81.0	46.1-135			1.94	20
Naphthalene	0.0800	0.0568	0.0582	71.0	72.8	49.6-115			2.53	20
Phenanthrene	0.0800	0.0595	0.0610	74.4	76.2	48.8-121			2.43	20
Pyrene	0.0800	0.0598	0.0611	74.7	76.4	44.7-130			2.27	20
1-Methylnaphthalene	0.0800	0.0595	0.0608	74.4	76.0	50.6-122			2.17	20
2-Methylnaphthalene	0.0800	0.0596	0.0605	74.5	75.7	50.4-120			1.61	20
2-Chloronaphthalene	0.0800	0.0608	0.0626	76.0	78.3	53.9-121			2.96	20
(S) p-Terphenyl-d14				*62.3*	*62.8*	*32.2-131*				
(S) Nitrobenzene-d5				*60.7*	*64.0*	*22.1-146*				
(S) 2-Fluorobiphenyl				*70.8*	*73.0*	*40.6-122*				

L822457-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/14/16 13:15 • (MS) 03/14/16 13:36 • (MSD) 03/14/16 13:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0618	0.0604	77.3	75.5	1	26.5-141			2.32	21.2
Acenaphthene	0.0800	ND	0.0624	0.0611	78.0	76.4	1	31.9-130			1.98	20
Acenaphthylene	0.0800	ND	0.0627	0.0615	78.3	76.9	1	33.7-129			1.83	20
Benzo(a)anthracene	0.0800	ND	0.0634	0.0613	79.3	76.6	1	18.3-136			3.46	24.6
Benzo(a)pyrene	0.0800	ND	0.0619	0.0600	77.3	75.0	1	16.9-135			3.04	25.2
Benzo(b)fluoranthene	0.0800	0.00103	0.0542	0.0527	66.5	64.6	1	10.0-134			2.80	30.9
Benzo(g,h,i)perylene	0.0800	0.000722	0.0583	0.0566	72.0	69.8	1	14.1-140			2.96	25.5
Benzo(k)fluoranthene	0.0800	ND	0.0532	0.0516	66.6	64.4	1	18.2-138			3.22	25.6
Chrysene	0.0800	ND	0.0617	0.0603	77.2	75.3	1	17.1-145			2.42	24.2
Dibenz(a,h)anthracene	0.0800	ND	0.0642	0.0622	80.3	77.8	1	18.5-138			3.20	24.3
Fluoranthene	0.0800	0.000842	0.0707	0.0693	87.3	85.6	1	15.4-144			2.00	27.1
Fluorene	0.0800	ND	0.0611	0.0601	76.4	75.1	1	23.5-136			1.70	20
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0626	0.0610	78.3	76.3	1	14.5-142			2.60	25.8
Naphthalene	0.0800	ND	0.0573	0.0563	71.6	70.3	1	29.2-128			1.78	20
Phenanthrene	0.0800	ND	0.0604	0.0592	75.5	74.0	1	20.1-134			1.99	23.6
Pyrene	0.0800	0.000735	0.0617	0.0607	76.2	75.0	1	11.0-148			1.58	26.1

L822457-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/14/16 13:15 • (MS) 03/14/16 13:36 • (MSD) 03/14/16 13:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1-Methylnaphthalene	0.0800	ND	0.0606	0.0597	75.8	74.6	1	28.4-137			1.63	20
2-Methylnaphthalene	0.0800	ND	0.0597	0.0593	74.6	74.2	1	26.6-137			0.530	20
2-Chloronaphthalene	0.0800	ND	0.0616	0.0602	77.1	75.2	1	38.6-126			2.39	20
(S) p-Terphenyl-d14					*60.0*	*60.3*		*32.2-131*				
(S) Nitrobenzene-d5					*63.9*	*63.5*		*22.1-146*				
(S) 2-Fluorobiphenyl					*71.9*	*72.0*		*40.6-122*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

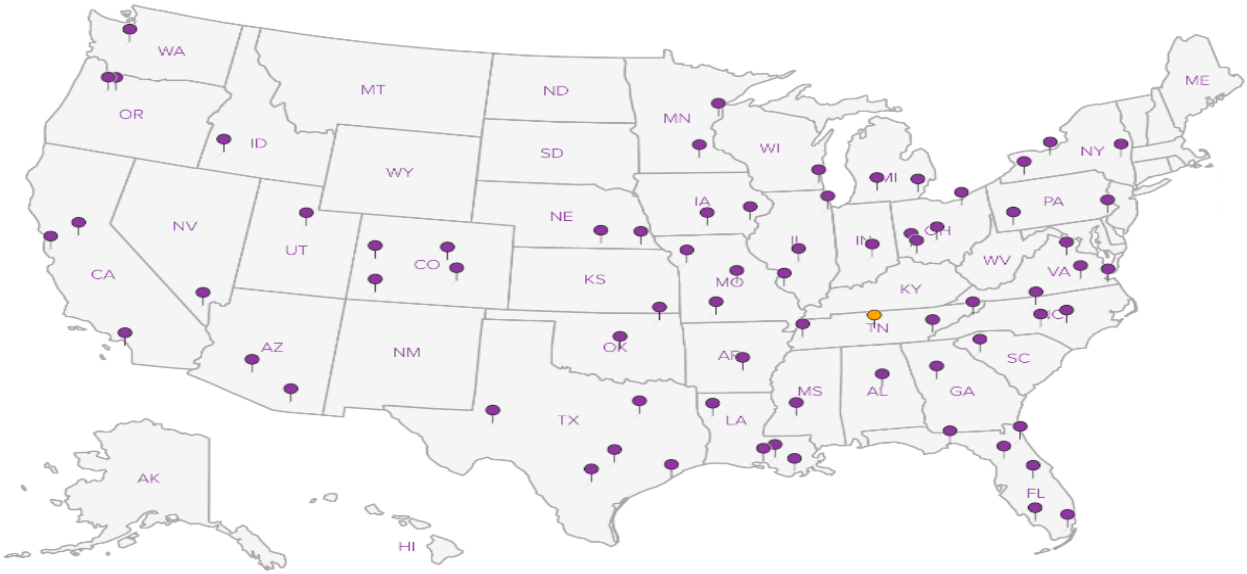
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



XTO ENERGY
Western Division

Quote Number	Page ___ of ___
XTO Contact	XTO Contact Phone # 505 386-861
Email Results to: Logan, Kurt, Otto, James, Rex	
Well Site/Location: Huber Burkett 4-3	API Number / Saturday Delivery (Y) N
Collected By: Logan Hixon	Samples on Ice (Y) / N
Company: XTO	Test Reason: Release
Signature: Log H	Gray Areas for Lab Use Only!

Turnaround: (X) Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Same Day; Date Needed ___

Analysis/Container: 910.1 Table (Attached)

Lab Information

Office Abbreviations
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	Sample Number
AUGLH-3316-16:15	pad	S	3-3	16:15	COOL	4-40z	LB21825-01
" -16:30	OFF pad	S	"	16:30	"	"	02
" - 16:45	Entry	S	"	16:48	"	"	03
" - 17:00	End	S	"	17:00	"	"	04
- 17:20	BG	S	"		"	"	05

Media: Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

	Date:	Time:	Received By: (Signature)	Number of Bottles	Sample Condition
Relinquished By: (Signature) Log H	3-4-16	11:00		24+402	
Relinquished By: (Signature)	Date:	Time:		Temperature: 1.9	Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature) N. Jones	Date: 3-5-16 Time: 9:00	

Comments: 5547 0240.3245 N

C203

* Sample ID will be the office and sampler-date-military time FARJM-MMDDYY-1200

Table 910-1

CONCENTRATION LEVELS

Huber Burkett 4-3-Line Break

L821825

Contaminant of Concern	Concentrations	Back Ground 1 (BG1) DURLH-3316-1720	DURLH-3316-1615	DURLH-3316-1630	DURLH-3316-1645	DURLH-3316-1700
Organic Compounds in Soil						
TPH (total volatile & extractable petroleum hyrdrocarbons)	500mg/kg					
Benzene	0.17 mg/kg					
Toluene	85 mg/kg					
Ethylbenzene	100mg/kg					
Xylenes (total)	175 mg/kg					
Inorganics in Soils						
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background					
Sodium Adsorption Ratio (SAR)	<12					
pH	6.0-9.0					
Inorganics						
Total Dissolved Solids (TDS)	<1.25 x background					
Chlorides	<1.25 x background					
Sulfates	<1.25 x background					
Metals in Soils						
Arsenic	0.39 mg/kg					
Barium (LDNR True Total Barium)	15,000 mg/kg					
Boron (TCLP)	2 mg/l					
Cadmium	70 mg/kg					
Chromium (III)	120,000 mg/kg					
Chromium (VI)	23 mg/kg					
Copper	3,100 mg/kg					
Lead (inorganic)	400 mg/kg					
Mercury	23 mg/kg					
Nickel (soluble salts)	1,600 mg/kg					
Selenium	390 mg/kg					
Silver	390 mg/kg					
Zinc	23,000 mg/kg					