



02/10/10

## Technical Report for

### HRL Compliance Solutions

Antero Wasatch Bench

Accutest Job Number: D10688

Sampling Date: 01/27/10

#### Report to:

HRL Compliance Solutions  
744 Horizon Court Suite 140  
Grand Junction, CO 81506  
mmumby@hrlcomp.com

ATTN: Mark Mumby

Total number of pages in report: 19



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.

Gary K. Ward  
Laboratory Director

Client Service contact: Shea Greiner 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

HRL Compliance Solutions  
Antero Wasatch Bench

Job No: D10688

Sample Number	Collected		Matrix Code	Type	Client Sample ID
	Date	Time By			
D10688-1	01/27/10	16:30 JR	01/29/10	AQ Water	POND OUT 012710

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** HRL Compliance Solutions

**Job No** D10688

**Site:** Antero Wasatch Bench

**Report Dat** 2/10/2010 4:28:51 PM

On 01/29/2010, one (1) sample was received at Accutest Laboratories at a temperature of 4.0°C. The samples were intact and properly preserved, unless noted below. An Accutest Job Number of D10688 was assigned to the project. The laboratory sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary Section.

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 GCMS By Method SW846 8260B

**Matrix** AQ

**Batch ID:** V5V317

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D10702-2MS and D10702-2MSD were used as the QC samples indicated.

### Wet Chemistry By Method EPA 418.1

**Matrix** AQ

**Batch ID:** GP1397

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest'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.

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



## Sample Results

## Report of Analysis

## Report of Analysis

<b>Client Sample ID:</b>	POND OUT 012710	<b>Date Sampled:</b>	01/27/10
<b>Lab Sample ID:</b>	D10688-1	<b>Date Received:</b>	01/29/10
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	Antero Wasatch Bench		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V06067.D	100	02/05/10	DC	n/a	n/a	V5V317
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics+ GRO

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4730	100	40	ug/l	
108-88-3	Toluene	11500	200	100	ug/l	
100-41-4	Ethylbenzene	547	200	100	ug/l	
	m,p-Xylene	6100	400	110	ug/l	
95-47-6	o-Xylene	1190	200	100	ug/l	
	TPH-GRO (C6-C10)	69400	20000	20000	ug/l	
110-54-3	Hexane	383	400	100	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	81%		70-130%
2037-26-5	Toluene-D8	82%		70-130%
460-00-4	4-Bromofluorobenzene	76%		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

<b>Client Sample ID:</b>	POND OUT 012710	<b>Date Sampled:</b>	01/27/10
<b>Lab Sample ID:</b>	D10688-1	<b>Date Received:</b>	01/29/10
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	Antero Wasatch Bench		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Petroleum Hydrocarbons	56.5	5.0	mg/l	10	02/02/10	SWT	EPA 418.1

RL = Reporting Limit



## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



# CHAIN OF CUSTODY RECORD / ANALYTICAL SERVICES AGREEMENT \*\*

## Evergreen Analytical Laboratory

D10688

Page 1 of 1

### CLIENT INFORMATION

Mail Original Report to: HRH Compliance Solutions, Inc.

Attn: Mark Mumby

Address: 744 Horizon Ct Suite 140

City: Grand Junction State: CO Zip: 81506

Tel # 970-243-3271 Fax # 970-243-3260 E-mail: mmumby@hrhcomp.com E-mail: info@evergreenanalytical.com

Quality Data on Time®



4036 Youngfield St.  
Wheat Ridge, Colorado 80033  
(303) 425-6021  
FAX (303) 425-6854  
(877) 737-4521

Report Results by: \_\_\_\_\_ (Date)\*

Standard 2 working weeks ☒

UST Analyses per Fee Schedule ☐

\* Rush: ☐ less than 24 hrs, 150% ☐ 1 - 2 work days, 100%  
☐ 3 - 5 work days, 50% ☐ 6 - 9 work days, 25%

\*Subject to surcharge & exceptions noted in fee schedule.

REPORT ALSO BY ☐ FAX ☒ PDF ☐ EDD FAXED CONFIRMATION OF SAMPLE RECEIPT REQUIRED? ☐ YES

REPORT CHROMATOGRAMS ☒ YES

Mail Invoice to: As Above

Attn: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Tel # \_\_\_\_\_ Fax # \_\_\_\_\_

Project ID# Antero Wessatch Bench

P.O. \_\_\_\_\_ Quote \_\_\_\_\_

Sampler: KR

NOTE: Identify Known Hazards Below

SAMPLE IDENTIFICATION DATE SAMPLED TIME

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME	No. of Containers	MATRIX										ANALYSES (check analysis)										For Laboratory Use Only	
				1) Drinking Water or Discharge Water or 3) Ground Water (circle)	2) Soil / Solid / Air / Gas	Oil / Sludge / Wipe																		W.O. #	Use Only
<u>Pond Out 012710</u>	<u>11/27/10</u>	<u>16:30</u>	<u>3</u>	<u>X</u>																				<u>D10688</u>	
																								<u>NA</u>	
																								<u>C / Sed</u>	
																								<u>Temp. °C 4.0 / Ice</u>	
																								<u>Seals Present Y / N / NA</u>	
																								<u>Samples Pres. Y / N / NA</u>	
																								<u>Headspace Y / N / NA</u>	
																								<u>By</u>	
																								<u>01</u>	
																								<u>Also - TEPH</u>	
																								<u>mem. by</u>	
																								<u>Loc. 027211</u>	
																								<u>Sample Fraction</u>	

Does this analysis involve property transfer? ☐ Yes or ☒ No

Instructions: Send one Extra 4umL vial in case of leakage BTEXdHexene by 8260

\*\* Important Note: See reverse side hereof for terms and conditions.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
<u>McE. Mumby</u>	<u>11/28/10</u> <u>17:10</u>					<u>[Signature]</u>	<u>1-29-10</u> <u>900</u>

D10688: Chain of Custody

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D10688  
NOTES

**AMS Sample**

**From:** Shea Greiner  
**To:** AMS Sample  
**Cc:**  
**Subject:** FW: Antero Samples  
**Attachments:**

**Sent:** Mon 2/1/2010 11:55 AM

THought I forwarded this to you!  
Sample will have to stay in house because of the 8260 BTEX, Hexane and TVPH. He does need the TRPH as well.....

**From:** Mark Mumby [mailto:mmumby@hrlcomp.com]  
**Sent:** Friday, January 29, 2010 1:40 PM  
**To:** Shea Greiner  
**Subject:** RE: Antero Samples

Accutest is a company that provides laboratory services to its customers. We are currently looking for a laboratory that can provide the following services:

**Mark E. Mumby, RPG**  
**Project Manager**  
**HRL Compliance Solutions**  
**Office:** 970-243-3271  
**Cell:** 970-260-1576  
**email:** mmumby@hrlcomp.com

**From:** Shea Greiner [mailto:SheaG@accutest.com]  
**Sent:** Friday, January 29, 2010 1:30 PM  
**To:** Mark Mumby; Shea Greiner  
**Subject:** RE: Antero Samples

Is it ok to run the TVPH by 8015 or do they need it by 8260?

<https://owa.accutest.com/exchange/AMS-Sample/Inbox/FW:%20Antero%20Samples.EML?...> 2/1/2010

D10688: Chain of Custody  
Page 2 of 3

D10688  
NOTES

**From:** Mark Mumby [mailto:mmumby@hrlcomp.com]  
**Sent:** Friday, January 29, 2010 1:28 PM  
**To:** Shea Greiner  
**Subject:** Antero Samples

For once my feeble brain was right. They want BTEX, Hexane by 8260. They DO want TVPH, and TRPH. Sorry for the confusion

**Mark E. Mumby, RPG**  
**Project Manager**  
**HRL Compliance Solutions**  
**Office:** 970-243-3271  
**Cell:** 970-260-1576  
**email:** mmumby@hrlcomp.com

cc: [mailto:sgreiner@antero.com] (Shea Greiner)  
[mailto:mmumby@hrlcomp.com] (Mark Mumby)

D10688: Chain of Custody  
Page 3 of 3

<https://owa.accutest.com/exchange/AMS-Sample/Inbox/FW:%20Antero%20Samples.EML?...> 2/1/2010



## GC/MS 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

Page 1 of 1

**Job Number:** D10688  
**Account:** HRLCCOGJ HRL Compliance Solutions  
**Project:** Antero Wasatch Bench

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V317-MB1	5V06064.D	1	02/05/10	DC	n/a	n/a	V5V317

The QC reported here applies to the following samples:

Method: SW846 8260B

D10688-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.40	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
110-54-3	Hexane	ND	4.0	1.0	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
95-47-6	m,p-Xylene	ND	4.0	1.1	ug/l	
	o-Xylene	ND	2.0	1.0	ug/l	
	TPH-GRO (C6-C10)	ND	200	200	ug/l	

CAS No.	Surrogate Recoveries	Limits
17060-07-0	1,2-Dichloroethane-D4	100% 70-130%
2037-26-5	Toluene-D8	97% 70-130%
460-00-4	4-Bromofluorobenzene	89% 70-130%

Blank Spike Summary

Job Number: D10688  
Account: HRLCCOGJ HRL Compliance Solutions  
Project: Antero Wasatch Bench

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V317-BS2	5V06066.D	1	02/05/10	DC	n/a	n/a	V5V317

The QC reported here applies to the following samples:

Method: SW846 8260B

D10688-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	2200	1720	78	70-130

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D10688  
**Account:** HRLCCOGJ HRL Compliance Solutions  
**Project:** Antero Wasatch Bench

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D10702-2MS	5V06069.D	1	02/05/10	DC	n/a	n/a	V5V317
D10702-2MSD	5V06070.D	1	02/05/10	DC	n/a	n/a	V5V317
D10702-2	5V06068.D	1	02/05/10	DC	n/a	n/a	V5V317

The QC reported here applies to the following samples:

Method: SW846 8260B

D10688-1

CAS No.	Compound	D10702-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	50	48.5	97	49.2	98	1	59-132/30
100-41-4	Ethylbenzene	ND	50	49.4	99	49.9	100	1	68-130/30
110-54-3	Hexane	ND	50	57.6	115	57.9	116	1	70-130/30
108-88-3	Toluene	ND	50	44.8	90	44.5	89	1	56-142/30
95-47-6	m,p-Xylene	ND	50	42.1	84	41.8	84	1	36-146/30
	o-Xylene	ND	50	45.5	91	45.3	91	0	36-146/30

CAS No.	Surrogate Recoveries	MS	MSD	D10702-2	Limits
17060-07-0	1,2-Dichloroethane-D4	86%	82%	87%	70-130%
2037-26-5	Toluene-D8	86%	86%	82%	70-130%
460-00-4	4-Bromofluorobenzene	91%	91%	74%	70-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D10688  
Account: HRLCCOGJ HRL Compliance Solutions  
Project: Antero Wasatch Bench

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D10702-2MS	5V06071.D	1	02/05/10	DC	n/a	n/a	V5V317
D10702-2MSD	5V06072.D	1	02/05/10	DC	n/a	n/a	V5V317
D10702-2	5V06068.D	1	02/05/10	DC	n/a	n/a	V5V317

The QC reported here applies to the following samples:

Method: SW846 8260B

D10688-1

CAS No.	Compound	D10702-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	2200	1780	81	2040	93	14	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D10702-2	Limits
17060-07-0	1,2-Dichloroethane-D4			87%	70-130%
2037-26-5	Toluene-D8			82%	70-130%
460-00-4	4-Bromofluorobenzene			74%	70-130%





## General Chemistry

### 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: D10688  
Account: HRLCCOGJ - HRL Compliance Solutions  
Project: Antero Wasatch Bench

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Petroleum Hydrocarbons	GP1397/GN3076	0.50	0.0	mg/l	1.7	1.7	102.4	80-120%

Associated Samples:  
Batch GP1397: D10688-1  
(\*) Outside of QC limits

6.1

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BLANK SPIKE DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D10688  
Account: HRLCCOGJ - HRL Compliance Solutions  
Project: Antero Wasatch Bench

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Petroleum Hydrocarbons	GP1397/GN3076	mg/l	1.7	1.9		20%

Associated Samples:  
Batch GP1397: D10688-1  
(\*) Outside of QC limits