

ANALYTICAL REPORT

Petroglyph Operating Co., Inc.

Raton Basin (Colorado)

Lot #: D8C150189

Tom Melland

Petroglyph
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TestAmerica Laboratories, Inc


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March 25, 2008

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Case Narrative

Lot #: D8C150189

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 March 15, 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 2.2°C.

No anomalies were observed.

Dissolved Methane – Method RSK SOP-175

The method required MS/MSD could not be performed for QC batch 8080307, 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

D8C150189

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GOODWIN, R.WW 03/14/08 12:03 002				
Methane	240	5.0	ug/L	RSK SOP-175
SEARLE, S.WW 03/14/08 10:48 003				
Methane	7.5	5.0	ug/L	RSK SOP-175

METHODS SUMMARY

D8C150189

<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

D8C150189

<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

D8C150189

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KJNXH	001	ENGLISH, B.WW	03/14/08	11:38
KJNXR	002	GOODWIN, R.WW	03/14/08	12:03
KJNXV	003	SEARLE, S.WW	03/14/08	10:48

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: ENGLISH, B.WW

GC Volatiles

Lot-Sample #....: D8C150189-001 Work Order #....: KJNXH1AC Matrix.....: WATER
Date Sampled....: 03/14/08 11:38 Date Received...: 03/15/08
Prep Date.....: 03/19/08 Analysis Date...: 03/19/08
Prep Batch #....: 8080307 Analysis Time...: 14:11
Dilution Factor: 1
Method.....: RSK SOP-175

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

Petroglyph

Client Sample ID: GOODWIN, R.WW

GC Volatiles

Lot-Sample #....: D8C150189-002 Work Order #....: KJNXR1AA Matrix.....: WATER
Date Sampled...: 03/14/08 12:03 Date Received...: 03/15/08
Prep Date.....: 03/19/08 Analysis Date...: 03/19/08
Prep Batch #....: 8080307 Analysis Time...: 14:16
Dilution Factor: 1
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methane	240	5.0	ug/L	0.22

Petroglyph

Client Sample ID: SEARLE, S.WW

GC Volatiles

Lot-Sample #....: D8C150189-003 Work Order #....: KJNXV1AA Matrix.....: WATER
Date Sampled...: 03/14/08 10:48 Date Received...: 03/15/08
Prep Date.....: 03/19/08 Analysis Date...: 03/19/08
Prep Batch #....: 8080307 Analysis Time...: 14:21
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	7.5	5.0	ug/L	0.22

QC DATA ASSOCIATION SUMMARY

D8C150189

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		8080307	
002	WATER	RSK SOP-175		8080307	
003	WATER	RSK SOP-175		8080307	

METHOD BLANK REPORT

GC Volatiles

Client Lot #... D8C150189
MB Lot-Sample #: D8C200000-307

Work Order #... KJXTT1AA

Matrix.....: WATER

Analysis Date... 03/19/08

Prep Date.....: 03/19/08

Analysis Time...: 13:27

Dilution Factor: 1

Prep Batch #... 8080307

<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 #....: D8C150189 Work Order #....: KJXTT1AC Matrix.....: WATER
LCS Lot-Sample#: D8C200000-307
Prep Date.....: 03/19/08 Analysis Date...: 03/19/08
Prep Batch #....: 8080307 Analysis Time...: 13:17
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
Ethane	94	(75 - 125)	RSK SOP-175
Ethene	91	(75 - 125)	RSK SOP-175
Methane	94	(75 - 125)	RSK SOP-175
Acetylene	100	(75 - 125)	RSK SOP-175

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 #....: D8C150189 Work Order #....: KJXTT1AC Matrix.....: WATER
 LCS Lot-Sample#: D8C200000-307
 Prep Date.....: 03/19/08 Analysis Date...: 03/19/08
 Prep Batch #....: 8080307 Analysis Time...: 13:17
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Ethane	137	129	ug/L	94	RSK SOP-175
Ethene	127	116	ug/L	91	RSK SOP-175
Methane	73.0	68.4	ug/L	94	RSK SOP-175
Acetylene	118	118	ug/L	100	RSK SOP-175

NOTE(S) :

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

Bold print denotes control parameters

