AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pLWJ1011030515

1RP - 2482

ENERGEN RESOURCES CORPORATION

7/22/2016

ENERGEN
RESOURCES

May 7, 2010

RECEIVED
MAY 10 2010
HOBBSOCD

Attn: Larry Johnson
Oil Conservation Division
1625 N. French Drive
Hobbs, NM 88240

RE: West Lovington Strawn Unit #11
UL B; SEC 22; T-15-S; R-35-E; 760' FNL & 2090 FEL
Lea County, NM

Dear Mr. Johnson,

On November 10, 2009 Energen Resources experienced a produced water leak of approximately 30 barrels on the West Lovington Strawn Unit #11 well location. A ¼" steel plug failed on the transfer pump causing the leak. Although this well is PA'ed the battery facility is still in place and a salt water transfer pump was being utilized as a booster to pump produced water to our SWD facility on the Bear lease.

Verbal notice was given the same day; the initial C-141 was filed with the Hobbs Division office on December 4, 2009. On November 13, 2009 Sweatt Construction began excavation of the affected area. On November 17, 2009 Energen Resources contracted Tetra Tech in Midland to collect and analyze samples within the excavated area (sample results included). Chloride levels above regulatory limits were detected in all samples and additional excavation was undertaken. On December 11, 2009 I conducted another round of sampling within the excavated area, elevated chloride levels were again noted in 4 of the 5 sampling sites. I sampled one additional area not sampled by Tetra Tech in the original batch. Additionally on the same day I pulled a water sample from the windmill that is down gradient or North of the spill location for analysis (included), good water no, contamination from production operations in the area.

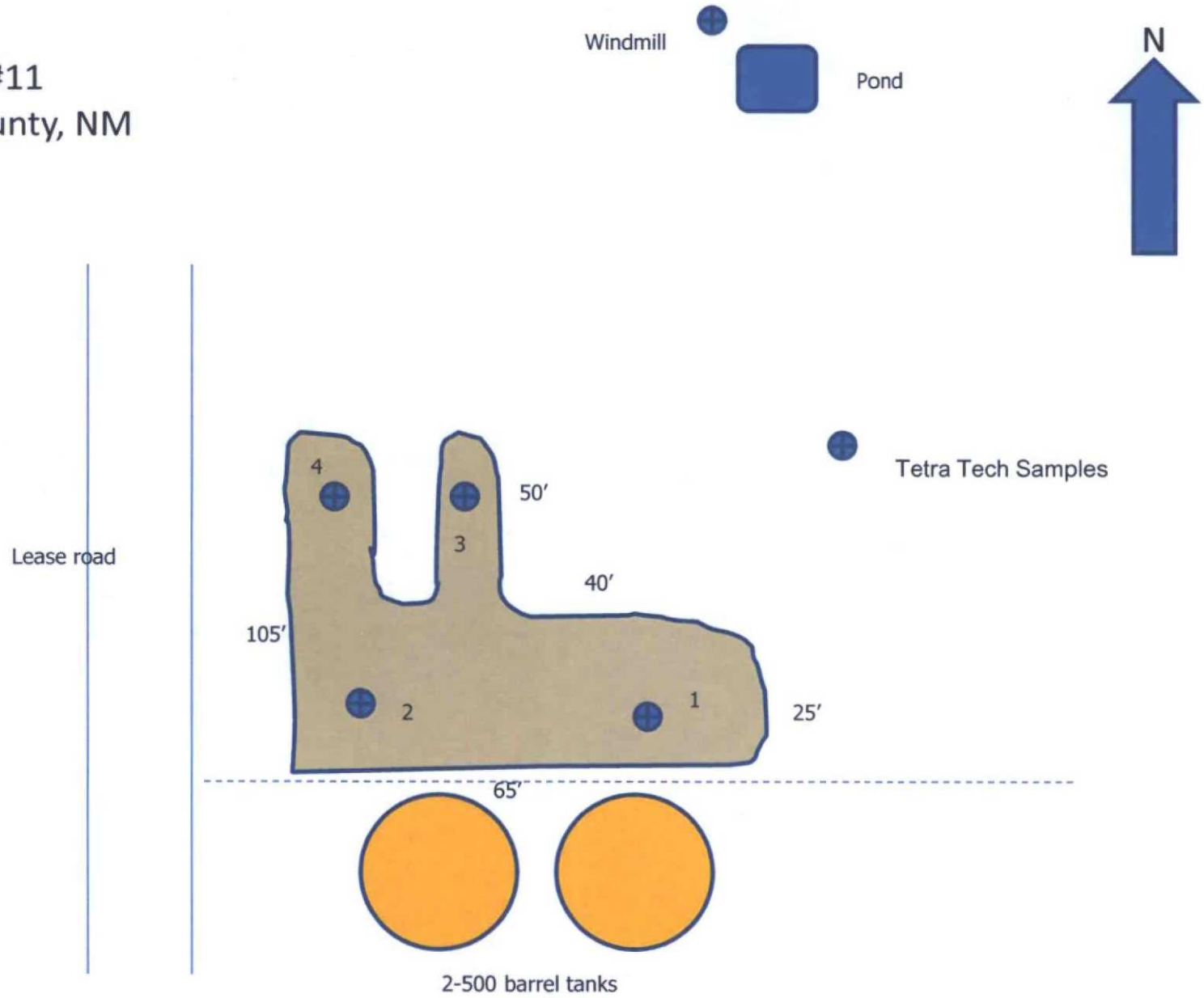
I again sampled the area on March 2, 2010 at that time only one of the samples contained chlorides in the soil a slightly higher than regulatory limits (results attached). The remaining samples are within regulatory limits for chloride levels in the soil.

Energen respectfully submits the following plan in order to submit the final C-141 for OCD approval and closure. Based on sampling of the excavation Energen feels that soil levels have been adequately delineated as to chloride concentration. We do not feel at this time that any further chloride contamination can or will be experienced associated with the spill of 11-10-09.
We therefore would request installation of an impermeable clay layer in the bottom of the excavation of approximately 12" depth, fill the remaining hole with caliche and install 12-18 inches of topsoil; or to a level at least as deep as the surrounding undisturbed topography.

Thank you for consideration of Energen's request and I look forward to visiting with you about any further concerns that may need to addressed concerning this matter.
Sincerely,

Andrew Cobb
Senior Safety & Environmental Specialist
Energen Resources Corp.

WLSU #11
Lea County, NM



WLSU 11 Excavation Tetra Tech Samples

CARDINAL LABORATORIES

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

November 24, 2009

Rex Smith
Energen Resources Corporation
3300 North A St., Bldg. 4, Ste. 100
Midland, TX 79705

Re: Soil Samples

Enclosed are the results of analyses for sample number H18788, received by the laboratory on 11/23/09 at 4:40 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though 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 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
ENERGEN RESOURCES CORPORATION
ATTN: REX SMITH
3300 N. A ST., BLDG. 4, STE 100
MIDLAND, TX 79705

Receiving Date: 11/23/09
Reporting Date: 11/24/09
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Analysis Date: 11/24/09
Sampling Date: NOT GIVEN
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl^- (mg/kg)
H18788-1	#1	144
H18788-2	#2	608
H18788-3	#3	4,320
H18788-4	#4	240
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-Cl B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

11/24/09
Date

H18788 Energen

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(575) 393-2326 Fax (575) 393-2476

Page____ of ____

Company Name:	Energen Resources Corp.	**BILL TO**	
Project Manager:	Rex Smith	P.O. #:	
Address:	3300 N. A St. Bldg 4 Ste 100	Company:	
City:	Midland State: TX Zip: 79705	Attn:	
Phone #:	432-557-1244 cell Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

ANALYSIS REQUEST

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	Cl-
H18788-1	#1		1			✓									X
-2	2		1			✓									X
-3	3		1			✓									X
-4	4		1			✓									X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Sampler Relinquished:	Date:	Received By:		Phone Result: ☐ No	Add'l Phone #:
	Time:			Fax Result: ☐ No	Add'l Fax #:
Relinquished By:	Date: 11-23-09	Received By:		REMARKS: ASAP! call w/verbals rsmith@energen.com	
	Time: 4:40p				
Delivered By: (Circle One)	Temp.	Sample Condition Cool ☐ Yes ☐ No	Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:					

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

WLSU #11 Spill; 12-2-09 Samples

CARDINAL LABORATORIES

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

December 3, 2009

Rex Smith
Energen Resources Corporation
3300 North A St., Bldg. 4, Ste. 100
Midland, TX 79705

Re: WLSU #11

Enclosed are the results of analyses for sample number H18819, received by the laboratory on 12/02/09 at 4:50 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though 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 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of____

Company Name:	Energen Resources Corp.	**BILL TO**	
Project Manager:	Rex Smith	P.O. #:	
Address:		Company:	Energen Resources
City:	Midland State: TX Zip:	Attn:	Rex Smith
Phone #:	432.557.6263 Fax #:	Address:	
Project #:	Project Owner:	City:	Tatum
Project Name:	W.L.S.U. Battery #11	State:	N.M Zip:
Project Location:	Lea County	Phone #:	432.557.6263
Sampler Name:	Steve Jewell	Fax #:	

ANALYSIS REQUEST

CL

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		
H18819-1	2	G	1			1									X	
-2	3	G	1			1									X	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Sampler Relinquished: Steve Jewell	Date: 12-2-09 Time: 4:50p	Received By: Molly McClure	Phone Result: ☐	No	Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐	No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Temp. 14.5°C #144	Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) MCB		REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
ENERGEN RESOURCES
ATTN: REX SMITH
3300 N. A ST. BLDG. 4, STE. 100
MIDLAND, TX 79705

Receiving Date: 12/02/09
Reporting Date: 12/03/09
Project Number: NOT GIVEN
Project Name: W.L.S.U. BATTERY #11
Project Location: LEA COUNTY

Analysis Date: 12/03/09
Sampling Date: NOT GIVEN
Sample Type: SOIL
Sample Condition: INTACT @ 14.5°C
Sample Received By: ML
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl^- (mg/kg)
H18819-1	2	96
H18819-2	3	160
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-ClˉB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

12/03/09
Date

H18819 Energen

WLSU #11 Spill; 12-11-09 Samples

Martin Water Laboratories, Inc.

Analysts & Consultants since 1953
Bacterial & Chemical Analysis

TO: Mr. Andy Cobb
3300 N "A", Bldg 4, Suite 100
Midland, TX 79705

Laboratory No.: 1209-129
Date Received: 12-11-09
Results Reported: 12-21-09

COMPANY: Energen Resources
COUNTY: Lea, NM
LEASE: West Lovington #11

SUBJECT: To determine the water soluble chloride levels of the submitted soil samples taken 12-11-09.

Source of sample & date taken:

#1. WLSU #1
#2. WLSU #2
#3. WLSU #3
#4. WLSU #4
#5. WLSU #5

METHOD: The submitted soil samples were dried, weighed, and placed in a specific volume of distilled water for a period of 18 hours with periodic agitation. The water-soluble chlorides were then determined on the sample filtrate.

	#1		#2		#3	
DETERMINATION	Percent	Mg/kg	Percent	Mg/kg	Percent	Mg/kg
Chloride, as Cl	0.0625	625	0.0398	398	0.1733	1,733

	#4		#5	
DETERMINATION	Percent	Mg/kg	Percent	Mg/kg
Chloride, as Cl	0.0369	369	0.0028	28

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Greg Ogden, B.S.

Surface

(432) 683-4521 * 709 W. Indiana, Midland, Texas 79701 * (fax) 682-8819
Remit to Address: P.O. Box 98, Midland, Texas 79702
Visit our Website @: www.martinwaterlabs.com

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

TO: Mr. Andy Cobb
3300 N "A", Bldg 4, Suite 100, Midland, TX 79705

LABORATORY NO. 1209-126
SAMPLE RECEIVED 12-11-09
RESULTS REPORTED 12-11-09

COMPANY Energen LEASE WLSU #11
FIELD OR POOL
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Drinking water - taken 12-11-09 from windmill south of battery.
NO. 2 Maximum contents for drinking water as recommended by the Texas Dept. of Health.
NO. 3
NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0010			
pH When Sampled				
pH When Received	7.51			
Bicarbonate as HCO_3	264			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	270			
Calcium as Ca	82			
Magnesium as Mg	16			
Sodium and/or Potassium	12			
Sulfate as SO_4	37	300		
Chloride as Cl	30	300		
Iron as Fe	0.20	0.30		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	440	1,000		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	20.90			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.5	10.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: Based only on the determinations performed above, this water shows to comply with State standards for drinking water as recommended by the Texas Department of Health.

Form No. 3

By _____
Greg Ogden, B.S.

LATHAM PRINTING CO. - 333-1292

WLSU #11 Spill; 3-2-10 Samples

Martin Water Laboratories, Inc.

Analysts & Consultants since 1953
Bacterial & Chemical Analysis

TO: Mr. Andy Cobb
3300 N "A", Bldg 4, Suite 100
Midland, TX 79705

RECEIVED
MAR 16 2010
BY:

Laboratory No.: 310-126
Date Received: 3-2-10
Results Reported: 3-15-10

COMPANY: Energen Resources
FIELD: Lovington
LEASE: WLSU #11

SUBJECT: To determine the water soluble salt levels of the submitted soil samples taken

Source of sample & date taken:
#1. WLSU #11 - sample #1.
#2. WLSU #11 - sample #2.
#3. WLSU #11 - sample #3.

METHOD: The submitted soil samples were dried, weighed, and placed in a specific volume of distilled water for a period of 18 hours with periodic agitation. The water-soluble chloride was then determined on the sample filtrate.

	#1		#2	
DETERMINATION	Percent	Mg/kg	Percent	Mg/kg
Chloride, as Cl	0.0284	284	0.0142	142

	#3	
DETERMINATION	Percent	Mg/kg
Chloride, as Cl	0.0114	114

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Greg Ogden, B.S.

WLSW #11

Bill

(432) 683-4521 * 709 W. Indiana, Midland, Texas 79701 * (fax) 682-8819
Remit to Address: P.O. Box 98, Midland, Texas 79702
Visit our Website @: www.martinwaterlabs.com