

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Central Operating

Marick Lease

SGS Job Number: DA12986

Sampling Date: 01/21/19

Report to:

Central Operating
1600 Broadway #1050
Denver, CO
coidenverproduction@gmail.com

ATTN: Conner Staley

Total number of pages in report: 29



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'Scott Heideman'.

Scott Heideman
Laboratory Director

Client Service contact: Carissa Cumine 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942)
UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Summary of Hits 4

Section 3: Sample Results 5

3.1: DA12986-1: BASE 6

3.2: DA12986-2: BASE 10' W OF CENTER 9

Section 4: Misc. Forms 12

4.1: Chain of Custody 13

Section 5: MS Volatiles - QC Data Summaries 15

5.1: Method Blank Summary 16

5.2: Blank Spike Summary 18

5.3: Matrix Spike/Matrix Spike Duplicate Summary 19

Section 6: GC Volatiles - QC Data Summaries 20

6.1: Method Blank Summary 21

6.2: Blank Spike Summary 22

6.3: Matrix Spike/Matrix Spike Duplicate Summary 23

Section 7: GC/LC Semi-volatiles - QC Data Summaries 24

7.1: Method Blank Summary 25

7.2: Blank Spike Summary 27

7.3: Matrix Spike/Matrix Spike Duplicate Summary 29



Sample Summary

Central Operating
Marick Lease

Job No: DA12986

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
DA12986-1	01/21/19	10:45	CS	01/21/19	SO	Soil	BASE
DA12986-2	01/21/19	10:45	CS	01/21/19	SO	Soil	BASE 10' W OF CENTER

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: DA12986
Account: Central Operating
Project: Marick Lease
Collected: 01/21/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

DA12986-1 BASE

TPH-DRO (C10-C28)	12.9	10	9.4	mg/kg	SW846-8015B
-------------------	------	----	-----	-------	-------------

DA12986-2 BASE 10' W OF CENTER

No hits reported in this sample.



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	BASE	Date Sampled:	01/21/19
Lab Sample ID:	DA12986-1	Date Received:	01/21/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8260B		
Project:	Marick Lease		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V51196.D	1	01/25/19 15:57	MB	n/a	n/a	V5V2701
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.06 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-131%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BASE	Date Sampled:	01/21/19
Lab Sample ID:	DA12986-1	Date Received:	01/21/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8015B		
Project:	Marick Lease		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA46856.D	1	01/22/19 16:11	BB	n/a	n/a	GGA2169
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BASE	
Lab Sample ID:	DA12986-1	Date Sampled: 01/21/19
Matrix:	SO - Soil	Date Received: 01/21/19
Method:	SW846-8015B SW846 3546	Percent Solids: 95.0
Project:	Marick Lease	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FM3235.D	1	01/25/19 18:01	GN	01/25/19	OP17378	GFM116
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	12.9	10	9.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	109%		41-134%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BASE 10' W OF CENTER	Date Sampled:	01/21/19
Lab Sample ID:	DA12986-2	Date Received:	01/21/19
Matrix:	SO - Soil	Percent Solids:	95.6
Method:	SW846 8260B		
Project:	Marick Lease		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V51197.D	1	01/25/19 16:20	MB	n/a	n/a	V5V2701
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-131%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%
17060-07-0	1,2-Dichloroethane-D4	101%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BASE 10' W OF CENTER	
Lab Sample ID:	DA12986-2	Date Sampled: 01/21/19
Matrix:	SO - Soil	Date Received: 01/21/19
Method:	SW846 8015B	Percent Solids: 95.6
Project:	Marick Lease	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA46857.D	1	01/22/19 16:47	BB	n/a	n/a	GGA2169
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BASE 10' W OF CENTER				
Lab Sample ID:	DA12986-2			Date Sampled:	01/21/19
Matrix:	SO - Soil			Date Received:	01/21/19
Method:	SW846-8015B	SW846	3546	Percent Solids:	95.6
Project:	Marick Lease				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FM3237.D	1	01/25/19 18:39	GN	01/25/19	OP17378	GFM116
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	120%		41-134%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms**Custody Documents and Other Forms**

Includes the following where applicable:

- Chain of Custody

SGS Accutest Sample Receipt Summary

Job Number: DA12986

Client: CENTRAL OPERATING

Project: MARICK LEASE

Date / Time Received: 1/21/2019 5:05:00 PM

Delivery Method:

Airbill #'s: HD

Cooler Temps (Initial/Adjusted): #1: (3.3/3.3):

Cooler Security

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Bar Therm; | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

DA12986: Chain of Custody

Page 2 of 2

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- **Method Blank Summaries**
- **Blank Spike Summaries**
- **Matrix Spike and Duplicate Summaries**

Method Blank Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2701-MB	5V51175.D	1	01/25/19	MB	n/a	n/a	V5V2701

The QC reported here applies to the following samples: Method: SW846 8260B

DA12986-1, DA12986-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	25	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	95% 70-131%
2037-26-5	Toluene-D8	101% 70-130%
460-00-4	4-Bromofluorobenzene	98% 70-130%
17060-07-0	1,2-Dichloroethane-D4	95% 70-130%

Method Blank Summary

Page 1 of 1

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2701-MB	5V51176.D	1	01/25/19	MB	n/a	n/a	V5V2701

The QC reported here applies to the following samples:

Method: SW846 8260B

DA12986-1, DA12986-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 70-131%
2037-26-5	Toluene-D8	99% 70-130%
460-00-4	4-Bromofluorobenzene	99% 70-130%
17060-07-0	1,2-Dichloroethane-D4	108% 70-130%

Blank Spike Summary

Page 1 of 1

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2701-BS	5V51173.D	1	01/25/19	MB	n/a	n/a	V5V2701

The QC reported here applies to the following samples:

Method: SW846 8260B

DA12986-1, DA12986-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	46.6	93	68-130
100-41-4	Ethylbenzene	50	46.1	92	69-130
108-88-3	Toluene	50	46.2	92	65-130
1330-20-7	Xylene (total)	150	138	92	69-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	70-131%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%
17060-07-0	1,2-Dichloroethane-D4	103%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA13045-1MS	5V51178.D	1	01/25/19	MB	n/a	n/a	V5V2701
DA13045-1MSD	5V51179.D	1	01/25/19	MB	n/a	n/a	V5V2701
DA13045-1	5V51177.D	1	01/25/19	MB	n/a	n/a	V5V2701

The QC reported here applies to the following samples: Method: SW846 8260B

DA12986-1, DA12986-2

CAS No.	Compound	DA13045-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	60.9	48.0	79	60.6	51.0	84	6	48-130/30
100-41-4	Ethylbenzene	ND	60.9	45.6	75	60.6	50.7	84	11	25-144/30
108-88-3	Toluene	ND	60.9	46.4	76	60.6	50.0	83	7	34-130/30
1330-20-7	Xylene (total)	ND	183	138	75	182	151	83	9	24-143/30

CAS No.	Surrogate Recoveries	MS	MSD	DA13045-1	Limits
1868-53-7	Dibromofluoromethane	102%	104%	102%	70-131%
2037-26-5	Toluene-D8	98%	99%	99%	70-130%
460-00-4	4-Bromofluorobenzene	100%	100%	99%	70-130%
17060-07-0	1,2-Dichloroethane-D4	101%	105%	106%	70-130%

* = Outside of Control Limits.

GC Volatiles**QC Data Summaries**

Includes the following where applicable:

- **Method Blank Summaries**
- **Blank Spike Summaries**
- **Matrix Spike and Duplicate Summaries**

Method Blank Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA2169-MB	GA46849.D	1	01/22/19	BB	n/a	n/a	GGA2169

The QC reported here applies to the following samples: Method: SW846 8015B

DA12986-1, DA12986-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	100% 60-140%

Blank Spike Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA2169-BS	GA46850.D	1	01/22/19	BB	n/a	n/a	GGA2169

The QC reported here applies to the following samples: Method: SW846 8015B

DA12986-1, DA12986-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	73.8	67	54-139

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	110%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA12952-1MS	GA46852.D	1	01/22/19	BB	n/a	n/a	GGA2169
DA12952-1MSD	GA46853.D	1	01/22/19	BB	n/a	n/a	GGA2169
DA12952-1	GA46851.D	1	01/22/19	BB	n/a	n/a	GGA2169

The QC reported here applies to the following samples:

Method: SW846 8015B

DA12986-1, DA12986-2

CAS No.	Compound	DA12952-1 mg/kg	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	117	77.3	66	117	77.1	66	0	36-145/30

CAS No.	Surrogate Recoveries	MS	MSD	DA12952-1	Limits
120-82-1	1,2,4-Trichlorobenzene	146%* a	166%* a	129%	60-140%

(a) Outside control limits due to possible matrix interference.

* = Outside of Control Limits.

GC/LC Semi-volatiles**QC Data Summaries**

7

Includes the following where applicable:

- **Method Blank Summaries**
- **Blank Spike Summaries**
- **Matrix Spike and Duplicate Summaries**

Method Blank Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17378-MB	FM3223.D	1	01/25/19	GN	01/25/19	OP17378	GFM116

The QC reported here applies to the following samples: Method: SW846-8015B

DA12986-1, DA12986-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	85% 41-134%

7.1.1
7

Method Blank Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17378-MB2	FN3222.D	1	01/25/19	GN	01/25/19	OP17378	GFN115

The QC reported here applies to the following samples: Method: SW846-8015B

DA12986-1, DA12986-2

CAS No.	Compound	Result	RL	MDL	Units	Q
---------	----------	--------	----	-----	-------	---

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	97% 41-134%

7.1.2
7

Blank Spike Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17378-BS	FM3225.D	1	01/25/19	GN	01/25/19	OP17378	GFM116

The QC reported here applies to the following samples: Method: SW846-8015B

DA12986-1, DA12986-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	250	247	99	35-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	109%	41-134%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17378-BS2	FN3224.D	1	01/25/19	GN	01/25/19	OP17378	GFN115

The QC reported here applies to the following samples: Method: SW846-8015B

DA12986-1, DA12986-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
---------	----------	----------------	--------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	107%	41-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA12986
Account: CENOCOD Central Operating
Project: Marick Lease

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17378-MS	FM3227.D	1	01/25/19	GN	01/25/19	OP17378	GFM116
OP17378-MSD	FM3229.D	1	01/25/19	GN	01/25/19	OP17378	GFM116
DA12985-1	FM3231.D	1	01/25/19	GN	01/25/19	OP17378	GFM116

The QC reported here applies to the following samples: Method: SW846-8015B

DA12986-1, DA12986-2

CAS No.	Compound	DA12985-1 mg/kg	Spike Q mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	11.8	263	232	84	263	233	84	0	10-171/30

CAS No.	Surrogate Recoveries	MS	MSD	DA12985-1	Limits
84-15-1	o-Terphenyl	93%	98%	90%	41-134%

* = Outside of Control Limits.