

# Environmental, Audit & Assessment, Inc.

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23 June 2011

Colorado Oil and Gas Conservation Commission  
Chris Canfield  
Environmental Protection Specialist  
707 Wapiti Court, Suite 204  
Rifle, CO 81650

RE: Form 4 – WGV 21-23-697

Mr. Canfield:

Please find the attached Sundry Form 4, submitted on behalf of Williams Production RMT Company, requesting that background arsenic concentrations be taken into consideration for the completion of the reserve pit closure activities at the WGV 21-23-697 (NENW, Sec 23, T6S, R97W; API 05-045-14154) well pad. This request is in accordance with and pertaining to footnote 1 to the Table 910-1 of the COGCC 900-series Rule.

Thank you in advance for your time in reviewing the attached document and consideration of approval for the request. If you have any specific questions, would like additional information, or would otherwise like to discuss the matter further, please contact myself or Karolina Blaney at 970-683-2295, at your convenience.

Sincerely,

Jana Sanders  
Environmental Scientist  
Environmental, Audit & Assessment, Inc

DOCUMENT #2215126



RECEIVED 6/28/2011

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 96850 4. Contact Name: Karolina Blaney 2. Name of Operator: Williams Production R.M.T. Company 3. Address: 1058 County Road 215 City: Parachute State: CO Zip: 81635 5. API Number: 05-045-14154 6. Well/Facility Name: Puckett # WGV 21-23-697 7. Well/Facility Number: WGV 21-23-697 8. Location (Qtr/Sec, Twp, Rng, Meridian): NENW, 23, T6S, R97W, 6 PM 9. County: Garfield #045 10. Field Name: GRAND VALLEY - #31290 11. Federal, Indian or State Lease Number:

Complete the Attachment Checklist OP OGCC

LOCATION #335117

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit) Change of Surface Footage from Exterior Section Lines: Change of Surface Footage to Exterior Section Lines: Change of Bottomhole Footage from Exterior Section Lines: Change of Bottomhole Footage to Exterior Section Lines: GPS DATA: CHANGE SPACING UNIT: CHANGE OF OPERATOR (prior to drilling): CHANGE WELL NAME: ABANDONED LOCATION: NOTICE OF CONTINUED SHUT IN STATUS: SPUD DATE: REQUEST FOR CONFIDENTIAL STATUS: SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK: RECLAMATION:

Technical Engineering/Environmental Notice

Notice of Intent: Report of Work Done: Details of work must be described in full on Technical Information Page (Page 2 must be submitted.) Intent to Recomplete (submit form 2): Change Drilling Plans: Gross Interval Changed?: Casing/Cementing Program Change: Request to Vent or Flare: Repair Well: Rule 502 variance requested: Other: Background: E&P Waste Disposal: Beneficial Reuse of E&P Waste: Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete. Signed: Karolina Blaney Date: 6/29/11 Email: karolina.blaney@williams.com Print Name: Karolina Blaney Title: Environmental Specialist

OGCC Approved: [Signature] Title: FOR Chris Camfield Date: 07/22/2011 CONDITIONS OF APPROVAL, IF ANY:

EPS NW Region

Reserve pit closure must comply with COGCC Rules Series 900 and 1000, (Pit closure and reclamation)

**TECHNICAL INFORMATION PAGE**



FOR OGCC USE ONLY

1. OGCC Operator Number: _____	API Number: _____
2. Name of Operator: _____	OGCC Facility ID # _____
3. Well/Facility Name: _____	Well/Facility Number: _____
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): _____	

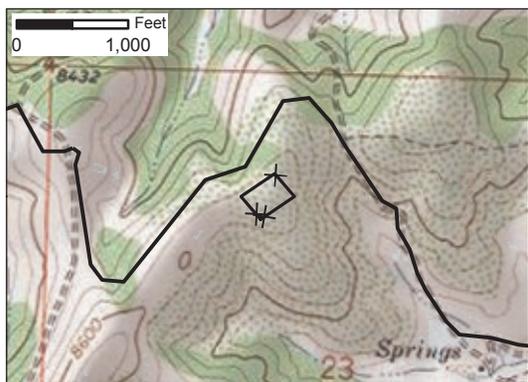
This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

Township: 6 S  
Section: 23  
Range: 97 W

Latitude: 39.512489  
Longitude: -108.189658  
NAD 1983 HARN - State Plane Colorado Central FIPS 0502

# WGV 21-23-697



## Sample Collection Location Map Williams Production R.M.T.

- ◆ Background - June 2011
  - ◆ Background - October 2010
  - ◆ Cuttings - October 2010
  - Well Pad (approx)
- \* 2010 samples collected by Olsson

Drawn By:  
EKM  
Date:  
10/2010  
Revised:  
06/2011

**Environmental, Audit & Assessment, Inc.**  
225 North 5<sup>th</sup> Street, Suite 8  
Grand Junction, Colorado 81501  
(970) 245-5987 www.eaa-co.com



**Technical Report for**

**Olsson Associates**

**WGV 21-23(010-1405\_100\_100001)**

**Accutest Job Number: D18496**

**Sampling Date: 10/26/10**

**Report to:**

**Olsson Associates  
826 21 1/2 Road  
Grand Junction, CO 81505  
tdobranksy@oaconsulting.com**

**ATTN: Tim Dobransky**

**Total number of pages in report: 46**



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



**John Hamilton  
Laboratory Director**

**Client Service contact: Amanda Kissell 303-425-6021**

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

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

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## Sample Summary

Olsson Associates

**Job No:** D18496

WGV 21-23(010-1405\_100\_100001)

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D18496-1	10/26/10	00:00	10/27/10	SO	Soil	EAST-CUTT
D18496-2	10/26/10	00:00	10/27/10	SO	Soil	WEST-CUTT
D18496-3	10/26/10	00:00	10/27/10	SO	Soil	BG1
D18496-3A	10/26/10	11:25	10/28/10	SO	Soil	BG1
D18496-4	10/26/10	00:00	10/27/10	SO	Soil	BG2
D18496-5	10/26/10	00:00	10/27/10	SO	Soil	BG3
D18496-6	10/26/10	00:00	10/27/10	SO	Soil	BG4
D18496-7	10/26/10	00:00	10/27/10	SO	Soil	BG5

---

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

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** Olsson Associates

**Job No** D18496

**Site:** WGV 21-23(010-1405\_100\_100001)

**Report Dat** 11/2/2010 3:22:21 PM

Between 10/27/2010 and 10/28/2010, 8 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.9 °C & 4.0 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D18496 was assigned to the project. The lab sample IDs, client sample IDs, and dates 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.

### Volatiles by GC By Method SW846 8015B

<b>Matrix</b> SO	<b>Batch ID:</b> GGA521
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18496-1MS, D18496-1MSD were used as the QC samples indicated.

### Extractables by GC By Method SW846-8015B

<b>Matrix</b> SO	<b>Batch ID:</b> OP2704
------------------	-------------------------

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18462-5MS, D18462-5MSD were used as the QC samples indicated.
- The matrix spike (MS) recovery of TPH-DRO (C10-C28) is outside control limits. Outside control limits due to high level in sample relative to spike amount.

### Metals By Method SW846 6010B

<b>Matrix</b> AQ	<b>Batch ID:</b> MP3287
------------------	-------------------------

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18496-3AMS were used as the QC samples for the metals analysis.

### Metals By Method SW846 6020

<b>Matrix</b> SO	<b>Batch ID:</b> MP3257
------------------	-------------------------

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D18496-3MS, D18496-3MSD, D18496-3SDL were used as the QC samples for the metals analysis.

### Wet Chemistry By Method LADNR29B

<b>Matrix</b> SO	<b>Batch ID:</b> MP3287
------------------	-------------------------

- D18496-3A for Sodium Adsorption Ratio: Calculated as:  $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

## Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN6956

- The data for SM19 2540B M meets quality control requirements.

AMS 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.

AMS 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 AMS indicated via signature on the report cover.

Sample Results

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Report of Analysis

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## Report of Analysis

3.1  
3

<b>Client Sample ID:</b> EAST-CUTT	
<b>Lab Sample ID:</b> D18496-1	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
<b>Method:</b> SW846 8015B	<b>Percent Solids:</b> 87.0
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9567.D	1	10/28/10	BR	n/a	n/a	GGA521
Run #2							

Run #	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	13	13	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	107%		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

3.1  
3

<b>Client Sample ID:</b> EAST-CUTT	
<b>Lab Sample ID:</b> D18496-1	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
<b>Method:</b> SW846-8015B SW846 3550B	<b>Percent Solids:</b> 87.0
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4744.D	2	10/27/10	JB	10/27/10	OP2704	GFD206
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	572	31	20	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	109%		63-130%		

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

32  
3

<b>Client Sample ID:</b> WEST-CUTT	
<b>Lab Sample ID:</b> D18496-2	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
<b>Method:</b> SW846 8015B	<b>Percent Solids:</b> 85.9
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA9570.D	1	10/28/10	BR	n/a	n/a	GGA521
Run #2							

Run #	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	13	13	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	117%		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

32  
3

<b>Client Sample ID:</b> WEST-CUTT	
<b>Lab Sample ID:</b> D18496-2	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
<b>Method:</b> SW846-8015B SW846 3550B	<b>Percent Solids:</b> 85.9
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD4745.D	2	10/27/10	JB	10/27/10	OP2704	GFD206
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	759	31	20	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	103%		63-130%		

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

<b>Client Sample ID:</b> BG1	<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-3	<b>Date Received:</b> 10/27/10
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 74.4
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.8	0.57	mg/kg	5	10/27/10	10/28/10 GJ	SW846 6020 <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA1080

(2) Prep QC Batch: MP3257

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BG1	<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-3	<b>Date Received:</b> 10/27/10
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 74.4
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	74.4		%	1	10/27/10	CJ	SM19 2540B M
pH	7.22		su	1	10/27/10	JK	SW846 9045C

RL = Reporting Limit

## Report of Analysis

3.4  
3

<b>Client Sample ID:</b> BG1	<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-3A	<b>Date Received:</b> 10/28/10
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 74.4
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	10.2	2.0	mg/l	1	11/01/10	11/02/10 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Magnesium	2.03	1.0	mg/l	1	11/01/10	11/02/10 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Sodium	6.20	2.0	mg/l	1	11/01/10	11/02/10 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA1088

(2) Prep QC Batch: MP3287

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BG1		<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-3A		<b>Date Received:</b> 10/28/10
<b>Matrix:</b> SO - Soil		<b>Percent Solids:</b> 74.4
<b>Project:</b> WGV 21-23(010-1405_100_100001)		

### General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio <sup>a</sup>	0.464		ratio	1	11/02/10 00:52	JM	LADNR29B
Specific Conductivity	110	1.0	umhos/cm	1	10/29/10	CJ	DEPT.OF AG, BOOK N9

(a) Calculated as:  $(Na \text{ meq/L}) / \sqrt{[(Ca \text{ meq/L}) + (Mg \text{ meq/L})/2]}$

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BG2	
<b>Lab Sample ID:</b> D18496-4	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
	<b>Percent Solids:</b> 79.1
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.4	0.52	mg/kg	5	10/27/10	10/28/10 GJ	SW846 6020 <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA1080

(2) Prep QC Batch: MP3257

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BG3	<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-5	<b>Date Received:</b> 10/27/10
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 75.5
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.2	0.51	mg/kg	5	10/27/10	10/28/10 GJ	SW846 6020 <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA1080

(2) Prep QC Batch: MP3257

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RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BG4	
<b>Lab Sample ID:</b> D18496-6	<b>Date Sampled:</b> 10/26/10
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 10/27/10
	<b>Percent Solids:</b> 79.1
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.9	0.51	mg/kg	5	10/27/10	10/28/10 GJ	SW846 6020 <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA1080

(2) Prep QC Batch: MP3257

---

RL = Reporting Limit

## Report of Analysis



<b>Client Sample ID:</b> BG5	<b>Date Sampled:</b> 10/26/10
<b>Lab Sample ID:</b> D18496-7	<b>Date Received:</b> 10/27/10
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 76.2
<b>Project:</b> WGV 21-23(010-1405_100_100001)	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.1	0.52	mg/kg	5	10/27/10	10/28/10 GJ	SW846 6020 <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA1080

(2) Prep QC Batch: MP3257

---

RL = Reporting Limit

Misc. Forms

---

Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody







# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D18496

Client: Olsson

Immediate Client Services Action Required: Yes

Date / Time Received: 10/27/2010 8:45:00 AM

Delivery Method: FEDX

Project: WGV 21-23(010-1405\_100\_100001)

No. Coolers: 1

Airbill #'s:

### Cooler Security

Y or N

Y or N

- 1. Custody Seals Present:   3. COC Present:
- 2. Custody Seals Intact:   4. Smpl Dates/Time OK

### Cooler Temperature

Y or N

- 1. Temp criteria achieved:
- 2. Cooler temp verification: Infrared gun
- 3. Cooler media: Ice (bag)

### Quality Control Preservation

Y

N

N/A

- 1. Trip Blank present / cooler:
- 2. Trip Blank listed on COC:
- 3. Samples preserved properly:
- 4. VOCs headspace free:

### Comments

Sample #3 does not have enough volume to do a SAR and SCON It will not be logged in for these tests.

### Sample Integrity - Documentation

Y or N

- 1. Sample labels present on bottles:
- 2. Container labeling complete:
- 3. Sample container label / COC agree:

### Sample Integrity - Condition

Y or N

- 1. Sample rec'd within HT:
- 2. All containers accounted for:
- 3. Condition of sample: Intact

### Sample Integrity - Instructions

Y

N

N/A

- 1. Analysis requested is clear:
- 2. Bottles received for unspecified tests:
- 3. Sufficient volume rec'd for analysis:
- 4. Compositing instructions clear:
- 5. Filtering instructions clear:

4.1  
4



## Sample Receipt Summary - Problem Resolution

**Accutest Job Number:** D18496

**CSR:** Amanda Kissell

**Response Date** 10/27/2010

**Response:** Client notified. Add'l volume for SAR/SCON will be received 10/28/10. Please analyze upon receipt.

4.1

4

Accutest Laboratories  
V:508.481.6200

495 Technology Center West, Bldg One  
F: 508.481.7753

Marlborough, MA  
[www.accutest.com](http://www.accutest.com)

**D18496: Chain of Custody**  
**Page 4 of 5**

**Job Change Order: D18496\_11/2/2010**

**Requested Date:** 11/2/2010      **Received Date:** 10/27/2010  
**Account Name:** Olsson Associates      **Due Date:** 11/1/2010  
**Project Description:** WGV 21-23(010-1405\_100\_1000001)      **Deliverable:** COMMBN  
**CSR:** AK      **TAT (Days):** 14  
**Sample #:** D18496-3      **Change:** Please "no out" ALL data except ASMS and pH. Please keep SAR and SCON reported on -3A.

**Above Changes**      Tim Dobransky      **Date:** 11/2/2010

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service

## GC Volatiles

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5

## QC Data Summaries

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Includes the following where applicable:

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

## Method Blank Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA521-MB	GA9565.D	1	10/28/10	BR	n/a	n/a	GGA521

The QC reported here applies to the following samples:

Method: SW846 8015B

D18496-1, D18496-2

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

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	105% 60-140%

# Blank Spike Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA521-BS	GA9566.D	1	10/28/10	BR	n/a	n/a	GGA521

The QC reported here applies to the following samples:

Method: SW846 8015B

D18496-1, D18496-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	105	95	70-130

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

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D18496-1MS	GA9568.D	1	10/28/10	BR	n/a	n/a	GGA521
D18496-1MSD	GA9569.D	1	10/28/10	BR	n/a	n/a	GGA521
D18496-1	GA9567.D	1	10/28/10	BR	n/a	n/a	GGA521

The QC reported here applies to the following samples:

Method: SW846 8015B

D18496-1, D18496-2

CAS No.	Compound	D18496-1 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	143	128	90	142	99	10	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D18496-1	Limits
120-82-1	1,2,4-Trichlorobenzene	108%	117%	107%	60-140%

5.3.1  
5

## GC Semi-volatiles

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### QC Data Summaries

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Includes the following where applicable:

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

# Method Blank Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2704-MB	FD4736.D	1	10/27/10	JB	10/27/10	OP2704	GFD206

The QC reported here applies to the following samples:

Method: SW846-8015B

D18496-1, D18496-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	95% 63-130%

# Blank Spike Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2704-BS	FD4737.D	1	10/27/10	JB	10/27/10	OP2704	GFD206

The QC reported here applies to the following samples:

Method: SW846-8015B

D18496-1, D18496-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	654	98	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	102%	63-130%

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** D18496  
**Account:** CORCCOGJ Olsson Associates  
**Project:** WGV 21-23(010-1405\_100\_100001)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2704-MS	FD4738.D	2	10/27/10	JB	10/27/10	OP2704	GFD206
OP2704-MSD	FD4739.D	2	10/27/10	JB	10/27/10	OP2704	GFD206
D18462-5	FD4740.D	2	10/27/10	JB	10/27/10	OP2704	GFD206

The QC reported here applies to the following samples:

Method: SW846-8015B

D18496-1, D18496-2

CAS No.	Compound	D18462-5 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	3540	780	3920	49* a	3950	53* a	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D18462-5	Limits
84-15-1	o-Terphenyl	101%	98%	100%	63-130%

(a) Outside control limits due to high level in sample relative to spike amount.

## Metals Analysis

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3257  
Matrix Type: SOLID

Methods: SW846 6020  
Units: mg/kg

Prep Date: 10/27/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	-0.086	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP3257: D18496-3, D18496-4, D18496-5, D18496-6, D18496-7

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

7.1.1  
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3257  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: mg/kg

Prep Date: 10/27/10

Metal	D18496-3 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	3.8	227	274	81.4	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3257: D18496-3, D18496-4, D18496-5, D18496-6, D18496-7

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

7.1.2  
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3257  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: mg/kg

Prep Date: 10/27/10

Metal	D18496-3 Original MSD		SpikeLot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	3.8	244	283	84.9	7.2	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3257: D18496-3, D18496-4, D18496-5, D18496-6, D18496-7

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

7.1.2  
 7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3257  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: mg/kg

Prep Date: 10/27/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	189	200	94.5	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3257: D18496-3, D18496-4, D18496-5, D18496-6, D18496-7

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

7.1.3  
7

SERIAL DILUTION RESULTS SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3257  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: ug/l

Prep Date: 10/27/10

Metal	D18496-3		QC	
	Original	SDL 5:25	%DIF	Limits
Aluminum				
Antimony				
Arsenic	26.7	28.9	8.0	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3257: D18496-3, D18496-4, D18496-5, D18496-6, D18496-7

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

7.1.4  
7

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date: 11/01/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	56.0	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	-35	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-180	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP3287: D18496-3A

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits

7.2.1  
7

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
 Units: ug/l

Prep Date: 11/01/10 11/01/10

Metal	D18496-3A Original MS		SpikeLot MPICPALL % Rec		QC Limits	D18496-3A Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium	10200	128000	125000	94.2	75-125	10200	129000	125000	95.0	75-125
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium	2030	117000	125000	92.0	75-125	2030	117000	125000	92.0	75-125
Manganese										
Molybdenum										
Nickel										
Phosphorus										
Potassium										
Selenium										
Silicon										
Silver										
Sodium	6200	130000	125000	99.0	75-125	6200	131000	125000	99.8	75-125
Strontium										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc										

Associated samples MP3287: D18496-3A

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

7.2.2  
 7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18496  
 Account: CORCCOGJ - Olsson Associates  
 Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
 Units: ug/l

Prep Date: 11/01/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	120000	125000	96.0	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	116000	125000	92.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	124000	125000	99.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3287: D18496-3A

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

7.2.3  
7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

QC Batch ID: MP3287  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

## General Chemistry

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### QC Data Summaries

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Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D18496  
Account: CORCCOGJ - Olsson Associates  
Project: WGV 21-23(010-1405\_100\_100001)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP3079/GN6994			umhos/cm	10003	10100	100.6	90-110%
pH	GN6954			su	8.00	7.96	99.5	99.3-100.7%
pH	GN6954			su	8.00	7.96	99.5	99.3-100.7%

Associated Samples:  
Batch GN6954: D18496-3  
Batch GP3079: D18496-3A  
(\* ) Outside of QC limits

Technical Report for

Williams Production RMT Company

WGV 21-23-697

Accutest Job Number: T78336

Sampling Date: 06/10/11

Report to:

Environmental Audit & Assessment  
225 N 5th Street Suite 8  
Grand Junction, CO 81501  
karolina.blaney@williams.com; jsanders@eaa-co.com  
ATTN: J. Sanders

Total number of pages in report: **22**



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



Paul Canevaro  
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-10-3) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103)

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Test results relate only to samples analyzed.

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### Sample Summary

Williams Production RMT Company

Job No: T78336

WGV 21-23-697

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T78336-1	06/10/11	10:07	06/11/11	SO	Soil	BG6-WGU2123
T78336-2	06/10/11	10:13	06/11/11	SO	Soil	BG7-WGU2123
T78336-3	06/10/11	10:19	06/11/11	SO	Soil	BG8-WGU2123
T78336-4	06/10/11	10:26	06/11/11	SO	Soil	BG9-WGU2123
T78336-5	06/10/11	10:33	06/11/11	SO	Soil	BG10-WGU2123

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

Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> BG6-WGU2123	<b>Date Sampled:</b> 06/10/11
<b>Lab Sample ID:</b> T78336-1	<b>Date Received:</b> 06/11/11
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 84.6
<b>Project:</b> WGV 21-23-697	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic <sup>a</sup>	4.7	0.30	0.035	mg/kg	5	06/16/11	06/17/11 ANJ	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: N:MA26561

(2) Prep QC Batch: N:MP58729

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> BG7-WGU2123	<b>Date Sampled:</b> 06/10/11
<b>Lab Sample ID:</b> T78336-2	<b>Date Received:</b> 06/11/11
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 93.1
<b>Project:</b> WGV 21-23-697	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic <sup>a</sup>	5.1	0.27	0.031	mg/kg	5	06/16/11	06/17/11 ANJ	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: N:MA26561

(2) Prep QC Batch: N:MP58729

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> BG8-WGU2123	<b>Date Sampled:</b> 06/10/11
<b>Lab Sample ID:</b> T78336-3	<b>Date Received:</b> 06/11/11
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 94.3
<b>Project:</b> WGV 21-23-697	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic <sup>a</sup>	4.0	0.27	0.031	mg/kg	5	06/16/11	06/17/11 ANJ	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: N:MA26561

(2) Prep QC Batch: N:MP58729

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> BG9-WGU2123	<b>Date Sampled:</b> 06/10/11
<b>Lab Sample ID:</b> T78336-4	<b>Date Received:</b> 06/11/11
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 82.2
<b>Project:</b> WGV 21-23-697	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic <sup>a</sup>	4.4	0.31	0.036	mg/kg	5	06/16/11	06/17/11 ANJ	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: N:MA26561

(2) Prep QC Batch: N:MP58729

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> BG10-WGU2123	<b>Date Sampled:</b> 06/10/11
<b>Lab Sample ID:</b> T78336-5	<b>Date Received:</b> 06/11/11
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 88.9
<b>Project:</b> WGV 21-23-697	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic <sup>a</sup>	5.5	0.28	0.033	mg/kg	5	06/16/11	06/17/11 ANJ	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: N:MA26561

(2) Prep QC Batch: N:MP58729

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

## Misc. Forms

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### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

10165 Harwin Dr, Ste 150 Houston, TX 77036  
TEL: 713-271-4700 FAX: 713-271-4770  
www.accutest.com

FED-EX Tracking #  
Accutest Quote #  
Bottle Order Control #  
Accutest Job # **778336**

Client / Reporting Information		Project Information										Requested Analyses										Matrix Codes
Company Name <b>Environmental Audit + Assessment</b> Street Address <b>775 N 5th St, Ste B</b> City State Zip <b>GRAND JUNCTION CO 81501</b> Project Contact <b>J. SANDERS janders@ea-m.com</b> Phone # Fax # <b>970-245-5897 970-245-0759</b> Sampler(s) Name(s) Phone # <b>J. SANDERS 970-640-9977</b>		Project Name: <b>WGN 71-23-1697</b> Street <b>CO</b> Billing Information (if different from report to) Company Name <b>WILLIAMS BMT Co</b> Street Address <b>1058 COUNTY ROAD 215</b> City State Zip <b>PARACHUTE CO 81035</b> Project # <b>K. BLANEY</b> Client Purchase Order # <b>KAROLINA BLANEY</b> Attention:										<b>ARSENIC - SUBBULG 10020</b>										Matrix Codes DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Accutest Sample # <b>1</b> Field ID / Point of Collection <b>BA 6 - WGN 2123</b>		Collection Date Time <b>10 JUN 11 1007</b> Sampled By <b>JS</b> Matrix <b>S</b> # of bottles <b>1</b> HCL MESH ZANODI H2SO4 H2SO4 NDPE NDPE DI Water MESH TSP ENCORE OTHER																				
Turnaround Time (Business days) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day EMERGENCY Approved By (Accutest PM): / Date: _____ _____ _____ _____ Emergency & Rush TIA data available VIA Lablink		Data Deliverable Information <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULT1 (Level 3+4) <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> TRRP <input type="checkbox"/> EDD Format <input checked="" type="checkbox"/> Other <b>WILLIAMS STD DELIVERABLE</b> Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC & Surrogate Summary										Comments / Special Instructions <b>ARSENIC FOR CORCC TABLE 910-1</b> <b>WILLIAMS STANDARD DELIVERABLES</b>										
Relinquished by Sampler: <b>[Signature]</b> Date Time: <b>6/10/11 17:45</b>		Sample Custody must be documented below each time samples change possession, including courier delivery.										Relinquished By: <b>[Signature]</b> Date Time: <b>6/10/11 1100</b>										Received By: <b>[Signature]</b>
Relinquished by Sampler: Date Time: <b>3</b>		Received By: <b>3</b>										Relinquished By: <b>4</b>										Received By: <b>4</b>
Relinquished by: <b>5</b>		Received By: <b>5</b>										Custody Seal # <input type="checkbox"/> Intact Preserved where applicable <input type="checkbox"/> Not Intact										On Ice <input type="checkbox"/> Cooler Temp.

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3

**T78336: Chain of Custody**

**Page 1 of 3**

**Accutest Job Number:** T78336      **Client:** ENVIRONMENTAL AUDIT ASSESSMENT      **Project:** WGV 21-23-697  
**Date / Time Received:** 6/11/2011      **Delivery Method:** \_\_\_\_\_      **Airbill #'s:** 88706-6705-2447  
**No. Coolers:** 1      **Therm ID:** IRGUN4;      **Temp Adjustment Factor:** -0.1;  
**Cooler Temps (Initial/Adjusted):** #1: (4.4/4.3);

**Cooler Security**      Y or N      Y or N  
 1. Custody Seals Present:        3. COC Present:    
 2. Custody Seals Intact:        4. Smpl Dates/Time OK:

**Cooler Temperature**      Y or N  
 1. Temp criteria achieved:    
 2. Cooler temp verification: \_\_\_\_\_ IR Gun  
 3. Cooler media: \_\_\_\_\_ Ice (Bag)

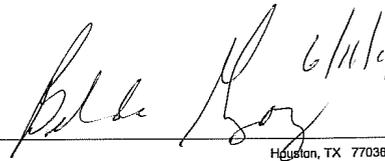
**Quality Control Preservation**      Y or N      N/A      WTB      STB  
 1. Trip Blank present / cooler:            
 2. Trip Blank listed on COC:     
 3. Samples preserved properly:    
 4. VOCs headspace free:

**Sample Integrity - Documentation**      Y or N  
 1. Sample labels present on bottles:    
 2. Container labeling complete:    
 3. Sample container label / COC agree:

**Sample Integrity - Condition**      Y or N  
 1. Sample recvd within HT:    
 2. All containers accounted for:    
 3. Condition of sample: \_\_\_\_\_ Intact

**Sample Integrity - Instructions**      Y or N      N/A  
 1. Analysis requested is clear:    
 2. Bottles received for unspecified tests:    
 3. Sufficient volume recvd for analysis:    
 4. Compositing instructions clear:     
 5. Filtering instructions clear:

Comments



 31  
 3

**Job #:** T78336

**Date / Time Received:** 6/11/2011 11:00:00 AM

**Initials:** BG

**Client:** ENVIRONMENTAL AUDIT ASSESSMENT

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T78336-1	16oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	4.4	-0.1	4.3
1	T78336-2	16oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	4.4	-0.1	4.3
1	T78336-3	16oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	4.4	-0.1	4.3
1	T78336-4	16oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	4.4	-0.1	4.3
1	T78336-5	16oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	4.4	-0.1	4.3

3.1  
3

**T78336: Chain of Custody**  
**Page 3 of 3**

## Misc. Forms

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### Custody Documents and Other Forms

(Accutest New Jersey)

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Includes the following where applicable:

- Chain of Custody



## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: T78336

Client:

Date / Time Received: 6/14/2011

Project:

No. Coolers: 1

Airbill #'s:

Delivery Method:

**Cooler Security**

Y or N

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: |                                     |                          |
| 3. Cooler media:             |                                     | Ice (Bag)                |

**Quality Control Preservatio**

Y or N

N/A

- |                                 |                                     |                                     |                                     |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Trip Blank listed on COC:    | <input type="checkbox"/>            | <input checked="" 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"/>            | <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

4.1  
4

## Metals Analysis

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5

### QC Data Summaries

(Accutest New Jersey)

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: T78336  
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
Project: WPRMTCOP: GWV 21-23-697

QC Batch ID: MP58729  
Matrix Type: SOLID

Methods: SW846 6020A  
Units: mg/kg

Prep Date: 06/16/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	8.2	.7		
Antimony	0.25	.0084	.073		
Arsenic	0.25	.11	.029	-0.0064	<0.25
Barium	0.50	.021	.079		
Beryllium	0.25	.0064	.0021		
Boron	2.5	.14	.63		
Cadmium	0.25	.0083	.02		
Calcium	130	2	7.2		
Chromium	1.0	.012	.085		
Cobalt	0.25	.0018	.0025		
Copper	1.0	.011	.04		
Iron	25	1.1	2.6		
Lead	0.25	.005	.0078		
Magnesium	130	.14	2.3		
Manganese	0.25	.0061	.018		
Molybdenum	0.50	.011	.025		
Nickel	1.0	.0072	.26		
Potassium	130	2.9	4.9		
Selenium	0.25	.035	.06		
Silver	0.25	.0016	.009		
Sodium	130	1.3	3.8		
Strontium	2.5	.0036	.018		
Thallium	0.25	.022	.035		
Tin	2.5	.0093	.74		
Titanium	0.50	.036	.19		
Vanadium	1.0	.19	.14		

Associated samples MP58729: T78336-1, T78336-2, T78336-3, T78336-4, T78336-5

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T78336  
 Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
 Project: WPRMTCOP: WGV 21-23-697

QC Batch ID: MP58729  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 06/16/11

Metal	T78336-1 Original MS		SpikeLot MPIO54	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	4.7	452	459	97.4	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron					
Lead	anr				
Magnesium					
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium	anr				

Associated samples MP58729: T78336-1, T78336-2, T78336-3, T78336-4, T78336-5

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

5.1.2  
**5**

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T78336  
 Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
 Project: WPRMTCOP: WGV 21-23-697

QC Batch ID: MP58729  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 06/16/11

Metal	T78336-1 Original	MSD	SpikeLot MPIOS4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	4.7	470	478	97.4	3.9	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lead	anr					
Magnesium						
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium	anr					

Associated samples MP58729: T78336-1, T78336-2, T78336-3, T78336-4, T78336-5

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

5.1.2  
**5**

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T78336  
 Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
 Project: WPRMTCOP: WGV 21-23-697

QC Batch ID: MP58729  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 06/16/11

Metal	BSP Result	Spikelot MPIOS4	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	406	400	101.5	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium	anr			

Associated samples MP58729: T78336-1, T78336-2, T78336-3, T78336-4, T78336-5

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T78336  
 Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
 Project: WPRMTCOP: WGV 21-23-697

QC Batch ID: MP58729  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: ug/l

Prep Date: 06/16/11

Metal	T78336-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	38.7	40.3	4.0	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium	anr			

Associated samples MP58729: T78336-1, T78336-2, T78336-3, T78336-4, T78336-5

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

5.1.4  
**5**