Form 3160-5 UNITED STATE	S	1		I APPROVED		
(August 2007) DEPARTMENT OF THE I	INTERIOR		Expires	No 1004-0137 :: July 31, 2010		
BUREAU OF LAND MAN		NM-9	se Senal No. 8173	,		
SUNDRY NOTICES AND REPC Do not use this form for proposals t abandoned well. Use Form 3160-3 (A	o drill or to re-e	enter an	ndian, Allottee or Tril	be Name		
SUBMIT IN TRIPLICATE Other	instructions on page	2. 7. If L	Jnit of CA/Agreement	t, Name and/or No.		
1. Type of Well		NM-1	NM-101348			
Oil Well 🔽 Gas Well Other		8. We Millm	8. Well Name and No. Millman SE Federal #1			
2. Name of Operator Devon Energy Production Company, LP		9. AP 30-01	I Well No. 5-30376			
3a. Address	3b. Phone Not (includ	de area code) 10. Fi	eld and Pool or Explo	pratory Area		
<ul> <li>20 N Broadway, Ste 1500, Oklahoma City, OK 73102</li> <li>4. Location of Well (<i>Footage, Sec., T.,R.,M., or Survey Description</i>,</li> </ul>	405-235-3611		way Morrow West ountry or Parish, State	<u> </u>		
4. Location of Wen ( <i>Poliage</i> , <i>Sec.</i> , <i>1.,K.,M., or Survey Description</i> , 2310' FNL & 660' FWL, UL E-33-T19S-R29E		EDD		·		
12. CHECK THE APPROPRIATE BO	X(ES) TO INDICATE	E NATURE OF NOTICE, RE	PORT OR OTHER D	PATA		
TYPE OF SUBMISSION		TYPE OF ACTION				
Notice of Intent	Deepen Fracture Tre	—	Start/Resume)	Water Shut-Off Well Integrity		
	New Constru	=	2	Declamation of		
Subsequent Report Change Plans	Plug and Ab	<u> </u>		Drilling Pit		
Final Abandonment Notice Convert to Injection	Plug Back	Water Dispo	osal			
<ol> <li>determined that the site is ready for final inspection.)</li> <li>Talon/LPE was retained by Devon Energy Corporation to a Federal #1. A total of 3,014.01 cubic yards of impacted soil fro</li> <li>In June 2011, Talon/LPE remobilized to the location to consubsequently excavated to prepare for the liner installation. Th 3-7 feet deep. A total of 11,376 cubic yards of impacted soil w</li> <li>A trench was excavated on the boundaries of the closed dr foot 20 Mil. liner was installed over the location. The edges of</li> <li>Native soil from Lea Land, LLC and a local borrow pit was to The soil lift was contoured to match the surrounding terrain an</li> </ol>	om the former drilling tinue the excavation he impacted area me vas transported to Cf illing pit area and on the liner was keyed i ransported to the loc	g pit was excavated and tra as per BLM reguirements. asured to be 370-feet long RI for disposal. September 20, 2011, upoi nto the ground a minimum ation and placed over the t	nsported to Lea Lai The impacted area by 240-feet wide to n approval from the of 3-feet below grou op of the liner in a r	nd, LLC. of the location was a depth ranging from BLM, a 36,000 square und surface.		
5. The location will be seeded using the BLM approved seed r	mixture # 3 and 4.			DECEIVED		
				RECEIVED		
14. I hereby certify that the foregoing is true and correct. Name (Printe	d/Typed)			DEC 09 2011		
Roy White	Title	Production Foreman		NMOCD ARTESIA		
Signature (m, 1) That	Date	11/15/2011				
	FOR FEDERAL	OR STATE OFFICE	USE			
Approved by						
FF		Title	Date			
Conditions of approval, if any, are attached. Approval of this notice does that the applicant holds legal or equitable title to those rights in the subje- entitle the applicant to conduct operations thereon.	s not warrant or certify	Office				
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a fictitious or fraudulent statements or representations as to any matter wi		nowingly and willfully to make	to any department or a	agency of the United States any false,		
(Instructions on page 2)		Acce	pted for reco	brd		

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November 15, 2011

620 E. Green Street Carlsbad, NM 88220

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

AMARILLO 921 North Bivins Amarillo. Texas 79107 Phone 806.4670607 Fax 806.467.0622

408 West Texas Ave.

Fax 575.746.8905

Artesia, New Mexico 88210 Phone 575.746.8768

ARTESIA

Attention:

Ms. Terry Gregston **Environmental Protection Specialist** 

Subject:

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

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.

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#### **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 DRILLIN CONSTRUCTIO SPILL MANAGEMEN **GENERAL CONTRACTING** 

Toll Free: 866.742.0742 www.talonlpe.com

AUSTIN

**9II 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 290/ State Hwy 349 Midland, Texas 79706 Phone 432.522.2133 Fax 432.522.2180

SAN ANTONIO **II Commercial Place** Schertz, Texas 78154 Phone 210.265.8025 Fax 210.568.2191

TULSA 525 South Main Street Suite 535 Tulsa, Oklahoma 74103 Phone 918.742.0871 Fax 918.382.0232

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

NG	Depth to ground water	50'- 100'
NC.	Wellhead Protection Area	>1000'
NT	Distance to surface water body	>1000'

The former drilling pit area was originally excavated to a depth of approximately 2feet 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	BTEX	Chlorides	<u>TDS</u>	<u>TPH</u> (mg/L)
Skylight Cave 1	ND*	1,550	5,570	ND
Skylight Cave 2	ND	1,600	5,520	ND

\*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

<u>Sample</u>	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	

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# Sample date: September 1, 2011

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

<u>Sample</u>	Location	<u>Chlorides</u>
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

mikel Sullafield

Mike Stubblefield Project Manager

David J. Adkins District Manager

# **APPENDIX I**

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# **GROUNDWATER DATA**

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

(quarters are 1=NW 2=NE 3=SW 4=SE)													
المحالية المحالية المحالية والمحالية المحالية المحالية والمحالية والمحالية والمحالية والمحالية والمحالية والمحا		(quarte	rs a	re s	sma	llest	to larg	est) (N	AD83 UTM	1 in meters)		(In feet)	4
Sub			5.5 4	0.10.	Q	Water				T C	epthD	epth,W	ater
POD Number basi	n`Use C	ounty	64	16	4	Sec	Ţwş	Rng	X	Ŷ	Wěll Ŵ	/aterço	lumn
CP 00646	PRO	ED	1	1	4	07	19S	29E	583155	3615552*	199		
CP 00681	PRO	ED	1	1	3	34	19S	29E	587230	3609127*			
CP 00703	PRO	ED		4	1	36	19S	29E	590945	3609441*	200	115	85
CP 00739	PRO	ED	3	4	4	35	19S	29E	590046	3608532*	200	110	90
CP 00741	PRO	ED	1	3	2	34	19S	29E	588030	3609533*	230	60	170
CP 00820	STK	LE		2	4	13	19S	29E	591713	3613870*	120		
CP 00821	STK	LE		4	4	25	19S	29E	591743	3610248*	120		
									Aver	age Depth to	Water:	95 fee	ət
										Minimum	Depth:	60 fee	∍t

Maximum Depth: 115 feet

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

#### PLSS Search:

Township: 19S Range: 29E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

# APPENDIX II

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# **BLM STIPULATION OF APPROVAL**

# **BLM GRID SECTION SITE MAP**

# **David Adkins**

From: Sent:	Kuhnert, Nathan [Nathan.Kuhnert@dvn.com] Friday, June 10, 2011 3:15 PM
То:	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.)

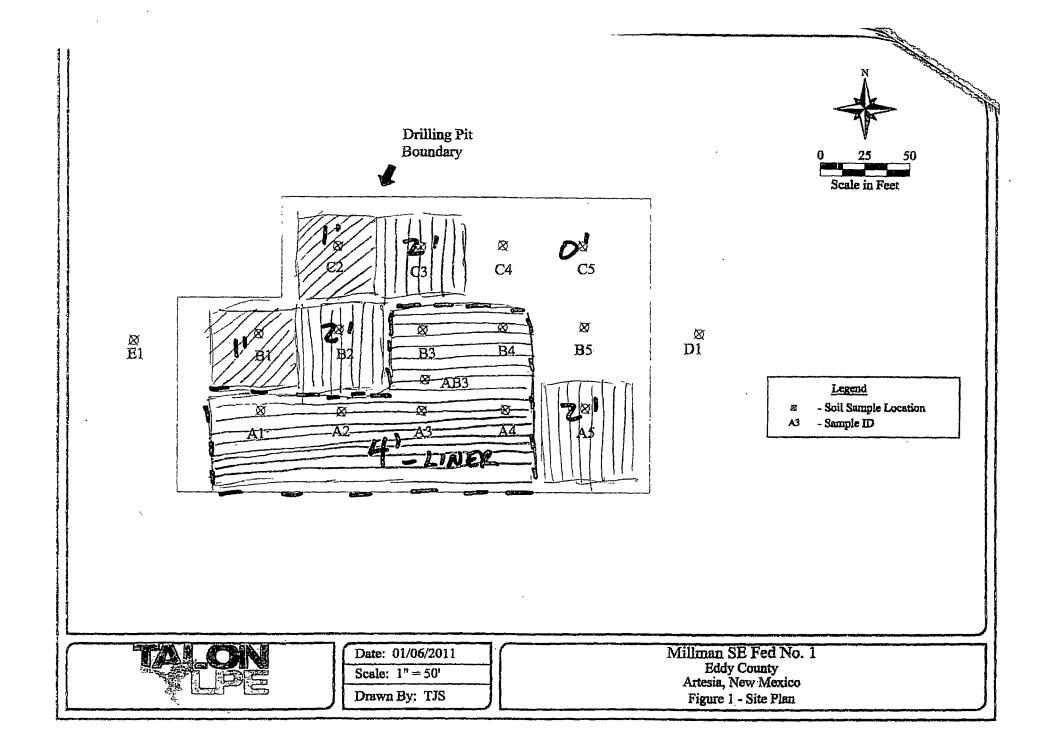
Those are our thought processes so far on this site. If you have any questions, feel free to give me a call on my cell.

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

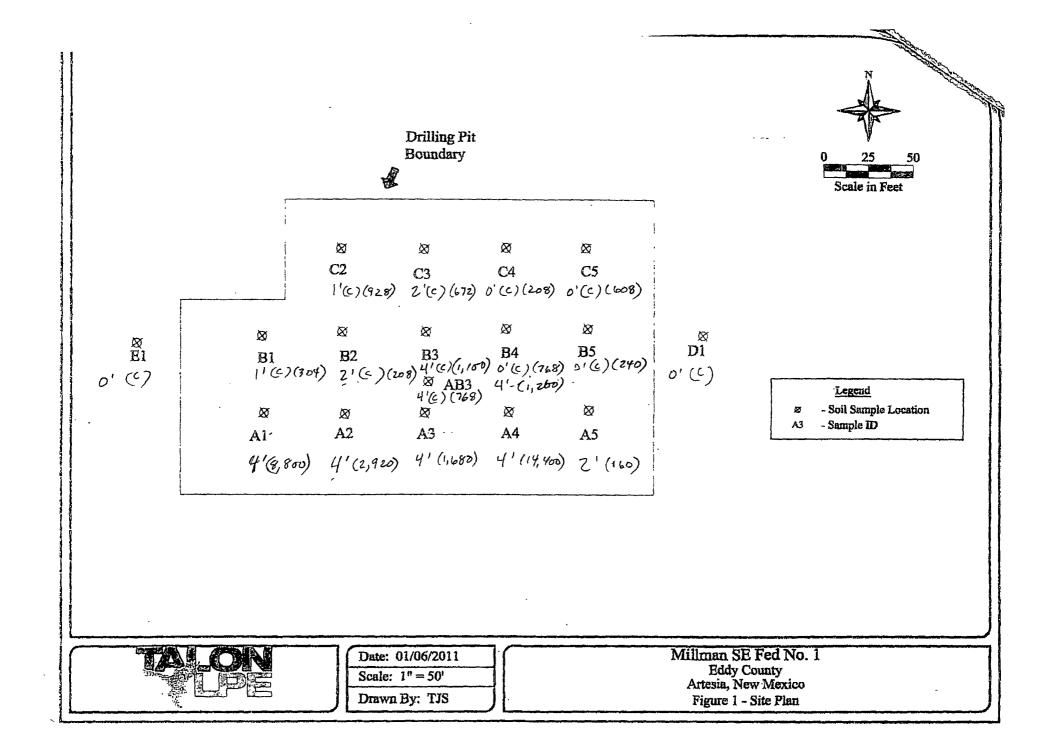
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# **APPENDIX III**

# LABORATORY RESULTS

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/ 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)

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,

Lope S. Moreno

Hope Moreno Inorganic Technical Director



		BLM CAROLYN I 620 E. Gree Carlsbad N Fax To:	ene		
Received: Reported: Project Name: Project Number: Project Location:	03/17/2011 03/23/2011 DEVON-MILLMAN NONE GIVEN NOT GIVEN			Sampling Date: Sampling Type: Sampling Condition: Sample Received By:	03/17/2011 Water ** (See Notes) Jodi 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	Qualifier
, 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,	۲ <b>L</b>	Analyze	d By: HM					
Analyte	Analyte Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	1550	4.00	03/18/2011	ND	104	104	100	0.00	
TDS 160.1	mg,	′L	Analyze	d By: HM		<u>_</u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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	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	97.3	% 70-130	ı						
Surrogate: 1-Chlorooctadecane	101	% 70-130							

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages Cardinal's lability and client's exclusive remedy for any daim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incordential 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 the services hereunder by Cardinal, regardless of whether such claim is based 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 Cardinal Laboratories,

Lope S. Moreno

Hope Moreno, Inorganic Technical Director



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#### **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 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

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Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE. Lability and Damages. Cardinal's liability and client's exclusive remedy for any daim ansing, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based 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 Cardinal Laboratores.

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Lope S. Moreno-

Hope Moreno, Inorganic Technical Director



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Project Manager: Address: 40						-	BI	LL TO	-					ANA	LYSI	S RE	QUE	ST			
Address: 40	TALON/LPG D. ADKINS	~				P.	0. #:			1	T			Ī		T			1		
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city: Artes	ice NM State:	Zip:					tn:				Į	ł		1	1			l	Į		
Phone #: 575.4	141. 4835 Fax #:			**		A	ldress:						[	[		1	[				
Declart #	Project Own	er:	r lane			_ Ci	ty:	-14 541	-								{	1			
Project Name:	Devon - Millmar	<u>v</u>				St	ato:	Zip:			]				l			[			
Project Location:		-				Pł	none #:						]	}	]	]		]			
	Carolyn Moores + Aror	on 8	60				x #:	<b>1</b>		1		}	1	)				)	]	)	
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Lab I.D.	Sample I.D.	DR (	EN AN	WATE	۱   :	1	ACID/BASE #	]		1m	Hd	5							1	]	
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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.

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,

Lope S. Moreno

Hope Moreno Inorganic Technical Director



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

Received:	03/17/2011	Sampling Date:	03/17/2011
Reported:	03/23/2011	Sampling Type:	Water
Project Name:	DEVON-MILLMAN	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

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

BTEX 8260B	mg/	L	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
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	115 9	6 80-120	1						
Surrogate: Toluene-d8	85.9	% 80-120							
Surrogate: 4-Bromofluorobenzene	93.3	% 80-120							
Chloride, SM4500Cl-B	L	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
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	Qualifier
TDS	5520 ->	5.00	03/22/2011	ND				4.60	
ТРН 8015М	mg/	L	Analyze	ed By: CK/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% 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	1169	6 70-130	· · · · · · · · · · · · · · · · · · ·						
Surrogate: 1-Chlorooctadecane	124 9	6 70-130							

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Lability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsever shall be deemed walved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profils incurred by client, if's subsidianes, affiliates or successors ansing out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples lifenufied above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories

Lope S. Moreno

Hope Moreno, Inorganic Technical Director



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#### **Notes and Definitions**

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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

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Cardinal Laboratories

\*=Accredited Analyte

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Lope S. Moreno-

Hope Moreno, Inorganic Technical Director



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	1 East Marland, H 75) 393-2326 FAX																					
Company Name: 36-M Project Manager: 16+77 Greg 5/20 Addross: 620 E Green 54						BILL TO								ANALYSIS REQUEST								
Project Manager:	Terry	Greaston	_	_			P.O. #: Tribour					[	1	1		T	<u> </u>		T	[		
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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.

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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



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

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

Chloride, SM4500CI-B mg/kg		Analyze	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/22/2011	ND	416	104	400	7.41	

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

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/22/2011	ND	416	104	400	7.41	

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

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	08/22/2011	ND	416	104	400	7.41	

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

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9100	16.0	08/22/2011	ND	416	104	400	7.41	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

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

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: HM					<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS '	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>14400</b>	16.0	08/22/2011	ND	416	104	400	7.41	

#### Sample ID: S - 6 B - 1 BOTTOM (H101763-06)

Chloride, SM4500Cl-B	mg/kg		Analyze	Analyzed 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 WESTSIDE WALL (H101763-07)

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: HM			<u> </u>			
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 EASTSIDE WALL (H101763-08)

Chloride, SM4500Cl-B	nloride, SM4500Cl-B mg/kg		Analyzed By: HM			<u></u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8100	16.0	08/22/2011	ND	416	104	400	7.41	

#### Sample ID: S - 9 B - 2 SOUTHSIDE WALL (H101763-09)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	08/22/2011	ND	448	112	400	0.00	

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D. Kere

Celey D. Keene, Lab Director/Quality Manager



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

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

Chloride, 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 NORTHSIDE WALL (H101763-11)

Chloride, SM4500Cl-B	mg/kg		Analyzed 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 SOUTHSIDE WALL (H101763-12)

Chloride, SM4500CI-B	mg <sub>.</sub>	/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/22/2011	NÐ	448	112	400	0.00	

#### Sample ID: S - 13 C - 2 BOTTOM (H101763-13)

Chloride, SM4500Cl-B	mg	mg/kg An		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 EASTSIDE WALL (H101763-14) $\checkmark$

Chloride, SM4500Cl-B	00Cl-B mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1070	16.0	08/22/2011	ND	448	112	400 <sup>.</sup>	0.00	

#### Cardinal Laboratories

\*=Accredited Analyte

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

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

Chloride, SM4500Cl-B	mg/kg		Analyzed 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 SOUTHSIDE WALL (H101763-16) $\checkmark$

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed 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 BOTTOM (H101763-17)

Chloride, SM4500Cl-B	oride, SM4500Cl-B mg/kg		Analyze	Analyzed 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 NORTHSIDE WALL (H101763-18)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	<b>08/22/2</b> 011	ND	448	112	400	0.00	

#### Sample ID: S - 19 A - 3 NORTHSIDE WALL (H101763-19)

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10000	16.0	08/22/2011	ND	448	112	400	0.00	

#### **Cardinal Laboratories**

\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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:	700794.002.01	Sample Received By:	Jodi Henson
Project Location:	SEC.33-19S-29E		
	/		

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

Chloride, SM4500CI-B	mg/kg		Analyzed 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	0.00	

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

Chloride, SM4500Cl-B mg/kg			Analyze	Analyzed By: HM				· · · ·		
Analyte		Result	Reporting Limit	Analyzed	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	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	Analyze	d 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) $\checkmark$

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					<u> </u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64 <b>.0</b>	16.0	08/22/2011	ND	448	112	400	3.64 <sub>.</sub>	

#### **Cardinal Laboratories**

\*=Accredited Analyte

PLEASE NOTE Lability and Damages Cardina's lability and clent's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of justic related to the cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by clent, its subsidianes, affiliates or successors analgo ut of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based upon any of the above stated records or otherwise Research related to the the samples identified above This report shall not be reproduced except in full with writen approval of Cardinal Laborations.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

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

Chloride, 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	3.64	

#### Sample ID: S - 26 C - 5 WESTSIDE WALL (H101763-26) $\checkmark$

Chloride, SM4500Cl-B mg/kg		Analyzed 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 BOTTOM (H101763-27) $\checkmark$

Chloride, SM4500Cl-B	mg	/kg	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 WALL (H101763-28)

Chloride, SM4500Cl-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	

#### Sample ID: S - 29 A - 5 NORTHSIDE WALL (H101763-29)

Chloride, SM4500Cl-B	, mg,	/kg	Analyze	d By: HM				x	
Analyte	Result	Reporting Limit	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

PLEASE NOTE Liability and Damages Cardinal's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsever shall be deemed waved unless made in writing and received by Cardinal within thirty (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 subsidianes, affiliates or successors anang out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based 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 Cardinal Laboratories.

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

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

Chloride, SM4500Cl-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 Cardinal's lability and clent's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by clent for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be table for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by Cardinal within the ty subsidiance affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based union any of the above stated reasons or otherwise. Result breast inetia or the services individed above. This report shall not be reproduced eccept in full with written approval of Cardinal Licentaria

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### **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 NOTE ' Liability and Damages Cardinal's liability and clent's exclusive remedy for any claim arising, whether based in contract or tart, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential domages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors analing out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate identified above. This report shall not be reproduced except in full with writem approval of Cardinal Laboratones.

Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 9 of 12

Laboratories

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

101 East Marland, Hobl (575) 393-2326 FAX (57	•			х х	1 - 3
Company Mame: Talon /LPE	an a	[		ANALYSIS REC	NUEST
Project Manager: Mike Stublefield		F.O. 3:			
Address: 408 West Texas Av	ć	Company: TAGA/CPE	_		
City: Arteria S	tate: NM Zip: 88210	Attn:	_		
Phone #: 575-441,7254 Fa	x #: 575-746-8905	Address:			
,	pject Owner: Devon Energy Corp.	City:			
Project Nome: Millman 33 Federa		Siste. Zip			
Project Location: sec. 33-195-296		Pitone #:			
Sampler Hame: Mike Stullepile		Ferrar			
FOR LAB USE ONLY	DATRIX	PRESERV. SAMPLING	, celi		
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7 5.7 BZ Wat Side VA		1 8/R/11 11:54 M			
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9 5.5 BZ southrike Wal		r 8/18/11/12:04A	<u> </u>		
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#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Warland, Hohbs, NE - 28248 (876) 393-2326   FAX (875) 383-2476		z - 3
Company Mame: Talon 14PE	State Te	ANALYSIS REQUEST
Project Manager: Mike Stublefield	P.O. 1:	
Address: 408 West Texas Auc.	Company: Tala / CPE	
City: Artoria State: NM Zip: 28210	Aito:	
Phone II: 575-441.7254 Fax II: 575-746-8965	Addrecs:	
Project *: 700794.002.01 Project Owner: Devon Encry C	r. Cky:	
Project Mame: Millman 33 Federal Nal	Ziais: Zip:	
Project Location: sec. 33-195-296	Phone #	
Sampler Mame: Mike Stullehield	Far: 11:	
FOR LAB USE ONLY	PRESERV. SAMPLING	
Fab I.D. Containers # Containers Solution Bool (C) MP. MMATER MMATER Solution	SLUDGE ACID/BASE CE/COOL OTHER.	Totul estarila
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15 5.15 CZ SUNLIGHT MAIL	v 8/18/11 12:24P	
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LEASE NOTE - Liability and Damages, Cardinal's lebihity and clearl's exclusive remedy for any cliam amina, whether based in c halyses. All claims including those for negligence and any other cause whatsoever shall be usemed warve unless make in with	to and received by Cardinal within 30 days after completion of	the applicable
These is no event that Cardinal be labele for moderatal or consequential do larges or Priving without line alone, business network likeling or purcessors maying and of a celebred to the performance of services become provided and recording recording recording to the performance of services become provided and record of the performance of services become provided and recording recor	chings besed up in any of the above stated transment other	wec. csuft: Li Ves □ No Add'l Phone //: it: □ Yec □ No Add'l Fax //:
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Page 11 of 12



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

#### 101 East Marland, Hobbs, NM 88240 3-3 (575) 393-2326 FAX (575) 393-2470 Company Name: Talon / LPE BEEL TO ANALYSIS REQUEST • 25 Project Manager: Mike Stulllefield P.O. #: Address: 408 West Texas Ave. Company: Tal LPE State: NM Zip: 2210 Actoria Atin: City: Phone #: 575-441.7254 Fax #: 575-746-8965 Address: 700794.002.01 Project Owner: Devon Encry City. Project #: City: Millman 33 Federal Nol Project Name: State: Zin: Project Location: sec. 33-195-296 Phone #: mike Stullepield Sampler Name: Fax #: PRESERV. FOR LAB USE ONLY MATRIX SAMPLING ches intele (G)RAB CR (C)OMP. GROUNDWATER CONTAINERS WASTEWATER Lab 1.0. Sample I.D. ACID/BASE. CE / COOL OIL OTHER: tor41 OTHER. SOIL HIDTOB DATE - TIME 21 5-21 64 bottom G 8/18/11 1:01P ZZ 5.22 C4 Northeide Wall 8/18/11 1.04 P. ٩v , 23 S.ZZ AY Northside Noil G 8/18/11 1:07P \* 24 5.24 65 southride vall 8/18/11 1:14P 1 5 r 25 5.25 CS botton ς 8/18/11 11:120 v 26:5.26 CS Vertile WAL G :/18/11 1:24P 1 1 27 5-27 AS bottom . ς, 8/18/11 1:45P ~ 205-28 AS Westerde WAN a ~ 2112/11 1:48P 1 2915.29 AS Northside wall C ~ 8/18/11 1:54P 1 5-30 AS Eastside wall ۵ 8/18/11 Z:48P V 1

PLEASE NOTE. Lobbility and Damages Cardinals leability and ritent's exclusive remetly for any claim and no whether based in contract or fort, shall be limited to the amount part by the cleant for the analyses. All claims, including those for negligence and any office cause whatsoever shell be deemed wolved unless made in writing and received by Cardinal which 30 rings after completion of the applicable

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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.

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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	08/25/2011	Sampling Date:	08/18/2011
Reported:	08/31/2011	Sampling Type:	Soil
Project Name:	MILLMAN 33 FEDERAL #1	Sampling Condition:	** (See Notes)
Project Number:	700794.002.01	Sample Received By:	Jodi Henson
Project Location:	SEC.33-T19S-R29E		

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

Chloride, SM4500Cl-B	mg/L Analyzed By: H			d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/26/2011	ND	432	. 108	400	7.69	

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

Chloride, SM4500CI-B	mg	/L	Analyze	d By: HM					
Analyte	Resulț	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)

Chloride, SM4500CI-B	mg,	/L	Analyze	d 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	

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\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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#### Notes and Definitions

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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

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (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 nourred by client, its subsidianes, affiliates or successors anising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Result relate only to the samples demined above This report shall not be reproduced except in full with written approval of Cardinal Laborationes.

Celez D. Keene

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

#### 101 East Marland, Hobbs, NM 88240

	575) 393-2326 FAX (575) 393-2470	<u>3</u>																			
Company Name:	Talon / LPE					100		<u>- 1</u>	网络的					ANA	LYSI	S RE	QUE	ST			
Project Manager:	miko Stubile field	_				Ρ.	0. #:														
Address:	408 Vert Terar Aur.					C	ompai	1y: 7	Talon/L	PE											
City:	Actesin State: MM	Zip:	80	210			tn:				1				l						
Phone #:	575-441-7254 Fax#: 57					Ad	idres	3:													
Project #:	700 794, 002.01 Project Owner				Gro	. ci	ty:								{		Į				[ ]
Project Name:	Millmon 33 Federal No	Villmon 33 Federal No.1				ate:		Zip:		1											
	Sce 33- 7195-829 F						ione #	t:													
Sampler Name:	milestallfield					Fa	x #:				ت. 1										
FOR LAB USE ONLY	· · · · · · · · · · · · · · · · · · ·	$\Box$	T		RIX		PRES	SERV	SAMPL	NG	1.5										
Lab I.D. H101803	Sample I.D. EAST 5-31 B-5 Author volt	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER SOIL	olt.	OTHER :	ACID/BASE:	OTHER :	DATE	TIME	Total Chloride										
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Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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.

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. Kune

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	Sampling Type:	Soil
Project Name:	MILLMAN 33 FEDERAL #1	Sampling Condition:	** (See Notes)
Project Number:	700794.002.01	Sample Received By:	Jodi Henson
Project Location:	SEC.33-T19S-R29E		

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

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

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

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

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

Chloride, SM4500Cl-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	

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

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	

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#### \*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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#### Analytical Results For:

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	Sampling Type:	Soil
Project Name:	MILLMAN 33 FEDERAL #1	Sampling Condition:	** (See Notes)
Project Number:	700794.002.01	Sample Received By:	Jodi Henson
Project Location:	SEC.33-T19S-R29E		

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

Chloride, SM4500Cl-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 EASTSIDE WALL (H101884-06) ~

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	

#### Sample ID: S-7 C2 SOUTHSIDE WALL (H101884-07)

Chloride, SM4500Cl-B mg/kg			Analyze	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 SOUTHSIDE WALL (H101884-08)

Chloride, SM4500Cl-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	

#### Sample ID: S-9 A5 EASTSIDE WALL (H101884-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/06/2011	ND	416	104	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager



TALON LPE MIKE STUBBLEFIELD 408 W. TEXAS AVE. ARTESIA NM, 88210 Fax To: (575) 7.45-8905

Received:	09/02/2011	Sampling Date:	09/01/2011
Reported:	09/07/2011	Sampling Type:	Soil
Project Name:	MILLMAN 33 FEDERAL #1	Sampling Condition:	** (See Notes)
Project Number:	700794.002.01	Sample Received By:	Jodi Henson
Project Location:	SEC.33-T19S-R29E		

# Sample ID: S-10 A3 NORTHSIDE WALL (H101884-10)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: CK				,	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	09/06/2011	ND	416	104	400	3.77	

#### Sample ID: S-11 A4 NORTHSIDE WALL (H101884-11)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	09/06/2011	ND	416	104	400	. 3.77	

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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

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Page 5 of 7



101 East Marland, Hobbs, NM 88240

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

#### (575) 393-2326 FAX (575) 393-2476 1-2 Company Name: BILL TO Talon/LPE ANALYSIS REQUEST Project Manager: Mike Stubblefield P.O. #: 408 West Texas Auc Company: TALO Address: Artesin State: N. M. Zip: 88210 City: Attn: 575-441-7254 Fax #: 575-746-8905 Phone #: Address: 200794,002.01 Project Owner: Deven Emry V Gin. City: Project #: Millman 33 Federal No 1 Project Name: State: Zip: Project Location: SCC. 33-T195-R 25E Phone #: mile stablefield Sampler Name: Fax #: Total Chiorides MATRIX FOR LAB USE ONLY PRESERV SAMPLING (G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SLUDGE OTHER . ACID/BASE: ICE / COOL Lab I.D. Sample I.D. OTHER SOIL HIDISE ы Ы DATE TIME 5-1 Bleastride Wall 8/31/20119:27A J <u>G</u> Л 2 5-2 BI southside WALL 8/31/2011 9:34A 1 <u>ç</u> 5.3 BI north side wall G 3/31/2011 9:31A 11 $\mathcal{V}$ 4 S-4 B2 cust side wall 8/31/2011 9:491 K, V 5 5.5 C2 hottom 8/31/2011 5:54A ú 65-6 CZ eastside wall ς 8/21/201 9:59A 5.7 C2 southside wall 8/31/201 10:12 A 1 ۲. 5.8 (3 southside wall Ð 8/31/2011 10:03/ 6. 9 5-9 A5 castside wull 3/31/201: 9:23 A 1 ፍ 10 5.10 A3 Northsink Wall 9/1/2011 4:11P

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Page 6 of 7



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

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#### 101 East Marland, Hobbs, NM 88240 \_\_\_\_\_ ----

	(575) 393-2326 FAX (575) 393-247	6																2-	2
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