

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

Petroglyph Operating Co., Inc.

Raton Basin (Colorado)

**Lot #: D8C040240**

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TestAmerica DENVER

  
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March 11, 2008

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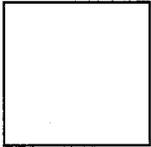
## *Standard Deliverables*

### Report Contents

### Total Number of Pages

#### **Standard Deliverables**

*The Cover Letter and the Report Cover page are considered integral parts 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 #: D8C040240**

The following report contains the analytical results for four water samples submitted to TestAmerica Denver by Petroglyph Operating Company. The samples were received on March 4, 2008, according to documented sample acceptance procedures.

This report may include data with reporting limits (RLs) less than TestAmerica'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.

Denver 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 3.6°C. Please note, the coolers were received without custody seals. Client was notified on March 5, 2008.

No anomalies were observed.

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

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to analytes present above the linear calibration curve, samples Coleman; Coleman,A; and Deroswitch, D.WW had to be analyzed at a dilution. The reporting limits have been adjusted relative to the dilution required.

The method required MS/MSD could not be performed for QC batch 8067260, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No other anomalies were observed.

# EXECUTIVE SUMMARY - Detection Highlights

D8C040240

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>COLEMAN 03/01/08 09:40 001</b>				
Methane	4600	50	ug/L	RSK SOP-175
<b>COLEMAN, A 03/01/08 09:45 002</b>				
Methane	5100	50	ug/L	RSK SOP-175
<b>KERMAN, T.WW 03/01/08 12:15 003</b>				
Methane	170	5.0	ug/L	RSK SOP-175
<b>DEROSWITCH, D.WW 03/01/08 16:15 004</b>				
Methane	4000	50	ug/L	RSK SOP-175

# METHODS SUMMARY

D8C040240

<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

D8C040240

<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

D8C040240

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
KH06A	001	COLEMAN	03/01/08	09:40
KH06C	002	COLEMAN, A	03/01/08	09:45
KH06G	003	KERMAN, T.WW	03/01/08	12:15
KH06H	004	DEROSWITCH, D.WW	03/01/08	16:15

## **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: COLEMAN

GC Volatiles

Lot-Sample #...: D8C040240-001    Work Order #...: KH06A1AA    Matrix.....: WATER  
Date Sampled...: 03/01/08 09:40    Date Received...: 03/04/08  
Prep Date.....: 03/06/08    Analysis Date...: 03/06/08  
Prep Batch #...: 8067260    Analysis Time...: 15:20  
Dilution Factor: 10  
Method.....: RSK SOP-175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Methane	4600	50	ug/L	2.2

Petroglyph

Client Sample ID: COLEMAN, A

GC Volatiles

Lot-Sample #...: D8C040240-002    Work Order #...: KH06C1AA    Matrix.....: WATER  
Date Sampled...: 03/01/08 09:45    Date Received...: 03/04/08  
Prep Date.....: 03/06/08    Analysis Date...: 03/06/08  
Prep Batch #...: 8067260    Analysis Time...: 15:25  
Dilution Factor: 10  
Method.....: RSK SOP-175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Methane	5100	50	ug/L	2.2

Petroglyph

Client Sample ID: KERMAN, T.WW

GC Volatiles

Lot-Sample #...: D8C040240-003    Work Order #...: KH06G1AA    Matrix.....: WATER  
Date Sampled...: 03/01/08 12:15    Date Received...: 03/04/08  
Prep Date.....: 03/06/08    Analysis Date...: 03/06/08  
Prep Batch #...: 8067260    Analysis Time...: 11:43  
Dilution Factor: 1  
Method.....: RSK SOP-175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Methane	170	5.0	ug/L	0.22

Petroglyph

Client Sample ID: DEROSWITCH, D.WW

GC Volatiles

Lot-Sample #...: D8C040240-004    Work Order #...: KH06H1AA    Matrix.....: WATER  
Date Sampled...: 03/01/08 16:15    Date Received...: 03/04/08  
Prep Date.....: 03/06/08    Analysis Date...: 03/06/08  
Prep Batch #...: 8067260    Analysis Time...: 15:30  
Dilution Factor: 10  
Method.....: RSK SOP-175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Methane	4000	50	ug/L	2.2

# QC DATA ASSOCIATION SUMMARY

D8C040240

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		8067260	
002	WATER	RSK SOP-175		8067260	
003	WATER	RSK SOP-175		8067260	
004	WATER	RSK SOP-175		8067260	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: D8C040240      Work Order #...: KH7NH1AA      Matrix.....: WATER  
MB Lot-Sample #: D8C070000-260  
Prep Date.....: 03/06/08      Analysis Time...: 10:38  
Analysis Date...: 03/06/08      Prep Batch #...: 8067260  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING 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 #...: D8C040240      Work Order #...: KH7NH1AC      Matrix.....: WATER  
LCS Lot-Sample#: D8C070000-260  
Prep Date.....: 03/06/08      Analysis Date...: 03/06/08  
Prep Batch #...: 8067260      Analysis Time...: 10:28  
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>Ethane</b>	<b>105</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>105</b>	<b>(75 - 125)</b>	<b>RSK SOP-175</b>
<b>Acetylene</b>	<b>104</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 #...: D8C040240      Work Order #...: KH7NH1AC      Matrix.....: WATER  
LCS Lot-Sample#: D8C070000-260  
Prep Date.....: 03/06/08      Analysis Date...: 03/06/08  
Prep Batch #...: 8067260      Analysis Time...: 10:28  
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>
<b>Ethane</b>	<b>137</b>	<b>144</b>	<b>ug/L</b>	<b>105</b>	<b>RSK SOP-175</b>
<b>Ethene</b>	<b>127</b>	<b>124</b>	<b>ug/L</b>	<b>98</b>	<b>RSK SOP-175</b>
<b>Methane</b>	<b>73.0</b>	<b>76.5</b>	<b>ug/L</b>	<b>105</b>	<b>RSK SOP-175</b>
<b>Acetylene</b>	<b>118</b>	<b>123</b>	<b>ug/L</b>	<b>104</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

