

## **ANALYTICAL REPORT**

Petroglyph Operating Co., Inc.

Raton Basin (Colorado)

**Lot #: D8C250129**

Tom Melland

Petroglyph  
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TestAmerica Laboratories, Inc

  
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April 9, 2008

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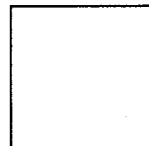
## ***Standard Deliverables***

### Report Contents

### Total Number of Pages

#### ***Standard Deliverables***

*(The **Report Cover** page is considered an integral part of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.)*



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## **Case Narrative**

### **Lot #: D8C250129**

The following report contains the analytical results for three water samples submitted to TestAmerica Laboratories, Inc's Denver Laboratory by Petroglyph Operating Company. The samples were received on April 09, 2008 according to documented sample acceptance procedures.

This report may include data with reporting limits (RLs) less than TestAmerica Laboratories, Inc's standard reporting limit. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require.

TestAmerica Laboratories, Inc's Denver Laboratory utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. A summary of QC data for these analyses is included.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. The results relate only to the samples in this report. All data have been found to be compliant with laboratory protocol, with the exception of any items noted below.

## **SUPPLEMENTAL QC INFORMATION**

### **Sample Arrival and Receipt**

The sample containers were received in acceptable condition. The temperature of the cooler upon receipt was 5.6 °C.

No anomalies were observed.

### **Dissolved Methane – Method RSK SOP-175**

No anomalies were observed.

## EXECUTIVE SUMMARY - Detection Highlights

D8C250129

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
NO DETECTABLE PARAMETERS				

# METHODS SUMMARY

D8C250129

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Dissolved Gases in Water	RSK SOP-175	RSK RSKSOP-175

## References:

RSK      Sample Prep and Calculations for Dissolved Gas Analysis  
         in Water Samples Using a GC Headspace Equilibration  
         Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

## METHOD / ANALYST SUMMARY

D8C250129

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
RSK SOP-175	Adam Pavlakovich	003128

### References:

RSK      Sample Prep and Calculations for Dissolved Gas Analysis  
in Water Samples Using a GC Headspace Equilibration  
Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

# SAMPLE SUMMARY

D8C250129

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KJ5ET	001	CONLEY, WW	03/24/08	10:30

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Petroglyph

Client Sample ID: CONLEY,WW

GC Volatiles

Lot-Sample #....: D8C250129-001    Work Order #....: KJ5ET1AA    Matrix.....: WATER  
Date Sampled....: 03/24/08 10:30    Date Received...: 03/25/08  
Prep Date.....: 04/02/08    Analysis Date...: 04/02/08  
Prep Batch #....: 8093527    Analysis Time...: 14:28  
Dilution Factor: 1  
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methane	ND	5.0	ug/L	0.22



# QC DATA ASSOCIATION SUMMARY

D8C250129

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	RSK SOP-175		8093527	8093282

**METHOD BLANK REPORT**

**GC Volatiles**

**Client Lot #....:** D8C250129  
**MB Lot-Sample #:** D8D020000-527

**Work Order #....:** KKMA61AA

**Matrix.....:** WATER

**Prep Date.....:** 04/02/08

**Analysis Time...:** 12:06

**Analysis Date...:** 04/02/08

**Prep Batch #....:** 8093527

**Dilution Factor:** 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Methane	ND	5.0	ug/L	RSK SOP-175

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #...: D8C250129      Work Order #...: KKMA61AC      Matrix.....: WATER  
LCS Lot-Sample#: D8D020000-527  
Prep Date.....: 04/02/08      Analysis Date...: 04/02/08  
Prep Batch #...: 8093527      Analysis Time...: 11:56  
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
<b>Ethane</b>	<b>101</b>	<b>(75 - 125)</b>	<b>RSK SOP-175</b>
<b>Ethene</b>	<b>98</b>	<b>(75 - 125)</b>	<b>RSK SOP-175</b>
<b>Methane</b>	<b>101</b>	<b>(75 - 125)</b>	<b>RSK SOP-175</b>
<b>Acetylene</b>	<b>103</b>	<b>(75 - 125)</b>	<b>RSK SOP-175</b>

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: D8C250129      Work Order #....: KKMA61AC      Matrix.....: WATER  
 LCS Lot-Sample#: D8D020000-527  
 Prep Date.....: 04/02/08      Analysis Date...: 04/02/08  
 Prep Batch #....: 8093527      Analysis Time...: 11:56  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
Ethane	137	139	ug/L	101	RSK SOP-175
Ethene	127	124	ug/L	98	RSK SOP-175
Methane	73.0	73.8	ug/L	101	RSK SOP-175
Acetylene	118	121	ug/L	103	RSK SOP-175

### NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Volatiles

**Client Lot #...**: D8C250129      **Work Order #...**: KKDNA1AD-MS      **Matrix.....**: WATER  
**MS Lot-Sample #**: D8C280185-007      KKDNA1AE-MSD  
**Date Sampled...**: 03/27/08 12:05      **Date Received...**: 03/28/08  
**Prep Date.....**: 04/02/08      **Analysis Date...**: 04/02/08  
**Prep Batch #...**: 8093527      **Analysis Time...**: 14:18  
**Dilution Factor**: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
<b>Ethane</b>	<b>106</b>	<b>(75 - 125)</b>			<b>RSK SOP-175</b>
	<b>97</b>	<b>(75 - 125)</b>	<b>9.1</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Ethene</b>	<b>100</b>	<b>(75 - 131)</b>			<b>RSK SOP-175</b>
	<b>93</b>	<b>(75 - 131)</b>	<b>7.8</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Methane</b>	<b>107</b>	<b>(52 - 145)</b>			<b>RSK SOP-175</b>
	<b>97</b>	<b>(52 - 145)</b>	<b>9.3</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Acetylene</b>	<b>97</b>	<b>(52 - 142)</b>			<b>RSK SOP-175</b>
	<b>96</b>	<b>(52 - 142)</b>	<b>0.70</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE DATA REPORT

## GC Volatiles

**Client Lot #...**: D8C250129      **Work Order #...**: KKDNA1AD-MS      **Matrix.....**: WATER  
**MS Lot-Sample #:** D8C280185-007      KKDNA1AE-MSD  
**Date Sampled...**: 03/27/08 12:05      **Date Received...**: 03/28/08  
**Prep Date.....**: 04/02/08      **Analysis Date...**: 04/02/08  
**Prep Batch #...**: 8093527      **Analysis Time...**: 14:18  
**Dilution Factor:** 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
<b>Ethane</b>	ND	137	146	ug/L	106		RSK SOP-175
	ND	137	133	ug/L	97	9.1	RSK SOP-175
<b>Ethene</b>	ND	127	127	ug/L	100		RSK SOP-175
	ND	127	118	ug/L	93	7.8	RSK SOP-175
<b>Methane</b>	ND	73.0	77.8	ug/L	107		RSK SOP-175
	ND	73.0	70.9	ug/L	97	9.3	RSK SOP-175
<b>Acetylene</b>	ND	118	114	ug/L	97		RSK SOP-175
	ND	118	113	ug/L	96	0.70	RSK SOP-175

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

