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Marshall & Winston, Inc.
Klein 16 State 2H
Sec. 16-T19S-R35E, Lea Co., NM
Affected Surface Area – 6,475 sq. ft. / .15 acre
GPS Coordinates: N32.66568 W103.45459

OCD Case Number 1RP-4680

 Marshall & Winston Klein 16

W Carlsbad Hwy

238

529
621

483

41

42

Monument

8

Hobbs

132

54

18

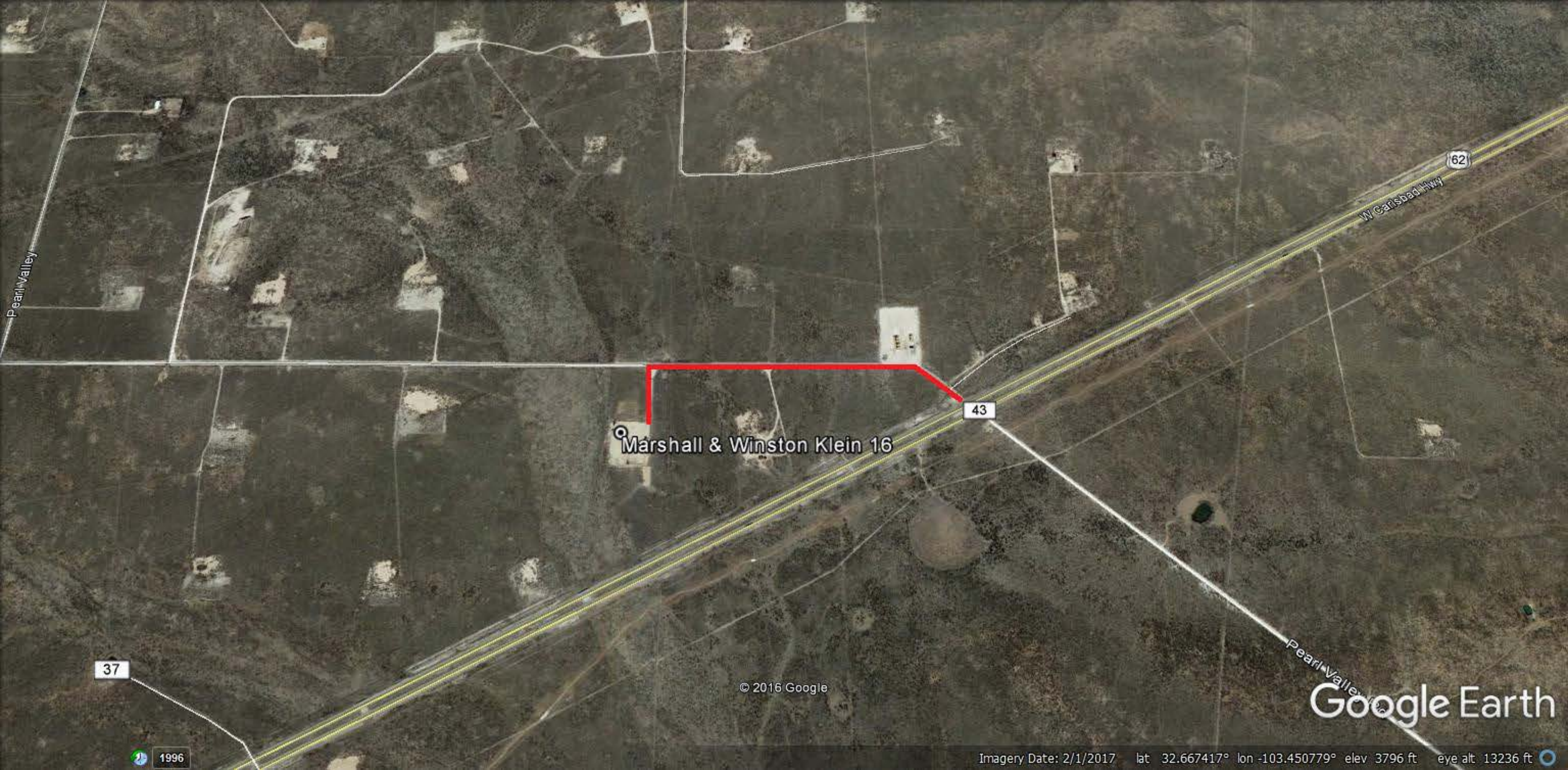
218

S Eunice Hwy

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Google Earth

Imagery Date: 2/1/2017 lat 32.666450° lon -103.295182° elev 3711 ft eye alt 17.24 mi



Pearl Valley

W Carlsbad Hwy
62

Marshall & Winston Klein 16

43

37

Pearl Valley

Google Earth

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1996

Imagery Date: 2/1/2017 lat 32.667417° lon -103.450779° elev 3796 ft eye alt 13236 ft

Marshall & Winston, Inc.
Klein 16 State 2H
Produced Water Spill (Some Oil)
Affected Surface Area - 6,475 sq. ft. / .15 acre
GPS Coordinates: N32.66568
W103.45459



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Soil Sample Locations

Borehole 1

Borehole 3

Center

Borehole 2

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Google Earth

Imagery Date: 2/1/2017 lat 32.665729° lon -103.454668° elev 3793 ft eye alt 4029 ft

62 ft

1996

Marshall & Winston, Inc.
Klein 16 State 2H
OCD Case Number 1RP-4680

Sample ID	Depth (in. or ft.)	Field or Lab Test	Benzene (mg/kg)	BTEX (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)	GPS Coordinates
Center Surface	Surface	Field				1,032	N32.66568 W103.45459
Center Surface	Surface	Lab	<0.0196	<0.0196	306	909	N32.66568 W103.45459
Borehole 1	12 in.	Field				1,636	N32.66572 W103.45476
Borehole 1	30 in.	Field				1,804	N32.66572 W103.45476
Borehole 1	48 in.	Field				232	N32.66572 W103.45476
Borehole 1-4	48 in.	Lab	<0.0199	<0.0199	<25.0	216	N32.66572 W103.45476
Borehole 1	96 in.	Field				25	N32.66572 W103.45476
Borehole 1-8	96 in.	Lab	<0.0196	<0.0196	58.5	30	N32.66572 W103.45476
Borehole 2	12 in.	Field				304	N32.66562 W103.45457
Borehole 2-1	12 in.	Lab	<0.0197	<0.0197	223.3	340	N32.66562 W103.45457
Borehole 2	72 in.	Field				268	N32.66562 W103.45457
Borehole 2-6	72 in.	Lab	<0.0196	<0.0196	<25.0	212	N32.66562 W103.45457
Borehole 3	24 in.	Field				285	N32.66569 W103.45443
Borehole 3-2	24 in.	Lab	<0.0195	<0.0195	<25.0	334	N32.66569 W103.45443
Borehole 3	84 in.	Field				108	N32.66569 W103.45443
Borehole 3-7	84 in.	Lab	<0.0196	<0.0196	<25.0	75.8	N32.66569 W103.45443



Certificate of Analysis Summary 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Project Name: Marshall & Winston, Inc.

Project Id:

Contact: Paul Porter

Project Location: Klein 16 State 2H (NM)

Date Received in Lab: Fri Apr-28-17 09:05 am

Report Date: 02-MAY-17

Project Manager: Liz Givens

Analysis Requested	Lab Id:	551977-001	551977-002	551977-003	551977-004	551977-005	551977-006
	Field Id:	Center Surface	Borehole 1-4	Borehole 1-8	Borehole 2-1	Borehole 2-6	Borehole 3-2
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Apr-25-17 09:15	Apr-25-17 09:30	Apr-25-17 09:50	Apr-25-17 10:15	Apr-25-17 10:45	Apr-25-17 11:15
BTEX by EPA 8021B	Extracted:	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00
	Analyzed:	Apr-28-17 23:54	Apr-29-17 02:34	Apr-29-17 03:01	Apr-29-17 03:27	Apr-29-17 03:54	Apr-29-17 04:22
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
Toluene		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
Ethylbenzene		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
m,p-Xylenes		<0.0393 0.0393	<0.0398 0.0398	<0.0393 0.0393	<0.0394 0.0394	<0.0393 0.0393	<0.0389 0.0389
o-Xylene		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
Total Xylenes		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
Total BTEX		<0.0196 0.0196	<0.0199 0.0199	<0.0196 0.0196	<0.0197 0.0197	<0.0196 0.0196	<0.0195 0.0195
Chloride by EPA 300	Extracted:	Apr-28-17 17:00	Apr-28-17 17:00	Apr-28-17 17:00	Apr-28-17 17:00	Apr-28-17 17:00	Apr-28-17 17:00
	Analyzed:	Apr-28-17 18:51	Apr-28-17 19:45	Apr-28-17 20:03	Apr-28-17 20:21	Apr-28-17 20:39	Apr-28-17 20:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		909 125	216 50.0	30 25.0	340 125	212 125	334 125
DRO-ORO By SW8015B	Extracted:	May-01-17 15:39	May-01-17 15:39	May-01-17 15:39	May-01-17 15:39	May-01-17 15:39	May-01-17 15:39
	Analyzed:	May-02-17 11:37	May-01-17 23:44	May-02-17 00:16	May-02-17 01:54	May-02-17 03:00	May-02-17 03:33
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Diesel Range Organics (DRO)		191 25.0	<25.0 25.0	33.2 25.0	138 25.0	<25.0 25.0	<25.0 25.0
Oil Range Hydrocarbons (ORO)		115 25.0	<25.0 25.0	25.3 25.0	85.3 25.0	<25.0 25.0	<25.0 25.0
TPH GRO by EPA 8015 Mod.	Extracted:	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00	Apr-28-17 12:00
	Analyzed:	Apr-28-17 23:54	Apr-29-17 02:34	Apr-29-17 03:01	Apr-29-17 03:27	Apr-29-17 03:54	Apr-29-17 04:22
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
TPH-GRO		<3.93 3.93	<3.98 3.98	<3.93 3.93	<3.94 3.94	<3.93 3.93	<3.89 3.89

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brandi Ritcherson
Project Manager



Certificate of Analysis Summary 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Project Name: Marshall & Winston, Inc.

Project Id:

Contact: Paul Porter

Project Location: Klein 16 State 2H (NM)

Date Received in Lab: Fri Apr-28-17 09:05 am

Report Date: 02-MAY-17

Project Manager: Liz Givens

Analysis Requested	Lab Id:	551977-007					
	Field Id:	Borehole 3-7					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Apr-25-17 12:00					
BTEX by EPA 8021B	Extracted:	Apr-28-17 12:00					
	Analyzed:	Apr-29-17 04:48					
	Units/RL:	mg/kg RL					
Benzene		<0.0196 0.0196					
Toluene		<0.0196 0.0196					
Ethylbenzene		<0.0196 0.0196					
m,p-Xylenes		<0.0391 0.0391					
o-Xylene		<0.0196 0.0196					
Total Xylenes		<0.0196 0.0196					
Total BTEX		<0.0196 0.0196					
Chloride by EPA 300	Extracted:	Apr-28-17 17:00					
	Analyzed:	Apr-28-17 21:14					
	Units/RL:	mg/kg RL					
Chloride		75.8 25.0					
DRO-ORO By SW8015B	Extracted:	May-01-17 15:39					
	Analyzed:	May-02-17 04:05					
	Units/RL:	mg/kg RL					
Diesel Range Organics (DRO)		<25.0 25.0					
Oil Range Hydrocarbons (ORO)		<25.0 25.0					
TPH GRO by EPA 8015 Mod.	Extracted:	Apr-28-17 12:00					
	Analyzed:	Apr-29-17 04:48					
	Units/RL:	mg/kg RL					
TPH-GRO		<3.91 3.91					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brandi Ritcherson
Project Manager

Analytical Report 551977

**for
BCC, Inc.-Lubbock**

**Project Manager: Paul Porter
Marshall & Winston, Inc.**

02-MAY-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



02-MAY-17

Project Manager: **Paul Porter**
BCC, Inc.-Lubbock
3302 122nd St
P.O. Box 53427
LUBBOCK, TX 79453

Reference: XENCO Report No(s): **551977**
Marshall & Winston, Inc.
Project Address: Klein 16 State 2H (NM)

Paul Porter :

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) 551977. 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. 551977 will be filed for 60 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,

A handwritten signature in black ink that reads 'Brandi Ritcherson'. The signature is written in a cursive, flowing style.

Brandi Ritcherson

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Center Surface	S	04-25-17 09:15		551977-001
Borehole 1-4	S	04-25-17 09:30		551977-002
Borehole 1-8	S	04-25-17 09:50		551977-003
Borehole 2-1	S	04-25-17 10:15		551977-004
Borehole 2-6	S	04-25-17 10:45		551977-005
Borehole 3-2	S	04-25-17 11:15		551977-006
Borehole 3-7	S	04-25-17 12:00		551977-007



CASE NARRATIVE

Client Name: BCC, Inc.-Lubbock

Project Name: Marshall & Winston, Inc.

Project ID:

Work Order Number(s): 551977

Report Date: 02-MAY-17

Date Received: 04/28/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3016106 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3016119 Chloride by EPA 300

Lab Sample ID 551977-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 551977-001, -002, -003, -004, -005, -006, -007.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3016242 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 551977-004,551977-001.



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Center Surface**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-001

Date Collected: 04.25.17 09.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	909	125	mg/kg	04.28.17 18.51		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	191	25.0	mg/kg	05.02.17 11.37		1
Oil Range Hydrocarbons (ORO)	PHCG2835	115	25.0	mg/kg	05.02.17 11.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	241	%	65-144	05.02.17 11.37	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1
m,p-Xylenes	179601-23-1	<0.0393	0.0393	mg/kg	04.28.17 23.54	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.28.17 23.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	68-120	04.28.17 23.54	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	04.28.17 23.54	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Center Surface**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-001

Date Collected: 04.25.17 09.15

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.93	3.93	mg/kg	04.28.17 23.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	76-123	04.28.17 23.54		
a,a,a-Trifluorotoluene	98-08-8	108	%	69-120	04.28.17 23.54		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 1-4**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-002

Date Collected: 04.25.17 09.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	216	50.0	mg/kg	04.28.17 19.45		2

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	05.01.17 23.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	05.01.17 23.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	105	%	65-144	05.01.17 23.44	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	04.29.17 02.34	U	1
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1
Total BTEX		<0.0199	0.0199	mg/kg	04.29.17 02.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	04.29.17 02.34	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	04.29.17 02.34	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 1-4**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-002

Date Collected: 04.25.17 09.30

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.98	3.98	mg/kg	04.29.17 02.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	76-123	04.29.17 02.34		
a,a,a-Trifluorotoluene	98-08-8	108	%	69-120	04.29.17 02.34		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 1-8**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-003

Date Collected: 04.25.17 09.50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30	25.0	mg/kg	04.28.17 20.03		1

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	33.2	25.0	mg/kg	05.02.17 00.16		1
Oil Range Hydrocarbons (ORO)	PHCG2835	25.3	25.0	mg/kg	05.02.17 00.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	127	%	65-144	05.02.17 00.16	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1
m,p-Xylenes	179601-23-1	<0.0393	0.0393	mg/kg	04.29.17 03.01	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.29.17 03.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	68-120	04.29.17 03.01	
a,a,a-Trifluorotoluene	98-08-8	99	%	71-121	04.29.17 03.01	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 1-8**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-003

Date Collected: 04.25.17 09.50

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.93	3.93	mg/kg	04.29.17 03.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	76-123	04.29.17 03.01		
a,a,a-Trifluorotoluene	98-08-8	108	%	69-120	04.29.17 03.01		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 2-1**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-004

Date Collected: 04.25.17 10.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	340	125	mg/kg	04.28.17 20.21		10

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	138	25.0	mg/kg	05.02.17 01.54		1
Oil Range Hydrocarbons (ORO)	PHCG2835	85.3	25.0	mg/kg	05.02.17 01.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	214	%	65-144	05.02.17 01.54	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1
m,p-Xylenes	179601-23-1	<0.0394	0.0394	mg/kg	04.29.17 03.27	U	1
o-Xylene	95-47-6	<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1
Total Xylenes	1330-20-7	<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1
Total BTEX		<0.0197	0.0197	mg/kg	04.29.17 03.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	04.29.17 03.27	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	04.29.17 03.27	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 2-1**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-004

Date Collected: 04.25.17 10.15

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	04.29.17 03.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	76-123	04.29.17 03.27		
a,a,a-Trifluorotoluene	98-08-8	109	%	69-120	04.29.17 03.27		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 2-6**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-005

Date Collected: 04.25.17 10.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	212	125	mg/kg	04.28.17 20.39		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	05.02.17 03.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	05.02.17 03.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	99	%	65-144	05.02.17 03.00	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1
m,p-Xylenes	179601-23-1	<0.0393	0.0393	mg/kg	04.29.17 03.54	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.29.17 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	04.29.17 03.54	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	04.29.17 03.54	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 2-6**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-005

Date Collected: 04.25.17 10.45

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.93	3.93	mg/kg	04.29.17 03.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	76-123	04.29.17 03.54		
a,a,a-Trifluorotoluene	98-08-8	106	%	69-120	04.29.17 03.54		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 3-2**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-006

Date Collected: 04.25.17 11.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	334	125	mg/kg	04.28.17 20.57		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	05.02.17 03.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	05.02.17 03.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	109	%	65-144	05.02.17 03.33	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1
Toluene	108-88-3	<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1
Ethylbenzene	100-41-4	<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1
m,p-Xylenes	179601-23-1	<0.0389	0.0389	mg/kg	04.29.17 04.22	U	1
o-Xylene	95-47-6	<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1
Total Xylenes	1330-20-7	<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1
Total BTEX		<0.0195	0.0195	mg/kg	04.29.17 04.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	04.29.17 04.22	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	04.29.17 04.22	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 3-2**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-006

Date Collected: 04.25.17 11.15

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.89	3.89	mg/kg	04.29.17 04.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	76-123	04.29.17 04.22		
a,a,a-Trifluorotoluene	98-08-8	108	%	69-120	04.29.17 04.22		



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 3-7**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-007

Date Collected: 04.25.17 12.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: PGM

% Moisture:

Analyst: RNL

Date Prep: 04.28.17 17.00

Basis: Wet Weight

Seq Number: 3016119

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.8	25.0	mg/kg	04.28.17 21.14		1

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: HJP

% Moisture:

Analyst: HJP

Date Prep: 05.01.17 15.39

Basis: Wet Weight

Seq Number: 3016242

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	05.02.17 04.05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	05.02.17 04.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	100	%	65-144	05.02.17 04.05	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016106

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1
m,p-Xylenes	179601-23-1	<0.0391	0.0391	mg/kg	04.29.17 04.48	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1
Total BTEX		<0.0196	0.0196	mg/kg	04.29.17 04.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	68-120	04.29.17 04.48	
a,a,a-Trifluorotoluene	98-08-8	96	%	71-121	04.29.17 04.48	



Certificate of Analytical Results 551977

BCC, Inc.-Lubbock, LUBBOCK, TX

Marshall & Winston, Inc.

Sample Id: **Borehole 3-7**

Matrix: Soil

Date Received: 04.28.17 09.05

Lab Sample Id: 551977-007

Date Collected: 04.25.17 12.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 04.28.17 12.00

Basis: Wet Weight

Seq Number: 3016109

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91	mg/kg	04.29.17 04.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	76-123	04.29.17 04.48		
a,a,a-Trifluorotoluene	98-08-8	107	%	69-120	04.29.17 04.48		

- 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

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QC Summary 551977

BCC, Inc.-Lubbock
Marshall & Winston, Inc.

Analytical Method: Chloride by EPA 300

Seq Number: 3016119

MB Sample Id: 723829-1-BLK

Matrix: Solid

LCS Sample Id: 723829-1-BKS

Prep Method: E300P

Date Prep: 04.28.17

LCSD Sample Id: 723829-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	246	98	240	96	90-110	2	20	mg/kg	04.28.17 18:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3016119

Parent Sample Id: 551977-001

Matrix: Soil

MS Sample Id: 551977-001 S

Prep Method: E300P

Date Prep: 04.28.17

MSD Sample Id: 551977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	909	250	1140	92	1230	128	80-120	8	20	mg/kg	04.28.17 19:09	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3016242

MB Sample Id: 723877-1-BLK

Matrix: Solid

LCS Sample Id: 723877-1-BKS

Prep Method: SW8015P

Date Prep: 05.01.17

LCSD Sample Id: 723877-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	106	106	102	102	63-139	4	20	mg/kg	05.01.17 14:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	92		89		90		65-144	%	05.01.17 14:52

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3016242

Parent Sample Id: 551977-003

Matrix: Soil

MS Sample Id: 551977-003 S

Prep Method: SW8015P

Date Prep: 05.01.17

MSD Sample Id: 551977-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	33.2	100	149	116	151	118	63-139	1	20	mg/kg	05.02.17 00:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	126		128		65-144	%	05.02.17 00:48

BCC, Inc.-Lubbock
Marshall & Winston, Inc.

Analytical Method: BTEX by EPA 8021B

Seq Number: 3016106

MB Sample Id: 723816-1-BLK

Matrix: Solid

LCS Sample Id: 723816-1-BKS

Prep Method: SW5030B

Date Prep: 04.28.17

LCSD Sample Id: 723816-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.79	90	1.77	89	55-120	1	20	mg/kg	04.28.17 21:13	
Toluene	<0.0200	2.00	1.74	87	1.74	87	77-120	0	20	mg/kg	04.28.17 21:13	
Ethylbenzene	<0.0200	2.00	1.71	86	1.76	88	77-120	3	20	mg/kg	04.28.17 21:13	
m,p-Xylenes	<0.0400	4.00	3.42	86	3.49	87	78-120	2	20	mg/kg	04.28.17 21:13	
o-Xylene	<0.0200	2.00	1.71	86	1.73	87	78-120	1	20	mg/kg	04.28.17 21:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	91		87		90		68-120	%	04.28.17 21:13
a,a,a-Trifluorotoluene	93		88		92		71-121	%	04.28.17 21:13

Analytical Method: BTEX by EPA 8021B

Seq Number: 3016106

Parent Sample Id: 551977-001

Matrix: Soil

MS Sample Id: 551977-001 S

Prep Method: SW5030B

Date Prep: 04.28.17

MSD Sample Id: 551977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.70	86	1.59	83	54-120	7	25	mg/kg	04.29.17 00:21	
Toluene	<0.0198	1.98	1.79	90	1.68	88	57-120	6	25	mg/kg	04.29.17 00:21	
Ethylbenzene	<0.0198	1.98	1.89	95	1.79	94	58-131	5	25	mg/kg	04.29.17 00:21	
m,p-Xylenes	<0.0396	3.96	3.72	94	3.51	92	62-124	6	25	mg/kg	04.29.17 00:21	
o-Xylene	<0.0198	1.98	1.80	91	1.72	90	62-124	5	25	mg/kg	04.29.17 00:21	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	91		92		68-120	%	04.29.17 00:21
a,a,a-Trifluorotoluene	97		96		71-121	%	04.29.17 00:21

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3016109

MB Sample Id: 723818-1-BLK

Matrix: Solid

LCS Sample Id: 723818-1-BKS

Prep Method: SW5030B

Date Prep: 04.28.17

LCSD Sample Id: 723818-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	17.4	87	18.2	91	35-129	4	20	mg/kg	04.28.17 22:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		107		109		76-123	%	04.28.17 22:06
a,a,a-Trifluorotoluene	108		102		98		69-120	%	04.28.17 22:06



QC Summary 551977

BCC, Inc.-Lubbock
Marshall & Winston, Inc.

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3016109

Parent Sample Id: 551977-001

Matrix: Soil

MS Sample Id: 551977-001 S

Prep Method: SW5030B

Date Prep: 04.28.17

MSD Sample Id: 551977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.90	19.5	16.3	84	17.6	90	35-129	8	20	mg/kg	04.29.17 01:14	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		106		76-123	%	04.29.17 01:14
a,a,a-Trifluorotoluene	96		90		69-120	%	04.29.17 01:14



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: BCC, Inc.-Lubbock

Date/ Time Received: 04/28/2017 09:05:00 AM

Work Order #: 551977

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	No
#21 VOC samples have zero headspace?	N/A
#22 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#23 >10 for all samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brenda Ward
Brenda Ward

Date: 04/28/2017

Checklist reviewed by:

Brandi Ritcherson
Brandi Ritcherson

Date: 05/01/2017