#### **OCD-ARTESIA**

Form 3160-5 (August 2007)

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OMB No. 1004-0137 Expires: July 31, 2010
FORM APPROVED

5. Lease Serial No.

NM-98173
/ELLS 6. If Indian, Allottee or Tribe Name
ch proposals.
page 2. 7. If Unit of CA/Agreement, Name and/or No.
NM-101348
8 Well Name and No. Millman SE Federal #1
9. API Well No. 30-015-30376
(include area code) 10. Field and Pool or Exploratory Area
Parkway Morrow West
11. Country or Parish, State
EDDY
ICATE NATURE OF NOTICE, REPORT OR OTHER DATA
TYPE OF ACTION
n Production (Start/Resume) Water Shut-Off
re Treat Reclamation Well Integrity
Construction Recomplete Other Reclamation of
and Abandon Temporarily Abandon Drilling Pit
Back Water Disposal
quirements in the relcaimation of the closed drilling pit at the Millman SE drilling pit was excavated and transported to Lea Land, LLC.
ration as per BLM reguirements. The impacted area of the location was ea measured to be 370-feet long by 240-feet wide to a depth ranging from to CRI for disposal.
nd on September 20, 2011, upon approval from the BLM, a 36,000 square eyed into the ground a minimum of 3-feet below ground surface.
ne location and placed over the top of the liner in a minimum of 3-feet, are installed over the location for eros <del>ion control.</del>
4.   RECEIVED
FEB <b>1 5</b> 2012
NMOCD ARTESIA
Title Production Foreman
Date 11/15/2011
RAL OR STATE OFFICE USE
Title SEAS Date 2-7-12
uld Office CFO

fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)



November 15, 2011

#### **Bureau of Land Management**

620 E. Green Street Carlsbad, NM 88220

AMABILLO 921 North Bivins Amarillo Texas 79107 Phone 806 4670607

Fax 806.467.0622

Attention:

Ms. Terry Gregston

**Environmental Protection Specialist** 

ARTESIA 408 West Texas Ave.

Subject:

Remediation and Closure Report

**Devon Energy Corporation** Millman SE Federal No. 1 API# 30-015-30376

Phone 575,746,8768 Fax 575.746.8905

Artesia, Néw Mexico 88210

**AUSTIN** 

9ff West Anderson Lane Suite 202 Austin, Texas 78757 Phone 512.989.3428

Fax 512,989,3487

HOBBS

318 East Taylor Street Hobbs, New Mexico 88240 Phone 575,393,4261 Fax 575.393.4658

MIDLAND

2901 State Hwy 349 Midland, Texas 79706 Phone 432,522,2133 Fax 432.522.2180

SAN ANTONIO

II Commercial Place Schertz, Texas 78154 Phone 210 285 8025 Fax 210.568.2191

TULSA

525 South Main Street Suite 535 Tulsa, Oklahoma 74103 Phone 918,742,0871 Fax 918,382.0232 Dear Ms. Gregston,

Devon Energy Corporation has contracted Talon/LPE (Talon) to perform soil assessment and closure activities for the drilling pit located at the Millman SE Federal No. 1. The incident description, soil assessment, remediation activities and closure request are submitted herein.

#### Background Information

The Millman SE Federal No. 1 is located approximately thirty-two (32) miles southeast of Artesia, New Mexico. The legal location for the site is Section 33, Township 19 South and Range 29 East in Eddy County, New Mexico. More Specifically the latitude and longitude are 32.61818 North and -104.08634 West.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services the soil in this area is made up of Reeves-Gypsum land complex soils with 0 to 3 percent slopes. The local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of alluvium and eolian sands which includes silty soils under lain by gypsum and hard caliches. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S34-T19S-R29E. The depth to ground water in the area is reported to range from 60-feet to 115-feet deep with an average depth to water of 95' below ground surface (bgs). A copy of the referenced groundwater data obtained from the New Mexico State database is attached as Appendix I.

**ENVIRONMENTAL CONSULTING** 

**ENGINEERING** DRILLING CONSTRUCTION

SPILL MANAGEMENT GENERAL CONTRACTING

The ranking for this site is 10 based on the as following:

Depth to ground water · 50'- 100' Wellhead Protection Area >1000' Distance to surface water body >1000°

Toll Free: 866.742.0742 www.talonlpe.com The former drilling pit area was originally excavated to a depth of approximately 2-feet below land surface for this project. A total of 3,014.01 cubic yards of soil were excavated and transported to Lea Land, LLC for disposal at that time. Closure was then requested from the BLM. At BLM's request, the excavated drilling pit was subsequently divided into 14 grid sections, each 50-feet long by 50-feet wide. Samples from each grid section were obtained and sent to Cardinal Laboratories for analysis of total chlorides. Following a meeting with the client and BLM, a revised work plan was generated and submitted for approval.

On June 8, 2011 Ms. Terry Gregston of the BLM Carlsbad field office approved the revised work plan with stipulations. The referenced BLM stipulations and grid section site map of the drilling pit provided by the BLM are presented in Appendix II.

#### **Groundwater Sampling Results**

On March 27, 2011 the Skylight Cave was entered and duplicate water samples were obtained for analytical testing and quality control purposes at the BLM's direction. The samples were transported the same day to Cardinal Laboratories for analysis of volatile organics (BTEX) per EPA Method 8021B; total Petroleum Hydrocarbons (TPH) per EPA Method 8015M; total dissolved solids (TDS) per Method 160.1; and total chlorides via Method SM 4500Cl-B. Complete copies of both lab reports, dated March 23, 2011, are attached hereto and are summarized in the following data table.

Sample Location	<u>BTEX</u>	Chlorides	<u>TDS</u>	TPH (mg/L)
Skylight Cave 1	ND*	1,550	5,570	ND
Skylight Cave 2	ND	1,600	5,520	ND

<sup>\*</sup>Not Detected within laboratory method detection limits

It is not unusual for shallow or perched groundwater in this area to have elevated indications of Total Dissolved Solids and Chlorides.

#### **Actions Taken**

In June, 2011 Talon personnel mobilized to the site again to continue excavation on the closed drilling pit, per the BLM stipulations.

Multiple sampling and field testing events for chlorides using field titration methods were conducted during the excavation process. The excavation was expanded and then re-sampled several times based on the field testing results and BLM site inspections.

A buried trash pit was encountered in the sidewall of the excavation adjacent to the well location. At BLM's direction and upon client approval, the trash pit was excavated and transported to CRI, Inc. for disposal.

On August 18, 2011 Talon personnel mobilized to the site again for closure soil sampling activities on the sidewalls and bottom of the excavation per BLM requirements. Grab soil samples were collected and submitted for laboratory analysis. Based upon laboratory results and BLM direction, additional excavation was required.

On September 1, 2011 Talon personnel returned to the site for additional soil sampling activities on the remaining sidewalls of the excavation per BLM requirements. Grab soil samples were collected utilizing a hand auger and submitted for laboratory analysis.

All soil samples were collected by Talon personnel wearing clean nitrile gloves. The samples were placed in laboratory provided glassware and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for Total Chlorides via Method SM4500Cl-B. The complete laboratory reports are attached as Appendix III.

#### **Analytical Results**

Analytical results received from Cardinal Laboratories are summarized below:

Sample date: August 18, 2011

Sample	Location	Chlorides
A-1	North-side wall East-side wall	128 mg/kg 32
A-2	North-side wall South-side wall	272 208
A-3	North-side wall	10,000
A-4	North-side wall	2,960
A-5	North-side wall West-side wall East-side wall Bottom	608 64 1,390 928

Sample	Location	Chlorides
B-1	North-side wall East-side wall South-side wall Bottom	4,960 mg/kg 9,100 14,400 304
B-2	West-side wall East-side wall South-side wall Bottom	304 8,100 432 160
B-5	East-side wall West-side wall Bottom	80 160 432
C-2	East-side wall South-side wall Bottom	1,070 3,800 1,570
C-3	South-side wall North-side wall Bottom	2,680 288 96
C-4	North-side wall South-side wall Bottom	144 64 80
C-5	South-side wall West-side wall Bottom	64 144 160

Sample date: September 1, 2011

Sample	<u>Location</u>	Chlorides
A-3	North-side wall	1,250
A-4	North-side wall	656
A-5	East-side wall	144

<u>Sample</u>	Location	Chlorides
B-1	North-side wall East-side wall South-side wall	96 mg/kg <16 <16
B-2	East-side wall	208
C-2	East-side wall South-side wall Bottom	208 112 80
C-3	South-side wall	96

#### **Remedial Actions**

In June, 2011 Talon personnel mobilized to the site to resume excavation of the closed drilling pit and downsizing of the location as previously described. The impacted soil was excavated to a depth of 3-7 feet below land surface in specific grid sections and transported to CRI for disposal in stages based upon resulting laboratory results. An approximate total of 11,376 cubic yards of contaminated soil were excavated and transported to CRI for disposal. The excavated area was left open until an approval from the BLM was granted to begin installation of the liner.

On September 20, 2011 Talon personnel began installing a composite 20 millimeter liner over the excavated area. The edges of the liner were keyed a minimum of 3-feet deep into a trench excavated at the boundaries of the former drilling pit.

The excavated area was subsequently backfilled to grade using new material backhauled from Lea Land, LLC and with material obtained from a local pit. This new fill material was placed over the top of the 20 millimeter liner in a 3-foot soil lift. The soil lift was contoured to match the surrounding terrain and wind rows were installed over location for erosion control. The location will be seeded using the recommended seed mixture for the area (BLM #4).

#### **Conclusions and Recommendations**

- Ground water in the project vicinity is approximately 95-feet below land surface per the New Mexico State Engineer Database.
- Based on the depth to groundwater and the remedial actions as described herein, it is unlikely that the impacts identified from this former drilling pit will pose a threat to groundwater.

- The impacted area has been excavated to varying depths of 3-feet to 7-feet deep below land surface.
- The results of the sampling and analytical program were approved by the BLM prior to completion of field activities.
- Based upon the results of the sampling and analytical program, all chemical parameters tested for are reported to be less than their respective Recommended Remedial Action Levels (RRALs).

Therefore, on behalf of Devon Energy Corporation, we respectfully request that no further actions be required and that closure with respect to this release be granted.

Should you have any questions or if further information is required, please do not hesitate to contact us at 575.746.8768.

Respectfully submitted,

TALON/LPE

· axe accepted

Mike Stubblefield Project Manager David J. Adkins

District Manager

### APPENDIX I GROUNDWATER DATA



## New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are	1=NW	2=NE	3=SW	4=SE)
---------------	------	------	------	-------

		(quarters are smallest to largest)						est)	(NAD83 UTN	1 in meters)	(In feet)				
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CP 00646	PRO	ED	1	1	4	07	198	29E	583155	3615552*	199	,			
CP 00681	PRO	ED	1	1	3	34	198	29E	587230	3609127*					
CP 00703	PRO	ED		4	1	36	198	29E	590945	3609441*	200	115	85		
CP 00739	PRO	ED	3	4	4	35	198	29E	590046	3608532*	200	110	90		
CP 00741	PRO	ED	1	3	2	34	198	29E	588030	3609533*	230	60	170		
CP 00820	STK	LE		2	4	13	198	29E	591713	3613870*	120				
CP 00821	STK	LE		4	4	25	198	29E	591743	3610248*	120				
									Avera	age Depth to	Water:	95 fee	t		
•										Minimum	n Depth:	60 fee	t		
										Maximum	Deoth:	115 fee	t		

#### **Record Count: 7**

PLSS Search:

Township: 19S Range: 29E

# APPENDIX II BLM STIPULATION OF APPROVAL BLM GRID SECTION SITE MAP

#### **David Adkins**

From:

Kuhnert, Nathan [Nathan.Kuhnert@dvn.com]

Sent:

Friday, June 10, 2011 3:15 PM

To:

David Adkins

Subject:

Fw: Millman 33 Federal #1.

Attachments:

Millman SE Federal 1-BLM pit closure schematics-060711.pdf

Hi David.

Let's try to find some time early next week to talk.

Thanks,

Nathan

From: tgregsto@blm.gov [mailto:tgregsto@blm.gov]

Sent: Wednesday, June 08, 2011 02:32 PM

To: Kuhnert, Nathan

Subject: RE: Millman 33 Federal #1.

Mr. Kuhnert,

Attached you will find a pdf file with two schematics:

- 1. The first shows the sample points and the minimum depth at which chloride levels drop below 1,000ppm OR a depth of 4 feet and chloride levels remain elevated (whichever comes first).
- 2. Based on the above, a second schematic shows areas that need to be excavated to 0', 1', 2', or 4'. At 4', several of the areas remain too elevated in chlorides to close. In these areas, a dotted outline shows where a liner/clay cap installation should be placed.

As you can see from the submitted drawings, 3 areas do not need any further excavation to reach closure. 2 areas require only a 1 foot excavation. 3 areas require a 2 foot excavation. 6 areas require a 4 foot excavation and a liner installation.

The areas outlined on the schematics are "general". More surgical excavation on all the above areas can be conducted out in the field by running field titrations as the work progresses. Each area may be smaller or larger depending upon the field titrations and when those titrations indicate that areas of higher or lower chloride levels have been reached on a horizontal and vertical level. Sidewalls in the 4' foot excavation area should all be at 1,000ppm or less. Sidewalls in the 2' excavation area should be 1,000ppm or less. And so on.

The goal is to get all soils in the 0, 1, and 2 foot excavation areas down to closure levels or below and to extend the sidewalls of the 4 foot excavation area out until closure levels are reached in the side walls. At this point, the only area that should be 'hot' is the bottom of the 4 foot excavation. And that is what we want capped. It would probably be wise to extend the excavation at the 4 foot level out beyond the 4' foot "hot area" to be capped--in effect, you will want to make your cap slightly larger than the area to be capped so that the hottest areas are well covered by the cap. The BLM will need witnessed confirmation sampling of the sidewalls sent to a third party lab prior to closure of the excavation.

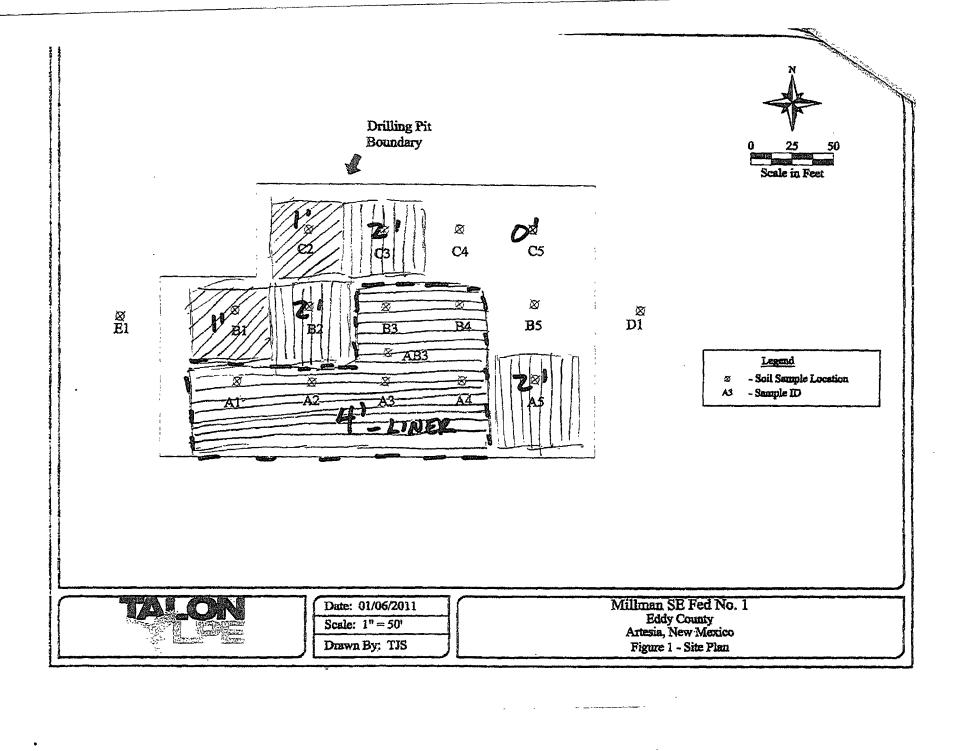
In this particular case, the liner should be slightly domed and the edges of the liner "keyed in". In other words, the edges of the liner installation should be trenched deeper than the surface of the cap so that the liner/clay cap is "tucked in" on all sides. The deeper you can make these side trenches, the better--because it prevents horizontal migration of moisture from flowing under the cap. The 'doming' of the cap enables moisture to migrate off the cap, rather than sitting and pooling atop it. In the event that a liner failure is developed (a crack or a root punction of the liner), the doming ensures that the majority of the function of the cap is still intact. (As opposed to creating a water tight "pool" or sump area with the liner installation in which any crack or puncture of the liner would then serve as a "drain" of the water pool/sump directly into the contaminated soils underneath...which we most definately do not want.)

Those are our thought processes so far on this site. If you have any questions, feel free to give me a call on my cell.

Terry Gregston
Environmental Protection Specialist
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220
Office (575) 234-5958
Cell (575) 361-2635
Fax (575) 234-5927

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Drilling Pit Boundary





	Ø	<b>&amp;</b>	Ø	&	
 	C2	C3	C4	C5	
 ;	1'(6)(928)	2'(c) (672) 0	(c)(208)	ر(ه) (ه)	
Ø.	Ø	Ø	Ø	Ø	Ø
Bl	<b>B</b> 2	B3	B4	B5 (7/10)	D1
11(6)(304)	) Z'(c)(20	B3 8) 4' (e)(1,16°) 8) & AB3 4'(e) (768)	0'(c)(768)	51 (c) (240)	0'(6)
		4'6 (768)	-1 - (1,20)		
Ø	Ø	Ø	Ø	<b>⊗</b> ,	
A1·	A2	A3	A4	A5	
4'(4.800)	4'(2,920)	4' (1,680)	4' (14,400)	7 (160)	

Legend

σ - Soil Sample LocationA3 - Sample ID

≅ E1

Date: 01/06/2011

Scale: 1" = 50'

Drawn By: TJS

Millman SE Fed No. 1 Eddy County Artesia, New Mexico Figure 1 - Site Plan

### APPENDIX III LABORATORY RESULTS



March 23, 2011

**CAROLYN MOORES** 

BLM

620 E. Greene

Carlsbad, NM 88220

RE: DEVON-MILLMAN

Enclosed are the results of analyses for samples received by the laboratory on 03/17/11 13:20.

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 Hydorcarbons

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

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 (V2, V3)

Lope S. Moreno

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,

Hope Moreno

Inorganic Technical Director



BLM

**CAROLYN MOORES** 620 E. Greene Carlsbad NM, 88220 Fax To: None

Received:

03/17/2011

Reported:

03/23/2011

Project Name: Project Number: **DEVON-MILLMAN** NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

03/17/2011

Sampling Type:

Water

Sampling Condition:

\*\* (See Notes)

Sample Received By:

Jodl Henson

#### Sample ID: SKYLIGHT CAVE 1 (H100514-01)

BTEX 8260B	mg,	/L	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifler
Benzene*	<0.001	0.001	03/18/2011	ND	0.023	114	0.0200	0.308	
Toluene*	<0.001	0.001	03/18/2011	ND	0.020	99.0	0.0200	2.25	
Ethylbenzene*	<0.001	0.001	03/18/2011	ND	0.020	100	0.0200	1.25	
Total Xylenes*	<0.003	0.003	03/18/2011	ND	0.062	103	0.0600	1.79	
Surrogate: Dibromofluoromethane	114	% 80-120							
Surrogate: Toluene-d8	85.5	% 80-120							
Surrogate: 4-Bromofluorobenzene	94,5	% 80-120							
Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: HM					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1550	4.00	03/18/2011	ND	104	104	001	0.00	
TDS 160.1	mg,	/L	Analyze	d By; HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	5570	5.00	03/22/2011	ND				4.60	
TPH 8015M	mg	/L	Analyze	d By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	B\$	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<1.00	1.00	03/18/2011	ND	25.0	100	25.0	1.87	
DRO >C10-C28	<1.00	1.00	03/18/2011	ND	26.7 107		25.0	0.221	
Surrogate: 1-Chlorooctane	97.3	% 70-130							
Surrogate: 1-Chlorooctadecane	101	% 70-130							

#### Cardinal Laboratories

\*=Accredited Analyte

PLASE NOTE: Ubbitly and Demages. Contains babitly and offerts enclude remedy for any data arising, whether based in contract or not, shall be finited to the amount paid by deet for enables. All dains, including those for negligence and any other cause whitehore shall be deemed maked unless made in whiting and morehad by Cardenia within thirty (30) days attar competion of the applicable service. In no event shall Cardeni be table for indicated, within thirty (30) days attar competion of the applicable service. In no event shall Cardeni be table for indicated to the performance of the services here. On the original cardenia is a consequential damages, the dains beared upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardenia luberatories.

Lope S. Moreno Hope Moreno, Inorganic Technical Director

Page 2 of 4



#### **Notes and Definitions**

S-LOW Low surrogate recovery confirmed as a matrix effect by a second analysis.

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

PLEASE NOTE: Liability and Duranges. Continuits leability and clean's exclusive remety for any dain arising, whether based in contract or text, shall be Ented to the amount paid by Clean for enabless. All cleans, beducing those for neglectic and any other cause whatevers shall be detended without in the part and the highest contract within thirty (32) days after completion of the applicable service. In no event shall Cartical be table for incidental or convergential demands, without Initiation, business interruptions, loss of use, or loss of profits incurred by Clent, its authorizers, affiliation or successors arising out of or related to the porformance of the services hereunder by Clent, regardless of whether such dains based upon any of the above stated reasons or otherwise. Results refate only to the samples identified above. This report shall not be reproduced except in full with written approved of Cartifal Liberatories.

Nope S. Moreno

Hope Moreno, Inorganic Technical Director

Page 3 of 4



#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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2 March 23, 2011

CAROLYN MOORES

BLM

620 E, Greene

Carlsbad, NM 88220

RE: DEVON-MILLMAN

Enclosed are the results of analyses for samples received by the laboratory on 03/17/11 13:05.

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 Hydorcarbons

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

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 (V2, V3)

Accreditation applies to public drinking water matrices.

Lope S. Moreno

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,

Hope Moreno

Inorganic Technical Director

BLM

**CAROLYN MOORES** 620 E. Greene Carlsbad NM, 88220 Fax To: None

Received: Reported: 03/17/2011

03/23/2011

Project Name: Project Number: Project Location:

NONE GIVEN NOT GIVEN

**DEVON-MILLMAN** 

Sampling Type: Sampling Condition: Sample Received By:

Sampling Date:

03/17/2011 Water

\*\* (See Notes)

Jodi Henson

#### Sample ID: SKYLIGHT CAVE 2 (H100515-01)

TEX 8260B mg/L			Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	< 0.001	0.001	03/18/2011	ND	0.023	114	0.0200	0.308	
Toluene*	<0.001	0.001	03/18/2011	NO	0.020	99.0	0.0200	2.25	
Ethylbenzene*	< 0.001	0.001	03/18/2011	ND	0.020	100	0.0200	1.25	
Total Xylenes*	<0.003	0.003	03/18/2011	ND	0.062	103	0.0600	1.79	
Surrogate: Dibromofluoromethane	115	% 80-120						1	
Surrogate: Toluene-d8	85.9	% 80-120							
Surrogate: 4-Bromofluorobenzene	93.3	% 80-120							
Chloride, SM4500CI-B	mg/L		Anatyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	1600	4.00	03/18/2011	ND	104	104	100	0.00	
TDS 160,1	mg/	L	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
TDS	5520	5.00	03/22/2011	ND				4.60	
TPH 8015M	mg/	L	Analyze	d By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10	<1.00	1.00	03/18/2011	ND	25.0	100	25.0	1.87	
DRO >C10-C28	<1.00	1.00	03/18/2011	ND	26.7	107	25.0	0.221	
Surrogate: 1-Chlorooctane	116	% 70-130							
Surrogate: 1-Chlorooctadecane	124	% 70-130							

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Libbility and Demayes. Continuit's liability and cleart's endusive nemedy for any dain arising, whether based in contract or tont, shall be limited to the amount poid by dent for analyses. All claims, including those for nasjegance and any other cause whitehoners shall be feethed revised unless movie in writing and momented by Cardinal within thirty (30) days either completion of the applicable service. In no event shall Cardinal be labble for independent of consequential damages, without instance, business information, business information, business information, business information in the generalized production of the service in

Abpe S. Moreno Hope Moreno, Inorganic Technical Director

Page 2 of 4



#### **Notes and Definitions**

S-LOW Low surrogate recovery confirmed as a matrix effect by a second analysis.

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

PLESS NOTE: Ubbliry and Demages. Cardman's lability and clearls cudules remody for any data acting, whether bead in contract or jot, shall be inited to the amount paid by dient for analyses. All datas, including those for negigenous and any other cause whiteshore shall be demand unless made in writing and measured by Cardman which tithy (30) days after completion of the applicable service. In no worst shall be labile for bookeds or measured by cardman which tithy (30) days after completion of the applicable service. In no worst shall control be labile for bookeds or measured by Cardman and Services or Roussons arising out or or indicated to the performance of the services hereafted by Cardman, reported above. This report will be the performance of the services hereafted by th

Lope S. Moreno

Hope Moreno, Inorganic Technical Director

Page 3 of 4



#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	" BLM		·····		*			BI	LL TO			***			ANAI	LYSIS	RE	QUE	ST			
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Page 4 of 4



August 22, 2011

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: MILLMAN 33 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 08/19/11 12:44.

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 Hydorcarbons

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

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 (V2, V3)

Accreditation applies to public drinking water matrices.

Celeg D. Keine

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

Lab Director/Quality Manager



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905 Fax To:

Received:

08/19/2011

Sampling Date:

08/18/2011

Reported:

08/22/2011

Sampling Type:

Soil \*\* (See Notes)

Project Name:

MILLMAN 33 FEDERAL #1

Sampling Condition:

Project Number:

700794.002.01

Sample Received By:

Jodi Henson

Project Location:

Analyte

Analyte

Analyte

SEC.33-19S-29E

Sample ID: S - 1 A - 1 NORTHSIDE WALL (H101763-01)

ch	.ta=td	 4 <i>4</i> EO	OCI-B

mg/kg

Analyzed By: HM

% Recovery

RPD

7,41

7.41

Result

16.0

ND

BS

True Value QC

Qualifier

Chloride

128

08/22/2011

Analyzed

Analyzed

Method Blank

416

104

400

Sample ID: S - 2 A - 1 EASTSIDE WALL (H101763-02)

Chloride,	SM4500Cl-B

mg/kg

Analyzed By: HM

BS

% Recovery 104

True Value QC

RPD Qualifier

Chloride

Result 32.0

Reporting Limit 16.0

Reporting Limit

16.0

Reporting Limit

08/22/2011

ND

Method Blank

Method Blank

ND

ND

416

400

Chloride

Chloride

Sample ID: S - 3 B - 1 NORTHSIDE WALL (H101763-03)

Chloride, SM4500Cl-B

mg/kg

Result

4960

Analyzed

08/22/2011

Analyzed By: HM

% Recovery

Sample ID: S - 4 B - 1 EASTSIDE WALL (H101763-04)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

416

BS

104

True Value QC 400

RPD 7.41 Qualifler

Qualifier

Analyte

Reporting Limit Result 9100 16.0

Analyzed 08/22/2011

Method Blank

BS 416 % Recovery 104

True Value QC 400

RPO 7.41

\*=Accredited Analyte

Cardinal Laboratories

PLEASE NOTE: Liability and Danages. Cardrain's kinking and dient's exclusive remarky for any dain arising, whether based in combinat or text, shall be limited to the amount paid by client for analysis. All delines, including those for neglegative and any other cause whateover shall be cosmed white clients make it witing and reached by Cordrail which thing (3) days other completion of the explicable sentice. In no work shall Cardrail be table for indicatest or consequential demands, which is the completion, business bless protections, business bless protect

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 12



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:

08/19/2011

Sampling Date:

08/18/2011

Reported:

08/22/2011

Sampling Type:

Soil

Project Name:

MILLMAN 33 FEDERAL #1

Sampling Condition:

\*\* (See Notes)

Project Number: Project Location: 700794.002.01 SEC.33-19S-29E Sample Received By:

Jodi Henson

#### Sample ID: S - 5 B - 1 SOUTHSIDE WALL (H101763-05)

Chloride, SM4500Cl-B	mg/	'kg	Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	B\$	% Recovery	True Value QC	RPD	Qualifier
Chloride	14400	16.0	08/22/2011	NĐ	416	104	400	7.41	
Sample ID: S - 6 B - 1 BO	OTTOM (H101:	763-06) 🗸							
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	08/22/2011	ND	416	104	400	7.41	
Sample ID: S - 7 B - 2 Wi	ESTSIDE WAL	-	-	d By: HM					
Chlorae, Si-14300CI-B	nig	ку	Analyze	и ву: пм					<del></del>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	08/22/2011	ND	416	104	400	7.41	
Sample ID: S - 8 B - 2 EA	CTCIDE WALL		. /						
	COLOTHE MANTE	. (H101763-08	) ·						
=	mg/	-	-	d By: HM					
=		-	-	d By: HM Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride, SM4500CI-B	mg	/kg	Analyze		BS 416	% Recovery	True Value QC 400	RPD 7.41	Qualifier
Chloride, \$M4500CI-B  Analyte  Chloride	mg, Result 8100	Reporting Limit	Analyzed 08/22/2011	Method Blank		•	-		Qualifier
Chloride, SM4500CI-B  Analyte	mg, Result 8100	Reporting Limit 16.0  ALL (H101763-	Analyzed Analyzed 08/22/2011	Method Blank		•	-		Qualifier
Analyte Chloride Sample ID: S - 9 B - 2 So	mg, Result 8100 OUTHSIDE WA	Reporting Limit 16.0  ALL (H101763-	Analyzed Analyzed 08/22/2011	Method Blank ND		•	-		Qualifier Qualifier

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE. Liability and Damages. Certified such save are closed such save remedy for any darm arising, whether based in contract or but, shall be limited to the amount paid by client for analyses. All claims, including those for regispance and any other cause whetherear while it deemed invited unless made in writing and reacted by Certified within thing (10)) days other competition of the expirately service. In no event shall Cardinal be limited for including, without for histories to the applicable service. In no event shall Cardinal be limited for including, without for histories to the applicable service. In no event shall Cardinal be limited for including without for histories and the participation of the services have small caused on the services of the services of the services of the services have small caused on the services of the services have small caused on the se

Celeg D. Keine



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905

Fax To:

Received: Reported: 08/19/2011

08/22/2011

MILLMAN 33 FEDERAL #1

Project Name: Project Number: Project Location:

700794.002.01 SEC.33-19S-29E

Sampling Date:

08/18/2011

Sampling Type:

Soil

Sampling Condition:

\*\* (See Notes)

Sample Received By:

Jodi Henson

#### Sample ID: S - 10 B - 2 BOTTOM (H101763-10)

Chioride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 11: A - 2 NO	RTHSIDE V	VALL (H101763	3- <b>11)</b> ×						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 12 A - 2 SO Chloride, SM4500Ci-B	UTHSIDE W	-		d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 13 C - 2 BO	TTOM (H10:	1763-13) ´							
Chloride, SM4500Cl-B	mg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 14 C - 2 FA	STSIDE WA	II (H101763-	14)√						
Sample ID: S - 14 C - 2 EA		LL (H101763-: /kg		d By: HM					
				d By: HM  Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Uability and Danages. Candral's liability and clearly sociative remark for any clean arising, whether based in contract or bort, shall be forward in the amount paid by clean for analysis. All cleans, including those for neglegative and any other cause whetherever shall be deemed white cleans when and received by Candral whith Dirty (30) days when completen of the explicable service. In no event shall cardinal be Eable for indighald or consequential damages, which includes, business interactions, basiness interactions, based on the contractions, bus of use, or loss of profits included by clean, its subsidiaries, effective or successors arising out of or related to the performance of the services hereafted by Candral, respectively to the subsidiaries of the story extending the contractions.

Celey D. Keena



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905 Fax To:

Received: Reported: 08/19/2011

08/22/2011

Sampling Date: Sampling Type: 08/18/2011

Project Name:

MILLMAN 33 FEDERAL #1

Sampling Condition:

Soil \*\* (See Notes)

Project Number:

700794.002.01

Project Location:

SEC.33-19S-29E

Sample Received By:

Jodi Henson

#### Sample ID: S - 15 C - 2 SOUTHSIDE WALL (H101763-15)

Chloride, SM4500Ci-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3800	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 16 C - 3 SO	UTHSIDE W	ALL (H101763	- <b>1</b> 6) ×						
Chloride, SM4500Cl-B	mg,	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 17 C - 3 BO Chloride, SM4500Cl-B	TTOM (H10:	•	Analyze	d By; HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 18 C - 3 NO	RTHSIDE W	ALL (H101763	-18)						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Anaiyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/22/2011	ND	448	112	400	0.00	
Sample ID: S - 19 A - 3 NO	ORTHSIDE W	ALL (H101763	-19) -						
Sample ID: S - 19 A - 3 NC Chloride, SM4500Cl-B	ORTHSIDE W	•	•	d By: HM					
• • • • • •		•	•	d By: HM  Method Blank	BŞ	% Recovery	True Value QC	RPD	Qualifier

#### Cardinal Laboratories

\*=Accredited Analyte

FLEASE NOTE: Uability and Durages. Certifial's liability and client's exclusive remedy for any dain arising, whether based in contract or bnt, that but fortand to the amount paid by dent for analyses. All dains, including those for nephyperoe and any other cause whetherover shall be exceeded wheel wheel whitein made in writing and received by Cardinal within thirty (80) days after completion of the sprisals stones. In no event shall Cardinal be faith for including, whether this busy which this busy is the performance of the sentices between the such causes of whather such claims to best sprisal processors arising out of each or sprisal to the performance of the sentices between the such claims to best sprisal processors arising out of the stone stands reasons or otherwise. Results refer only to be surplus for the stone sprisal excessors arising out of the stone stands reasons or otherwise. Results refer to the performance of the senting laboratories.

Celey D. Keene

TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905

Fax To:

Reported:

08/19/2011 08/22/2011

Sampling Date:

08/18/2011

Project Name:

Received:

Sampling Type:

Soil

MILLMAN 33 FEDERAL #1

Sampling Condition:

\*\* (See Notes)

Project Number: Project Location:

700794.002.01 SEC,33-19S-29E Sample Received By:

Jodi Henson

#### Sample ID: S - 20 C - 4 SOUTHSIDE WALL (H101763-20)

Chloride, SM4500Ci-B	mg/kg

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/22/2011	ND	448	112	400	0.00	

Analyzed By: HM

#### Sample ID: S - 21 C - 4 BOTTOM (H101763-21)

Chloride, SM4500Ci-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Anatyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/22/2011	ND	448	112	400	0.00	

#### Sample ID: S - 22 C - 4 NORTHSIDE WALL (H101763-22) 🗸

Chloride, SM4500CI-B mg/kg		/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/22/2011	ND	448	112	400	0.00	

#### Sample ID: S - 23 A - 4 NORTHSIDE WALL (H101763-23)

Chloride, SM4500Cl-B mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	08/22/2011	ND	448	112	400	0.00	

#### Sample ID: S - 24 C - 5 SOUTHSIDE WALL (H101763-24)√

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/22/2011	ND	448	112	400	3.64	

#### **Cardinal Laboratories**

\*=Accredited Analyte

REASE MOTE: Datably and Demages. Contract's lability and clerk's exchance remarky for any dain arising, whether based in contract or but, shall be limited to the amount poid by clerk for analysis. All cleans, including those for configure and any other cases whatevers shall be deemed whited clicks made in writing and received by Cartial within thiny (D) days after completion of the applicable service. In no exect shall Control be lottly for indicated or consequential distracts, without inhibition, because Humpstone, loss of use, or loss of perfor incurred by Central, regarded or whether such other in based upon any of the clower stand received and controls. Results relatively be the surplest identified above. The report shall not be reported and company in the clower approach of Central laboratories.

Celecy D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 6 of 12



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905 Fax To:

Received: Reported: 08/19/2011

08/22/2011

Sampling Date:

08/18/2011

Project Name:

MILLMAN 33 FEDERAL #1

Sampling Type:

Soil

Sampling Condition:

\*\* (See Notes)

Project Number: Project Location:

700794.002.01 SEC.33-19S-29E Sample Received By:

Jodi Henson

#### Sample ID: S - 25 C - 5 BOTTOM (H101763-25)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/22/2011	ND	448	112	400	3.64	
Sample ID: S - 26 C - 5 \	WESTSIDE WA	LL (H101763-2	26) 🗸						
Chloride, SM4500CI-B	mg	/kg	Anaiyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/22/2011	ND	448	112	400	3.64	
Sample ID: S - 27 A - 5 I Chloride, SM4500Cl-B	BOTTOM (H10 mg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	08/22/2011	ND	448	112	400	3.64	
Sample ID: S - 28 A - 5 \	WESTSIDE WA	LL (H101763-	28)						
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/22/2011	ND	448	1 <b>1</b> 2	400	3.64	
Sample ID: S - 29 A - 5	NORTHSIDE W	/ALL (H101763	(-29) <sup>/</sup>						
Chloride, SM4500Ci-B		/kg	•	d By: HM					
Analyte	Result	Reporting Umit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	08/22/2011	ND	448	112	400	3.64	

#### Cardinal Laboratories

\*=Accredited Analyte

PLEME NOTE: Liability and Durreges. Cerdnel's lability and client's exclusive membry for any dain arising, whether based in contract or but, shall be limited to the amount paid by dear for analyses. All dains, including bose for neglegates and any other cause whetherean shall be deered maked unless made in writing and received by Cartinal which Eithy (30) days after completed service. In no event shall Cerdnel be lable for incidental or consequented domages, which incidents, including without infrastron, business bitampoons, loss of use, or loss of ports found by daint, its subsidiaries, efficient or successors analyses out of or related to the performance of the services hereunder by Cerdnel, reportless of whether such damin is based upon any of the above student records or dain not be reproduced counts in the morn approval of Cerdnel Laboratories.

Celeg D. Keine

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:

08/19/2011

Reported:

08/22/2011

Project Name:

MILLMAN 33 FEDERAL #1

Project Number: Project Location: 700794.002.01 SEC.33-19S-29E Sampling Date:

08/18/2011

Sampling Type: Sampling Condition: Soil

\*\* (See Notes)

Sample Received By:

Jodi Henson

#### Sample ID: S - 30 A - 5 EASTSIDE WALL (H101763-30) √

Chloride, SM4500Ci-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/22/2011	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Certified subsidity and clerk's exclusive remay for any cleim wising, whether based in contract or lost, shall be finded to the amount paid by clerk for analysiss. All claims, including those for negligence and any other clear whitesterment will be destructed and the wilders made in writing and network by Certified within thing (80) days after completion of the applicable service. In on event shall Certified be saided for incidental or consequential damages, whole limitation, business telempones, to so it use, or loss of profits fourned by clerk, in substitution, a statistics or accusions stating out of or related to the performance of the services hereunder by Certified, repartiess of whether such claims become upon any of the slower statistic resources.

Celey & Keens

Celey D. Keene, Lab Director/Quality Manager

Page 8 of 12



#### **Notes and Definitions**

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

PLEASE MOTE: Liability and Dameges. Cardral's lability and clearly exclusive remedy for any darm arising, whether based in contract or tent, sivel be limited to the amount paid by clear for analyses. All clears, including those for neglegates and any other cases whichever shall be cleared walved values made in writing and received by Cardral within 18th; (30) days after completion of the applicable stantor. In on event drait Cardrall be labile for included to managerated damages, heading within 18th product in managerated throughout, loss of use, or loss of profits harmed by district cases accessors among out of or related to the performance of the services threated by Cardral, reporties of phether such dain is based upon any of the other stated recommon or otherwise. Restationaries.

Celey D. Keine

### Laboratories

#### CHARLOF-CUSTODY AND ANALYSIS REQUEST

Company Name:	75) 393-2326 FA) Talon / LPE				j.	<u> </u>	V. J. 33.		***********	-3:-10-0010-5		ANA	LYSIS	REGI	JEST		- 3	*****
Project Manager:	Mike Stufflef	ild				.O. &	and the state of t			]						1		
address:	408 WAT TEXAL					ompany:	Ta60/6	PE	- <u>;</u> ;  }						j			
City:	Artesia	Stato: NM	Zip:	88210		—— ∖tin:								İ		1		
Phoле #:	575-441-7254				1	Address:			-n 						-		1 1	
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# Laboratories

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name	(575) 393-2326 FAX Talon / LPE	(010) 000-2-7	- C		7 <del>24 713</del> 74			<u>.</u>	7.	10 July - 1 10		Transfer to	MILEY MORNING	HARO-TAPPO		ANA	LYSI	S SE	OUE	ST	······	<u>s - 3</u>	-
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#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hobbs, NM 88240 3 - 3 (575) 393-2326 FAX (575) 393-2476 Company Namo: Talon /LPE BILL TO ANALYSIS REQUEST Project Manager: Mike Stufflefield P.O. 🕸 408 WAT TOKAL AUF. Arteria Stato:NM Zip: 28210 Atin: 575-441.7254 Fax # 575-746-8965 Address: 706 794.002.01 Project Owner. Deuga Facry Gry. City: Millman 33 Federal Not State: Zip: Phone ih

Clty: Phono :: Project #: Project Name: Project Location: sec. 33-195-296 Mile STullehill Sampler Name: Fax vi: MATRIX PRESERVA SAMPLING FOR LAD USE ONLY (G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL cfto/icle Lab I.D. Sample I.D. fork! H101763 DATE TIME 215.21 64 bottom 2/18/11 1:010 ZZIS. ZZ C4 northirds vall 4. 2/18/11 1.04 P. 23 5.27 A4 Northside No.11 4 18/18/1 1:07P 8/18/11 1:14P 34 5- 24 C5 SOUTH FLAC VALL 25 5.25 CS botton 8/18/11 1:00 5 26:5-26 CS Vectide wort G 1:/18/4 3:24 P 9716.27 AS DOMOM. 8/18/1 1:45 P 85-28 R.S WEST CINENAN JEJ 5.29 AS Northside wall 8/18/11 1:548 40 5.30 AS Eastside wall 3/18/11 Z:48P analysis. All slaims, Including those for negligence and any other cause witaleoever shall be desired walved unless much in willing and received by Cardinal within 50 days after completion of the applicable

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? Cardinal cannot accept verbal changes. Please for written changes to 505-393-2476# 26

Page 12 of 12



August 31, 2011

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: MILLMAN 33 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 08/25/11 13:00.

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 Hydorcarbons

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

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 (V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Lab Director/Quality Manager



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received: Reported: 08/25/2011

08/31/2011

MILLMAN 33 FEDERAL #1

Project Name: Project Number:

700794.002.01

Project Location:

SEC.33-T19S-R29E

Sampling Date:

08/18/2011

Sampling Type:

Soil

Sampling Condition:

\*\* (See Notes)

RPD

7.69

Qualifier

Sample Received By:

Jodi Henson

#### Sample ID: S-31 B-5 EASTSIDE WALL (H101803-01)

Chloride, SM4500Cl-B	mg/	'L	Analyze	d By: HM			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC
Chloride	80.0	16.0	08/26/2011	ND	432	108	400

#### Sample ID: S-32 B-5 WESTSIDE WALL (H101803-02)

Chloride, SM4500CI-B	mg.	/L	Analyze	d By: HM					
Analyte	Resuit	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/26/2011	ND	432	108	400	7.69	

#### Sample ID: S-33 B-5 BOTTOM (H101803-03)

Chioride, SM4500CI-B	mg,	/ L	Anaiyze	O BY: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	08/26/2011	ND	432	108	400	7.69	

#### Cardinal Laboratories

\*=Accredited Analyte

PEASE NOTE: Liability and Damages. Cardina's tability and clients enclosed remaining whether hand in contract or tort, shall be limited to the amount paid by client for analyses. All delms, noticing those for neplogence and any other class enhanced and all the deemed without a limited by Cardina's within thirty (30), days after completion of the applicable sentice. In no event shall Cardina's be Riche for Incidental or consequential domages, before the incident, business intermediates, business intermediates, business intermediates, business intermediates, business intermediates, business intermediates, business intermediates, business intermediates, and the performance of the sentices hereunder by Cardinal, rependence of whether such claims is based upon any of the above stated reasons or otherwise. Residentiate intermediates, in the improvious except in fifth or their approval of Cardinal algorithms of the sentices. The senting the claims are considered as a senting the senting the senting and the senting the

Celey D. Keine



#### **Notes and Definitions**

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-8 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

PLEASE NOTE: Liability and Dunayse. Conduct's lability and clearly sections remoty for any dains arising, whether based in contract or but, shall be limbed to the amount poid by clear for analysis. All dains, industing those for negligence and any other cause whatevers shall be desired without unless made in writing and received by Cardinal within bility (30) days after completion of the applicable service. In no event shall Certical be fable for industrial dramage, industry, without limitation, Pushfeet Primarylism, loss of use, or loss of profits incurred by clearly is substituted, affecting out of or related to the performance of the services hereunder by Certical, regardies of what he such dains besent upon any of the above stated reasons or or enable. Returns related only to the surprise like of the performance of other laboratories.

Celeg D. Keine



Company Name: Tales /LPE

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

101 East Mariand, Hobbs, NM 88240 . (575) 393-2326 FAX (575) 393-2476

L	·									77.												
Project Manager	mike Stubble field						P.O.	#:						1								
Address:	408 VEST TEXAS AUX.						Con	pany:	Talon/L	72	J					]						
City:	Pricsin State: N	N Z	p: 8	202	0		Attn	:	7		•			•		1					.	i
Phone #:	575-441-7254 Fax#:	-35-	-2	46-8	905		Add	ress:			]	İ	1		1							
Project #:	700794, 002.01 Project Ow	пег:Д	رو(	on E	crylo	ري.	City	:			] .					ļ						
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FOR LAB USE CHLY	V		T	T	MATRI	X.	_ P	RESERV	SAMPL	ING	1. 3				İ	1						
Lab I.D. H101802	Sample I.D.	(G)RAR OR (C)OMP	# CONTAINERS	GROUNDWATER	SOIL OIL	SLUDGE	OTHER:	ACID/BASE: ICE / COOL. OTHER:	DATE	TIME	Total Chlorides											
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September 07, 2011

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: MILLMAN 33 FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 09/02/11 16:50.

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 Hydorcarbons

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

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 (V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Lab Director/Quality Manager

TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:

09/02/2011

Sampling Date:

08/31/2011

Reported:

09/07/2011

Project Name:

Sampling Type:

Soll

MILLMAN 33 FEDERAL #1

Sampling Condition:

\*\* (See Notes)

Project Number: Project Location: 700794.002.01 SEC.33-T19S-R29E Sample Received By:

Jodi Henson

#### Sample ID: S-1 B1 EASTSIDE WALL (H101884-01)

Chloride, SM4500Cl-B	
Analyte	

mg/kg

Reporting Limit

16.0

16.0

Analyzed By: HM

Analyzed Method Blank

% Recovery True Value OC

RPD Qualifier

Chloride

Result <16.0

<16.0

Result

96.0

16.0 09/06/2011 ND

BS 416

104

400

Sample ID: S-2 B1 SOUTHSIDE WALL (H101884-02)

Chloride,	SM450	oci-	В

mg/kg

Analyzed By: HM

104

3.77

3.77

Analyte Chloride

Result Reporting Limit

Analyzed 09/06/2011

Method Blank BS ND 416 % Recovery 104

True Value QC 400

RPD

Qualifier

#### Sample ID: S-3 B1 NORTHSIDE WALL (H101884-03)

Chloride, SN	Chloride, SM4500Ci-B Analyte									
	Analyte									
Chloride										

mg/kg

Reporting Limit Analyzed

09/06/2011

Analyzed By: CK Method Blank ND

BS % Recovery

416

True Value OC

400

RPD

Qualifier

3.77

#### Sample ID: S-4 B2 EASTSIDE WALL (H101884-04)

Chloride, SM4500CI-B	mg.	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/06/2011	ND	416	104	400	3.77	

#### Cardinal Laboratories

\*=Accredited Analyte

REASE NOTE: Debity and Damages. Contrad's liability and client's exclusive remedy for any client arising, whether based in contract or but, shall be limited to the emount poid by client for analysis. All carris, including those for negligence and any other cases inhibitioned and in a contract in which are included by Contral which this (10) days either completion of the applicable sensite. In no event shall contract be table for included to consequential destroyer, including, which interacts into the arising the performance of the samples thereunded by Contral, reporties of whether such claim's based upon any of the above stated reasons or otherwise. Results relate only to the samples light of the performance of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples the samples therefore the contract of the samples therefore the contract of the samples therefore the contract of the samples the samples the samples therefore the contract of the samples the samples therefore the contract of the samples therefore the contract of the samples the samples therefore the contract of the samples the sa

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 7



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:

09/02/2011

Sampling Date:

08/31/2011

Reported:

09/07/2011

Soil

Project Name:

MILLMAN 33 FEDERAL #1

Sampling Type:

\*\* (See Notes)

Sampling Condition:

Project Number: Project Location: 700794.002.01 SEC.33-T19S-R29E Sample Received By:

Jodi Henson

#### Sample ID: S-5 C2 BOTTOM (H101884-05)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By; CK										
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier					
Chloride	80.0	16.0	09/06/2011	ND	416	104	400	3.77						
Sample ID: S-6 C2 EASTSI	DE WALL (H	1 <b>01884-06)</b> ~												
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: CK										
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier					
Chloride	208	16.0	09/06/2011	ND	416	104	400	3.77						
Sample ID: S-7 C2 SOUTHS	SIDE WALL mg	• •		d By: CK										
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier					
Chloride	112	16.0	09/06/2011	ND	416	104	400	3.77						
Sample ID: S-8 C3 SOUTHS	SIDE WALL	(H101884-08)												
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: CK										
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier					
Chloride	96.0	16.0	09/06/2011	ND	416	104	400	3.77						
				ΝD	416	104	400	3.77						
Chloride  Sample ID: S-9 A5 EASTSI Chloride, SM4500Cl-B	DE WALL (H		,	ND d By: CK	416	104	400	3.77						
Sample ID: S-9 A5 EASTSI	DE WALL (H	1101884-09) ~	,		416	104 % Recovery	400 True Value QC	3.77 RPD	Qualifier					

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Uability and Danages. Cardina's NoNey and client's exclusive remainly for any clean arrang, whether based in contract or but, shall be limited to the emount point by clean for analyses. All claims, including those for nephysicise and any other clause whetherever shall be desired in mixed in mixing and received by Cardinal within this, (20) does after complete service. In no wheet shall Cardinal be leaded or production distribution, without initiation, business thamptoons, loss of use, or loss of profits housed by darket, its subsidiaries, stiffers or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stand reasons or otherwise. Restain relate only to the samples Cardinal photostand examples.

Celey D. Keena

TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 745-8905

Received:

09/02/2011

09/07/2011

Sampling Date:

09/01/2011

Reported:

Sampling Type:

Soil

Project Name:

\*\* (See Notes)

MILLMAN 33 FEDERAL #1

Sampling Condition:

Project Number:

700794.002.01

Jodi Henson

Project Location:

Analyte

SEC.33-T19S-R29E

Sample Received By:

CHIOL	inci	コーコナングのぐいっち	

mg/kg

Analyzed By: CK

BS % Recovery

True Value QC 400

Qualifier

Result

Reporting Limit 16.0

Analyzed 09/06/2011

RPD

Chioride

1250

Method Blank ND

416

104

3.77

Sample ID: S-11 A4 NORTHSIDE WALL (H101884-11)  $\checkmark$ 

Chloride, SM4500CI-B

mg/kg

Analyzed By: CK

Analyte Chloride

Result Reporting Limit 656 16.0

Analyzed 09/06/2011 Method Blank ND

BS 416 % Recovery 104

True Value QC 400

RPD

3.77

Qualifier

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: LishDay and Demayers. Certifiel's lability and clert's endance remainly for any clean arising, whether based in contract or text, shell be britted to the amount paid by clert for analyses. All cleans, including those for recipience and any other cause whethereone shall be deemed worked unless mede in writing and received by Cardinal within thiny (36) clays after completion of the applicable service. In no event shall Cardinal be liable for incolectal or consequential distress, including, without fortization, haviness interruptions, loss of use, or loss of profits housed by clert, its substitution, effects or successors aftering out of or related to the performance of the services hereunder by Cardinal registering such

Celen D. Kreene

Celey D. Keene, Lab Director/Quality Manager

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#### **Notes and Definitions**

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 SM4500CI-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

REASE NOTE: Upblishy and Damages. Conforming historial processor extensive remarks for any data making, whether based in contract or but, shall be Constant paid by close for analyses. All claims, including those for negigence and any offer cause whichever shall be desired washed unless make in watering and recoved by Conforming whether based upon a some processor of the applicable senter. In no exect shall Conform be table for necessarial demanders, which therebox because transporting is of use, or loss of ports housed by both formed by detailed, its substances, effects or successor along out of or necessal to the performance of the services hereafted to be some processor of whether such claims is based upon any of the above stated reasons or orbanism. Results relate only to the samples fourther above stated reasons or orbanism. Results relate only to the samples fourther above stated reasons or orbanism.

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 7



#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	101 East Marland, Hobbs, NM 883 (575) 393-2326 FAX (575) 393-247																										1-2	
Company Name								Ŀ	BILL TO									AN	AL'	YSIS	RI	EQUI	EST			-		
Project Manage	ir. mike stubblefield							Р.	.o.	#:		_								T					T	T	T	T
Address:	408 WIST TOTAL AUC							Company: TALO LIFE											Ì				]					
City:	Artesia State: N.M.	.Zip	):	38	t To			Af	ttn:	:			/															
Phone #:	575-441-7754 Fax#: 575.	746	-8	505			_	A	ddr	ress:	 :										-							
Project #:	200794,007.01 Project Owner		_			16	12	Ci	ity:															1				
Project Name:	Millman 33 Forker No 1						7	SI	tate	<b>):</b>		Z	ip:			:												
Project Locatio	n: 50(.33-T)95-R25E			_				PI	hor	ne #:	:								1					-			1	
Sampler Name:								F	ax f	<b>#</b> :						ا ا												
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Lab I.D. H101684	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER:	ACIDIRASE.	ICE / COOL	OTHER:		DATE	TIM	ΙE	Total chlorides												
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service. In no event shall C	ing those for negligence and any other cause whatsoever shall be Cardeal be liable for incidental or consequental damages, including	g withou	ut Amita	ition, t	ovalmess.	atlern,	uprions,	, tons	af are	a, or los	est of p	profits	ts incurred by a	dient, its sui	ibe draf	rias,	lo											
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Page 6 of 7



#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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	575) 393-2326 FAX (575) 393-247	6														Z-	
Company Name:	Taken / LPE				BII	LL TO					ANA	LYSIS	REQU	EST			
Project Manager:				P.C	O. #:			$\neg \tau$									
Address:	40% W. TOROK Ave.			Co	mpany: 7	100 7CDE								1	1	ļ	
City:	Actoria State: NM	Zip:	88210	Att													
Phone #:	51-441-7254 Fax#: <2	5.746	- 8705		dress:										ll		
Project #:	200794 007 o Project Owner	r_De	201 Energy Gept	Cit	y:			- 1					ŀ				
Project Name:	Millman 33 Fee . No !			Sta	ste:	Zip:		ŀ									
Project Location:	101. 33-T191-1727E			Ph	one #:			- 1		1		1		1	1	ŀ	
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Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	GROUNDWATER WASTEWATER SOIL OIL SILUDGE	OTHER:	ACIDIBASE: 32 ICE / COOL IN IC	DATE TI	IME 14 P	7510/ CKG010th									-
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service. In no event shall Car	tricee for negligence and any other cause whitelever shall be dired be liable for incidental or consequental demages, including	without imi	itation, business internessens.	اه عددا	luse, or loss of ph	of to incurred by client its	ひゅうか ひらん		t								
Rolinguished By:	out of or related to the performance of persons beneated by 9  Date:   70		ived By:	in pass	רת נסיף מחיי סוף ליחם	Pho	ne Resi		O Yes			Phone #:		<del></del>	***************************************		
Relinquished By:	20 July 2/11 Time: 45 2/11 Time: 50		ivod By:  Old II	es	Wer	Fax REN	Rosult MARKS:		O Yes	s □ No	'AddT				Apple organization and		
Delivered By:	·	() E	Sample Condition Cool Intact		CHEÇK,												
Sampler - UPS -	Bus - Other:	-L-	☐ Yes ☐ Ye	5 0	لا ليدا	Y											

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

Page 7 of 7