



ACCUTEST
Mountain States

06/12/17

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Automated Report

Technical Report for

REM 9615

Document 2495837

Renegade Oil & Gas

Bird State 32-1 Pit

SGS Accutest Job Number: D94194

Sampling Date: 05/24/17

Report to:

Renegade Oil & Gas
P.O. Box 460413
Aurora, CO 80046
jbcrog@aol.com

ATTN: JB Condill

Total number of pages in report: 21



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.

Scott Heideman
Laboratory Director

Client Service contact: Cristina Araujo 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 Accutest.
Test results relate only to samples analyzed.



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Sample Summary

Renegade Oil & Gas

Job No: D94194

Bird State 32-1 Pit

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D94194-1	05/24/17	11:00 EJ	05/24/17	SO	Soil	RECLAIMED PIT #4D-NORTH 12 YDS
D94194-2	05/24/17	11:00 EJ	05/24/17	SO	Soil	RECLAIMED PIT #6 NORTH 18 YDS
D94194-3	05/24/17	11:00 EJ	05/24/17	SO	Soil	RECLAIMED PIT #7 SOUTH 18 YDS
D94194-4	05/24/17	11:00 EJ	05/24/17	SO	Soil	RECLAIMED PIT #8 WEST 18 YDS
D94194-5	05/24/17	11:00 EJ	05/24/17	SO	Soil	RECLAIMED PIT #9 NW 18 YDS

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

CASE NARRATIVE / CONFORMANCE SUMMARY

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Client: Renegade Oil & Gas

Job No D94194

Site: Bird State 32-1 Pit

Report Date 6/12/2017 4:27:58 PM

On 05/24/2017, 5 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS Accutest Mountain States (SAMS) at a temperature of 4.4 °C. The samples were intact and properly preserved, unless noted below. An SAMS Job Number of D94194 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Extractables by GC By Method SW846-8015B

Matrix: SO

Batch ID: OP15052

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D94274-3MS, D94274-3MSD were used as the QC samples indicated.

Matrix: SO

Batch ID: OP15077

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D94447-1MS, D94447-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM2540G-2011 M

Matrix: SO

Batch ID: GN38988

- Sample(s) D94196-7DUP were used as the QC samples for the Solids, Percent analysis.

SAMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SAMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SAMS indicated via signature on the report cover.

Monday, June 12, 2017

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Summary of Hits

Page 1 of 1

Job Number: D94194
Account: Renegade Oil & Gas
Project: Bird State 32-1 Pit
Collected: 05/24/17



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D94194-1 RECLAIMED PIT #4D-NORTH 12 YDS

TPH-DRO (C10-C28)	433	12	11	mg/kg	SW846-8015B
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D94194-2 RECLAIMED PIT #6 NORTH 18 YDS

No hits reported in this sample.

D94194-3 RECLAIMED PIT #7 SOUTH 18 YDS

TPH-DRO (C10-C28)	70.1	11	10	mg/kg	SW846-8015B
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D94194-4 RECLAIMED PIT #8 WEST 18 YDS

TPH-DRO (C10-C28)	98.6	11	10	mg/kg	SW846-8015B
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D94194-5 RECLAIMED PIT #9 NW 18 YDS

TPH-DRO (C10-C28)	102	12	10	mg/kg	SW846-8015B
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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RECLAIMED PIT #4D-NORTH 12 YDS				Date Sampled:	05/24/17
Lab Sample ID:	D94194-1				Date Received:	05/24/17
Matrix:	SO - Soil				Percent Solids:	80.1
Method:	SW846-8015B SW846 3546					
Project:	Bird State 32-1 Pit					

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI54508.D	1	05/30/17 17:51	GN	05/29/17	OP15052	GFI2284
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)	433	12	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		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:	RECLAIMED PIT #6 NORTH 18 YDS	
Lab Sample ID:	D94194-2	Date Sampled: 05/24/17
Matrix:	SO - Soil	Date Received: 05/24/17
Method:	SW846-8015B SW846 3546	Percent Solids: 94.0
Project:	Bird State 32-1 Pit	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI54510.D	1	05/30/17 18:32	GN	05/29/17	OP15052	GFI2284
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	11	9.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	73%		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:	RECLAIMED PIT #7 SOUTH 18 YDS	
Lab Sample ID:	D94194-3	Date Sampled: 05/24/17
Matrix:	SO - Soil	Date Received: 05/24/17
Method:	SW846-8015B SW846 3546	Percent Solids: 87.0
Project:	Bird State 32-1 Pit	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI54512.D	1	05/30/17 19:12	GN	05/29/17	OP15052	GFI2284
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	70.1	11	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	82%		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:	RECLAIMED PIT #8 WEST 18 YDS	Date Sampled:	05/24/17
Lab Sample ID:	D94194-4	Date Received:	05/24/17
Matrix:	SO - Soil	Percent Solids:	89.9
Method:	SW846-8015B SW846 3546		
Project:	Bird State 32-1 Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI54682.D	1	06/06/17 21:46	GN	06/05/17	OP15077	GFI2290
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)	98.6	11	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	87%		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:	RECLAIMED PIT #9 NW 18 YDS				Date Sampled:	05/24/17
Lab Sample ID:	D94194-5				Date Received:	05/24/17
Matrix:	SO - Soil				Percent Solids:	86.4
Method:	SW846-8015B SW846 3546					
Project:	Bird State 32-1 Pit					

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI54775.D	1	06/12/17 12:36	GN	05/29/17	OP15052	GFI2295
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	102	12	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	81%		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

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

[illegible]

D94194: Chain of Custody

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SGS Accutest Sample Receipt Summary

Job Number: D94194

Client: RENEGADE

Project: BIRD STATE

Date / Time Received: 5/24/2017 1:40:00 PM

Delivery Method: _____

Airbill #'s: hd

Cooler Temps (Initial/Adjusted): #1: (4.4/4.4):

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: <u>IR Gun;</u> | |
| 3. Cooler media: <u>Ice (Bag)</u> | |
| 4. No. Coolers: <u>1</u> | |

Quality Control Preservation

Y or N N/A

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

Comments

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: <u>Intact</u> | |

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"/> | ✓ |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> | ✓ |

D94194: Chain of Custody

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GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

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Job Number: D94194
Account: RENOGCOA Renegade Oil & Gas
Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15052-MB	FI54496.D	1	05/30/17	GN	05/29/17	OP15052	GFI2284

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-1, D94194-2, D94194-3, D94194-5

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	93% 41-134%

Method Blank Summary

Page 1 of 1

Job Number: D94194
Account: RENOGCOA Renegade Oil & Gas
Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15077-MB	FI54683.D	1	06/06/17	GN	06/05/17	OP15077	GFI2291

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-4

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	89% 41-134%

Blank Spike Summary

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Job Number: D94194

Account: RENOGCOA Renegade Oil & Gas

Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15052-BS	FI54498.D	1	05/30/17	GN	05/29/17	OP15052	GFI2284

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-1, D94194-2, D94194-3, D94194-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	250	178	71	35-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	41-134%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D94194

Account: RENOGCOA Renegade Oil & Gas

Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15077-BS	FI54685.D	1	06/06/17	GN	06/05/17	OP15077	GFI2291

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	250	233	93	35-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	93%	41-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D94194
Account: RENOGCOA Renegade Oil & Gas
Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15052-MS	FI54500.D	1	05/30/17	GN	05/29/17	OP15052	GFI2284
OP15052-MSD	FI54502.D	1	05/30/17	GN	05/29/17	OP15052	GFI2284
D94274-3	FI54504.D	1	05/30/17	GN	05/29/17	OP15052	GFI2284

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-1, D94194-2, D94194-3, D94194-5

CAS No.	Compound	D94274-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		296	222	75	296	196	66	12	10-171/30

CAS No.	Surrogate Recoveries	MS	MSD	D94274-3	Limits
84-15-1	o-Terphenyl	97%	84%	87%	41-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D94194

Account: RENOGCOA Renegade Oil & Gas

Project: Bird State 32-1 Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15077-MS	FI54687.D	1	06/06/17	GN	06/05/17	OP15077	GFI2291
OP15077-MSD	FI54689.D	1	06/06/17	GN	06/05/17	OP15077	GFI2291
D94447-1	FI54691.D	1	06/07/17	GN	06/05/17	OP15077	GFI2291

The QC reported here applies to the following samples:

Method: SW846-8015B

D94194-4

CAS No.	Compound	D94447-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		255	220	86	256	209	82	5	10-171/30

CAS No.	Surrogate Recoveries	MS	MSD	D94447-1	Limits
84-15-1	o-Terphenyl	87%	85%	82%	41-134%

* = Outside of Control Limits.