

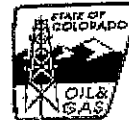
FORM

24

Rev 2/03

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax: (303)894-2109



FOR OGCC USE ONLY

SOIL ANALYSIS REPORT FORM

OGCC Operator Number: <u>75027</u>	Contact Name and Telephone: <u>Jerry Brian</u>	Complete the Attachment Checklist Oper OGCC
Name of Operator: <u>Rosewood Resources Inc</u>	No: <u>970-630-6293</u>	
Address: <u>2101 Cedar Springs Rd Suite 1500</u>	Fax: _____	Analysis
City: <u>Dallas</u> State: <u>TX</u> Zip: <u>75201</u>		Sample Location Map

Source of Sample Collection: ☐ SPILL ☐ PIT ☐ WELL ☐ FLOWLINE ☐ GAS PLANT ☐ BATTERY

SAMPLE POINT INFORMATION (Sample Location Map Must Be Attached)

Date Sample(s) Taken: 5/12/10

Sample Point Description: Tank Removal 2 (Area under tank)

If Well, API Number: 05125068530000 Well Name: Richardson 28-1 Well Number: _____

QtrQtr: SESE Section: 28 Township: 3N Range: 47W Meridian: _____

Footage From Exterior Section Lines: _____

Latitude: N 40° 11' 37.6" Longitude: W 102° 37' 35.2" County: Yuma

Field Name: _____ Field Number: _____

LABORATORY RESULTS

☒ Initial Test Results ☐ Interim Test Results ☐ Final Test Results

Name of Laboratory: ESC Phone: 800-767-5859

Matrix of Sample: ☒ Soil ☐ Water ☐ Soil and Water

FIELD MEASUREMENTS

pH _____ pH unit Electrical Conductivity _____ mmhos/cm

Sodium Adsorption Ratio: _____ TDS: _____ mg/kg

LABORATORY RESULTS

pH 9.8 pH unit Electrical Conductivity 460 mmhos/cm

Sodium Adsorption Ratio: .38 TDS: _____ mg/kg

TPH (8015 modified): 2.50 mg/kg ☐ PID ☒ FID ☐ Hanby ☐ Other (check one)

TRPH (418.1): _____ mg/kg ☐ PID ☐ FID ☐ Hanby ☐ Other

BTEX (METHOD 602) Complete this section only if requested.

Benzene: 25 ug/l Ethylbenzene: 25 ug/l Toluene: 225 ug/l Xylenes: 215 ug/l

TOTAL METALS Complete this section only if requested.

Arsenic: _____ mg/kg	Barium: _____ mg/kg	Cadmium: _____ mg/kg
Chromium: _____ mg/kg	Cyanide: _____ mg/kg	Fluoride: _____ mg/kg
Lead: _____ mg/kg	Mercury: _____ mg/kg	Selenium: _____ mg/kg
Silver: _____ mg/kg		

Print Name:

Jerry Brian

Signed:

Jerry Brian

Title:

HSE Advisor

Date:

6/10/10

Jerry Brian
Rosewood Resources, Inc - Yuma, CO
529 N Albany St., Ste 1220
Yuma, CO 80759

Report Summary

Wednesday May 26, 2010

Report Number: L460140

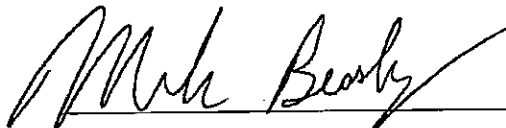
Samples Received: 05/20/10

Client Project:

Description: Tank Removal 2-3

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:



Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

May 26, 2010

Jerry Brian
Rosewood Resources, Inc - Yuma, CO
529 N Albany St., Ste 1220
Yuma, CO 80759

ESC Sample # : L460140-01

Date Received : May 20, 2010
Description : Tank Removal 2-3
Sample ID : RICHARDSON 28-01 SP1 6FT BGS
Collected By : Jerry Brian
Collection Date : 05/12/10 10:00

Site ID :
Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	51.	10.	mg/kg	9056	05/22/10	1
Sulfate	BDL	50.	mg/kg	9056	05/22/10	1
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	05/23/10	1
Chromium, Trivalent	2.1	0.50	mg/kg	Calc.	05/21/10	1
ORP	120		mV	2580	05/26/10	1
pH	9.8		su	9045D	05/21/10	1
Sodium Adsorption Ratio	0.38			Calc.	05/23/10	1
Specific Conductance	460		umhos/cm	9050AMod	05/21/10	1
Mercury	BDL	0.020	mg/kg	7471	05/22/10	1
Arsenic	BDL	1.0	mg/kg	6010B	05/21/10	1
Barium	32.	0.25	mg/kg	6010B	05/21/10	1
Cadmium	BDL	0.25	mg/kg	6010B	05/21/10	1
Chromium	2.1	0.50	mg/kg	6010B	05/21/10	1
Copper	BDL	1.0	mg/kg	6010B	05/23/10	1
Lead	1.6	0.25	mg/kg	6010B	05/21/10	1
Nickel	BDL	1.0	mg/kg	6010B	05/21/10	1
Selenium	BDL	1.0	mg/kg	6010B	05/25/10	1
Silver	BDL	0.50	mg/kg	6010B	05/21/10	1
Zinc	4.8	1.5	mg/kg	6010B	05/21/10	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	05/22/10	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	95.0		% Rec.	602/8015	05/22/10	5
Benzene	BDL	0.0050	mg/kg	8260B	05/25/10	5
Toluene	BDL	0.025	mg/kg	8260B	05/25/10	5
Ethylbenzene	BDL	0.0050	mg/kg	8260B	05/25/10	5
Total Xylenes	BDL	0.015	mg/kg	8260B	05/25/10	5
Surrogate Recovery			% Rec.	8260B	05/25/10	5
Toluene-d8	107.		% Rec.	8260B	05/25/10	5
Dibromofluoromethane	105.		% Rec.	8260B	05/25/10	5
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	05/25/10	5
4-Bromofluorobenzene	102.		% Rec.	8260B	05/25/10	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	05/22/10	1
Surrogate recovery (%)						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)
L460140-01 (PH) - 9.8@21.1c

REPORT OF ANALYSIS

May 26, 2010

Jerry Brian
Rosewood Resources, Inc - Yuma, CO
529 N Albany St., Ste 1220
Yuma, CO 80759

ESC Sample # : L460140-01

Date Received : May 20, 2010
Description : Tank Removal 2-3
Sample ID : RICHARDSON 28-01 SP1 6FT BGS
Collected By : Jerry Brian
Collection Date : 05/12/10 10:00

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
o-Terphenyl	73.3		% Rec.	3546/DRO	05/22/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.033	mg/kg	8270C	05/22/10	1
Acenaphthene	BDL	0.033	mg/kg	8270C	05/22/10	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	05/22/10	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	05/22/10	1
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	05/22/10	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	05/22/10	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	05/22/10	1
Benzo(k)fluoranthene	BDL	0.033	mg/kg	8270C	05/22/10	1
Chrysene	BDL	0.033	mg/kg	8270C	05/22/10	1
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	05/22/10	1
Fluoranthene	BDL	0.033	mg/kg	8270C	05/22/10	1
Fluorene	BDL	0.033	mg/kg	8270C	05/22/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	05/22/10	1
Naphthalene	BDL	0.033	mg/kg	8270C	05/22/10	1
Phenanthrene	BDL	0.033	mg/kg	8270C	05/22/10	1
Pyrene	BDL	0.033	mg/kg	8270C	05/22/10	1
Surrogate Recovery						
Nitrobenzene-d5	43.5		% Rec.	8270C	05/22/10	1
2-Fluorobiphenyl	45.7		% Rec.	8270C	05/22/10	1
p-Terphenyl-d14	50.7		% Rec.	8270C	05/22/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/26/10 14:30 Printed: 05/26/10 14:30
L460140-01 (PH) - 9.8@21.1c

REPORT OF ANALYSIS

May 26, 2010

Jerry Brian
Rosewood Resources, Inc - Yuma, CO
529 N Albany St., Ste 1220
Yuma, CO 80759

ESC Sample # : L460140-02

Date Received : May 20, 2010
Description : Tank Removal 2-3
Sample ID : RICHARDSON 28-01 SP1 6FT BGS
Collected By : Jerry Brian
Collection Date : 05/12/10 10:00

Site ID :
Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
SPLP Extraction	-			1312	05/22/10	1
Boron	0.31	0.20	mg/l	6010B	05/25/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/26/10 14:30 Printed: 05/26/10 14:30

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L460140-01	WG479299	SAMP	Cadmium	R1231088	P1
	WG479299	SAMP	Lead	R1231088	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

REPORT OF ANALYSIS

May 26, 2010

Jerry Brian
Rosewood Resources, Inc - Yuma, CO
529 N Albany St., Ste 1220
Yuma, CO 80759

ESC Sample # : L460140-05

Date Received : May 20, 2010
Description : Tank Removal 2-3
Sample ID : RICHARDSON 28-01 BKGRND 6IN BGS
Collected By : Jerry Brian
Collection Date : 05/12/10 10:30

Site ID :
Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	6.9		su	9045D	05/21/10	1
Sodium Adsorption Ratio	1.2			Calc.	05/23/10	1
Specific Conductance	360		umhos/cm	9050AMod	05/21/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/26/10 14:30 Printed: 05/26/10 14:30
L460140-05 (PH) - 6.9@21.2c

Rosewood Resources, Inc -
Yuma, CO
 529 N Albany St., Ste 1220
 Yuma, CO 80759

Billing information:

Accounts Payable
 529 N Albany St., Ste 1220
 Yuma, CO 80759

Analysis/Container/Preservative

F210

Chain of Custody

3 of 4



12065 Lebanon Road
 Mt. Juliet, TN 37122

Phone: (800) 767-5859
 Phone: (615) 758-5858
 Fax: (615) 758-5859

Report to: **Jerry Brian**

Email: **jbrian@rosewd.com**

Project Description: **Tank Removal # 2+3**

City/State Collected: **Yuma CO**

Phone: (970) 848-8311
 FAX:

Client Project #:

Lab Project #
ROSENGYCO-TABLE910

Collected by (print): **Jerry Brian**

Site/Facility ID#:

P.O.#:

Collected by (signature): **J. Brian**
 Immediately Packed on Ice ☒ **Y**

Rush? (Lab MUST Be Notified)

Same Day 200%
 Next Day 100%
 Two Day 50%
☒ Three Day 25%

Date Results Needed

Email? ☐ No ☒ Yes
 FAX? ☐ No ☐ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CL 504 pH, SPCON 4ozClr-NoPres	DRO, SV8270PAH 4ozClr-NoPres	Metals, CR3, CR6 4ozClr-NoPres	SAR 8ozClr-NoPres	SPUR Boron 8ozClr-NoPres	V8260BTEX, GRO 4ozClr-NoPres	pH, SAR, EC	Remarks/Contaminant	Sample # (lab only)
Richardson 28-01 (502) Grab	SS	6' bgs	5/12/10	10:00 AM	6		X	X	X	X	X	X			L460140-01/02
Anderson 2-5 (502) Grab	SS	5' bgs	5/12/10	1:00 PM	6		X	X	X	X	X	X			03/04
Richardson 28-01 Bkgnd Grab	SS	6" bgs	5/12/10	10:30 AM	2								X		05
Anderson 2-5 Bkgnd Grab	SS	6" bgs	5/12/10	1:30 PM	2								X		06

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: Metals = Ag, As, Ba, Cd, CR3, Cr, Cu, Pb, Hg, Ni, Se, Zn

pH _____ Temp _____

Flow _____ Other _____

4355 9295 8771

Relinquished by: (Signature) J. Brian	Date: 5/17/10	Time: 6:00pm	Received by: (Signature) 	Samples returned via: <input checked="" type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: OK (lab use only)
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) 	Temp: 19°C Bottles Received: 16	COC Seal Intact: Y N NA
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) Jan 10/00	Date: 5/20/10 Time: 0900	pH Checked: Y N NA

FORM

27

Rev 6/99

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Prod. Water Tank Removal

OGCC Operator Number: 75027Name of Operator: Rosewood Resources IncAddress: 2101 Cedar Springs Rd, Suite 1500City: Dallas State: TX Zip: 75201API Number: 05125068530000County: YumaFacility Name: Richardson 28-1

Facility Number: _____

Well Name: Richardson 28-1

Well Number: _____

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE, T3N - R47W, Sec 28Latitude: N 40° 11' 37.6" Longitude: W 102° 37' 35.2"

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Produced water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): agriculture

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: valent sand

Potential receptors (water wells within 1/4 mi, surface waters, etc.): _____

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

- ☒ Soils
☐ Vegetation
☐ Groundwater
☐ Surface Water

Extent of Impact:

none present

How Determined:

analysis

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): Tank will be checked for explosive atmosphere prior to removal. If fluids are present in tank they will be removed + disposed at an approved facility or SWD well. The tank will be extracted + the area under the tank sampled. The soil sample will be tested in accordance with Table 910-1. The excavated area will be backfilled with clean soil.

Describe how source is to be removed: The soil will be removed from all four sides around the tank. The tank will then be mechanically removed.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.: If analytical results indicate non-compliance with Table 910-1 the backfill material will be removed. The impacted soil will then be removed + the excavated area resampled to ensure compliance with Table 910-1. Once the excavated area is within compliance, the area will be backfilled with clean soil + returned to native conditions.

FORM
27
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax: (303)894-2109



Page 2
REMEDATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

N/A

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The ground preparation is contingent upon site conditions & soil type. The site is sloped to original gradient. Initial compaction is performed by back dragging the area with a backhoe bucket. If the soil type dictates, it is lightly disc & packed again with a packer. The area is then cross drilled (bi-directional) with a seed mix that is recommended by the NRCS for that soil type & area. The seeded area is then covered by straw & crimped in with a disc. If the gradient constitutes a stormwater runoff problem, a straw mat is used to cover the area & staked down.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

N/A

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 4/22/10 Date Site Investigation Completed: 5/26/10 Date Remediation Plan Submitted: 6/10/10
Remediation Start Date: _____ Anticipated Completion Date: _____ Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Jerry Brian Signed: [Signature]
Title: HSE Advisor Date: 6/10/10

OGCC Approved: [Signature] Title: EPS IV Date: 8/15/11