Analytical Report 571931

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

GJ West Coop Unit #210

212C-MD-01056.300

18-JAN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

18-JAN-18

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **571931**
GJ West Coop Unit #210
Project Address: Eddy Co, NM

Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 571931. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 571931 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 571931

Tetra Tech- Midland, Midland, TX

GJ West Coop Unit #210

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 0-1	S	12-20-17 00:00		571931-001
BH-1 2-3	S	12-20-17 00:00		571931-002
BH-1 4-5	S	12-20-17 00:00		571931-003
BH-1 6-7	S	12-20-17 00:00		571931-004
BH-1 9-10	S	12-20-17 00:00		571931-005
BH-2 0-1	S	12-21-17 00:00		571931-009
BH-2 2-3	S	12-21-17 00:00		571931-010
BH-2 4-5	S	12-21-17 00:00		571931-011
BH-2 6-7	S	12-21-17 00:00		571931-012
BH-2 9-10	S	12-21-17 00:00		571931-013
BH-3 0-1	S	12-21-17 00:00		571931-018
BH-3 2-3	S	12-21-17 00:00		571931-019
BH-3 4-5	S	12-21-17 00:00		571931-020
BH-3 6-7	S	12-21-17 00:00		571931-021
BH-3 9-10	S	12-21-17 00:00		571931-022
BH-4 0-1	S	12-21-17 00:00		571931-026
BH-4 2-3	S	12-21-17 00:00		571931-027
BH-1 14-15	S	12-20-17 00:00		Not Analyzed
BH-1 19-20	S	12-20-17 00:00		Not Analyzed
BH-1 24-25	S	12-20-17 00:00		Not Analyzed
BH-2 14-15	S	12-21-17 00:00		Not Analyzed
BH-2 19-20	S	12-21-17 00:00		Not Analyzed
BH-2 24-25	S	12-21-17 00:00		Not Analyzed
BH-2 29-30	S	12-21-17 00:00		Not Analyzed
BH-3 14-15	S	12-21-17 00:00		Not Analyzed
BH-3 19-20	S	12-21-17 00:00		Not Analyzed
BH-3 24-25	S	12-21-17 00:00		Not Analyzed
BH-4 4-5	S	12-21-17 00:00		Not Analyzed
BH-4 6-7	S	12-21-17 00:00		Not Analyzed
BH-4 9-10	S	12-21-17 00:00		Not Analyzed
BH-4 14-15	S	12-21-17 00:00		Not Analyzed
BH-4 19-20	S	12-21-17 00:00		Not Analyzed
BH-4 24-25	S	12-21-17 00:00		Not Analyzed

Client Name: Tetra Tech- Midland

Project Name: GJ West Coop Unit #210

Project ID: *212C-MD-01056.300*
Work Order Number(s): *571931*

Report Date: *18-JAN-18*
Date Received: *12/21/2017*

Sample receipt non conformances and comments:

01/02/18: added Btex on BH-3 @ 4-5' per Clair Gonzales.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3036675 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3036802 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3037056 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3037186 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3037361 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 571931

Tetra Tech- Midland, Midland, TX

Project Name: GJ West Coop Unit #210

Project Id: 212C-MD-01056.300
Contact: Ike Tavarez
Project Location: Eddy Co, NM

Date Received in Lab: Thu Dec-21-17 02:48 pm
Report Date: 18-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	571931-001		571931-002		571931-003		571931-004		571931-005		571931-009	
	Field Id:	BH-1 0-1		BH-1 2-3		BH-1 4-5		BH-1 6-7		BH-1 9-10		BH-2 0-1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-20-17 00:00		Dec-20-17 00:00		Dec-20-17 00:00		Dec-20-17 00:00		Dec-20-17 00:00		Dec-21-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Dec-21-17 17:00		Dec-22-17 09:30								Dec-28-17 10:00	
	Analyzed:	Dec-22-17 10:12		Dec-22-17 18:14								Dec-28-17 23:30	
	Units/RL:	mg/kg	RL	mg/kg	RL							mg/kg	RL
Benzene		0.0663	0.00200	0.979	0.100							37.3	0.994
Toluene		0.162	0.00200	1.58	0.100							131	0.994
Ethylbenzene		0.160	0.00200	4.80	0.100							83.5	0.994
m,p-Xylenes		0.261	0.00399	9.67	0.200							99.4	1.99
o-Xylene		0.0964	0.00200	4.03	0.100							37.2	0.994
Total Xylenes		0.357	0.00200	13.7	0.100							137	0.994
Total BTEX		0.746	0.00200	21.1	0.100							388	0.994
TPH By SW8015 Mod	***Extracted:***	Dec-21-17 16:00		Dec-21-17 16:00		Jan-10-18 17:00		Jan-16-18 16:00		Jan-10-18 17:00		Dec-21-17 16:00	
	Analyzed:	Dec-22-17 06:13		Dec-22-17 06:35		Jan-11-18 01:34		Jan-17-18 01:10		Jan-11-18 02:17		Dec-22-17 06:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		515	14.9	1300	74.9	27.9 K	14.9	<15.0	15.0	46.6 K	14.9	4450	74.9
Diesel Range Organics (DRO)		1410	14.9	2730	74.9	30.6 K	14.9	<15.0	15.0	103 K	14.9	5060	74.9
Oil Range Hydrocarbons (ORO)		297	14.9	491	74.9	<14.9	14.9	<15.0	15.0	<14.9	14.9	1000	74.9
Total TPH		2220	14.9	4520	74.9	58.5 K	14.9	<15.0	15.0	150 K	14.9	10500	74.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 571931

Tetra Tech- Midland, Midland, TX

Project Name: GJ West Coop Unit #210

Project Id: 212C-MD-01056.300
Contact: Ike Tavarez
Project Location: Eddy Co, NM

Date Received in Lab: Thu Dec-21-17 02:48 pm
Report Date: 18-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	571931-010		571931-011		571931-012		571931-013		571931-018		571931-019	
	Field Id:	BH-2 2-3		BH-2 4-5		BH-2 6-7		BH-2 9-10		BH-3 0-1		BH-3 2-3	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Dec-22-17 09:30								Dec-26-17 10:00		Dec-22-17 09:30	
	Analyzed:	Dec-22-17 17:55								Dec-27-17 07:26		Dec-22-17 19:11	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		0.276	0.100							23.9	0.501	3.74	0.101
Toluene		1.09	0.100							68.2	0.501	15.3	0.101
Ethylbenzene		2.34	0.100							43.4	0.501	11.5	0.101
m,p-Xylenes		4.36	0.200							70.5	1.00	15.0	0.201
o-Xylene		3.73	0.100							27.3	0.501	5.46	0.101
Total Xylenes		8.09	0.100							97.8	0.501	20.5	0.101
Total BTEX		11.8	0.100							233	0.501	51.0	0.101
TPH By SW8015 Mod	***Extracted:***	Dec-21-17 16:00		Jan-10-18 17:00		Jan-10-18 17:00		Jan-10-18 17:00		Dec-21-17 16:00		Dec-21-17 16:00	
	Analyzed:	Dec-22-17 07:17		Jan-11-18 02:39		Jan-11-18 03:01		Jan-11-18 03:23		Dec-22-17 07:36		Dec-22-17 08:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		786	75.0	<15.0	15.0	120 K	14.9	<14.9	14.9	3840	74.8	1250	14.9
Diesel Range Organics (DRO)		3350	75.0	<15.0	15.0	98.9 K	14.9	<14.9	14.9	7690	74.8	1710	14.9
Oil Range Hydrocarbons (ORO)		709	75.0	<15.0	15.0	18.4 K	14.9	<14.9	14.9	1320	74.8	307	14.9
Total TPH		4850	75.0	<15.0	15.0	237 K	14.9	<14.9	14.9	12900	74.8	3270	14.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 571931

Tetra Tech- Midland, Midland, TX

Project Name: GJ West Coop Unit #210

Project Id: 212C-MD-01056.300
Contact: Ike Tavarez
Project Location: Eddy Co, NM

Date Received in Lab: Thu Dec-21-17 02:48 pm
Report Date: 18-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested																	
	Lab Id:	571931-020		571931-021		571931-022		571931-026		571931-027							
	Field Id:	BH-3 4-5		BH-3 6-7		BH-3 9-10		BH-4 0-1		BH-4 2-3							
	Depth:																
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00		Dec-21-17 00:00							
BTEX by EPA 8021B	***Extracted:***	Jan-03-18 14:00						Dec-22-17 09:30		Dec-22-17 09:30							
	Analyzed:	Jan-03-18 17:20						Dec-22-17 19:28		Dec-22-17 15:57							
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL						
Benzene		<0.0100	0.0100					12.0	0.198	0.00410	0.00201						
Toluene		<0.0100	0.0100					39.6	0.198	0.0117	0.00201						
Ethylbenzene		<0.0100	0.0100					34.1	0.198	0.0185	0.00201						
m,p-Xylenes		0.0535	0.0200					42.2	0.396	0.0310	0.00402						
o-Xylene		<0.0100	0.0100					16.5	0.198	0.0159	0.00201						
Total Xylenes		0.0535	0.0100					58.7	0.198	0.0469	0.00201						
Total BTEX		0.0535	0.0100					144	0.198	0.0812	0.00201						
TPH By SW8015 Mod	***Extracted:***	Jan-12-18 10:00		Jan-12-18 10:00		Jan-12-18 10:00		Dec-21-17 16:00		Dec-21-17 16:00							
	Analyzed:	Jan-12-18 19:54		Jan-13-18 07:09		Jan-13-18 06:49		Dec-22-17 08:58		Dec-22-17 09:18							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	4570	74.9	<15.0	15.0						
Diesel Range Organics (DRO)		19.7 K	15.0	<15.0	15.0	<15.0	15.0	6630	74.9	30.7	15.0						
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	1160	74.9	<15.0	15.0						
Total TPH		19.7 K	15.0	<15.0	15.0	<15.0	15.0	12400	74.9	30.7	15.0						

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3036677 **Sample:** 571931-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 06:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.0	99.6	86	70-135	
o-Terphenyl	37.2	49.8	75	70-135	

Lab Batch #: 3036677 **Sample:** 571931-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 06:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.3	99.8	88	70-135	
o-Terphenyl	43.3	49.9	87	70-135	

Lab Batch #: 3036677 **Sample:** 571931-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 06:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.9	99.9	88	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 3036677 **Sample:** 571931-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 07:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	100	89	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

Lab Batch #: 3036677 **Sample:** 571931-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 07:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	99.7	93	70-135	
o-Terphenyl	40.0	49.9	80	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3036677 **Sample:** 571931-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 08:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	99.6	91	70-135	
o-Terphenyl	40.0	49.8	80	70-135	

Lab Batch #: 3036677 **Sample:** 571931-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 08:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.4	99.8	98	70-135	
o-Terphenyl	41.4	49.9	83	70-135	

Lab Batch #: 3036677 **Sample:** 571931-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 09:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.8	92	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 3036675 **Sample:** 571931-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 10:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 3036802 **Sample:** 571931-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 15:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3036802 **Sample:** 571931-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 17:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 3036802 **Sample:** 571931-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 18:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 3036802 **Sample:** 571931-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 19:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

Lab Batch #: 3036802 **Sample:** 571931-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 19:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

Lab Batch #: 3037056 **Sample:** 571931-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/27/17 07:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0336	0.0300	112	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037186 **Sample:** 571931-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/28/17 23:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 3037361 **Sample:** 571931-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 17:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 3038189 **Sample:** 571931-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/18 01:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	99.1	78	70-135	
o-Terphenyl	38.6	49.6	78	70-135	

Lab Batch #: 3038189 **Sample:** 571931-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/18 02:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.1	99.5	82	70-135	
o-Terphenyl	40.9	49.8	82	70-135	

Lab Batch #: 3038189 **Sample:** 571931-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/18 02:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.2	99.9	73	70-135	
o-Terphenyl	36.9	50.0	74	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3038189 **Sample:** 571931-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/18 03:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.5	99.2	73	70-135	
o-Terphenyl	35.5	49.6	72	70-135	

Lab Batch #: 3038189 **Sample:** 571931-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/18 03:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.8	99.1	83	70-135	
o-Terphenyl	40.2	49.6	81	70-135	

Lab Batch #: 3038390 **Sample:** 571931-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/12/18 19:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.5	100	77	70-135	
o-Terphenyl	39.8	50.0	80	70-135	

Lab Batch #: 3038391 **Sample:** 571931-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 06:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.9	100	76	70-135	
o-Terphenyl	40.0	50.0	80	70-135	

Lab Batch #: 3038391 **Sample:** 571931-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 07:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.7	100	79	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3038511 **Sample:** 571931-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/18 01:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.9	99.7	79	70-135	
o-Terphenyl	41.0	49.9	82	70-135	

Lab Batch #: 3036675 **Sample:** 7636472-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 02:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0241	0.0300	80	80-120	

Lab Batch #: 3036677 **Sample:** 7636450-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 02:51

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	100	80	70-135	
o-Terphenyl	41.5	50.0	83	70-135	

Lab Batch #: 3036802 **Sample:** 7636560-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 13:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

Lab Batch #: 3037056 **Sample:** 7636696-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/26/17 10:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037186 **Sample:** 7636780-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/28/17 16:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0251	0.0300	84	80-120	

Lab Batch #: 3037361 **Sample:** 7636913-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 15:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0242	0.0300	81	80-120	

Lab Batch #: 3038189 **Sample:** 7637441-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/18 18:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.0	100	83	70-135	
o-Terphenyl	41.9	50.0	84	70-135	

Lab Batch #: 3038390 **Sample:** 7637443-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/18 18:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.0	100	91	70-135	
o-Terphenyl	47.8	50.0	96	70-135	

Lab Batch #: 3038391 **Sample:** 7637444-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/13/18 04:48

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	100	95	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3038511 **Sample:** 7637574-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/18 22:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.9	100	93	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 3036675 **Sample:** 7636472-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 00:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 3036677 **Sample:** 7636450-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 03:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.3	100	77	70-135	
o-Terphenyl	40.7	50.0	81	70-135	

Lab Batch #: 3036802 **Sample:** 7636560-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 11:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 3037056 **Sample:** 7636696-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/26/17 08:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037186 **Sample:** 7636780-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/28/17 15:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 3037361 **Sample:** 7636913-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 13:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 3038189 **Sample:** 7637441-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/18 18:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.8	99.9	75	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 3038390 **Sample:** 7637443-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/18 19:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	100	80	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 3038391 **Sample:** 7637444-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/13/18 05:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.1	100	93	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3038511 **Sample:** 7637574-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/18 22:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.7	100	91	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

Lab Batch #: 3036675 **Sample:** 7636472-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 00:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 3036677 **Sample:** 7636450-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 03:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.2	100	79	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 3036802 **Sample:** 7636560-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/22/17 11:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 3037056 **Sample:** 7636696-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/26/17 08:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0339	0.0300	113	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037186 **Sample:** 7636780-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/28/17 15:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 3037361 **Sample:** 7636913-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 13:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 3038189 **Sample:** 7637441-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/18 18:55

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.1	99.8	82	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

Lab Batch #: 3038391 **Sample:** 7637444-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/13/18 05:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	55.8	50.0	112	70-135	

Lab Batch #: 3038511 **Sample:** 7637574-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/18 22:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	100	89	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3036675 **Sample:** 571798-009 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 00:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 3036677 **Sample:** 571800-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 04:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.4	99.8	75	70-135	
o-Terphenyl	40.5	49.9	81	70-135	

Lab Batch #: 3036802 **Sample:** 571876-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 11:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 3037056 **Sample:** 572035-035 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/26/17 09:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 3037186 **Sample:** 572178-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/28/17 15:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037361 **Sample:** 572446-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 14:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

Lab Batch #: 3038189 **Sample:** 572901-019 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/10/18 19:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.2	99.6	90	70-135	
o-Terphenyl	51.0	49.8	102	70-135	

Lab Batch #: 3038390 **Sample:** 573261-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 02:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 3038391 **Sample:** 572902-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 06:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	100	79	70-135	
o-Terphenyl	43.4	50.0	87	70-135	

Lab Batch #: 3038511 **Sample:** 572902-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/16/18 23:40

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	99.8	85	70-135	
o-Terphenyl	36.0	49.9	72	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3036675 **Sample:** 571798-009 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 01:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 3036677 **Sample:** 571800-013 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 04:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.6	99.9	83	70-135	
o-Terphenyl	43.6	50.0	87	70-135	

Lab Batch #: 3036802 **Sample:** 571876-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/22/17 12:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 3037056 **Sample:** 572035-035 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/26/17 09:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 3037186 **Sample:** 572178-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/28/17 15:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #210

Work Orders : 571931,

Project ID: 212C-MD-01056.300

Lab Batch #: 3037361 **Sample:** 572446-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 14:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 3038189 **Sample:** 572901-019 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/10/18 19:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.9	99.5	80	70-135	
o-Terphenyl	46.4	49.8	93	70-135	

Lab Batch #: 3038390 **Sample:** 573261-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 03:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	100	88	70-135	
o-Terphenyl	40.7	50.0	81	70-135	

Lab Batch #: 3038391 **Sample:** 572902-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/13/18 06:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.7	100	81	70-135	
o-Terphenyl	39.5	50.0	79	70-135	

Lab Batch #: 3038511 **Sample:** 572902-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/18 00:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.4	100	83	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: GJ West Coop Unit #210

Work Order #: 571931 **Project ID:** 212C-MD-01056.300

Lab Batch #: 3038390 **Sample:** 7637443-1-BKS **Matrix:** Solid

Date Analyzed: 01/12/2018 **Date Prepared:** 01/12/2018 **Analyst:** ALJ

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	862	86	70-135	
Diesel Range Organics (DRO)	<15.0	1000	861	86	70-135	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order #: 571931 **Project ID:** 212C-MD-01056.300

Analyst: ALJ **Date Prepared:** 12/21/2017 **Date Analyzed:** 12/22/2017

Lab Batch ID: 3036675 **Sample:** 7636472-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0872	87	0.100	0.0854	85	2	70-130	35	
Toluene	<0.00200	0.0998	0.0805	81	0.100	0.0788	79	2	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0871	87	0.100	0.0848	85	3	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.172	86	0.201	0.167	83	3	70-135	35	
o-Xylene	<0.00200	0.0998	0.0824	83	0.100	0.0798	80	3	71-133	35	

Analyst: ALJ **Date Prepared:** 12/22/2017 **Date Analyzed:** 12/22/2017

Lab Batch ID: 3036802 **Sample:** 7636560-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00198	0.0990	0.0915	92	0.0994	0.0894	90	2	70-130	35	
Toluene	<0.00198	0.0990	0.0852	86	0.0994	0.0831	84	2	70-130	35	
Ethylbenzene	<0.00198	0.0990	0.0925	93	0.0994	0.0913	92	1	71-129	35	
m,p-Xylenes	<0.00396	0.198	0.182	92	0.199	0.180	90	1	70-135	35	
o-Xylene	<0.00198	0.0990	0.0851	86	0.0994	0.0849	85	0	71-133	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order #: 571931 **Project ID:** 212C-MD-01056.300

Analyst: ALJ **Date Prepared:** 12/26/2017 **Date Analyzed:** 12/26/2017

Lab Batch ID: 3037056 **Sample:** 7636696-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.0748	75	0.100	0.0752	75	1	70-130	35	
Toluene	<0.00199	0.0996	0.0748	75	0.100	0.0765	77	2	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0759	76	0.100	0.0777	78	2	71-129	35	
m,p-Xylenes	<0.00398	0.199	0.161	81	0.201	0.160	80	1	70-135	35	
o-Xylene	<0.00199	0.0996	0.0773	78	0.100	0.0791	79	2	71-133	35	

Analyst: ALJ **Date Prepared:** 12/28/2017 **Date Analyzed:** 12/28/2017

Lab Batch ID: 3037186 **Sample:** 7636780-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0872	87	0.100	0.0836	84	4	70-130	35	
Toluene	<0.00200	0.0998	0.0823	82	0.100	0.0788	79	4	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0931	93	0.100	0.0888	89	5	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.184	92	0.200	0.175	88	5	70-135	35	
o-Xylene	<0.00200	0.0998	0.0858	86	0.100	0.0820	82	5	71-133	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order #: 571931 **Project ID:** 212C-MD-01056.300

Analyst: ALJ **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037361 **Sample:** 7636913-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0894	89	0.100	0.0877	88	2	70-130	35	
Toluene	<0.00202	0.101	0.0840	83	0.100	0.0825	83	2	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0941	93	0.100	0.0914	91	3	71-129	35	
m,p-Xylenes	<0.00404	0.202	0.185	92	0.201	0.180	90	3	70-135	35	
o-Xylene	<0.00202	0.101	0.0865	86	0.100	0.0846	85	2	71-133	35	

Analyst: ARM **Date Prepared:** 12/21/2017 **Date Analyzed:** 12/22/2017

Lab Batch ID: 3036677 **Sample:** 7636450-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	813	81	1000	851	85	5	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	845	85	1000	866	87	2	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order #: 571931 **Project ID:** 212C-MD-01056.300

Analyst: ALJ **Date Prepared:** 01/10/2018 **Date Analyzed:** 01/10/2018

Lab Batch ID: 3038189 **Sample:** 7637441-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	851	85	998	855	86	0	70-135	35	
Diesel Range Organics (DRO)	<15.0	999	802	80	998	838	84	4	70-135	35	

Analyst: ALJ **Date Prepared:** 01/12/2018 **Date Analyzed:** 01/13/2018

Lab Batch ID: 3038391 **Sample:** 7637444-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	1000	993	99	5	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1000	1020	102	2	70-135	35	

Analyst: ARM **Date Prepared:** 01/16/2018 **Date Analyzed:** 01/16/2018

Lab Batch ID: 3038511 **Sample:** 7637574-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	923	92	1000	866	87	6	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	974	97	1000	925	93	5	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order # : 571931 **Project ID:** 212C-MD-01056.300

Lab Batch ID: 3036675 **QC- Sample ID:** 571798-009 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/22/2017 **Date Prepared:** 12/21/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00201	0.100	0.0767	77	0.101	0.0767	76	0	70-130	35	
Toluene	<0.00201	0.100	0.0707	71	0.101	0.0702	70	1	70-130	35	
Ethylbenzene	<0.00201	0.100	0.0745	75	0.101	0.0747	74	0	71-129	35	
m,p-Xylenes	<0.00402	0.201	0.146	73	0.202	0.147	73	1	70-135	35	
o-Xylene	<0.00201	0.100	0.0694	69	0.101	0.0702	70	1	71-133	35	X

Lab Batch ID: 3036802 **QC- Sample ID:** 571876-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/22/2017 **Date Prepared:** 12/22/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00198	0.0990	0.0745	75	0.0994	0.0688	69	8	70-130	35	X
Toluene	<0.00198	0.0990	0.0674	68	0.0994	0.0613	62	9	70-130	35	X
Ethylbenzene	<0.00198	0.0990	0.0717	72	0.0994	0.0652	66	9	71-129	35	X
m,p-Xylenes	<0.00396	0.198	0.141	71	0.199	0.128	64	10	70-135	35	X
o-Xylene	<0.00198	0.0990	0.0666	67	0.0994	0.0614	62	8	71-133	35	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order # : 571931 **Project ID:** 212C-MD-01056.300

Lab Batch ID: 3037056 **QC- Sample ID:** 572035-035 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/26/2017 **Date Prepared:** 12/26/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0474	47	0.100	0.0528	53	11	70-130	35	X
Toluene	<0.00202	0.101	0.0426	42	0.100	0.0490	49	14	70-130	35	X
Ethylbenzene	<0.00202	0.101	0.0477	47	0.100	0.0538	54	12	71-129	35	X
m,p-Xylenes	<0.00403	0.202	0.0942	47	0.200	0.107	54	13	70-135	35	X
o-Xylene	<0.00202	0.101	0.0459	45	0.100	0.0504	50	9	71-133	35	X

Lab Batch ID: 3037186 **QC- Sample ID:** 572178-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/28/2017 **Date Prepared:** 12/28/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0968	97	0.101	0.0871	86	11	70-130	35	
Toluene	<0.00200	0.100	0.0873	87	0.101	0.0760	75	14	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0887	89	0.101	0.0821	81	8	71-129	35	
m,p-Xylenes	<0.00401	0.200	0.174	87	0.201	0.162	81	7	70-135	35	
o-Xylene	<0.00200	0.100	0.0829	83	0.101	0.0776	77	7	71-133	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order # : 571931 **Project ID:** 212C-MD-01056.300

Lab Batch ID: 3037361 **QC- Sample ID:** 572446-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0693	69	0.0998	0.0670	67	3	70-130	35	X
Toluene	<0.00200	0.100	0.0615	62	0.0998	0.0588	59	4	70-130	35	X
Ethylbenzene	0.00532	0.100	0.0736	68	0.0998	0.0717	67	3	71-129	35	X
m,p-Xylenes	0.00481	0.200	0.141	68	0.200	0.138	67	2	70-135	35	X
o-Xylene	<0.00200	0.100	0.0662	66	0.0998	0.0647	65	2	71-133	35	X

Lab Batch ID: 3036677 **QC- Sample ID:** 571800-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/22/2017 **Date Prepared:** 12/21/2017 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	823	82	999	830	83	1	70-135	35	
Diesel Range Organics (DRO)	<15.0	998	851	85	999	853	85	0	70-135	35	

Lab Batch ID: 3038189 **QC- Sample ID:** 572901-019 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/10/2018 **Date Prepared:** 01/10/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<14.9	996	795	80	995	798	80	0	70-135	35	
Diesel Range Organics (DRO)	<14.9	996	779	78	995	788	79	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #210

Work Order # : 571931 **Project ID:** 212C-MD-01056.300

Lab Batch ID: 3038390 **QC- Sample ID:** 573261-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/13/2018 **Date Prepared:** 01/12/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	23.0	1000	796	77	1000	831	81	4	70-135	35	
Diesel Range Organics (DRO)	120	1000	856	74	1000	870	75	2	70-135	35	

Lab Batch ID: 3038391 **QC- Sample ID:** 572902-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/13/2018 **Date Prepared:** 01/12/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	687	69	1000	703	70	2	70-135	35	X
Diesel Range Organics (DRO)	<15.0	1000	725	73	1000	742	74	2	70-135	35	

Lab Batch ID: 3038511 **QC- Sample ID:** 572902-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/16/2018 **Date Prepared:** 01/16/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	836	84	1000	837	84	0	70-135	35	
Diesel Range Organics (DRO)	<15.0	998	965	97	1000	964	96	0	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

571931

Client Name: COG

Site Manager: Ike Tavarez

Project Name: GJ West Coop Unit #210

Project Location (county, state): Eddy Co NM

Project #: 212C-MD-01056.300

Invoice to: COG

Receiving Laboratory: Xenco

Sampler Signature: Dan Lenzales

Comments: Run deeper samples if benzene exceeds 10 mg/kg, total BTEX exceeds 50mg/kg or TPH exceeds 1,000 mg/kg

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	BH-1 0-1	12/20/17			X				X		1	
	" 2-3				X				X		1	
	" 4-5				X				X		1	
	" 6-7				X				X		1	
	" 9-10				X				X		1	
	" 14-15				X				X		1	
	" 19-20				X				X		1	
	" 24-25				X				X		1	
	BH-2 0-1	12/21/17			X				X		1	
	" 2-3	"			X				X		1	

ANALYSIS REQUEST
(Circle or Specify Method No.)

	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
	X	X	X																				
	X	X	X																				
	X	X																					
	X	X																					

Relinquished by: Dan Lenzales Date: 12/21/17 Time: 1448

Received by: J KRAMER Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND

REMARKS:

RUSH: Same Day 24 hr 48 hr 72 hr

Rush Charges Authorized

Temp: 0.8 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: -1.0

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Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

571931

Client Name: COG

Site Manager: Ike Tavarez

Project Name: GJ West Coop Unit #210

Project Location: (county, state) Eddy Co NM

Project #: 212C-MD-01056.300

Invoice to: COG

Receiving Laboratory:

Sampler Signature:

Comments: See page 1

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE			# CONTAINERS	FILTERED (Y/N)
	BH-2 4-5	12/21/17			X				X				
	" 6-7												
	" 9-10												
	" 14-15												
	" 19-20												
	" 24-25												
	" 29-30												
	BH-3 0-1												
	" 2-3												
	" 4-5												

ANALYSIS REQUEST (Circle or Specify Method No.)

	BTEX 8260B	BTEX 8021B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	X		X																				
	X		Y																				

Relinquished by: Date: 12/21/17 Time: 1448

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

Temp: 0.8 IR ID: R-8

CF: (0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: -1.0

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Analysis Request of Chain of Custody Record

Page 3 of 4

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

571931

Client Name: COG

Site Manager: Ike Tavarez

Project Name: GJ West Coop Unit #210

Project Location: (county, state) Eddy Co NM

Project #: 212C-MD-01056.300

Invoice to: COG

Receiving Laboratory:

Sampler Signature:

Comments: see page 1

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B (BTEX 8260B)	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	BH-3 6-7	12/21/17			X			X																					
	" 9-10																												
	" 14-15																												
	" 19-20																												
	" 24-25																												
	BH-4 0-1										X		X																
	" 2-3										X		X																
	" 4-5																												
	" 6-7																												
	" 9-10																												

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by: Date: 12/21/17 Time: 1448

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

RUSH: Same Day 24 hr 48 hr 72 hr

Rush Charges Authorized

Temp: -0.8 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: -1.0

(Circle) H

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Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

571931

Client Name: COG

Site Manager: Ike Tavarez

Project Name: GJ West Coop Unit #210

Project Location: (county, state) Eddy Co NM

Project #: 212C-MD-01056.300

Invoice to: COG

Receiving Laboratory:

Sampler Signature:

Comments: Seepage I

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	BH-4 14-15	12/21/17			X				X			
	" 19-20				X				X			
	" 24-25	↓			X				X			

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold

Relinquished by: Date: 12/21/17 Time: 1448 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAI

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

Temp: -0.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: -1.0

ORIGINAL COPY

Final 1.002

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 12/21/2017 02:48:00 PM

Work Order #: 571931

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 12/21/2017
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 12/27/2017
Kelsey Brooks