

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)694-2100 Fax: (303)694-2109



SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

Rec
2/21/12
TH

1. OGCC Operator Number: 10255	4. Contact Name: Todd Hutson - Environmental Manager	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Quicksilver Resources Inc.	Phone: 817-422-2883	
3. Address: 801 Cherry Street, Suite 3700, Unit 19 City: Fort Worth State: TX Zip: 76102	Fax: 817-665-4191	
5. API Number 05-081-07374	OGCC Facility ID Number 313347	Survey Plat
6. Well/Facility Name: Antietam	7. Well/Facility Number 11-12D	Directional Survey
8. Location (Qtr/qr, Sec, Twp, Rng, Meridian): NW/4 NW/4 Section 12, T7N, R93W		Surface Eqpm Diagram
9. County: Moffat	10. Field Name: Wildcat	Technical Info Page
11. Federal, Indian or State Lease Number: NA		Other Lab Results

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines: FHL/FSL FEL/FWL

Change of Surface Footage to Exterior Section Lines:

Change of Bottomhole Footage from Exterior Section Lines:

Change of Bottomhole Footage to Exterior Section Lines: attach directional survey

Bottomhole location Qtr/qr, Sec, Twp, Rng, Mer
Latitude _____ Distance to nearest property line _____ Distance to nearest bldg, public rd, utility or RR _____
Longitude _____ Distance to nearest lease line _____ Is location in a High Density Area (rule 603b)? Yes/No _____
Ground Elevation _____ Distance to nearest well same formation _____ Surface owner consultation date: _____

GPS DATA:
Date of Measurement _____ PPOF Reading _____ Instrument Operator's Name _____

CHANGE SPACING UNIT
Formation _____ Formation Code _____ Spacing order number _____ Unit Acreage _____ Unit configuration _____
 Remove from surface bond
Signed surface use agreement attached

CHANGE OF OPERATOR (prior to drilling):
Effective Date: _____
Plugging Bond: Blanket Individual

CHANGE WELL NAME NUMBER
From: _____
To: _____
Effective Date: _____

ABANDONED LOCATION:
Was location ever built? Yes No
Is site ready for inspection? Yes No
Date Ready for inspection: _____

NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned: _____
Has Production Equipment been removed from site? Yes No
MIT required if shut in longer than two years. Date of last MIT _____

SPUD DATE: _____ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries
Method used _____ Cementing tool setting/perf depth _____ Cement volume _____ Cement top _____ Cement bottom _____ Date _____

RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately _____ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

Notice of Intent Approximate Start Date: _____ Report of Work Done Date Work Completed: _____

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

Intent to Recomplete (submit form 2) Request to Vent or Flare E&P Waste Disposal

Change Drilling Plans Repair Well Beneficial Reuse of E&P Waste

Gross Interval Changed? Rule 502 variance requested Status Update/Change of Remediation Plans

Casing/Cementing Program Change Other: Background _____ for Spills and Releases

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

Signed: Todd Hutson Date: 2/21/12 Email: thutson@qinc.com
Print Name: Todd Hutson Title: Environmental Manager

OGCC Approved: [Signature] Title: Env. Sup. Date: 2/21/12

CONDITIONS OF APPROVAL, IF ANY:

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: 10255	API Number: 05-081-07374
2. Name of Operator: Quicksilver Resources Inc.	OGCC Facility ID #: 313347
3. Well/Facility Name: Antietam	Well/Facility Number: 11-12D
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NW/4 NW/4, Section 12, T7N, R93W	

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

This COGCC Form 4 is being submitted as a request to meet the background concentration levels for arsenic at the Antietam 11-12D pad in accordance with footnote 1 to the COGCC table 910-1.

The request is based on the analytical results presented below (see attached laboratory report).

The reserve pit only supported drilling activities and, as such, the drilling mud was a bentonitic, water-based drilling mud. The pit was sampled on 7/28/2011 for all analytes included in table 910-1. Due to elevated levels of TPH and Arsenic above the table 910-1 concentrations, the pit was excavated and the waste taken to an approved landfill. Eight post-excavation samples were collected from separate locations within the pit to determine the TPH and arsenic concentrations within the pit. All TPH samples were reported to be below detection limits. One arsenic sample was reported to be below detection limits and seven samples collected were shown to have arsenic concentrations of 1.5 ppm, 1.4 ppm, 1.0 ppm, 1.8 ppm, 1.0 ppm, 1.5 ppm, and 1.4 ppm.

One grab sample was collected from nearby non-impacted, native soil to establish a background arsenic concentration. This sample showed an arsenic concentrations of 3.3 ppm.

Quicksilver is requesting this approval in order to proceed with closure and reclamation of the cuttings pit located at the Antietam 11-12D pad.

Table 910-1

Analytical Requirements and Results for the Antietam 11-12D Production Pit

Contaminant of Concern	Allowable Concentrations	Pre-Excavation Results	Post-Excavation Results							
			1	2	3	4	5	6	7	8
Organic Compounds in Soil										
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg	1137	U	U	U	U	U	U	U	U
Benzene	0.17 mg/kg	U	-	-	-	-	-	-	-	-
Toluene	85 mg/kg	U	-	-	-	-	-	-	-	-
Ethylbenzene	100 mg/kg	U	-	-	-	-	-	-	-	-
Xylenes (total)	175 mg/kg	0.42	-	-	-	-	-	-	-	-
Acenaphthene	1,000 mg/kg	0.16	-	-	-	-	-	-	-	-
Anthracene	1,000 mg/kg	U	-	-	-	-	-	-	-	-
Benzo(A)anthracene	0.22 mg/kg	0.074	-	-	-	-	-	-	-	-
Benzo(B)fluoranthene	0.22 mg/kg	U	-	-	-	-	-	-	-	-
Benzo(K)fluoranthene	2.2 mg/kg	U	-	-	-	-	-	-	-	-
Benzo(A)pyrene	0.022 mg/kg	U	-	-	-	-	-	-	-	-
Chrysene	22 mg/kg	U	-	-	-	-	-	-	-	-
Dibenzo(A,H)anthracene	0.022 mg/kg	U	-	-	-	-	-	-	-	-
Fluoranthene	1,000 mg/kg	U	-	-	-	-	-	-	-	-
Fluorene	1,000 mg/kg	0.47	-	-	-	-	-	-	-	-
Indeno(1,2,3,C,D)pyrene	0.22 mg/kg	U	-	-	-	-	-	-	-	-
Napthalene	23 mg/kg	0.086	-	-	-	-	-	-	-	-
Pyrene	1,000 mg/kg	0.150	-	-	-	-	-	-	-	-
Inorganics in Soils										
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background	2.3	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio (SAR)	<12	37	-	-	-	-	-	-	-	-
pH	6-9	9.2	-	-	-	-	-	-	-	-
Metals in Soils										
Arsenic	0.39 mg/kg	14.000	1.5	1.4	1	1.8	1	1.5	U	1.4
Barium	15,000 mg/kg	2200	-	-	-	-	-	-	-	-
Boron (Hot Water Soluble)	2 mg/l	N/A	-	-	-	-	-	-	-	-
Cadmium	70 mg/kg	U	-	-	-	-	-	-	-	-
Chromium (III)	120,000 mg/kg	15.000	-	-	-	-	-	-	-	-
Chromium (VI)	23 mg/kg	U	-	-	-	-	-	-	-	-
Copper	3,100 mg/kg	37	-	-	-	-	-	-	-	-
Lead (inorganic)	400 mg/kg	48	-	-	-	-	-	-	-	-
Mercury	23 mg/kg	0.25	-	-	-	-	-	-	-	-
Nickel (soluble salts)	1,600 mg/kg	10.000	-	-	-	-	-	-	-	-
Selenium	390 mg/kg	U	-	-	-	-	-	-	-	-
Silver	390 mg/kg	1.6	-	-	-	-	-	-	-	-
Zinc	23,000 mg/kg	64	-	-	-	-	-	-	-	-
COGCC recommends that the latest version of EPA SW 846 analytical methods be used where possible and that analyses of samples be performed by										
U = Undetected										



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Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

Report Summary

Thursday August 04, 2011

Report Number: L528412

Samples Received: 07/29/11

Client Project:

Description: Antietam 11-12D Pit

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:

Craig Cothron , 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,
TX - T104704245, OK-9915

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.



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REPORT OF ANALYSIS

Mr Jared Black
 Quicksilver Resources, Inc.
 801 Cherry Street, Suite 3700
 Fort Worth, TX 76102

August 04, 2011

Date Received : July 29, 2011
 Description : Antietam 11-12D Pit
 Sample ID : ANTIETAM 11-12 PIT
 Collected By : Todd Hutson
 Collection Date : 07/28/11 10:35

ESC Sample # : L528412-01
 Site ID :
 Project # :

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium,Hexavalent	U	0.71	2.0	mg/kg		3060A/71	08/03/11	1
Chromium,Trivalent	15.	0.17	2.0	mg/kg		Calc.	08/02/11	1
ORP	76.			mV		2580	08/01/11	1
pH	9.2			su		9045D	07/29/11	1
Sodium Adsorption Ratio	37.					Calc.	08/03/11	1
Specific Conductance	2300			umhos/cm		9050AMod	08/02/11	1
Mercury	0.25	0.0015	0.020	mg/kg		7471	08/01/11	1
Arsenic	14.	0.33	1.0	mg/kg		6010B	08/02/11	1
Barium	2200	0.10	0.50	mg/kg		6010B	08/02/11	2
Cadmium	U	0.040	0.25	mg/kg		6010B	08/02/11	1
Chromium	15.	0.085	0.50	mg/kg		6010B	08/02/11	1
Copper	37.	0.21	1.0	mg/kg		6010B	08/02/11	1
Lead	48.	0.090	0.25	mg/kg		6010B	08/02/11	1
Nickel	10.	0.27	1.0	mg/kg		6010B	08/02/11	1
Selenium	U	0.32	1.0	mg/kg		6010B	08/02/11	1
Silver	1.6	0.17	0.50	mg/kg		6010B	08/02/11	1
Zinc	64.	0.34	1.5	mg/kg		6010B	08/02/11	1
TPH (GC/FID) Low Fraction	37.	0.14	0.50	mg/kg		8015D/GR	08/01/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	89.4			% Rec.		602/8015	08/01/11	5
Benzene	U	0.017	0.050	mg/kg		8260B	07/29/11	50
Toluene	U	0.016	0.25	mg/kg		8260B	07/29/11	50
Ethylbenzene	U	0.019	0.050	mg/kg		8260B	07/29/11	50
Total Xylenes	0.42	0.023	0.15	mg/kg		8260B	07/29/11	50
Surrogate Recovery				% Rec.				
Toluene-d8	101.			% Rec.		8260B	07/29/11	50
Dibromofluoromethane	94.6			% Rec.		8260B	07/29/11	50
a,a,a-Trifluorotoluene	99.2			% Rec.		8260B	07/29/11	50
4-Bromofluorobenzene	121.			% Rec.		8260B	07/29/11	50
TPH (GC/FID) High Fraction	1100	15.	80.	mg/kg		3546/DRO	08/01/11	20
Surrogate recovery(%) o-Terphenyl	0.00			% Rec.	J7	3546/DRO	08/01/11	20

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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The reported analytical results relate only to the sample submitted

Reported: 08/03/11 17:02 Revised: 08/04/11 09:15

L528412-01 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

L528412-01 (PH) - 9.2@21.5c



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REPORT OF ANALYSIS

Mr Jared Black
 Quicksilver Resources, Inc.
 801 Cherry Street, Suite 3700
 Fort Worth, TX 76102

August 04, 2011

Date Received : July 29, 2011
 Description : Antietam 11-12D Pit
 Sample ID : ANTIETAM 11-12 PIT
 Collected By : Todd Hutson
 Collection Date : 07/28/11 10:35

ESC Sample # : L528412-01
 Site ID :
 Project # :

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.0076	0.060	mg/kg		8270C-SI	08/02/11	10
Acenaphthene	0.16	0.00071	0.0060	mg/kg		8270C-SI	08/02/11	1
Benzo(a)anthracene	0.074	0.0093	0.060	mg/kg		8270C-SI	08/02/11	10
Benzo(a)pyrene	U	0.0062	0.060	mg/kg		8270C-SI	08/02/11	10
Benzo(b)fluoranthene	U	0.0083	0.060	mg/kg		8270C-SI	08/02/11	10
Benzo(k)fluoranthene	U	0.013	0.060	mg/kg		8270C-SI	08/02/11	10
Chrysene	U	0.011	0.060	mg/kg		8270C-SI	08/02/11	10
Dibenz(a,h)anthracene	U	0.011	0.060	mg/kg		8270C-SI	08/02/11	10
Fluoranthene	U	0.010	0.060	mg/kg		8270C-SI	08/02/11	10
Fluorene	0.47	0.00055	0.0060	mg/kg	E	8270C-SI	08/02/11	1
Indeno(1,2,3-cd)pyrene	U	0.012	0.060	mg/kg		8270C-SI	08/02/11	10
Naphthalene	0.086	0.00065	0.0060	mg/kg		8270C-SI	08/02/11	1
Pyrene	0.15	0.0059	0.060	mg/kg		8270C-SI	08/02/11	10
Surrogate Recovery								
Nitrobenzene-d5	94.3			% Rec.		8270C-SI	08/02/11	1
2-Fluorobiphenyl	44.1			% Rec.		8270C-SI	08/02/11	1
p-Terphenyl-d14	46.8			% Rec.		8270C-SI	08/02/11	10

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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The reported analytical results relate only to the sample submitted

Reported: 08/03/11 17:02 Revised: 08/04/11 09:15

L528412-01 (V8260BTEX) - Non-target compounds too high to run at a lower dilution.

L528412-01 (PH) - 9.2@21.5c



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REPORT OF ANALYSIS

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

August 04, 2011

Date Received : July 29, 2011
Description : Antietam 11-12D Pit
Sample ID : ANTIETAM 11-12 BKG 0-3FT
Collected By : Todd Hutson
Collection Date : 07/28/11 10:40

ESC Sample # : L528412-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Arsenic	3.3	1.0	mg/kg	6010B	07/30/11	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: 08/03/11 17:02 Revised: 08/04/11 09:15

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L528412-01	WG547942	SAMP	Fluorene	R1797810	E
	WG548144	SAMP	o-Terphenyl	R1796112	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
E	GTL (EPA) - Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range.
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out

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.

Quicksilver Resources
 801 Cherry Street
 Suite 3700, Unit 19
 Fort Worth, TX 76102


Billing Information:
 Jared Black
 ← Same

Report to:
 Jared Black

Email to:
 jblack@grinc.com

Analysis/Container/Preservative

Chain of Custody
 Page 1 of 1



L.A.B S.C.I.E.N.C.E.S

12065 Lebanon Road
 Mt. Juliet, TN 37122

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

C094

Project Description: **Antietam 11-12D Pit**

Phone: **817 665 5431** Client Project #:

FAX:

Collected by: **Todd Hutson** Site/Facility ID#:

City/State Collected: **MOFFAT, CO**

ESC Key:

P.O.#:

Collected by (signature):
Todd Hutson

Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)

Same Day.....200%

Next Day..... 100%

Two Day50%

Three Day25%

Date Results Needed:

Email? No Yes

FAX? No Yes

Table 910-1
 Arsenic

CoCode (lab use only)

Template/Prelogin

Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Analysis	Container	Preservative	Remarks/Contaminant	Sample # (lab only)
Antietam 11-12 Pit	Comp	SS	—	7/28	10:35	1	X				LS28412-01
Antietam 11-12 BKs	Gravel	SS	0.3	7/28	10:40	1	X				-02

Remarks/Contaminant

Sample # (lab only)

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

Remarks: _____ 435593137897 Flow _____ Other _____

Relinquished by: (Signature) Todd Hutson	Date: 7/28/11	Time: 12:06	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) 00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C	Bottles Received: 2
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/29/11	Time: 0900
			CoC Seals Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA		pH Checked:
					NCF:



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Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

Report Summary

Friday February 10, 2012

Report Number: L559307

Samples Received: 02/08/12

Client Project:

Description: Antietam 11-12D Reserve Pit

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:

Craig Cothron , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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.

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-01

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 1 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 09:48

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 02/10/12 17:05 Printed: 02/10/12 17:06



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Mt. Juliet, TN 37122
(615) 758-5858
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-02

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 2 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 09:53

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-03

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 3 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 09:58

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-04

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 4 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 10:04

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-05

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 5 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 10:09

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
 Quicksilver Resources, Inc.
 801 Cherry Street, Suite 3700
 Fort Worth, TX 76102

ESC Sample # : L559307-06

Date Received : February 08, 2012
 Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 6 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
 Collection Date : 02/07/12 10:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	93.		%	2540G	02/09/12	1
Arsenic	1.5	1.0	mg/kg	6010B	02/09/12	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	02/08/12	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	98.3		% Rec.	602/8015	02/08/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	02/09/12	1
Surrogate recovery(%) o-Terphenyl	71.3		% Rec.	3546/DRO	02/09/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-07

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 7 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 10:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	93.		%	2540G	02/09/12	1
Arsenic	BDL	1.0	mg/kg	6010B	02/09/12	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	02/08/12	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	97.4		% Rec.	602/8015	02/08/12	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	02/09/12	1
Surrogate recovery(%) o-Terphenyl	72.8		% Rec.	3546/DRO	02/09/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

February 10, 2012

Mr Jared Black
Quicksilver Resources, Inc.
801 Cherry Street, Suite 3700
Fort Worth, TX 76102

ESC Sample # : L559307-08

Date Received : February 08, 2012
Description : Antietam 11-12D Reserve Pit

Site ID :

Sample ID : 8 DRO/GRO/ARS 0-6FT

Project # :

Collected By : Todd Hutson
Collection Date : 02/07/12 10:13

Table with 7 columns: Parameter, Result, Det. Limit, Units, Method, Date, Dil. Rows include Total Solids, Arsenic, TPH (GC/FID) Low Fraction, Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID), TPH (GC/FID) High Fraction, and Surrogate recovery(%) o-Terphenyl.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 02/10/12 17:05 Printed: 02/10/12 17:06

Summary of Remarks For Samples Printed
02/10/12 at 17:06:09

TSR Signing Reports: 034
R3 - Rush: Two Day

Sample: L559307-01 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-02 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-03 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-04 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-05 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-06 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-07 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05
Sample: L559307-08 Account: QUIFWTX Received: 02/08/12 09:00 Due Date: 02/10/12 00:00 RPT Date: 02/10/12 17:05

Quicksilver Resources, Inc.
 801 Cherry Street, Suite 3700
 Fort Worth, TX 76102

Billing information:
 Quicksilver Resources, Inc.
 Accounts Payable
 P O Box 2347
 Fort Worth, TX 76113

Analysis/Container/Preservative

D149

ESC
 L.A.B S.C.I.E.N.C.E.S

12065 Lebanon Road
 Mt. Juliet, TN 37122

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

Report to: **Mr Jared Black**

Email: **jblack@qrinc.com**

Project Description: **Antietam 11-12D Reserve Pit**

City/State Collected: **Moffat, Colorado**

Phone: (817) 665-5000
 FAX:

Client Project #:

Lab Project #
QUIFWTX-900

Collected by (print): **Todd Hutson**

Site/Facility ID#: **CO**

P.O.#:

Collected by (signature): **Todd Hutson**
 Immediately Packed on Ice N 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	CR6SS 4ozClr-NoPres	DRO / TS 4ozClr-NoPres	GRO / V8260BTEX 2ozClr-NoPres	Metals 2ozClr-NoPres	SAR 4ozClr-NoPres	SPCON 4ozClr-NoPres	SV8270PAHSIM 4ozAmb-NoPres	ARSENIC
#1 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	9:48	2	X	X	X	X	X	X	X	X
#2 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	9:59	2	X	X	X	X	X	X	X	X
#3 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	9:58	2	X	X	X	X	X	X	X	X
#4 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	10:04	2	X	X	X	X	X	X	X	X
#5 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	10:09	2	X	X	X	X	X	X	X	X
#6 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	10:18	2	X	X	X	X	X	X	X	X
#7 (DRO/GRO + Ars)	Grab	SS	0-6	2-7-12	10:15	2	X	X	X	X	X	X	X	X
#8 (DRO + GRO + Ars)	Grab	SS	0-6	2-7-12	10:13	2	X	X	X	X	X	X	X	X

Acctnum: **QUIFWTX** (lab use only)
 Template/Prelogin: **T76718/P382745**
 Cooler #: **2-3-106**
 Shipped Via: **FedEX Standard**

Remarks/Contaminant Sample # (lab only)
Dro/Gro + Arsenic L559307-01
 02
 03
 04
 05
 06
 07
 08

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

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature) Todd Hutson	Date: 2/7/12	Time: 11:59	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only) OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 34 Bottles Received: 16402	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Ad. E	Date: 2/8/12 Time: 0900	pH Checked: _____ NCF: _____