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Closure Report

**Cimarex Energy Company: Pintail 23 Federal Com #008H
|30-015-38657|2RP-4006|**

August 24, 2017

Prepared By:

TALON/LPE
408 W. Texas Avenue
Artesia, New Mexico 88210

Prepared For:

Cimarex Energy Company
600 N Marienfeld Ste.
Midland, Texas 79701

Ms. Christine Alderman
Cimarex Energy Company
600 N. Marienfeld Ste. 600
Midland, TX 79701

Subject: **Remedial Activities and Closure Report**
Cimarex Energy Co.
Pintail 23 Fed Com #008H |30-015-38657|2RP-4006|

Dear Ms. Alderman,

Cimarex Energy Company (Cimarex) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The incident description, soil sampling results, remediation activities, and closure request are submitted herein.

Site Information

The Cimarex Pintail 23 Fed Com #8H is located approximately twenty-five (25) miles south of Carlsbad, New Mexico. The legal location for this facility is Unit Letter M, Section 23, Township 25S South and Range 26 East in Eddy County, New Mexico. More specifically the latitude and longitude are 32.1087494 North and -104.2693253 West. A site plan is presented in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of the Reagan-Gypsum land complex with 0 to 3 percent slopes. Drainage courses in this area are normally dry.

Ground Water and Site Ranking

According to the New Mexico Office of the State Engineer database, the ground water in this area is approximately 35-feet below ground surface (BGS). The referenced ground water data is presented in [Appendix II](#). Therefore the ranking for this site is a **20** based on the following:

Depth to ground water	<50'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Based upon the site ranking of **20**, NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 100 mg/kg for TPH and the recommended guideline for Total Chlorides is 1,000 mg/kg.

Incident Description and Initial Remedial Actions

On November 20, 2016 a 2-inch threaded fitting on a water line failed due to corrosion. This resulted in a release of approximately 50bbls of produced water. Approximately 2bbls of produced water were recovered. The fluid from this release impacted the pasture east of the location measuring approximately 280-feet by 120-feet (see site plan). On December 2, 2016, Talon mobilized personnel to the site to perform an initial site assessment and to collect soil samples within the impacted area. The soil samples were analyzed for TPH, BTEX, total chlorides, and detailed salinity. The analytical results from the soil analysis are summarized in the table below.

Laboratory Results

See [Appendix V](#) for complete report of laboratory results.

Sample ID	Depth ft	BTEX mg/kg	TPH mg/kg	Chloride mg/kg	pH	EC mmhos/cm	Sodium meq/L	Potassium meq/L	Calcium meq/L	Magnesium meq/L	SAR
S-1	0	<0.300	<10.0	11,627	7.2	100.5	928.49	16.33	167.26	17.86	96.51
S-1	1	--	--	10,635	7.2	73.6	13109.00	373.00	4224.00	165.00	53.86
S-1	2	--	--	3,899	7.2	39.3	64.01	0.57	34.05	23.50	11.94
S-1	3	--	--	1,063	7.5	7	16.51	0.30	47.13	4.76	3.24
S-1	4	--	--	2,410	7.4	18.3	50.34	0.41	131.15	11.09	5.97
S-1	5	--	--	1,489	7.6	12.47	44.45	0.36	74.68	5.72	7.14
S-1	6	--	--	921	7.7	4.67	8.55	0.30	39.94	3.34	1.84
S-1	7	--	--	128*	7.8	2.86	6.16	0.72	31.29	1.78	1.52
S-2	0	<0.300	<10.0	5,246	7	62.8	471.31	5.11	159.55	8.14	51.47
S-2	1	--	--	141	7.4	4.88	13.70	0.39	37.93	1.36	3.09
S-2	2	--	--	64*	--	--	--	--	--	--	--
S-3	0	<0.300	<10.00	4,537	7.1	47.7	391.09	3.18	178.71	5.32	40.77
S-3	1	--	--	212	7.6	5.16	14.34	0.42	38.89	1.51	3.19
S-3	2	--	--	128*	7.6	4.4	13.46	0.36	33.46	1.13	3.24
S-4	0	<0.300	<10.00	8,720	7.2	86.7	734.56	13.13	205.89	10.49	70.62
S-4	1	--	--	5,246	7.3	33.1	166.12	1.54	190.31	6.58	16.74
S-4	2	--	--	141	7.9	3.39	7.61	0.34	30.56	1.25	1.91
S-4	3	--	--	144*	7.9	2.7	4.50	0.32	29.66	1.38	1.14
S-5	0	<0.300	<10.00	5,884	7.4	40.4	348.43	3.50	176.69	5.33	36.52
S-5	1	--	--	921	7.8	6.23	30.01	0.73	32.44	1.73	7.26
S-5	2	--	--	141	7.8	2.86	6.08	0.37	30.09	0.86	1.55
S-5	3	--	--	80*	8	2.8	5.96	0.36	22.91	3.38	1.65

(--) Analyte Not Tested

(*) Laboratory Chloride Confirmation

Remedial Actions

- Pursuant to the approved work plan the impacted area in the vicinity of sample location S-1 was excavated to a depth of 4-feet BGS. A 20-mil reinforced liner padded with felt was installed at the bottom of the excavation in order to encapsulate the remaining chloride impacts.
- The impacted areas in the vicinity of sample locations S-2, S-3, and S-5 were excavated to a depth of 1-foot BGS.
- The impacted area in the vicinity of sample location S-4 was excavated to a depth of 2-feet BGS.
- All of the excavated material was be hauled to an NMCOD approved solid waste disposal facility, Lea Land, LLC.
- The location was also downsized per BLM interim reclamation guidelines. The caliche generated during this process was used to backfill the bottom of the excavation.
- The remaining vertical extent of the excavation was backfilled with top soil and contoured to match the surrounding terrain.
- The excavated areas and the downsized area were seeded with BLM #1 seed mixture. A seed label is attached in [Appendix IV](#).

Closure

On behalf of Cimarex Energy we respectfully request that no further actions be required and that closure with regard to this release be granted.

If we can provide additional information or be of further assistance, please contact our office at (575)-746-8768.

TALON/LPE



Sheldon L. Hitchcock
Project Manager



David J. Adkins
District Manager

Attachments

- Appendix I Site Plan
- Appendix II Groundwater Data
- Appendix III Initial C-141 & Final C-141
- Appendix IV Seed Label
- Appendix V Laboratory Results

APPENDIX I

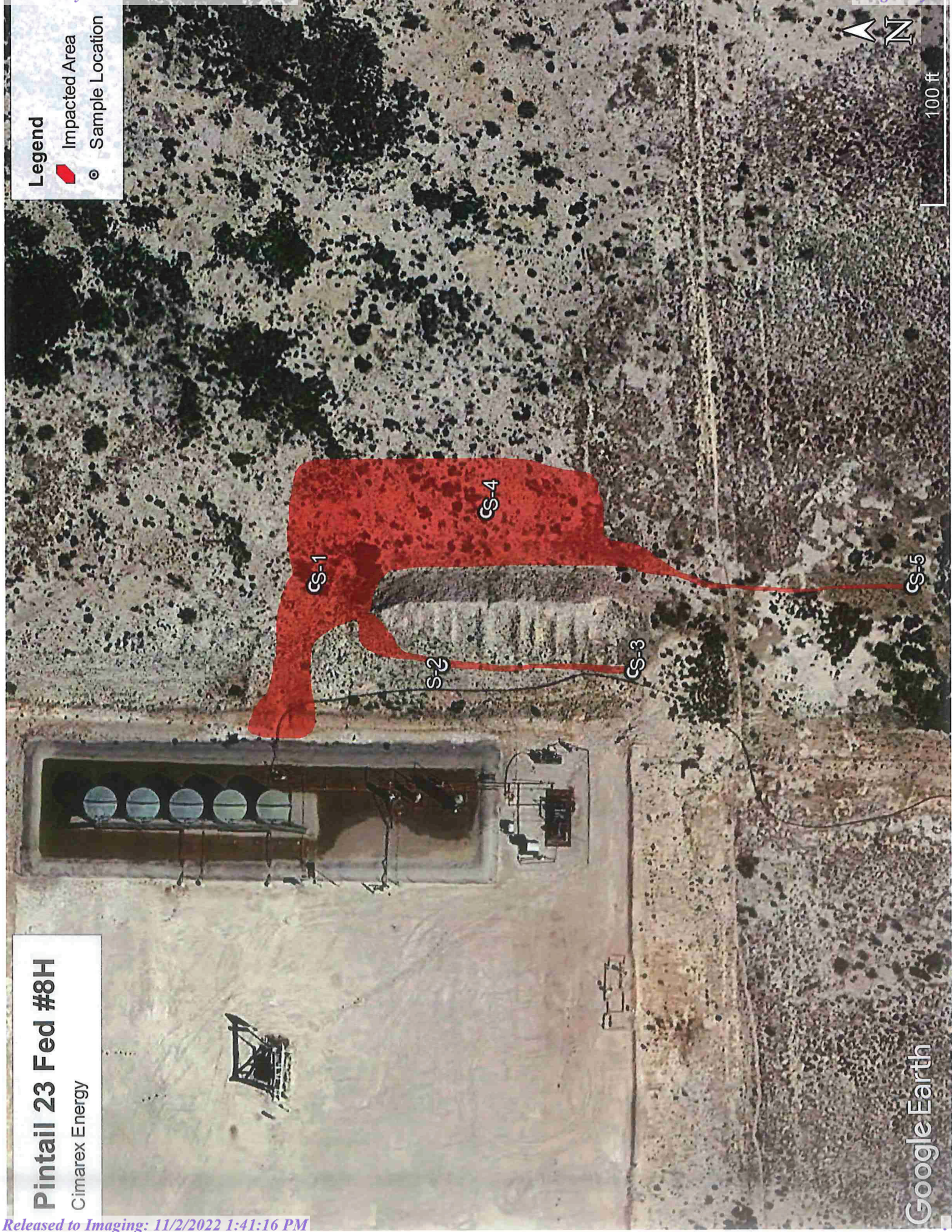
SITE PLAN

Pintail 23 Fed #8H

Cimarex Energy

Legend

- Impacted Area
- Sample Location



APPENDIX II

GROUNDWATER DATA



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03655 POD3	CUB	ED		1	4	4	22	25S	26E	568458	3553019	465			
C 02220	CUB	ED		3	1	2	26	25S	26E	569598	3552352*	862	35		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

Basin/County Search:

County: Eddy

UTMNAD83 Radius Search (in meters):

Easting (X): 568890

Northing (Y): 3552845

Radius: 1000

*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.

12/29/16 11:15 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



OSE Well Locations

Wells visible at 1:18,000 with 1,000 features per view

Esri World Geocoder (1 of 2)

C-02220

OBJECTID	123424
POD Basin	C
POD Number	02220
POD Suffix	
County	ED
Start Date	
Finish Date	April 30, 9111
Plug Date	
Proof Completion of Well Date	
Elevation	
Depth of Well	35
Ground Water Source	
Percent Shallow	
Depth to Water	
Well Log File Date	
Schedule Date	
Use of Well	
Pump Type	
Pump Serial	
Discharge	
Aquifer	
System Date	July 20, 2010
Sub-Division Name	
Sub-Division Location	
Restrictions	
Surface Code	
Estimated Yield	7
POD Status	
Casing Size	7.00
Ditch Name	
Tract Number	
Map Number	

Survey Map

[Zoom to](#)

-104.256 32.108 Degrees

All rights reserved

APPENDIX III
INITIAL C-141
&
FINAL C-141

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141

Revised August 8, 2011

NOV 21 2016

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

RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Release Notification and Corrective Action

DAB 1632841630 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company Cimarex Energy 162683	Contact Christine Alderman
Address 600 N Marienfeld Ste 600 Midland TX	Telephone No. 432-853-7059
Facility Name Pintail 23 #8H	Facility Type production
Surface Owner	Mineral Owner
API No. 30-015-38657	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	23	25S	26E	250	S	800	W	Eddy

Latitude 32.10874 Longitude -104.26932

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 50 bbls	Volume Recovered 2 bbls
Source of Release piping	Date and Hour of Occurrence 11/20/2016	Date and Hour of Discovery 11/20/2016
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Shelly Tucker/Heather Patterson/Mike Bratcher	
By Whom? Christine Alderman	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 21 2016

RECEIVED

If a Watercourse was Impacted, Describe Fully.

Describe Cause of Problem and Remedial Action Taken.
A 2" threaded fitting corroded and failed.

Describe Area Affected and Cleanup Action Taken.
The affected area was pasture area and was approximately 2' wide by 25' long. We will delineate and submit a work plan to remediate.

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

Signature: <i>Christine Alderman</i>	OIL CONSERVATION DIVISION	
Printed Name: Christine Alderman	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: ESH Supervisor	Approval Date: 11/22/16	Expiration Date: N/A
E-mail Address: calderman@cimarex.com	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 11/21/2016 Phone: 432-853-7059		

* Attach Additional Sheets If Necessary

2RP-4006

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Cimarex Energy	Contact Christine Alderman
Address 600 N Marienfeld Ste. 600 Midland TX 79701	Telephone No. 432-853-7059
Facility Name Pintail 23 Federal #8h	Facility Type Production
Surface Owner BLM	Mineral Owner Federal
API No. 30-015-38657	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	23	25S	26E	250	South	800	West	Eddy

Latitude 32.10874 Longitude -104.26932 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 50bbls	Volume Recovered 2bbls
Source of Release Piping	Date and Hour of Occurrence 11/20/2016	Date and Hour of Discovery 11/20/2016
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Shelly Tucker-BLM Heather Patterson/Mike Bratcher-NMOCD	
By Whom? Christine Alderman	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* A 2" fitting on the flowline failed due to corrosion. The fitting was replaced and the line was put back into service.		
Describe Area Affected and Cleanup Action Taken.* The release impacted the pasture east of the location. The location was delineated per NMOCD and BLM guidelines. Following delineation a remediation work plan was drafted and subsequently approved by NMOCD and BLM. The remediation of this site was carried out in accordance with the approved work plan.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature:	OIL CONSERVATION DIVISION	
Printed Name: Christine Alderman	Approved by Environmental Specialist:	
Title: EHS Supervisor	Approval Date:	Expiration Date:
E-mail Address: calderman@cimarex.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/24/2017	Phone: 432-853-7059	

* Attach Additional Sheets If Necessary

Incident ID	nAB1632841630
District RP	
Facility ID	
Application ID	

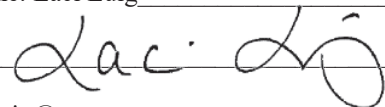
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Laci Luig _____ Title: ESH Specialist _____
Signature:  _____ Date: 10/10/2022 _____
email: laci.luig@coterra.com _____ Telephone: (432) 208-3035 _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  _____ Date: 11/2/2022 _____
Printed Name: Brittany Hall _____ Title: Environmental Specialist _____

APPENDIX IV

SEED LABEL

Curtis and Curtis, Inc.

4500 North Prince
Clovis, NM 88101
Phone: (505) 762-4759
www.curtisseed.com

7/26/17

PM

Talon / LPE, LTD
2 Acre BLM #1, Drilled Rate
1 - 2 Acre Bag @ 2038 Bulk Pounds
Cimarex-Pintall 23 Fed #8
Job #: 701162.088.01
API: 30-015-38657
USTR: M-23-T258-R26E

Lot#: M-14537-1

Item	Origin	Purity	Germ	Dormant	Total Germination	Test Date	Total PLS Pounds
Sand Dropseed	Colorado	10.01%	98.00%	0.00%	98.00%(TZ)	02/17	2.00
Not Stated							
Sideoats Grama	Texas	58.68%	79.00%	13.00%	92.00%	02/17	11.00
El Reno							
Plains Bristlegrass	Oklahoma	20.24%	6.00%	91.00%	97.00%(TZ)	05/17	4.00
Not Stated							
Other Crop:	0.04%	There Are 1 Bags For This Mix This Bag Weighs 20.38 Bulk Pounds Use This Bag For 2 Acres			Total Bulk Pounds:		20.38
Weed Seed:	0.39%						
Inert Matter:	10.64%						

APPENDIX V

LABORATORY RESULTS



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472168
Customer Sample ID: S-1 0

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.8	(5.8)	-	Mod. Alkaline							
Conductivity	6,450	(-)	umho/cm	V. High							Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	13	(50)	ppm								50 lbs P2O5/acre
Potassium	396	(125)	ppm								0 lbs K2O/acre
Calcium	17,808	(180)	ppm								0 lbs Ca/acre
Magnesium	200	(50)	ppm								0 lbs Mg/acre
Sulfur	5,410	(13)	ppm								0 lbs S/acre
Sodium	9,748	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.2
Conductivity	100.50 mmhos/cm
Sodium	21337 ppm
Potassium	638 ppm
Calcium	3352 ppm
Magnesium	217 ppm
SAR	96.51
SSP	82.17

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472169
Customer Sample ID: S-1 1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.6	(5.8)	-	Mod. Alkaline							
Conductivity	6,360	(-)	umho/cm	V. High				CL*			Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	14	(50)	ppm								50 lbs P2O5/acre
Potassium	300	(125)	ppm								0 lbs K2O/acre
Calcium	17,185	(180)	ppm								0 lbs Ca/acre
Magnesium	190	(50)	ppm								0 lbs Mg/acre
Sulfur	1,648	(13)	ppm								0 lbs S/acre
Sodium	8,413	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)											
	pH										7.2
	Conductivity										73.60 mmhos/cm
	Sodium										13109 ppm 570.431 meq/L
	Potassium										373 ppm 9.552 meq/L
	Calcium										4224 ppm 210.772 meq/L
	Magnesium										165 ppm 13.524 meq/L
	SAR										53.86
	SSP										70.92

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472170
Customer Sample ID: S-1 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.7	(5.8)	-	Mod. Alkaline						
Conductivity	4,710	(-)	umho/cm	V. High						CL*
Nitrate-N	0	(-)	ppm**							Fertilizer Recommended
Phosphorus	12	(50)	ppm							55 lbs N/acre
Potassium	163	(125)	ppm							50 lbs P2O5/acre
Calcium	21,931	(180)	ppm							0 lbs K2O/acre
Magnesium	325	(50)	ppm							0 lbs Ca/acre
Sulfur	597	(13)	ppm							0 lbs Mg/acre
Sodium	1,068	(-)	ppm							0 lbs S/acre
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre
				Detailed Salinity Test (Saturated Paste Extract)						
				pH		7.2				
				Conductivity		39.30 mmhos/cm				
				Sodium		1472 ppm		64.049 meq/L		
				Potassium		22 ppm		0.569 meq/L		
				Calcium		682 ppm		34.053 meq/L		
				Magnesium		286 ppm		23.496 meq/L		
				SAR		11.94				
				SSP		52.43				

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472171
Customer Sample ID: S-13

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.9	(5.8)	-	Mod. Alkaline							
Conductivity	2,010	(-)	umho/cm	High				CL*			Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	5	(50)	ppm								60 lbs P2O5/acre
Potassium	129	(125)	ppm								0 lbs K2O/acre
Calcium	36,367	(180)	ppm								0 lbs Ca/acre
Magnesium	225	(50)	ppm								0 lbs Mg/acre
Sulfur	758	(13)	ppm								0 lbs S/acre
Sodium	329	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)			
pH	7.5		
Conductivity	7.00 mmhos/cm		
Sodium	379 ppm	16.505 meq/L	
Potassium	12 ppm	0.303 meq/L	
Calcium	945 ppm	47.134 meq/L	
Magnesium	58 ppm	4.763 meq/L	
SAR	3.24		
SSP	24.02		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472172
Customer Sample ID: S-1 4

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.9	(5.8)	-	Mod. Alkaline							
Conductivity	3,300	(-)	umho/cm	V. High						CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	8	(50)	ppm								55 lbs P2O5/acre
Potassium	65	(125)	ppm								55 lbs K2O/acre
Calcium	31,150	(180)	ppm								0 lbs Ca/acre
Magnesium	187	(50)	ppm								0 lbs Mg/acre
Sulfur	5,027	(13)	ppm								0 lbs S/acre
Sodium	654	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)			
pH	7.4		
Conductivity	18.30	mmhos/cm	
Sodium	1157	ppm	50.335 meq/L
Potassium	16	ppm	0.411 meq/L
Calcium	2628	ppm	131.147 meq/L
Magnesium	135	ppm	11.087 meq/L
SAR	5.97		
SSP	26.08		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472173
Customer Sample ID: S-1 5

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
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College Station, TX 77843-2478
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979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.1	(5.8)		Mod. Alkaline							
Conductivity	2,230	(-)	umho/cm	High				CL*			Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	7	(50)	ppm								55 lbs P2O5/acre
Potassium	37	(125)	ppm								80 lbs K2O/acre
Calcium	28,799	(180)	ppm								0 lbs Ca/acre
Magnesium	135	(50)	ppm								0 lbs Mg/acre
Sulfur	5,242	(13)	ppm								0 lbs S/acre
Sodium	770	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.6
Conductivity	12.47 mmhos/cm
Sodium	1021 ppm
Potassium	14 ppm
Calcium	1437 ppm
Magnesium	70 ppm
SAR	7.14
SSP	36.37

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472174
Customer Sample ID: S-16

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

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979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.2	(5.8)	-	Mod. Alkaline							
Conductivity	1,580	(-)	umho/cm	High						CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	6	(50)	ppm								60 lbs P2O5/acre
Potassium	30	(125)	ppm								90 lbs K2O/acre
Calcium	30,974	(180)	ppm								0 lbs Ca/acre
Magnesium	128	(50)	ppm								0 lbs Mg/acre
Sulfur	5,234	(13)	ppm								0 lbs S/acre
Sodium	153	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)			
pH	7.7		
Conductivity	4.67 mmhos/cm		
Sodium	197 ppm	8.554 meq/L	
Potassium	12 ppm	0.298 meq/L	
Calcium	800 ppm	39.935 meq/L	
Magnesium	41 ppm	3.340 meq/L	
SAR	1.84		
SSP	16.41		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472175
Customer Sample ID: S-17

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
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979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	8.1	(5.8)		Mod. Alkaline						
Conductivity	1,430	(-)	umho/cm	Moderate						CL*
Nitrate-N	0	(-)	ppm**							Fertilizer Recommended
Phosphorus	4	(50)	ppm							55 lbs N/acre
Potassium	46	(125)	ppm							60 lbs P2O5/acre
Calcium	32,453	(180)	ppm							75 lbs K2O/acre
Magnesium	112	(50)	ppm							0 lbs Ca/acre
Sulfur	5,053	(13)	ppm							0 lbs Mg/acre
Sodium	82	(-)	ppm							0 lbs S/acre
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.8
Conductivity	2.86 mmhos/cm
Sodium	142 ppm
Potassium	11 ppm
Calcium	627 ppm
Magnesium	22 ppm
SAR	1.52
SSP	15.60

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472176
Customer Sample ID: S-2 0

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.5	(5.8)	-	Slightly Alkaline						
Conductivity	6,190	(-)	umho/cm	V. High						CL*
Nitrate-N	0	(-)	ppm**							Fertilizer Recommended
Phosphorus	16	(50)	ppm							55 lbs N/acre
Potassium	288	(125)	ppm							45 lbs P2O5/acre
Calcium	18,367	(180)	ppm							0 lbs K2O/acre
Magnesium	139	(50)	ppm							0 lbs Ca/acre
Sulfur	6,112	(13)	ppm							0 lbs Mg/acre
Sodium	6,440	(-)	ppm							0 lbs S/acre
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.0
Conductivity	62.80 mmhos/cm
Sodium	10831 ppm
Potassium	200 ppm
Calcium	3197 ppm
Magnesium	99 ppm
SAR	51.47
SSP	73.17

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472177
Customer Sample ID: S-2 1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.9	(5.8)		Mod. Alkaline							
Conductivity	2,050	(-)	umho/cm	High					CL*		Fertilizer Recommended
Nitrate-N	2	(-)	ppm**								55 lbs N/acre
Phosphorus	11	(50)	ppm								50 lbs P2O5/acre
Potassium	228	(125)	ppm								0 lbs K2O/acre
Calcium	16,092	(180)	ppm								0 lbs Ca/acre
Magnesium	125	(50)	ppm								0 lbs Mg/acre
Sulfur	2,026	(13)	ppm								0 lbs S/acre
Sodium	375	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement:										0.00 tons 100ECCE/acre	
Detailed Salinity Test (Saturated Paste Extract)											
	pH										7.4
	Conductivity										4.88 mmhos/cm
	Sodium										315 ppm 13.697 meq/L
	Potassium										15 ppm 0.389 meq/L
	Calcium										760 ppm 37.934 meq/L
	Magnesium										17 ppm 1.362 meq/L
	SAR										3.09
	SSP										25.66

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472178
Customer Sample ID: S-3 0

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.9	(5.8)	-	Mod. Alkaline						
Conductivity	5,270	(-)	umho/cm	V. High						
Nitrate-N	1	(-)	ppm**	CL*						
Phosphorus	22	(50)	ppm	Fertilizer Recommended						
Potassium	230	(125)	ppm	55 lbs N/acre						
Calcium	18,063	(180)	ppm	35 lbs P2O5/acre						
Magnesium	134	(50)	ppm	0 lbs K2O/acre						
Sulfur	6,000	(13)	ppm	0 lbs Ca/acre						
Sodium	4,211	(-)	ppm	0 lbs Mg/acre						
Iron				0 lbs S/acre						
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement				0.00 tons 100ECCE/acre						
Detailed Salinity Test (Saturated Paste Extract)										
pH	7.1									
Conductivity	47.70 mmhos/cm									
Sodium	8987 ppm 391.094 meq/L									
Potassium	124 ppm 3.183 meq/L									
Calcium	3581 ppm 178.707 meq/L									
Magnesium	65 ppm 5.316 meq/L									
SAR	40.77									
SSP	67.63									

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472179
Customer Sample ID: S-3 1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.8	(5.8)		Mod. Alkaline						
Conductivity	2,140	(-)	umho/cm	High						CL*
Nitrate-N	2	(-)	ppm**							Fertilizer Recommended
Phosphorus	12	(50)	ppm							55 lbs N/acre
Potassium	246	(125)	ppm							50 lbs P ₂ O ₅ /acre
Calcium	15,240	(180)	ppm							0 lbs K ₂ O/acre
Magnesium	148	(50)	ppm							0 lbs Ca/acre
Sulfur	2,336	(13)	ppm							0 lbs Mg/acre
Sodium	422	(-)	ppm							0 lbs S/acre
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.6	
Conductivity	5.16 mmhos/cm	
Sodium	329 ppm	14.335 meq/L
Potassium	16 ppm	0.418 meq/L
Calcium	779 ppm	38.890 meq/L
Magnesium	18 ppm	1.512 meq/L
SAR	3.19	
SSP	25.99	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472180
Customer Sample ID: S-3 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
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Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.1	(5.8)		Mod. Alkaline							
Conductivity	1,520	(-)	umho/cm	Moderate							Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	7	(50)	ppm								55 lbs P2O5/acre
Potassium	45	(125)	ppm								75 lbs K2O/acre
Calcium	20,117	(180)	ppm								0 lbs Ca/acre
Magnesium	58	(50)	ppm								0 lbs Mg/acre
Sulfur	6,142	(13)	ppm								0 lbs S/acre
Sodium	171	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)											
pH	7.6										
Conductivity	4.40		mmhos/cm								
Sodium	309		ppm								13.459 meq/L
Potassium	14		ppm								0.362 meq/L
Calcium	671		ppm								33.459 meq/L
Magnesium	14		ppm								1.129 meq/L
SAR	3.24										
SSP	27.80										

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472181
Customer Sample ID: S-4 0

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	7.7	(5.8)	-	Mod. Alkaline							
Conductivity	6,250	(-)	umho/cm	V. High						CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	29	(50)	ppm								25 lbs P2O5/acre
Potassium	453	(125)	ppm								0 lbs K2O/acre
Calcium	10,009	(180)	ppm								0 lbs Ca/acre
Magnesium	195	(50)	ppm								0 lbs Mg/acre
Sulfur	893	(13)	ppm								0 lbs S/acre
Sodium	8,505	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)			
pH	7.2		
Conductivity	86.70	mmhos/cm	
Sodium	16880	ppm	734.556 meq/L
Potassium	513	ppm	13.131 meq/L
Calcium	4126	ppm	205.893 meq/L
Magnesium	128	ppm	10.485 meq/L
SAR	70.62		
SSP	76.19		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472182
Customer Sample ID: S-4 1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.8	(5.8)	-	Mod. Alkaline						
Conductivity	4,600	(-)	umho/cm	V. High						
Nitrate-N	0	(-)	ppm**							
Phosphorus	13	(50)	ppm							
Potassium	239	(125)	ppm							
Calcium	16,225	(180)	ppm							
Magnesium	169	(50)	ppm							
Sulfur	472	(13)	ppm							
Sodium	2,809	(-)	ppm							
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)										
	pH									7.3
	Conductivity									33.10 mmhos/cm
	Sodium									3817 ppm 166.117 meq/L
	Potassium									60 ppm 1.541 meq/L
	Calcium									3814 ppm 190.312 meq/L
	Magnesium									80 ppm 6.576 meq/L
	SAR									16.74
	SSP									45.57

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.
Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472183
Customer Sample ID: S-4 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.1	(5.8)	-	Mod. Alkaline							
Conductivity	1,560	(-)	umho/cm	High						CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	5	(50)	ppm								60 lbs P2O5/acre
Potassium	51	(125)	ppm								70 lbs K2O/acre
Calcium	27,898	(180)	ppm								0 lbs Ca/acre
Magnesium	86	(50)	ppm								0 lbs Mg/acre
Sulfur	5,899	(13)	ppm								0 lbs S/acre
Sodium	181	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)			
pH	7.9		
Conductivity	3.39	mmhos/cm	
Sodium	175	ppm	7.612 meq/L
Potassium	13	ppm	0.341 meq/L
Calcium	612	ppm	30.560 meq/L
Magnesium	15	ppm	1.245 meq/L
SAR	1.91		
SSP	19.15		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
 Sheldon Hitchcock
 Talon/LPE (Pintail 23-8)
 408 W Texas Ave
 Artesia, NM 88210

Outside TX County
 Laboratory Number: 472184
 Customer Sample ID: S-4 3

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
 Department of Soil and Crop Sciences
 2478 TAMU

College Station, TX 77843-2478
 979-845-4816 (phone)
 979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.1	(5.8)	-	Mod. Alkaline								
Conductivity	1,550	(-)	umho/cm	High							CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**									55 lbs N/acre
Phosphorus	6	(50)	ppm									60 lbs P2O5/acre
Potassium	44	(125)	ppm									75 lbs K2O/acre
Calcium	28,274	(180)	ppm									0 lbs Ca/acre
Magnesium	93	(50)	ppm									0 lbs Mg/acre
Sulfur	5,819	(13)	ppm									0 lbs S/acre
Sodium	50	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement										0.00 tons 100ECCE/acre		
Detailed Salinity Test (Saturated Paste Extract)												
pH				7.9								
Conductivity				2.70 mmhos/cm								
Sodium				103 ppm				4.499 meq/L				
Potassium				12 ppm				0.319 meq/L				
Calcium				594 ppm				29.657 meq/L				
Magnesium				17 ppm				1.376 meq/L				
SAR				1.14								
SSP				12.55								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472185
Customer Sample ID: S-5 0

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	7.9	(5.8)	-	Mod. Alkaline						
Conductivity	4,530	(-)	umho/cm	V. High						
Nitrate-N	1	(-)	ppm**							
Phosphorus	27	(50)	ppm							
Potassium	295	(125)	ppm							
Calcium	7,534	(180)	ppm							
Magnesium	130	(50)	ppm							
Sulfur	1,234	(13)	ppm							
Sodium	3,897	(-)	ppm							
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)										
	pH									7.4
	Conductivity									46.40 mmhos/cm
	Sodium									8007 ppm 348.427 meq/L
	Potassium									137 ppm 3.502 meq/L
	Calcium									3541 ppm 176.694 meq/L
	Magnesium									65 ppm 5.327 meq/L
	SAR									36.52
	SSP									65.25

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.

<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldori Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472186
Customer Sample ID: S-5 1

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.3	(5.8)	-	Mod. Alkaline							
Conductivity	1,780	(-)	umho/cm	High							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								55 lbs N/acre
Phosphorus	9	(50)	ppm								55 lbs P2O5/acre
Potassium	59	(125)	ppm								60 lbs K2O/acre
Calcium	32,480	(180)	ppm								0 lbs Ca/acre
Magnesium	134	(50)	ppm								0 lbs Mg/acre
Sulfur	5,519	(13)	ppm								0 lbs S/acre
Sodium	524	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre
Detailed Salinity Test (Saturated Paste Extract)											
	pH										7.8
	Conductivity										6.23 mmhos/cm
	Sodium										690 ppm 30.005 meq/L
	Potassium										28 ppm 0.726 meq/L
	Calcium										650 ppm 32.438 meq/L
	Magnesium										21 ppm 1.730 meq/L
	SAR										7.26
	SSP										46.23

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Conductivity: Salinity levels are becoming elevated, monitor levels or remove salts with 10-15 inches of clean leach water.

Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

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<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave.
Artesia, NM 88210

Outside TX County
Laboratory Number: 472187
Customer Sample ID: S-5 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016

Printed on: 12/21/2016

Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	8.2	(5.8)	-	Mod. Alkaline							
Conductivity	1,420	(-)	umho/cm	Moderate							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								55 lbs N/acre
Phosphorus	4	(50)	ppm								60 lbs P2O5/acre
Potassium	10	(125)	ppm								105 lbs K2O/acre
Calcium	18,208	(180)	ppm								0 lbs Ca/acre
Magnesium	68	(50)	ppm								0 lbs Mg/acre
Sulfur	7,037	(13)	ppm								0 lbs S/acre
Sodium	61	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	7.8	
Conductivity	2.86 mmhos/cm	
Sodium	140 ppm	6.084 meq/L
Potassium	14 ppm	0.365 meq/L
Calcium	603 ppm	30.090 meq/L
Magnesium	10 ppm	0.856 meq/L
SAR	1.55	
SSP	16.27	

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Nitrogen: Apply an additional 70 lbs/A of nitrogen for each subsequent heavy graze down.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

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Report generated for:
Sheldon Hitchcock
Talon/LPE (Pintail 23-8)
408 W Texas Ave
Artesia, NM 88210

Outside TX County
Laboratory Number: 472188
Customer Sample ID: S-5 3

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 12/13/2016
Printed on: 12/21/2016
Area Represented: not provided

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	
pH	8.3	(5.8)		Mod. Alkaline							
Conductivity	1,510	(-)	umho/cm	Moderate							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								55 lbs N/acre
Phosphorus	4	(50)	ppm								60 lbs P2O5/acre
Potassium	15	(125)	ppm								105 lbs K2O/acre
Calcium	16,303	(180)	ppm								0 lbs Ca/acre
Magnesium	324	(50)	ppm								0 lbs Mg/acre
Sulfur	6,730	(13)	ppm								0 lbs S/acre
Sodium	44	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

Detailed Salinity Test (Saturated Paste Extract)

pH	8.0	
Conductivity	2.80 mmhos/cm	
Sodium	137 ppm	5.964 meq/L
Potassium	14 ppm	0.361 meq/L
Calcium	459 ppm	22.906 meq/L
Magnesium	41 ppm	3.378 meq/L
SAR	1.65	
SSP	18.29	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

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<http://soiltesting.tamu.edu/webpages/calculator.html>



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

December 15, 2016

SHELDON HITCHCOCK

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: PINTAIL 23 FED #8

Enclosed are the results of analyses for samples received by the laboratory on 12/08/16 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	12/08/2016	Sampling Date:	12/02/2016
Reported:	12/15/2016	Sampling Type:	Soil
Project Name:	PINTAIL 23 FED #8	Sampling Condition:	Cool & Intact
Project Number:	701162.078.01	Sample Received By:	Jodi Henson
Project Location:	M-23-25S-26E		

Sample ID: S-1 0' (H602747-01)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
Toluene*	<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
Ethylbenzene*	<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
Total Xylenes*	<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
Total BTEX	<0.300	0.300	12/13/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 73.6-140

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
DRO >C10-C28	<10.0	10.0	12/09/2016	ND	204	102	200	0.506	

Surrogate: 1-Chlorooctane 75.6 % 35-147

Surrogate: 1-Chlorooctadecane 65.8 % 28-171

Sample ID: S-1 7' (H602747-02)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/13/2016	ND	400	100	400	3.92	

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/08/2016
Reported: 12/15/2016
Project Name: PINTAIL 23 FED #8
Project Number: 701162.078.01
Project Location: M-23-25S-26E

Sampling Date: 12/02/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-2 0' (H602747-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
Toluene*	<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
Ethylbenzene*	<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
Total Xylenes*	<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
Total BTEX	<0.300	0.300	12/13/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
DRO >C10-C28	<10.0	10.0	12/09/2016	ND	204	102	200	0.506	

Surrogate: 1-Chlorooctane 67.3 % 35-147

Surrogate: 1-Chlorooctadecane 63.5 % 28-171

Sample ID: S-2 2' (H602747-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	12/13/2016	ND	400	100	400	3.92	

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 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 Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/08/2016
 Reported: 12/15/2016
 Project Name: PINTAIL 23 FED #8
 Project Number: 701162.078.01
 Project Location: M-23-25S-26E

Sampling Date: 12/02/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S-3 0' (H602747-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
Toluene*	<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
Ethylbenzene*	<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
Total Xylenes*	<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
Total BTX	<0.300	0.300	12/13/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 118 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
DRO >C10-C28	<10.0	10.0	12/09/2016	ND	204	102	200	0.506	

Surrogate: 1-Chlorooctane 73.0 % 35-147

Surrogate: 1-Chlorooctadecane 73.1 % 28-171

Sample ID: S-3 2' (H602747-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	12/13/2016	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/08/2016
Reported: 12/15/2016
Project Name: PINTAIL 23 FED #8
Project Number: 701162.078.01
Project Location: M-23-25S-26E

Sampling Date: 12/02/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-4 0' (H602747-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
Toluene*	<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
Ethylbenzene*	<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
Total Xylenes*	<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
Total BTEX	<0.300	0.300	12/13/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
DRO >C10-C28	<10.0	10.0	12/09/2016	ND	204	102	200	0.506	

Surrogate: 1-Chlorooctane 68.8 % 35-147

Surrogate: 1-Chlorooctadecane 68.8 % 28-171

Sample ID: S-4 3' (H602747-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/13/2016	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/08/2016
Reported: 12/15/2016
Project Name: PINTAIL 23 FED #8
Project Number: 701162.078.01
Project Location: M-23-25S-26E

Sampling Date: 12/02/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S-5 0' (H602747-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
Toluene*	<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
Ethylbenzene*	<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
Total Xylenes*	<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
Total BTEX	<0.300	0.300	12/13/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 118 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
DRO >C10-C28	<10.0	10.0	12/09/2016	ND	204	102	200	0.506	

Surrogate: 1-Chlorooctane 69.8 % 35-147

Surrogate: 1-Chlorooctadecane 65.4 % 28-171

Sample ID: S-5 3' (H602747-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/13/2016	ND	400	100	400	3.92	

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Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 149945

CONDITIONS

Operator: CIMAREX ENERGY CO. OF COLORADO 600 N. Marienfeld Street Midland, TX 79701	OGRID: 162683
	Action Number: 149945
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	11/2/2022