District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Quantum Resources	Contact Dee Fryar
Address 4000 N. Big Spring, Suite 305, Midland, TX 79705	Telephone No. (432) 683-1500
Facility Name M State Central Tank Battery	Facility Type Battery

Surface Owner State	Mineral Owner	API No. 30-025-38961

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	30	22S	37E	594	FNL	1119	FEL	Lea

Latitude 32.368300 **Longitude** -103.197300

NATURE OF RELEASE

Type of Release Produced water and oil	Volume of Release 135 bbls water/5 bbls oil	Volume Recovered 116 bbls water/4 bbls oil
Source of Release Water tank	Date and Hour of Occurrence 3/19/14 2:00 am	Date and Hour of Discovery 3/19/14 2:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD District I	
By Whom? Dee Fryar	Date and Hour 3/19/14 3:55 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
An electrical malfunction caused the alarms not to work and the pump not to turn on which ran the water tank over.

Describe Area Affected and Cleanup Action Taken.*
The release affected 21,941 sq ft of battery pad, lease pad, lease road and pasture land. A total of 8,161 sq ft of the release has been scraped down 6 inches to remove the wet soil. The site was sampled on 3/25/14 and the samples were taken to a commercial laboratory for analysis. Once the labs have been received, a path forward will be determined to remediate the release. The site will be remediated to NMOCD standards.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Dee Fryar	OIL CONSERVATION DIVISION	
Printed Name: Dee Fryar	Approved by Environmental Specialist:	
Title: Permian EH&S Coordinator	Approval Date:	Expiration Date:
E-mail Address: dfryar@qracq.com	Conditions of Approval:	Attached ☐
Date: 3-21-14 Phone: (432) 683-1500		

* Attach Additional Sheets If Necessary

Quantum Resources Management, LLC

QUANTUM RESOURCES

4000 N. Big Spring, Suite 305
Midland, TX 79705
Phone 432.683.1500

M State Central Tank Battery

Corrective Action

approved w/ caveat per emplacing clay @ N. LMD OF BERMED AREA

Jeffrey Leking
Environmental Specialist
NMOCD - DIST 1
4/10/14

API No. 30-025-38961

Release Date: March 19th, 2014

Unit Letter A, Section 30, Township 22S, Range 37E

3024

RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

April 7th, 2014

Geoffrey Leking
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau – District 1
1625 N. French Dr.
Hobbs, NM 88240-9273

RE: **Corrective Action Plan**
Quantum Resources – M State Central Tank Battery
UL/A sec. 30 T22S R37E
API No. 30-025-38961

Mr. Leking:

Quantum Resources has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

Background and Previous Work

The site is located approximately 5.1 miles southwest of Eunice, New Mexico at UL/A sec. 30 T22S R37E. NM OSE and BLM records indicate that groundwater will likely be encountered at a depth of approximately 79 +/- feet.

On March 19th, 2014, an electrical malfunction caused the alarms to fail, which resulted in the water tank running over. A total of 135 barrels of produced water and 5 barrels of oil was released over 21,941 square feet of battery, lease pad, lease road and pasture. A total of 116 barrels of produced water and 4 barrels of oil was recovered. NMOCD was notified of the release on March 19th, 2014, and an initial C-141 was submitted to NMOCD for their approval (Appendix A).

Prior to RECS arriving at the site, another environmental company had scraped down a total of 8,161 square feet of the release to remove the wet soil (Figure 1). RECS personnel arrived on site beginning on March 25th, 2014 to assess the release. Ten points within the release area were field sampled at the surface and four points were sampled with depth. The samples were field tested for chlorides and organic vapors and all samples were sent to a commercial laboratory for analysis (Appendix B).

Corrective Action Plan

Based on the laboratory analysis of the release, the areas around Point 1, Point 7, Point 9 and Point 10 will be scraped down 1 – 1.5 ft (Figure 2). The areas around Points 2 – 4 and Point 6 will be scraped down 6 inches. Point 5 and Point 8 returned low laboratory chloride and TPH

readings; therefore, these areas require no further action. The battery pad is lined except for the northern most area. The gravel will be removed from the lined portion of the battery by shovel and by hydrovac. The northern most portion of the battery will be scraped down 6 inches by shovel and hydrovac and a composite sample of this area will be taken to show residual chloride and TPH readings. The remainder of the northern portion of the battery will be remediated upon facility abandonment. Clean gravel will be imported to the site to replace the contaminated gravel.

Once the scrapes outside the bermed battery have been completed, composite samples from the base of each scrape will be taken to a commercial laboratory to verify that the chloride levels are below 250 mg/kg and TPH levels are below 1,000 mg/kg. If any scrape shows evidence in the field that the composite will not meet these standards, the scrape will be deepened until these standards can be met.

The excavated soils will be evaluated for use as backfill and any soils that do not meet regulatory standards will be taken to a NMOCD approved facility for disposal. Clean soil will be imported to the site to replace any soils taken to disposal. The excavated soils will be blended on site with any imported soil. The blended soil will be used as backfill for the site. A sample of the blended soil will be taken to a commercial laboratory to confirm that the chloride value is below 500 mg/kg and the TPH value is below 1,000 mg/kg. All scrapes will be backfilled to the surface with the blended soil and contoured to the surrounding location. Upon completion of backfilling, soil amendments will be added as needed to the pasture area and then seeded with a blend of native vegetation.

Once these actions have been completed, a request for 'remediation termination' will be submitted to NMOCD for approval.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Proposed Corrective Actions
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Lab
- Appendix C – Photo Documentation

Initial Sampling Data

Point 1

	Cl-	PID	GRO	DRO
Surface	5360	86.7	323	15400

Point 2

	Cl-	PID	GRO	DRO
Surface	864	99.1	467	9910
6"	<16	24.3	<10	<10

Point 3

	Cl-	PID	GRO	DRO
Surface	256	16.2	87.6	3710
6"	16	14.1	<10	32.4

Point 4

	Cl-	PID	GRO	DRO
Surface	32	21.4	22	1210

Point 5

	Cl-	PID	GRO	DRO
Surface	80	46.4	<10	509

Point 6

	Cl-	PID	GRO	DRO
Surface	544	14.1	<50	1400
6"	176	12.3	<10	23.5

Point 7

	Cl-	PID	GRO	DRO
Surface	448	86.2	638	7260
6"	96	83.1	560	3400

Point 8

	Cl-	PID	GRO	DRO
Surface	<16	92.4	185	746

Point 9

	Cl-	PID	GRO	DRO
Surface	<16	24.3	558	5830

Point 10

	Cl-	PID	GRO	DRO
Surface	160	91.1	537	9020

UNLINED

LINED

QUANTUM M STATE

1 2 3 4 5 6 7 8 9 10

Legend

- SAMPLE POINTS
- QUANTUM BATTERY
- PREVIOUSLY SCRAPED TO 6 IN
- KNOWN LINER @ 4 FT
- CONCRETE BOX
- STAIN (21,941 sq ft)
- 4 IN POLY LINE
- PAD

DGW = 79 ft.
Landowner = State

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

QUANTUM
M STATE CENTRAL TANK BATTERY AD

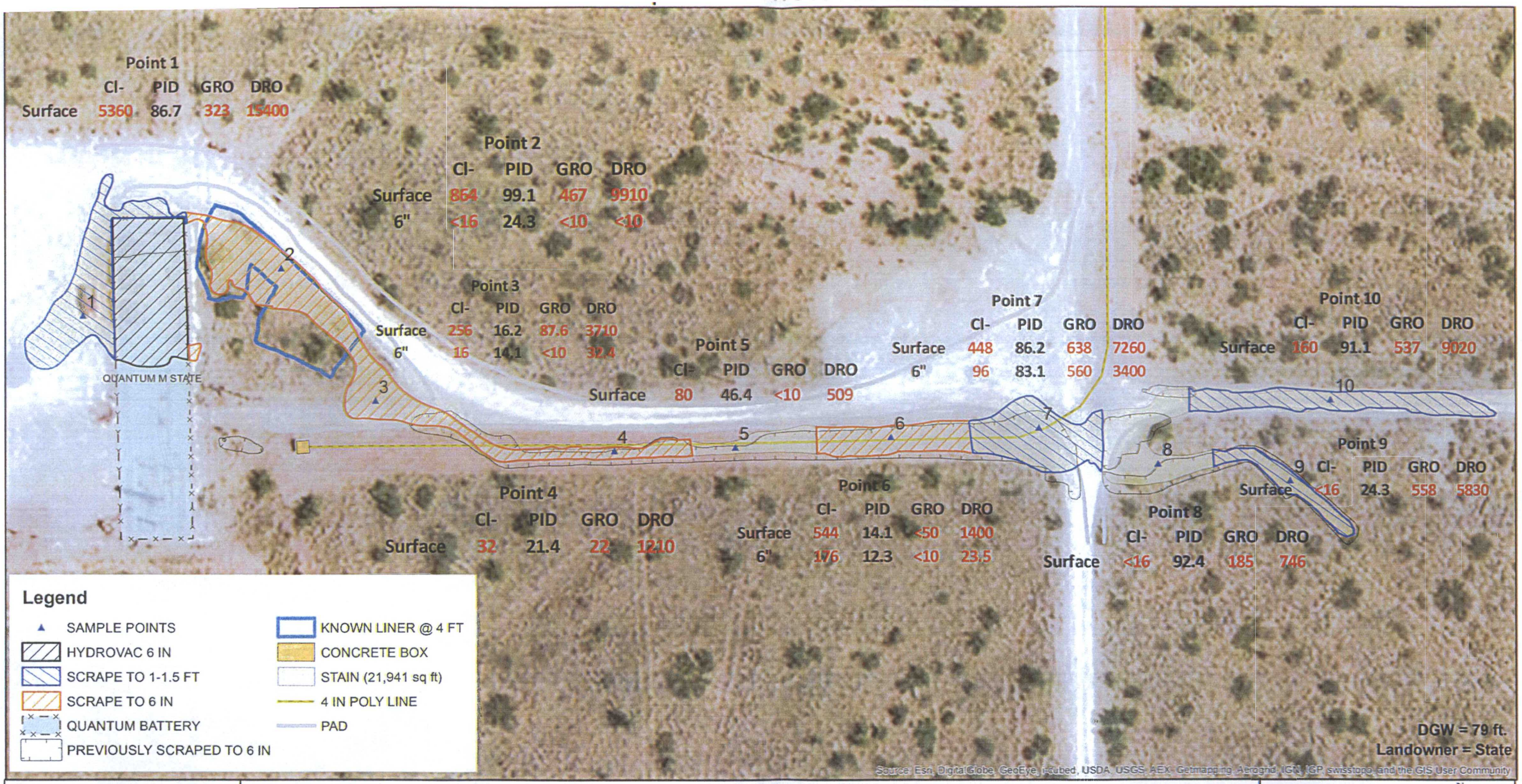
LEGALS: UL/A SEC 30,
UL/D SEC 29, T22S R37E
LEA COUNTY, NM

Figure 1

N W E S

0 50 100 Feet

GPS date: 3/21/14 TG & 3/25/14 AG
Drawing date: 3/25/14



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

QUANTUM
M STATE CENTRAL TANK BATTERY AD

LEGALS: UL/A SEC 30,
UL/D SEC 29, T22S R37E
LEA COUNTY, NM

Figure 2

N W E S

0 50 100 Feet

GPS date: 3/21/14 TG & 3/25/14 AG
Drawing date: 4/3/14

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 02, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: QUANTUM M STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/27/14 9:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 1 @ SURFACE (H400914-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5360**	16.0	04/02/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**323**	100	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**15400**	100	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*133 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*840 %*	*63.6-154*

Sample ID: PT. 2 @ SURFACE (H400914-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**864**	16.0	04/02/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**467**	100	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**9910**	100	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*134 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*265 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 2 @ 6 IN (H400914-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/02/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	<10.0	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*78.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*89.9 %*	*63.6-154*

Sample ID: PT. 3 @ SURFACE (H400914-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**87.6**	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**3710**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*106 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*150 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 3 @ 6 IN (H400914-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**32.4**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*91.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*106 %*	*63.6-154*

Sample ID: PT. 4 @ SURFACE (H400914-06)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**22.0**	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**1210**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*83.0 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*101 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 5 @ SURFACE (H400914-07)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**509**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*80.6 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*97.1 %*	*63.6-154*

Sample ID: PT. 6 @ SURFACE (H400914-08)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**1400**	50.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*81.3 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*106 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 6 @ 6 IN (H400914-09)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**23.5**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*99.1 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*95.5 %*	*63.6-154*

Sample ID: PT. 7 @ SURFACE (H400914-10)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**448**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**638**	50.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**7260**	50.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*183 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*361 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 7 @ 6 IN (H400914-11)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**560**	50.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**3400**	50.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*154 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*146 %*	*63.6-154*

Sample ID: PT. 8 @ SURFACE (H400914-12)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**185**	10.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**746**	10.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*73.5 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*73.1 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
JACOB KAMPLAIN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	03/27/2014	Sampling Date:	03/25/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	QUANTUM M STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 9 @ SURFACE (H400914-13)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**558**	50.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**5830**	50.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*102 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*157 %*	*63.6-154*

Sample ID: PT. 10 @ SURFACE (H400914-14)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	04/01/2014	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: ms** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**537**	50.0	04/01/2014	ND	183	91.5	200	12.1	
DRO >C10-C28	**9020**	50.0	04/01/2014	ND	190	95.0	200	11.1	

Surrogate: 1-Chlorooctane	*144 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*569 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: ECS		BILL TO	
Project Manager: Jacob Kamplain		P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Quantum M State Battery		State: Zip:	
Project Location:		Phone #:	
Sampler Name: Amber Groves		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS				
H400914																								
1	Pt. 1@ Surface	G	1			✓							3-25-14	8:30	✓	✓								
2	Pt. 2@ Surface	G	1			✓							3-25-14	8:45	✓	✓								
3	Pt. 2@ Lein	G	1			✓							3-25-14	8:50	✓	✓								
4	Pt. 3@ Surface	G	1			✓							3-25-14	8:55	✓	✓								
5	Pt. 3@ Lein	G	1			✓							3-25-14	9:00	✓	✓								
6	Pt. 4@ Surface	G	1			✓							3-25-14	10:00	✓	✓								
7	Pt. 5@ Surface	G	1			✓							3-25-14	10:30	✓	✓								
8	Pt. 6@ Surface	G	1			✓							3-25-14	10:45	✓	✓								
9	Pt. 6@ Lein	G	1			✓							3-25-14	11:00	✓	✓								
10	Pt. 7@ Surface	G	1			✓							3-25-14	11:15	✓	/								

Relinquished By: Amber Groves	Date: 3-27-14	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 9:30		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results knorman@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; kjones@riceswd.com; Lpena@riceswd.com; sedwards@rice-ecs.com agroves@rice-ecs.com
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	PECS	BILL TO	
Project Manager:	Jacob Kamplain	P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Quantum M State Battery	State: Zip:	
Project Location:		Phone #:	
Sampler Name:	Amber Groves	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H4000914																				
11	Pt. 7 @ Lein	G	1			✓							3-25-14	11:20	✓	✓				
12	Pt. 8 @ surface	G	1			✓							3-25-14	11:30	✓	✓				
13	Pt. 9 @ surface	G	1			✓							3-25-14	11:45	✓	✓				
14	Pt. 10 @ surface	G	1			✓							3-25-14	11:50	✓	✓				

Relinquished By:	Amber Groves	Date: 3-27-14 Time: 9:30	Received By:	Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:		Date: Time:	Received By:		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)	CHA	REMARKS: email results knorman@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; kjones@riceswd.com; Lpena@riceswd.com; sedwards@rice-ecs.com agroves@rice-ecs.com

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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Quantum M State Central Tank Battery

Unit Letter A, Section 30, T22S, R37E

Initial release area, facing south 3/25/14

Initial release area, facing southeast 3/25/14

Initial release area, facing south 3/25/14

Initial release area, facing west 3/25/14

Initial release area, facing west 3/25/14

Sampling release area, facing west 3/25/14