

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

February 7, 2017

#### Prepared By:

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

#### Prepared For:

Cimarex Energy Company

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

Subject:

Soil Assessment and Remediation Work Plan

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 sampling and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

#### **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) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 100 mg/kg for TPH and 1,000 mg/kg for Total Chlorides.

#### **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. 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 TPH, BTEX, total chlorides, and detailed salinity. The analytical results from the soil analysis are summarized in the table below.

#### **Laboratory Results**

See Appendix IV for complete report of laboratory results.

Sample ID	Depth ft	BTEX mg/kg	TPH mg/kg	Chloride mg/kg	рН	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	4	4.1	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	1.11		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		-1-	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

<sup>(--)</sup> Analyte Not Tested

<sup>(\*)</sup> Laboratory Chloride Confirmation

#### **Proposed Remedial Actions**

- The impacted area in the vicinity of sample location S-1 will be excavated to a depth of 6-feet BGS.
- The impacted area in the vicinity of sample locations S-2, S-3, and S-5 will be excavated to a depth of 1-foot BGS.
- The impacted area in the vicinity of sample location S-4 will be excavated to a depth of 2-feet BGS.
- A composite soil sample will be taken from the top soil that was stockpiled east of the location during the construction of the well pad. The composite soil sample will be laboratory analyzed for total chlorides. Should the laboratory results show that the chloride concentration of the stockpile is below NMOCD RRAL's this soil will be used to backfill the excavation. Once backfilled with top soil excavation will then be contoured to match the surrounding terrain, fertilized, and seeded with BLM #1 seed mixture.
- All of the excavated soil will be treated with gypsum (CASO4) in order to replace sodium on the soil cation exchange complex. The soil will then put into a leaching basin (described below) at a thickness of 2-feet. The soil will be flushed with fresh water to remove the chloride and sodium. The leachate generated from this process will be recovered and transported to an SWD for disposal.
- Quarterly sampling of the soil within the leaching basin will be carried out. Samples will be taken from 3 locations longitudinally across the leaching basin at depths of 1 and 2 feet below soil surface. The soil samples will be analyzed for detailed salinity and total chlorides.
- Once laboratory results indicate that the soil has been remediated in accordance with NMOCD and BLM guidelines, the soil will be stockpiled to be used during reclamation of the well pad.

#### **Leaching Basin Construction**

The soil leaching basin will be constructed north of the impacted area and east of the tank battery. The basin will be constructed with earthen berms and lined with a 20-mil poly liner (padded with felt). Once the liner is installed a gravel bed with 4-inch perforated drainage pipes will be placed within of the lined berms. The gravel and drainage pipes will extend to a sump constructed at the down gradient end of the leaching basin. The sump will be contained with a 20-mil poly liner and welded to the liner on the leaching basin. A layer of geotextile will be placed over the gravel bed in order to prevent soil particles from filling the pore spaces in the gravel, while simultaneously allowing for movement of water into the gravel bed. Once the water enters the gravel bed it will flow down gradient into the sump for recovery.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE

Shelden Placer Sheldon L. Hitchcock

Project Manager

300

David J. Adkins District Manager

Attachments

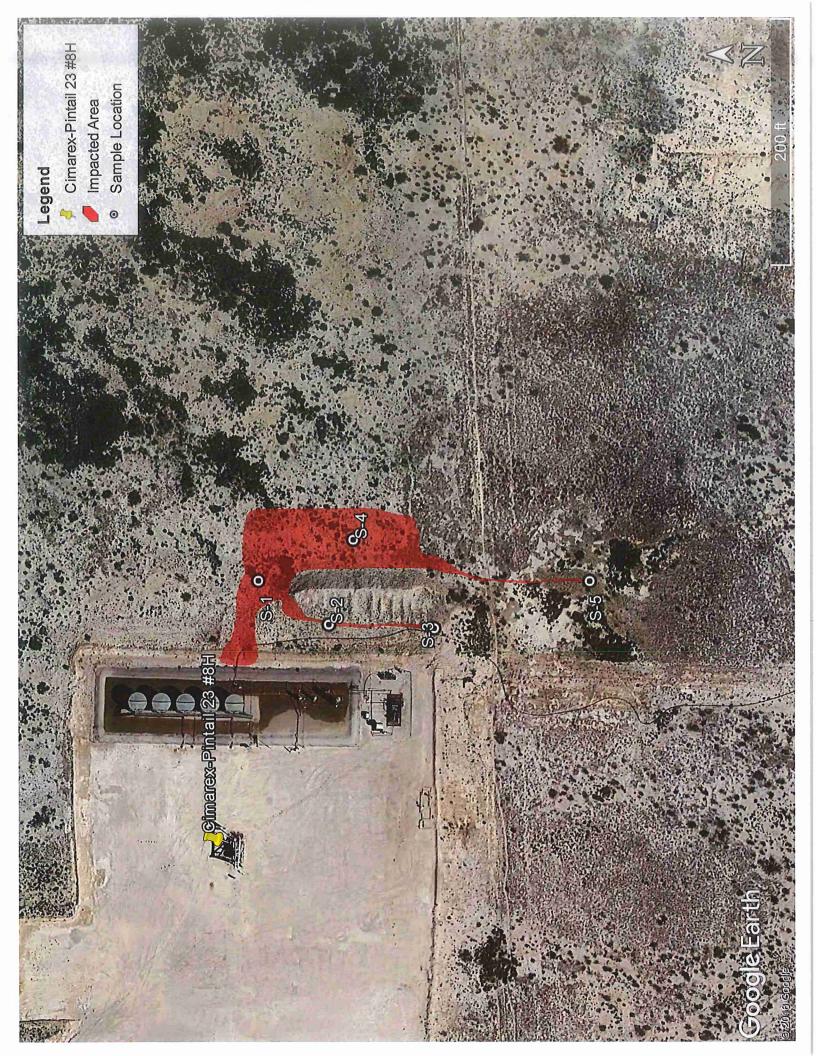
Appendix I Site Plan

Appendix II Groundwater Data

Appendix III Initial C-141

Appendix IV Laboratory Results

#### APPENDIX I SITE PLAN



## 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)

manus mgm many	0.000,	,							, ,					
	POD													
	Sub-		Q	Q	Q							Depth	Depth	Water
POD Number	Code basin	County	64	16	4	Sec	Tws	Rng	X	Υ	Distance	Well	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

# APPENDIX III INITIAL C-141

#### NM OIL CONSERVATION ARTESIA DISTRICT

<u>District 1</u>
1625 N. French Dr., Hobbs, NM 88240
<u>District II</u>
811 S. First St., Artesia, NM 88210
<u>District III</u>
1000 Rio Brazos Road, Aztec, NM 87410
<u>District IV</u>
1220 S. St. Francis Dr., Santa Fc, NM 87505

State of New Mexico Energy Minerals and Natural Resources

gy Minerals and Natural Resources ROV 2 1 2016
Oil Conservation Division Submit 1 Copy to a

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19,15.29 NMAC. RECEIVED

1220 South St. Francis Dr. Santa Fe, NM 87505

Release Notification and Corrective Action <u> NAB 1632841 U30</u> OPERATOR Initial Report Final Report Name of Company Cimarex Energy 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 API No. 30-015-38657 Mineral Owner LOCATION OF RELEASE Unit Letter Section Township Range Feet from the North/South Line Feet from the East/West Line County 23 26E 250 800 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 Date and Hour of Discovery 11/20/2016 11/20/2016 If YES, To Whom? Was Immediate Notice Given? Shelly Tucker/Heather Patterson/Mike Bratcher Yes □ No □ Not Required Date and Hour By Whom? Christine Alderman If YES, Volume Impacting the Watercourse. Was a Watercourse Reached? ☐ Yes ☒ No NM OIL CONSERVATION ARTESIA DISTRICT If a Watercourse was Impacted, Describe Fully. NOV 2 1 2016 Describe Cause of Problem and Remedial Action Taken. RECEIVED A 2" thrended 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 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 NMOCI) 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. OIL CONSERVATION DIVISION hriotine Alderman Approved by Environmental Specialist: Printed Name: Christine Alderman Expiration Date: N Approval Date: Title: ESH Supervisor Conditions of Approval: E-mail Address: calderman@cimarex.com Attached [V

\* Attach Additional Sheets If Necessary

Phone: 432-853-7059

Date: 11/21/2016

2RP-4006

# APPENDIX IV LABORATORY RESULTS



**Outside TX County** 

Laboratory Number: 472168 Customer Sample ID: S-1 0

Orangie ID: 5-7 0

#### 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

Crop Grown:		AND H	IYBRID BEI	RMUDA	GRAS	S, GR	AZING	3					
Analysis	Results		Units	ExLow			Mod	High	VHigh	Excess,			
рН	7.8	(5.8)		Mod. All	kaline		eregii iri	7.72					
Conductivity	6,450		umho/cm	V. High			С	L*		Fe	rtilizer Re	ecomme	nded
Nitrate-N	0	(-)	ppm**	相等制制							55 lbs 1	V/acre	
Phosphorus	13	*	ppm			ļiii		i I			<b>50</b> lbs F	⊇2O5/acre	<b>!</b>
Potassium	396	(125)	ppm	nmimi	E CONTRACTOR STATE	A COUNTY OF STATE OF			i		<b>0</b> lbs l	<20/acre	•
Calcium	17,808	(180)	ppm			Transfer to a sec	£	F	ţii		0 lbs (	Ca/acre	
Magnesium	200		ppm	1 1 1 1 mm 1 2 1 1 1 2 1 2 1 2 1 2 1 2 1		154 750	a spirit sail rail	E. C				Mg/acre	
Sulfur	5,410		ppm			A ALL AND A SHAPE AND	ده د خو مصردت م	A mark to a		•	0 lbs 8	3/acre	ne je nje
Sodium	9,748	(-)	ppm			(mumi	)	ģimmu		Ė			
Iron	v s + 1, 5475/\$		1 1 MAR (41 T.)	. [ ]	<b>.</b>	E PRESIDEN		i					
Zinc			<b>以</b> 數學等 5					l I					
Manganese	in and completely		11.4 s 4,4	. I	<b>i</b>	. Harris ja g	l	] [ • •					
Copper	The state of				A service	常門門		į		ļ			
Boron	1000年11月1日 11月1日	a eximinas	######################################	salozako, sy				125	1	1	0.00	· · · · · · · · · · · · · · · · · · ·	
Limestone Requiremen	<u>.t 076 awar</u>	\$-34966F	<b>经推销资格的</b>	<u> 848 (3500)</u>	其前例的特	Siles (Sept.		4 ± 34±.	B 2 4 1 2 1 1	7.34.50	0.00 tons	100ECCE	-/acre
	#5000512-300		arxerrony	<b>電片製造部</b>			estic.		er) Asiat		aver energ		5014W-1514E
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<b>美国国际</b>				And Assessment of the Party of the Party of	onduct odium	livity		\$25KR#57	Company of the Park of the Par	0 mmhos 7 nnm	/cm	ያሉ ደናው	6 meg/L
	as your a		esternie de Santo	MENTAL THE PARTY OF THE	odium otassit		and the same		A CONTRACTOR OF THE PARTY OF TH	7 ppm		and the second second second	o meq/∟ .8 meq/L⊸
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				ner colonia de la trada	agnesi	- Windsteller and Self-			NATIONAL PARTIES	<b>2</b> ppm	<b>说得的表示</b> (*)	White the professional residence with	15 meq/L
				title 77 - No. 75 - 1 - AND COLUMN	agnesi AR	<u>UIII</u>	Page 1	AUGUS	96.5	Carlo	<b>受益的政治</b> (14.40)	MAN TANK	"L'anieAlese
1				Ur	417				90.0	1			

<sup>\*</sup>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.

SSP 82.17



**Outside TX County** 

Laboratory Number: 472169 Customer Sample ID: S-1 1 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

Crop Grown:	IRREMAILER	ARID HISCHDIN	PERSONAL	CT ACC	A
L'EON LEFOUNTS	INDURENCE IN FILE	<b>VVIII) HAMMIN</b>	HENNIN IIIV	じゅんぐん	CAN V VIVICE

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	).
pН	7.6	(5.8)		Mod. All	caline	NAMES OF	T WATER	State of the			
Conductivity	6,360	(-)	umho/cm	V, High	,		С	L*		F	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**	132				1	l		55 lbs N/acre
Phosphorus	14	(50)	ppm	1111111111	11111111111	III		i i			50 lbs P2O5/acre
Potassium	300	(125)	ppm	mmmi	HILITER			ļiiiif			0 lbs K20/acre
Calcium	17,185	(180)	ppm	mmmi	mmmi	1111111111		Production	ļu		0 lbs Ca/acre
Magnesium	190	(50)	ppm					ģIIII	İ		0 lbs Mg/acre
Sulfur	1,648	(13)	ppm		mmmi			hamma	ļamanum)		0 lbs S/acre
Sodium	8,413	(-)	ppm	mmmi	mmmi	1111111111					
Iron								1 [			
Zinc		gy (ze sin i			45.53			1			
Manganese	•				l						
Copper					1977.4						
Boron					İ			l I			
Limestone Requirem	nent			Howard.		\$145 S					0.00 tons 100ECCE/acre
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				p⊢	ł				7.2	2	
				Co	onduct	ivity			73.60	) mmh	os/cm
				So	dium				13109	ppm 9	<b>570.431</b> meq/L
				Po	tassiu	m .			373	3 ppm	9.552 meg/L
				Ca	lcium				4224	1 ppm	210.772 meq/L
				Ma	ignesi	um			168	5 ppm	13.524 meg/L
to the same of the				SA	\R				53.86	3	
	a, quite a s		Sign with the	SS	P				70,92	<b>Ž</b>	

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472170 Customer Sample ID: S-1 2

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

Crop Grown:	IMPROVED	AND H	YBRID BE	RMUDA	GRAS	SS, GR	AZING	i			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Excess.	
рН	7.7	(5.8)		Mod. All	kaline	A COLOR	1 128				
Conductivity	4,710	(-)	umho/cm	V. High			CI	•		Fe	rtilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	12	(50)	ppm			1		ļ ļ			50 lbs P2O5/acre
Potassium	163	(125)	ppm				)11111111111				0 lbs K20/acre
Calcium	21,931	(180)	ppm	The second control of	<b>!</b>	financia	111111111111	w	Ü.		0 lbs Ca/acre
Magnesium	325	(50)	ppm	The second second second	1000 Sept. 1000 Sept.	\$ 00 mm	11111111111	* 1 Table 1			0 lbs Mg/acre
Sulfur	597	(13)	ppm			(111111111			ļummu.		0 lbs S/acre
Sodium	1,068	(-)	ppm					1	İ		
Iron								! !			
Zinc		1.37						 			
Manganese										<b>.</b>	
Copper				1 1694							
Boron											the state of the s
Limestone Requiremen	it.	Talkha.									0.00 tons 100ECCE/acre
				Detail pl		inity T	est (Sa	iturate	d Past 7.	e Extrac	t)
				ere and are adding to the	onduc	40165				c O mmhos	lom -
		in the first	÷.	and all the form of prints of	odium	MATIN		<b>持持國際</b>	1.00	2 ppm	64.049 meq/L
Tree conferences				CONTRACTOR STATE	otassii	im i			ALCOHOLOGICA	2 ppm //	0.569 meg/L
				CHECK CONTRACTOR SHEET	otassit alcium	dender ones 1 des		<b>建造物</b>		2 ppm	34.053 meq/L
		95 - E		organization automatical	no place to territoria.	talian need the			CONTRACTOR OF THE PARTY OF THE	2 ppm	23,496 meq/L
				man contraction	agnes AR	inni	ANTON PE		40 11.9	age on Francisco	A.J.V. IIICHE
				٠	MIX				11.3	7	

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472171 Customer Sample ID: S-1 3 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

Crop Grown: II	MPROVED AN	d hybrid bei	RMUDA GRA	SS, GR	AZING			
Analysis	Results CL	.* Un <u>i</u> ts	ExLow VLow	Low	Mod Hig	h VHlgh	Excess.	
рН	<b>7.9</b> (5.	8) -	Mod. Alkaline	Control of the Contro	Transport			
Conductivity	2,010	(-) umho/cm	High		CL*			r Recommended
Nitrate-N	0	(-) ppm**					1	lbs N/acre
Phosphorus	<b>5</b> (5	0) ppm	[1][[][][]		Contractive of the		•	lbs P2O5/acre
Potassium	<b>129</b> (12	2.5					<u> </u>	lbs K20/acre
Calcium	<b>36,367</b> (18	grafia in indigentation in a				ımı	<b>‡</b>	lbs Ca/acre
Magnesium	1 1 1 1 1	i0) ppm	mminin mmin	· 100 年 - 100 日本年本本本	Signature of the control of the	<u> </u>	į	lbs Mg/acre
Sulfur	and the second s	3) ppm		and the second control of			0	lbs S/acre
Sodium	329	(-) ppm		HIIIIII				
iron								e e e e e e e e e e e e e e e e e e e
Zinc			45 45 1					. 1
Manganese	ing and the second second	1. (1988)		1 29.4				
Copper		1. 16 3 s.A. 1			[			
Boron	U dinawana aken	Dagagasan ya kutas	July Joseph	1.007	SS, ALA		0.00	tons 100ECCE/acre
Limestone Requirement		personal control of the	<u> </u>	9-11	Section 1.		0.00	(OHS TOOLOOLIAGIC AND A
			Detailed Sa	linity T	est/Satur	ated Past	Extract)	
			рН	W. 77.197.		7.		14.7.26 E.A.T.E.S.L.A.T.E.A.S.T.H.H.A.T.E.B.
			Conduc	stivity			o mmhos/cm	
			Sodium			こうは、別い、年本をおかず事とみのなる。	9 ppm	16.505 meq/L
			Potassi				2 ppm	<b>0.303</b> meg/L
			Calciun		A CONTRACTOR OF CHARLES		5 ppm	47.134 meq/L
			Magnes	and the second second second		where the second rest and the second second	8 ppm	4.763 meg/L
			SAR	<b>可じている 売またり子 3.</b> 7.27	ಗಳನ್ನು ಬ್ಯಾಪ್ ಪ್ರಸ್ತಿ ಪ್ರ	3.2	PERSONAL PROPERTY AND ADDRESS.	本 v. st. v. m te t. m. v. m. p. s p. e p. e f. meng 2000 m. meng 400 m. p. s m. (200 p. e f. m. )
	Water State		SSP			24.0	2	

<sup>\*</sup>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.



Outside TX County

Laboratory Number: 472172 Customer Sample ID: S-1 4 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

Crop Grow	n: IMPROVED	AND F	IYBRID BEI	RMUDA	GRAS	S, GF	AZING	;			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Éxcess.	
рН	7.9	(5.8)		Mod, All	kaline			7.454 St.			
Conductivity	3,300	(-)	umho/cm	V. High			CI		_	. Fe	ertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	8	(50)	ppm	11111111111				! !			55 lbs P2O5/acre
Potassium	65	(125)	ppm		Service of the service	\$200 ment of 100 to	2,00,0	) 			55 lbs K20/acre
Calcium	31,150	(180)	ppm	1				1	İl		0 lbs Ca/acre
Magnesium	187	(50)	ppm	and the state of t	120010000000000000000000000000000000000	446.000					0 lbs Mg/acre
Sulfur	5,027	(13)	ppm				Lance of the second			Ě	0 lbs S/acre
Sodium	654	(-)	ppm			minni	)IIII				
Iron		** *					l			l	•,•
Zinc						<b>月</b> 期度 4.		I I	İ		
Manganese								l I	Ì		
Copper					4 (104 (194)	\$\$P.1.	14.4				
Boron	a en antigo de la composição de la compo		man in the contract of the	.]	13.40.25	W. W. R. Jr.		e te e		1	
Limestone Requiren	nent						Albert C	345			0.00 tons 100ECCE/acre
			aine an ann an an an an an an an an an an an	ET-OMESTE AFRICA	kurakalasa	orestalo,o-	unio de la composition de la composition de la composition de la composition de la composition de la composition		www.compleasurese	NECT - 1564 TELEST	。 1917年1月1日 1月1日 (1918年) 1918年 1月1日 (1918年)
						nity T	est (Sa	iturate		e Extra	ct)
				pŀ		der fellete		*4435540°55	<b>7.</b>	and the second s	
		1			onduct	livity			一年 人工一方 一定 東亚海岸市大学	<b>0</b> mmho	to contain the containing the containing of the containing the containing of the con
				enalis are Carolinam version	odium	erdin kasamaan	marria kance	iones conserva	THE RESERVE OF THE PARTY OF THE PARTY.	7 ppm	50.335 meq/L
		and the state of t		Estimated the Landson	otassiu	Elizaber - Silverson D. N.			A ADDRESS OF A CARDON AND	6 ppm	0.411 meg/L
				and a second	alcium	en and the same	nakthálesztá szerbel	TRANSPORTER		8 ppm	131.147 meq/L
				A CONTRACTOR	agnesi	um			A	<b>5</b> ppm	11.087 meq/L
					4R	ADAO Meros	tidos greiget ito	and while for	5.9		Development For Tale Self-Self-Self-Self-Self-Self-Self-Self-
<b>不是知识这种意</b>		i. ".,		S S	SP				26.0	8	

<sup>\*</sup>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.



Outside TX: County

Laboratory Number: 472173 Customer Sample ID: S-1 5

Cron 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

Crop Grown: IMPROVED	AND HARKID REI	RIVIODA GRASS, GRA	ZING	
Analysis Results	CL* Units	ExLow VLow Low	Mod High VHigh	Excess.
pH 8.1	(5.8)	Mod. Alkaline	wasili ati atia in	
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 K20/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	erina ili da esta esta esta de la composición del composición de la composición de la composición del composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la	A CASA IM AN CARA BARRARA	I de Total	
Zinc				
Manganese	2 15 19 18 18 18 18 18 18 18 18 18 18 18 18 18			
Copper				
Boron				0.00 tons 100ECCE/acre
Limestone Requirement	1 0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		[48] 442 F ST F - 852 [	0.00 tons rootectracie
		Detailed Salinity Te	et (Safurated Paete	Extract
		pH	7.6	
		Conductivity		mmhos/cm
		Sodium	在自身的 4.400 (1.400 (1.400 ) 1.400 (1.400 ) 1.400 (1.400 ) 1.400 (1.400 ) 1.400 (1.400 ) 1.400 (1.400 ) 1.400 (1.400 )	ppm 44.446 meq/L
		Potassium	医乳腺性皮肤 医皮肤 医皮肤性 化二甲基甲基 医皮肤 医皮肤 医皮肤性 化二烷二甲二烷 经产品 经证书	ppm <b>0.355</b> meq/L
		Calcium	部門の4 ga - plug - 一般の時間alaba - Ama - 1 g - 1 x x Te - alaba - 1 m	ppm 71.684 meq/L
		Magnesium	AND PROPERTY OF THE PARTY OF TH	ppm <b>5.716</b> meq/L
		SAR	7.14	
		SSP	36.37	

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472174 Customer Sample ID: S-1 6

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

Crop Grown:				KIVIUUA	GRAS	55, GR	KAZING				
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
рН	8.2	(5.8)	**	Mod. Alk	aline	1.445.641					
Conductivity	1,580	(-)	umho/cm	High			Cl	•		Fe	rtilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	6	(50)	ppm	11111111111	Ш						<b>60</b> lbs P2O5/acre
Potassium	30	(125)	ppm		TOTAL ST. ST.			0			<b>90</b> lbs K20/acre
Calcium	30,974	(180)	ppm				111111111111111111111111111111111111111		ļl .		0 lbs Ca/acre
Magnesium	128	(50)	ppm	100000000000000000000000000000000000000	ARREST TO SECURE	1	hmmit	5 25 1			0 lbs Mg/acre
Sulfur	5,234	(13)	ppm	. 1	4	A Committee of	i)mumi			Ė	0 lbs S/acre
Sodium	153	(-)	ppm		ummu	lii 💮	TPACE A				``
Iron							.]				
Zinc		ŕ								ĺ	- :
Manganese								 			
Copper											·
Boron					4. 15. 1. C.		ļ., ., i				
Limestone Requiremen	nt			學的對於				111			0.00 tons 100ECCE/acre
			·	- Proposal Assess	and American A	e manufer Market	01.07 to 1797 to 147.12	termination	era este en Salva Audisc	ne profit interestation	
				man de la contraction de la faction de la contraction de la contra	ACRES A SECURETAR	inity T	est (Sa	iturate		e Extrac	1)
				pH		nerdena em	Constant to be a fi	unier er tim ere	7.	e e com se se e e e e e e e e e e e e e e e e	
				- CT - 1 CT - 1 CT - 1	onduc	The second of the second			ನಿಕ್ ಎಸ್ಎಸ್ಐ ಎಲ <i>್</i> ೧೩೪	7 mmhos	
				and the second second second	odium	ner konten dilik	- Andrewski (1971)	iko egoesa makea	ಎಸ್ ಬಿಕ್ಕೆ ಸಿಸಿಕ್ ಹಾಗೆ	7 ppm	8.554 meq/L
	1 1540			Po	otassi	um			and the second	<b>2</b> ppm	<b>0.298</b> meq/L
				Ca	alcium	1	na de arendo de	awar anderson	世界が生むなる気を続	<b>0</b> ppm	39.935 meq/L
				ii M	agnes	lum			A CONTRACTOR OF THE PARTY OF TH	1 ppm;	3,340 meq/L
And a market of the second of	A STATE OF THE PARTY OF THE PAR				٩R				1.8	er market a market from the	
	ing the participation of	1957: 2		SS SS	SP				16.4	1元	

\*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.



**Outside TX County** 

Laboratory Number: 472175 Customer Sample ID: S-1 7 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

Customer Sa												
Crop	Grown:	IMPROVED			RMUDA	GRAS	SS, GR	AZING	ì			
Analysis	_	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
рН		8.1	(5.8)		Mod. Al	kaline	STEEL STATE		-351			The second secon
Conductivity		1,430	(-)	umho/cm	Modera			С	L•		Fe	ertilizer Recommended
Nitrate-N		0	(-)	ppm**	4000						į	55 lbs N/acre
Phosphorus	,	4	(50)	ppm	1111111	1			i J			60 lbs P2O5/acre
Potassium		46	(125)	ppm	1111111111	İmanın		O.	] -			75 lbs K20/acre
Calcium		32,453	(180)	ppm	1111111111	ļmmim			AIIIIIIIIIII	ψı		0 lbs Ca/acre
Magnesium		112	(50)	ppm	1111111111				ģII	İ		0 lbs Mg/acre
Sulfur		5,053	(13)	ppm	1111111111				ļiiiiiiiii	ģiumimi		0 lbs S/acre
Sodium		82	(-)	ppm	1111111111	imini -						
Iron			• •						i I			
Zinc						1 1 25	1.00		1			9.6
Manganese				•					į	ļ		
Copper						lan. V			1			
Boron							ļ		ľ I			
Limestone Red	uiremen	t ally like a	Mark								•	0.00 tons 100ECCE/acre
· · · · · · · · · · · · · · · · · · ·	•											
	nan Sagara				Detail	ed Sal	inity T	est (Sa	iturate	d Past	e Extrac	ot)
			section and the section of the secti		pl					7.		
Paradista in the			de l'es			onduc	tivity			2.8	6 mmho	s/cm
					***	odium	comprise of A sec.	:1542 151.251.52+	St. Contractor of Store	14	2 ppm	6.164 meq/L
		e year harden.	200		P	otassii	um				1 ppm	0.272 meq/L
	the angles of the life of the				Exp. (Fix must see and Eve.)	alcium	many and a series.	arteria (2,000 oc.	A hole of pth of th		7 ppm	31.292 meq/L
					M	agnes	ium				2 ppm	<b>1.783</b> meq/L
					Andrew Control of the Control of the Control	AR	# 17 P. P. P. P. P. P. P. P. P. P. P. P. P.		e ne mais este ampiri.	1.5	Chicago and the state of the st	<ul> <li>(2) Annual Control of the State of the Control of t</li></ul>
						SP#				15.6	· · · · · · · · · · · · · · · · · · ·	
							No No 100		-			

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



**Outside TX County** 

Laboratory Number: 472176 Customer Sample ID: S-2 0 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

Crop Grown	: IMPROVED	AND H	IYBRID BER	MUDA	GRAS	S, GR	AZIN	G			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Excess,	
рН	7.5	(5.8)	100 miles (	Slightly	Alkaline	Textern	- 11				
Conductivity	6,190	(-)	umho/cm	V. High				CL*		Fer	tilizer Recommended
Nitrate-N	0	(-)	ppm**		4-25	÷),	, <del>-</del>				55 lbs N/acre
Phosphorus	16	(50)	ppm			11111		i I			45 lbs P2O5/acre
Potassium	288	(125)	ppm	muuni				(\$11111°			0 lbs K20/acre
Calcium	18,367	(180)	ppm	11111111111			111111111	(ÁDHADOU	ļI	İ	0 lbs Ca/acre
Magnesium	139	(50)	ppm			11111111111		idii			0 lbs Mg/acre
Sulfur	6,112	(13)	ppm	11111111111			)				0 lbs S/acre
Sodium	6,440	`(-)	ppm	A	Water Street Bernard	Committee of the Committee of the	marks with a second	MARIA	•		
Iron			2					1		İ	
Zinc		. A.		5334	基层的			ji i			
Manganese								i			
Copper	*				- 15k			1			
Boron			-					!			
Limestone Requireme	ent			No.	r regi		Ç Buş			•	0.00 tons 100ECCE/acre
				Detaile	d Sali	nity T	est (S	aturate	d Paste	e Extract	t)
State of the state		Commission of Commission of Street,		рŀ	ł	41941111			7.	0	
	17.1			Co	onduct	livity			62.8	0 mmhos	/cm
				Sc	dium	5	g minority in the s		1083	1 ppm	471.314 meq/L
	ewaya ka da da			Po	tassit	ım				<b>0</b> ppm	5.110 meg/L
				Fit whitermark lates 3	alcium	and the second	n egyptei ja hiti	19 ····································		<b>7</b> ppm	159.552 meq/L
				Ma	agnesi	um 🖟			3.5日間を存むのできる	9 ppm	8.141 meg/L
				- Commence Andrew	۱R	341,499p.	and a municipality	enhibution section is a green a	51.4	7	CONTROL CONTROL OF CONTROL OF THE SECURITY OF
				S	SP S				73.1	7	

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472177 Customer Sample ID: S-21

er Sampie ID: 5-2 1 Cron 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

Crop Grown: IIV				TIMODA	CHAS	30, UN	MAIN	9			
Analysis	Results		Units	ExLow	majora i prominimo de la composición del composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composi	Low	Mod	High	VHigh	Excess.	
рН	7.9	(5.8)		Mod. Al	kaline		à said (sus				4.5
Conductivity	2,050	(-)	umho/cm	High				CL*		. F	ertilizer Recommended
Nitrate-N	2	(-)	ppm**	I.							55 lbs N/acre
Phosphorus	11	(50)	ppm			. I			<u> </u>		<b>50</b> lbs P2O5/acre
Potassium	228	(125)	ppm	<ul> <li>a. 100 to 200 to</li></ul>		Calculation of the Paris Co.	\$ 2500 to 100 to	1			0 lbs K20/acre
Calcium	16,092	(180)	ppm	2	•	:		[ <b>[</b> ]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]	(II		0 lbs Ca/acre
Magnesium	125	(50)	ppm	14-12-15:14:17:13		A STATE OF STREET			į		0 lbs Mg/acre
Sulfur	2,026	(13)	ppm	1 3 4 45 1 4 7 1 7 W. W. W. W. W. W. W. W. W. W. W. W. W.	<ul> <li>Programma programma</li> </ul>	all a contract consists	\$	ığımını		Ē	0 lbs S/acre
Sodium	375	(-)	ppm			<b>(</b> IIIIIIII					
Iron		5 - 4 5 + 1 ± 1						į			
Zinc								Ī.			
Manganese			nasawa Alika i		an tendat			1			
Copper	18 (18 miles) 1 (18 miles)				iw.ix			1.			
Boron	and the second	ur Turk Libraryasa	enatelesta e en Civilia (n. 1907).	Negativa.	5.1 + 45 + 10° €	Januar		i		١.,	and the second second
Limestone Requirement		Value 1		A STANIS	A STATE OF THE STA			<u>. ":</u>	1		0.00 tons 100ECCE/acre
					atakink <u>etisk</u>	e green een een een een een een een een een	erenere	recessors	ar <u>enega</u>		
				Property and an artistance	G-12-12-13-13-13-13-13-13-13-13-13-13-13-13-13-	inity	est (S	aturate			(CI)
				p			saasini		7. Meneral	****	SONE WOOD AND SOME SERVICE AND SOME SER
		3.00		The state of the s	onduc	The rest of the first fact in		<b>建筑等数据</b>	Land Company of the second	8 mmhd	
		enemarie es		man - man for a result of	odium	and the second second		NFC50970594		5 ppm	13.697 meq/L
	c), 41			The Control of Control of States	otassi	effective for an experience		网络罗斯特		<b>5</b> ppm	
			ar desir ad Sais	The same of the same	alcium		Moerica		e au a c agricultura	0 ppm	37.934 meq/L
				And the state of t	lagnes	ium			A contraction	7 ppm.	1.362 meq/L
					AR				3.0	en de la compania de la compania de la compania de la compania de la compania de la compania de la compania de	
					SP				25.6	9.2	

<sup>\*</sup>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.



Outside TX County

Laboratory Number: 472178 Customer Sample ID: S-3 0

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

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
рН	7.9	(5.8)	e to a definition of	Mod. Alk	aline	ogodja p	and Spagner				
Conductivity	5,270	(-)	umho/cm	V. High			Cl.	•		Fe	rtillzer Recommended
Nitrate-N	1	(-)	ppm**				10000				55 lbs N/acre
Phosphorus	22	(50)	ppm				l ¦				35 lbs P2O5/acre
Potassium	230	(125)	ppm	11111111111			HHIIIII	IIII °			0 lbs K20/acre
Calcium	18,063	(180)	ppm	1111111111111		1111111111	minini		II		0 lbs Ca/acre
Magnesium	134	(50)	ppm				griinini)	II			0 lbs Mg/acre
Sulfur	6,000	(13)	ppm	1111111111111		11111111111	mund				0 lbs S/acre
Sodium	4,211	(-)	ppm				(111111111)		(111		
Iron	***				` '		· · · · · · · · · · · · · · · · · · ·				
Zinc		+ 11.43		. Establish	43.7						
Manganese							ı				
Copper	and the second		Hall Hall				1	ď.			* 4 ° 1.
Boron						·	] 				
Limestone Requirement		Hybbis									0.00 tons 100ECCE/acre
				Detaile	d Sali	nity Te	est (Sa	turate	d Paste	Extrac	i)
				рН					7.1	I	
		1.14.1		Co	nduct	ivity			47.70	) mmhos	s/cm
				So	dium				8987	ppm	391.094 meq/L
				Po	tassiu	ım 🦠			124	l ppm	3.183 meg/L
				Ca	lcium				358	l ppm	<b>178.707</b> meq/L
				Ma	gnesi	um 📑			中央企業的企業的企業的企業	ppm:	5.316 meq/L
entermente sammely, et en gelekter (1 et 1 et 2 et 2 et 2 et 2 et 2 et 2 et		new state of the same	-x	SA	emanagement of the second of the		iller annem	Contract of Carlot Carlot	40.77	G. 11 G. 1 G. 11 G. 12 G. 1	en interprise en la referenciaria della della companya en propositione della companya della companya della comp
		1	34.17.11	SS	P				67.63		

<sup>\*</sup>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.



Outside TX County

Laboratory Number: 472179 Customer Sample ID: S-3 1 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

Customer Sample	wn: IMPROVED	ANDL	NDDID DE	DRAI IDA	CDAG	. CE	ムブはいつ				
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	Villah	Exces	
pH	7.8	(5.8)	UIIIG	Mod, All		LOW	MUU	nigsi	VHigh	Exces	
I.		. ,	umho/cm		Kanne						Fertilizer Recommended
Conductivity Nitrate-N	2,140	(-)	and the second second	High	i sasa 181	Las P M	CL I	•	ı	į	1.77 8 7.79
2.77	2	(-)	ppm**		******	3-7-7-					55 lbs N/acre
Phosphorus	12	(50)	ppm	1			ļ .				50 lbs P2O5/acre
Potassium	246	(125)	ppm				HIIIIIII				0 lbs K20/acre
Calcium	15,240	(180)	ppm						11		0 lbs Ca/acre
Magnesium	148	(50)	ppm	122.22.22.22.23.20		かにから (資金)		197			0 lbs Mg/acre
Sulfur	2,336	(13)	ppm				)11111111114		111111111111	Ę	0 lbs S/acre
Sodium	422	(-)	ppm			mmini	NAME OF	<i>a</i> *			
Iron							i				
Zinc						漢語				ĺ	
Manganese							!				
Copper		. 54				13/14	;				
Boron					·		!				
Limestone Requiren	nent		QARIEN.					· · · · · · · · · · · · · · · · · · ·		•	0.00 tons 100ECCE/acre
				Detalle	ed Sali	nity T	est (Sa	turate	d Past	e Exti	act)
				рŀ	strategical a soldings	':±45.4 <u>4</u> 1942#4	an kristingerige different	2-2-14/8. Febru	7.	W1-22 1	amendiata igrafia sesu ir dai ir ir Nors arī hima. Par i iran ame ade per sai i data mimeri i daidase sadas
	ser construction		e de la la la la la la la la la la la la la	Co	onduct	ivity			5.1	6 mml	nos/cm
				man melitin a communication has	odium	CONTRACT TO SERVE	(1966年1977年) (1966年) 1967年 (1967年)	aram magazir	A Property of the Park Service	9 ppm	and indicated that some is up to advanture of the anti-off-free objects with the management
				Po	otassiu	ım				6 ppm	The state of the second state of the second state of the state of the second state of
				Ref to a control of the control of the	alcium	10 (44 <u>84 10</u> 10)	50 P. S. S. S. S. S. S. S. S. S. S. S. S. S.	5749777777777	# 11 Porte - Chancelland	9 ppm	
Carterior Carter			, ib.,	THE STATE OF THE STATE OF	agnesi	um				8 ppm	
				to the state of the state of the state of	:3055: \R	504745	学见的建设设置的	<b>三班安徽369</b> 38	3.1		()。 1.6 (2) (1.4 (2) (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
et bereg men ges	distribution because the		e jerovitele	2 SS					25.9		
		POLYMON THE CO			CHANGE CONTRACT	CANADA PARTIES		भारतको समिते हेन्स्या है। भारतको समिति	Train Lord Inch	n on our fil	中 10 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472180 Customer Sample ID: S-3 2

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

Crop Grown: I	MPROVED	AND F	IYBRID BEI	RMUDA	GRAS	SS, GF	RAZINO	÷			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
рН	8.1	(5.8)	Tanggi Marin	Mod. Al	kaline	Verify naty from	responding.				
Conductivity	1,520	(-)	umho/cm	Moderal	le		c	L.		. F	ertilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	7	(50)	ppm	1111111111	CONTRACT TO	<b>.</b>	1	1			55 lbs P2O5/acre
Potassium	45	(125)	ppm		and the second second			1 · · ·			<b>75</b> lbs K20/acre
Calcium	20,117	(180)	ppm				AMMON	1	W.		0 lbs Ca/acre
Magnesium	58	(50)	ppm	<ul><li>基本作品 2000年100日</li></ul>	4-25 P. S. C. V.	囊 化化水流性多次水池	HIMMI	5 5 7			0 lbs Mg/acre
Sulfur	6,142	(13)	ppm			t	1)1111111111	İ IIIIIIIII			0 lbs S/acre
Sodium	171	(-)	ppm			III					
Iron	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		navasas Svena er i i		271 2 A 1			į			
Zinc						303		i			
Manganese	1, 9, 1, 2, 3	ga = agurer :	g in the same		aji ar ji			 			
Copper	1,54,73	11.00				1323		1			
Boron	er all og alleg grave	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ray was n	1.	l	 		i			0.00
Limestone Requirement	1160) 4344 450	A, Profile				-W-12460	<u> 1870 :</u>			···	0.00 tons 100ECCE/acre
			Especial Control		erice.	ART FOR			eriine y		
						inity i	est (S	aturate	d Paste		Ct)
		nan ring		pl	and the second second	Merce et al			7.0		
					onduc	tivity			and Character Cart to pass Art	) mmhc	
				TERRO TO SECURIO DE LA CONTRACTION DEL CONTRACTION DE LA CONTRACTION DEL CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION	odium		ėn sedesedė		といえ 明正のい カリモ 東流の	9 ppm	13.459 meq/L
				The state of the s	otassii	The state of the state of the				4 ppm	0:362 meg/L
				are the second second second	alcium	and the control of the		ngnysta.		1 ppm	33.459 meq/L
				Residence of the Control of the Cont	agnes	ıum				4 ppm	1.129 meq/L
	n-/	- Contract			AR	echange:		iena I	3.2	THE PROPERTY OF A STATE OF A STAT	
				s S	SP 🛒				27.8	<b>Variety</b>	

<sup>\*</sup>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,



**Outside TX County** 

Laboratory Number: 472181 Customer Sample ID: S-4 0 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

Crop Grown:	IMPROVED	AND HYBRID	BERMUDA	GRASS.	GRAZING
-------------	----------	------------	---------	--------	---------

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Excess.	
рН	7.7	(5.8)		Mod. All	aline						
Conductivity	6,250	(-)	umho/cm	V. High			Cl	.*		Fe	rtilizer Recommended
Nitrate-N	0	(-)	ppm**								55 lbs N/acre
Phosphorus	29	(50)	ppm				) }	l I			25 lbs P2O5/acre
Potassium	453	(125)	ppm								0 lbs K20/acre
Calcium	10,009	(180)	ppm						ļl		0 lbs Ca/acre
Magnesium	195	(50)	ppm		10 Per 10 10 10 Per 10		Section 19 and 19	7 P. C.			0 lbs Mg/acre
Sulfur	893	(13)	ppm			1111111111	11111111111				0 lbs S/acre
Sodium	8,505	(-)	ppm	ummi				1111111111			
Iron			tot same of		*******			l I			
Zinc					40F G			l			
Manganese					.,		1				
Copper	Grand September			.	t lipple of						
Boron			- MATERIA - 11								
Limestone Requiremen	ıt			s digitare to digi				<u> Nabili</u>			0.00 tons 100ECCE/acre
				a de alemana de la	torick traff	Milenyever	Preference vices	n en de la companya de la companya de la companya de la companya de la companya de la companya de la companya d	enn contre	sasa Anesia arees	coloxiste (40/10/07-4) 44 (40/14) 12 (40/14) 12 (40/14) 12 (40/14) 12 (40/14) 12 (40/14) 12 (40/14) 12 (40/14)
	Lagran English			- F- (- (- (- (- (- (- (- (- (- (- (- (- (-	Contract Contract Contract	nity T	est (Sa	iturate		Extrac	t)
				p⊦		rredo seksus	endela Merodie	Särkträdiffeld	7.: Kristore vezt		
	, 1994			The second of th	nduct	ivity				0 mmhos	
				TO SHOW THE RESTREET	dium	KATASATA		eren er er er er er er er er er er er er er	Confidence and with the	0 ppm	734.556 meq/L
				SP Suite and an analysis	tassiu	earth and complete and complete and			14.3 ch makes (25)	3 ppm	13,131 meq/L
	was and the same			end- activitation of the end-	lcium	Title of the second		an an an an an an an an an an an an an a	n de Salament (1988 ann	6 ppm	<b>205.893</b> meq/L
			Yang talah	Ca Burthamendam	ignesi	um				B ppm	<b>10.485</b> meq/L »
	sansi mananan paga ak			SA					70.6		
				SS	iR.				76.1	9. 46	

<sup>\*</sup>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.



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

Crop Grown:	IMPROVED	AND H	ABBID REI	RIVIUDA	GRAS	55, Gh	CAZINC	j					
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.			
рН	7.8	(5.8)	**************************************	Mod. Al	kaline	rand trâns	og i steptos					1.00	- 20
Conductivity	4,600	(-)	umho/cm	V. High			C	L*		Fer	tilizer Recom	mended	t
Nitrate-N	0	(-)	ppm**								55 lbs N/acre	) have	
Phosphorus	13	(50)	ppm			[1		1			<b>50</b> lbs P2O5	acre	
Potassium	239	(125)	ppm	\$ 611.000 miles (10.1)		A ALTERNATION STATE OF THE	A STATE OF STATE OF	3.4			0 lbs K20/a	сге	
Calcium	16,225	(180)	ppm	1					<b>I</b> II		0 lbs Ca/ac	1.	
Magnesium	169	(50)	ppm			\$ 4 . N. S. S. S. S. S. S. S. S. S. S. S. S. S.	100	m 5 + 7			0 lbs Mg/ac		
Sulfur	472	(13)	ppm	all more than the	🕯				ļummini		0 lbs S/acre	:	
Sodium	2,809	(-)	ppm	400000		(minnin	i) IIIII IIIII		[[				
Iron													
Zinc	4		. "					i i					
Manganese								i I					
Copper								1					
Boron	er en en en en en en en en	5	eta esta esta esta esta esta esta esta e			١, ,		į					541.3%
Limestone Requiremen	<b>t</b>	100			1,50,58						0.00 tons 100E	:CCE/acre	3 -
						na Praka		betaara (A)	escuyanosessa	WILLIEF SEE	ran an an an an an an an an an an an an a		
				MET ACCOUNTS AND THE	election of the second control of	inity	est (S	aturate	no make the comment of the First	Extract			
		ion Pote		pi		ZW.542598		1020214	7.3	and the second second			
Constitution of the	100				onduc	tivity			to a contract of the contract	) mmhos/		6.117 me	(2) (2)
		58 equi-55	4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	and a relative to the	odium			교실도 (1915)	CONTRACTOR STATES	7 ppm	بمرمي ومحمد وروسي والمبريان المساطى الورسانا مسا	o. 1 17 me 1.541 me	to remain and
				See and the second	otassii	eine diskumen kriesten			control of the belief of the property of the p	) ppm		0.312 me	
	raines athans	76 - A D C.		and the first section is not discussed.	alcium	Actiのまますい ACT	Staren		2011年1日 1日 1日 1日 1日 1日 1日 1日 1日 1日 1日 1日 1日 1	ppm		6.576 me	
				familia national distriction of the Paris	agnes	latu			and a second address of a	) ppm 🞺		0.010	3 <b>4/</b> E
			to see to be		AR SP		A Marian		16.74 45.5	CONTRACT NOT A SECURITION			
		S15 (256)				1907			40.0		建二甲基丙二甲 化拉斯克	19.60年19.66	

<sup>\*</sup>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.



Outside TX County

Laboratory Number: 472183 Customer Sample ID: S-4 2 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

Angiveie	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Exces			
Analysis pH		(5.8)	Oille	Mod. Al		LOW	. IIIOU	riigii	viligii	LAUCS	<b>3.</b>		
Conductivity	1,560	(-)	umho/cm	High	nainte .						Fertilizer R	ecommo	hahn
Nitrate-N	1,000	( <del>-</del> )	ppm**	1	laje Mili	1,745.2		[	<u> </u>	•	55 lbs		mucu
Phosphorus	5	(50)	ppm		TYPECON.	Mark Wa	1	ļ				P2O5/acr	· •
Potassium	51	(125)	ppm		tor a decree	MORE	W bo	)   12   18				K20/acre	
Calcium	27,898	(180)	ppm	18 -1000000-100000	2012/04/2017	a the contract of		  4  }{	11			Ca/acre	
Magnesium	86	(50)	3.8. 中国共享基础 1771年				•		**			Mg/acre	
Sulfur	5,899	(13)	ppm	불 기회 발표 사람들은 시키 편리하	1.00 (0.00)	· 网络阿尔克斯特斯	6 6 3 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1	200				S/acre	
Sodium	181	(-)	ppm ppm	2		1 · ·	- 1-1-1	ļ !	***********		O IDŽ	Oracie	111
Iron	101	(-)	- ppm	mmuni	*******	1111		<b>i</b> -					
Zinc	. 4,6 - 4,6 - 5		1 (\$1 <sub>6</sub> ),				27.5	i i					250
Manganese								1					
and the second of the second	ang 440,655 (1996)	A Carl	of Charge Co		tanan;	10,381		į					4.74
			9.0353	1 '									
Copper								į į	٠.				
Boron		F 148058488	frank Steams			Wana		i I eta Sava	·.		O OO topi	- 100ECC	Elacro
	juirement									1.	<b>0.00</b> tons	s 100ECC	E/acre
Boron	julrement			la siste		MIGNAT			d Dasi	EV#		s 100ECC	E/acre
Boron	juirement			GR of the American R	- TATA - 177 15 15 15 15 15 15 15 15 15 15 15 15 15	inity T	est (S	turate	d Paste	mar		s 100ECC	E/acre
Boron	juirement			pł	1		est (Sa	iturate	7.5	3	act)	s 100ECC	E/acre
Boron	juirement			pl - Co	1 onduc		est (Sa	iturate	7.9 3.39	e Demmt	act)		
Boron	<sub>l</sub> uirement			pl Co So	d onduct odium	tivity	est (Sa	iturate	7.9 3.39 178	9 9 mmh 5 ppm	act) ios/cm	7.6	<b>12</b> meq/L
Boron	uirement			pl Co So Po	d onduc odium otasslı	tivity um	est (Sa	iturate	7.9 3.39 17.6 1.	9 9 mml 5 ppm 3 ppm	act)	7.6 0.3	12 meq/L 41 meq/L
Boron	uirement			pl Co So Po Co	d onduc odium otassit alcium	tivity .m	est (Sa	aturate	7.9 3.39 179 1: 612	9 9 mml 5 ppm 3 ppm 2 ppm	act) ios/cm	7.6° 0.3/ 30.5	12 meg/L 11 meg/L, 60 meg/L
Boron	uirement			pł Go So Po Co M	d onduc odium otasslı	tivity .m	est (Sa	aturate	7.9 3.39 179 1: 612	9 mmh 5 ppm 3 ppm 2 ppm 5 ppm	act) ios/cm	7.6° 0.3/ 30.5	12 meq/L 41 meq/L

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472184 Customer Sample ID: S-4 3

Artesia, NM 88210

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

Crop Gro	own: (MPROVED	AND H	YBRID BEI	RMUDA	GRAS	SS, GR	AZING	,			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Excess.	
рН	8.1	(5.8)	a di Antonia	Mod, Al	kaline	erensijaa si					
Conductivity	1,550	(-)	umho/cm	High			CI	•		Fertili	zer Recommended
Nitrate-N	0	(-)	ppm**							5	5 lbs N/acre
Phosphorus	6	(50)	ppm	1111111111	ļ			i -		6	0 lbs P2O5/acre
Potassium	44	(125)	ppm	[[[]]]]]]]				. 0		7	5 lbs K20/acre
Calcium	28,274	(180)	ppm	111111111		ļmmm	11111111111	[[]]]]]]]	U.		0 lbs Ca/acre
Magnesium	93	(50)	ppm			ļumum,		II.			0 lbs Mg/acre
Sulfur	5,819	(13)	ppm	1111111111		(111111111)					0 lbs S/acre
Sodium	50	(-)	ppm	1111111111	3773						
Iron											
Zinc					1,7414						
Manganese						Ì					
Copper			AS VAN		54.5						
Boron -							1				
Limestone Require	ment									0.0	0 tons 100ECCE/acre
				and the second of the second	ezámenen e	sala neglik fiyê ni	en weakle with	Antidorra Done	aren i consesse	determination as of the co	
		P 4		THE CONTRACT OF THE PARTY OF	marthum	inity T	est (Sa	turate	1 Bartherden L. March	Extract)	
				ρŀ	and the boson and the			aran art	7.9 ::::::::::::::::::::::::::::::::::::		verkopokiski kastriik skein kents
					onduc				Committee of the commit	) mmhos/cm	and a second of a distribution of a second contract of the second co
		era viras das		the same transmit of the second ways	odium	and a secretary	(FREEDSWER)	Vietin.		3 ppm	4.499 meq/L
				The State of the Comment of Comment of State of	otassiu	continues de la contraction de				2 ppm	0.319 meq/L
		ar area ar a		en altra e da diamente en	alcium	at a restrict of the		Sdarbaska TA		ppm .	<b>29.657</b> meq/L
					agnes	lum.				7 ppm	1,376 meq/L
	nice and any multiplication and an extension				٩R		ension (	TUTO SHEET OF THE	1.14		
			the parties and	s S	SP				12.55	9	D. A. S. S. S. B. B. B. B. B. B. B. B. B. B. B. B. B.

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472185 Customer Sample ID: S-5 0

#### 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

Crop Grown: I	IMPROVED	AND H	IYBRID BEI	RMUDA	GRAS	SS, GR	AZING	ì			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess,	
рН	7.9	(5.8)	**************************************	Mod. Al	kaline		THE PARTY				
Conductivity	4,530	(-)	umho/cm	V. High			С	L•		Fert	ilizer Recommended
Nitrate-N	1	(-)	ppm**				gradian.				55 lbs N/acre
Phosphorus	27	(50)	ppm	1	•	(IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	•	I I			30 lbs P2O5/acre
Potassium	295	(125)	ppm			(1111111111					0 lbs K20/acre
Calcium	7,534	(180)	ppm				¥		ļu —		0 lbs Ca/acre
Magnesium	130	(50)	ppm	\$ 100 100 100 100 100	distriction of the		高 ないがらか (中) ・	77.33			0 lbs Mg/acre
Sulfur	1,234	(13)	ppm						(mmmmm)		0 lbs S/acre
Sodium	3,897	(-)	ppm	HIIIIIIII				MIMILIA	ļm		
Iron					1 - 6	2		! !	l.		
Zinc		( Para Are						l !			
Manganese			angara paganan an					l 1			
Copper						1.498					
Boron		en gregori	utarentea la energia de		1 6 5 5 5;		l.,,,,,,,				a Tive de
Limestone Requirement					1 1444		1 1 100	1		0	.00 tons 100ECCE/acre
				are stables one	SCHOOL SCHOOLS	SECTION A	au Santa	versumen end	enterilence	. ಜನಗಾರಾಜ್ಯಕಾಗಿ ಅಭಿವರ್ಣ	
		S 4				inity T	est (Sa	iturate		Extract)	
				pł	The sea between the con-	-1140 <i>-</i> 11261	and Garage		7. <i>4</i>	etimo er e sur transcio con	
				R C C E C	onduc	tivity			A Section of the sect	) mmhos/c	メラン・マイン・ファント アンドストン エフェストライス (2012年でき) ディン・マイク からすがなり はいまれた (2017年)
SAMP FOR STATE OF STA				market and a second	odium	adeltaneseed	NESOTO NEE	ONE STATE	マイナイカ 東京 いずみなちゃくさ	7 ppm	348.427 meq/L
		110		A to the contraction	otassii	to compare the second				7 ppm	3.502 meq/L
				es a contrata	alcium	NAME AND ADDRESS OF	PARSAGEO	andrii dil	CALL PARTY OF THE PARTY OF	1 ppm	176.694 meq/L
		e verkere e	4200	A constitution of the state of the state of the	agnes	lum 🦂				5 ppm	<b>5.327</b> meq/L
	removed by the second	east Assault, me			AR	.5756404.H288.1		Tangata Taba	36.5		
	$y_{ij} = 2i\pi (0)$		5 5 25 1	S	SP.				65.2		

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472186 Customer Sample ID: S-5 1 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

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Analysis	Results		Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
рН	8.3	(5.8)		Mod. All	kaline		Filiphin (1941)					74 . 75
Conductivity	1,780	(-)	umho/cm	High			c	۲.		Fer	tilizer Recommende	d
Nitrate-N	. 141	(-)	ppm**	1.					1	1	55 lbs N/acre	
Phosphorus	9	(50)	ppm		11111111			i I			55 lbs P2O5/acre	
Potassium	59	(125)	ppm			İIIIII		1			60 lbs K20/acre	
Calcium	32,480	(180)	ppm	1111111111		(1111)1111		Hannan	ŲI 🐪		0 lbs Ca/acre	
Magnesium	134	(50)	ppm	1111111111	MINIMI			dil .		ļ	0 lbs Mg/acre	
Sulfur	5,519	(13)	ppm	1111111111	1111111111	(111111111	) 111111111	ļmmai	ģianiaa		0 lbs S/acre	
Sodium	524	(-)	ppm				i)II					
Iron		•					Ī	1 I		İ		
Zinc					*: *			j			•	
Manganese							Ì	<u>.</u>				
Copper						100		! ]				
Boron								! !	İ			
Limestone Requirem	nent				19k-795	Action of			·	. (	0.00 tons 100ECCE/ac	re
							namanian i		SVILLES T			8 <b>8452</b> 30
		Serverija da i			Comment of the comment	inity i	est (Sa	iturate	1 1000000000000000000000000000000000000	Extract		
		erik, e riin		ph 소		<b>65</b> 4233			7.	establish transporters are di-		
					onduc	livity				3 mmhos/	The state of the s	
	esta esta esta esta esta esta esta esta		e Sarta de partes -		dium	Water 1996		Musikona	AT TAXABLE PROPERTY	D ppm	30.005 m	
				The state of the control of the	tassit	AND ASSESSED.	51 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			B-ppm	<b>0.726</b> m	45.72.67.7.2
		SEE NO.		AND THE RESERVE THE STREET	alcium	and the second	STATE OF THE		(アリッパの)とははでき	0 ppm	32.438 m	
				The second second second	agnesi	lum				1 ppm	1.730 m	eq/L
		aga November seis		the second section is a second	۱R	EJAGDÆTURS	ring School Specific	ATRICETURES C	7.2		Effects to the real of the transfer of the contract of the con	na programa de la composição de la compo
			in the New	a ss	o <b>H</b>				46.2	3		

<sup>\*</sup>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.



**Outside TX County** 

Laboratory Number: 472187 Customer Sample ID: S-5 2

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

Customer Sample ID: S-6													
Crop Grown: IMI Analysis	PROVED Results	AND H	YBRID BEI Units						MOST	<b>5</b>			
	TARREST TO THE PROPERTY OF THE PARTY OF THE		Onits	ExLow	VLow	Low	Mod	Hlgh	VHigh	Excess,			247 PAG
pH	8.2	(5.8)	33.373	Mod. Al	the reaction is	ga, north aire	rain in Maria N					7	ماحما
Conductivity	1,420	(-)	umho/cm	Moderat	te i	1. 200	CL	•	i	۳۱ :		Recommen	aea
Nitrate-N	1	(-)	ppm**	1111111						•		s N/acre	
Phosphorus	4	(50)	ppm		laying va	100.50	1	ę .				P2O5/acre	
Potassium	10	(125)	ppm		1000		ļ.,,,		.,			s K20/acre	
Calcium	18,208	(180)	ppm	1	1	1			11			s Calacre	
Magnesium	68	(50)	ppm		<ul> <li>* (***********************************</li></ul>	<ul> <li>Calcination (Car)</li> </ul>		- "				Mg/acre	
Sulfur	7,037	(13)	ppm	A TOWNSON	\$ -00 m et = 1 1 1 2 2 4		)		1111111111111		<b>0</b> lb:	s S/acre	
Sodium	61	(-)	ppm	1111111111									
Iron	50,000	. 50 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	a nuthawan a mata		1.56 5 4.		į						
Zinc													
Manganese							1						.,
Copper							1			1		18241	
Boron		4	one of the		l.,,	Į,	ĺ						
Limestone Requirement				<u> </u>			£ , , , ,				0.00 to	ns 100ECCE/	acre
				empleate est est traini	e e ritting to the call line	to turk never de		ala fi etti marine.	CTROOP TO THE SEASON	ta wate on inci-	Direct of sovering and a final	navita i Palancia de reformació i el	
		da da Ono da da		Detail	ed Sall	inity T	est (Sa	turate	d Paste	e Extra	ct)		
				pl	برادم والراسعين ويوسوه	nerrous design		mentarus ausa	7.5	_	o tentrole transcript	at other to the former factor of one	
in the asset of the		172		g C	onduct	tivity			2.8	6 mmho	s/cm		
				So	odium	uz a fraziet word zie ita		andri aleeni o	シェックス・マチボ さんごうき	D ppm		CONTRACTOR OF THE PROPERTY.	meq/L
				35 v 7 v 4 v 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	otassiu					4 ppm			meq/L
				array - and alternative	alcium	- A vertice for a				3 ppm	ne man de man est		meq/L
				M	agnesi	lum				0 ppm		0.856	meq/L
					4R			andreas management me	1.5			Jensey and America	
	in the second			S	SP==				16.2	7			

\*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.



Outside TX County

Laboratory Number: 472188 Customer Sample ID: S-5 3

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

Crop Grown: IM	IPROVED	AND H	YBRID BEI	RMUDA	GRAS	SS, GF	AZING	i			
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHlgh	Excess.	
рН	8.3	(5.8)		Mod. Al	kaline	1.	r cert je				
Conductivity	1,510	(-)	umho/cm	Modera	te		Cl			Fertil	izer Recommended
Nitrate-N	1	(-)	ppm**								55 lbs N/acre
Phosphorus	4	(50)	ppm	ШШ	<b>l</b>					(	0 lbs P2O5/acre
Potassium	15	(125)	ppm	HIIIIIIII				*		10	05 lbs K20/acre
Calcium	16,303	(180)	ppm	1		1	1	*	ĮII		0 lbs Ca/acre
Magnesium	324	(50)	ppm								0 lbs Mg/acre
Sulfur	6,730	(13)	ppm				Hillian	Hillilli			0 lbs S/acre
Sodium	44	(-)	ppm	11111111	<u> </u>						
lron			11.11								
Zinc											
Manganese							1				
Copper											
Boron		. 1 1 Jan	sampati sa Asto Bili	de.	l	l	l i			İ	2 (9)
Limestone Requirement		un feb	<b>松園時出版</b>					121		0.0	00 tons 100ECCE/acre
		<u>Laborator</u>	to come e	respect.	tarin yer	in the co	aisteleis Liter		Nation of	eggi etgelskelsk ju	nant, eri (spatateleksinen en etalena
	H. A. S.	421194	i de facilità	4		inity i	est (Sa	turate		Extract)	
				pl م			115,816,714		8. 	and the second second	
		55			onduc	ινιτ	750 X SEE		Coldinarios Alexand	0 mmhos/cm	The second secon
				No. of the Committee of the State of the Sta	odium		Andria A Whati	HADAN	こうは かがくりょか かがりか	7 ppm	5.964 meq/L
				Elek and a second	otassiu alcium	24	SHAPE.	使机器等		4 ppm	0.361 meq/L
			Eressies:	er men – og å nærende	agnesi	and the second second second			CONTRACTOR STATE 1	9 ppm <b>1</b> ppm	22.906 meq/L 3.378 meq/L
				📆 musik Zeurer performis	agijesi AR	MIII			1.6		250 of health
					SP.				18.2		
		Here is a						<b>建建国际</b>	AND LAND	A ASSESSMENT OF STREET	30%(A) 中国的中国中国的国际企业中国的企业的企业

<sup>\*</sup>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.



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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accred certif.html.

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

Method EPA 552,2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



TALON LPE
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: Sample Received By: Cool & Intact

Jodi Henson

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

Result	Reporting Limit	Analyzed						
<0.050		/ indiyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
~0.000	0.050	12/13/2016	ND	1.96	97.8	2.00	10.2	
<0.050	0.050	12/13/2016	ND	2.00	100	2.00	10.6	
<0.050	0.050	12/13/2016	ND	1.95	97.7	2.00	10.5	
<0.150	0.150	12/13/2016	ND	5.99	99.8	6.00	11.0	
<0.300	0.300	12/13/2016	ND					
119 %	6 73.6-140	)						
mg/l	⟨g	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	12/09/2016	ND	190	95.0	200	1.17	
<10.0	10.0	12/09/2016	ND	204	102	200	0.506	
75.6 %	6 35-147							
65.8 %	6 28-171							
< < <	<0.050 <0.050 <0.150 <0.300 	<0.050 <0.050 <0.050 <0.150 <0.300 <0.300  119 % 73.6-140 mg/kg Result Reporting Limit <10.0 10.0 <10.0 35-147		Color   Colo	Color   Colo	Color   Colo	Color	Color   Colo

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

Chloride, SM4500Cl-B	mg	/kg	Analyze	d 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

PLEASE NOTE: Uability 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 ourse, or loss of profits incinved 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 claims 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. Kune





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: Project Location:

701162.078.01 M-23-25S-26E

63.5 %

28-171

Sampling Date:

12/02/2016

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

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

BTEX 8021B	mg,	'kg	Analyze	d By: MS			100000000000000000000000000000000000000		
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 (PIL	119 9	% 73.6-14	0						
TPH 8015M	mg/	'kg	Analyze	d 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	,						

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

Surrogate: 1-Chlorooctadecane

Chloride, SM4500Cl-B	mg	/kg	Analyze	d 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: Uablify 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 whistoever shall be deemed waived urtess 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 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 claims 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.

Celeg & Keene



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: Sample Received By: Cool & Intact

Jodi Henson

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

BTEX 8021B	mg/	kg	Anaiyze	d 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 (PIL	118 9	6 73.6-140	)						
TPH 8015M	mg/	kg	Analyze	d 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, SM4500CI-B	mg	/kg	Analyze	d 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

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 whistoever 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 claims 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



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: Project Number: PINTAIL 23 FED #8 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	Analyze	d 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 (PIL	119 9	% 73.6-140	0						
TPH 8015M	mg/	'kg	Analyze	d 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, SM4500Cl-B	mg	/kg	Analyze	d 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	

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D Keene



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: Project Number: PINTAIL 23 FED #8 701162.078.01

Project Location:

M-23-25S-26E

Sampling Date:

12/02/2016

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

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

BTEX 8021B	mg/	/kg	Analyze	d By: MS		RA-NY-M-			· · · · · · · · · · · · · · · · · · ·
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 (PID	118 9	% 73.6-140	)						
TPH 8015M	mg/	/kg	Analyze	d 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, SM4500CI-B	mg	/kg	Analyze	d 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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\*=Accredited Analyte

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Celeg D. Keine



#### **Notes and Definitions**

QR-03 The RPD value for the sample duplicate or MS/MSD was outside if 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



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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Project Manager: Sheldon Hitchcock	The second secon	P.O. #:	
Address: 408 W. Texas Ave.	The state of the s	Company: Cimarex	
city: Artesia	State: NM Zip: 88210	Attn: Christine Alderman	
-746-8768	Fax #: 575-746-8905	Address:	
Project #: 701162.078.01	Project Owner: Cimarex	City:	
3 Fed #8		State: Zip:	
Project Location: M-23-25S-26E		Phone #:	
Sampler Name: Sheldon Hitchcock		Fax#:	
FOR LAB USE ONLY	MATRIX	PRESERV SAMPLING	
	(C)OMP. ERS ATER		X
Lab I.D. Sample I.D.	RAB OR ONTAINE OUNDW/	IER : D/BASE: / COOL IER :	PH
1602747	# CO GRO WAS SOIL	OTH ACII ICE	TC
1 5-10'		12/2/16/2145	
2 5-17	<u> </u>	1 18/21/2 2550	7
B 5-20'	G - /	1 12/2/16 31:00	
4 5-2-2	6 1	1 122163:05	
5 5-30	G	1 12216 7:50	
6 5-3 2	6 1	1 12/2/16 3:35	
75-40'	617	1 12/2/16 4:00	
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10 5-53	6 (   /	1 12/7/163:30	
PLEASE NOTE: Lability and Damages. Cerdinats lability and client's exclusive remedy for any claim arising whether based in contract or text, shall be limited to the amount paid by the client for the applicable remains including those for negligence and any other cause whatborvor shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable	e exclusive remedy for any claim arising whether based in contri- re whatboever shall be deemed waived unless made in writing :	act or tort, shall be limited to the amount paid by the client and received by Cardinal within 30 days after completion o	nd for the noticeble .
service. In no event shall Cardinal be liable for incidental or consequential damages, including without finitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.  affiliates or successors arising out of or reliated to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise,	ntal damages, including without limitation, business interruption terrices hereunder by Cardinal, regardless of whether such clai	ition, business interruptions, loss of use, or loss of profits incurred by client, its subsiditiess of whether such claim is based upon any of the above stated reasons or otherw	diarles,
<b>AND TO</b>	Repen		Result: ☐ Yes ☐ No Add'l Phone #:
Shedun Jun	TOO WOLL I	all MAGY REMARKS:	
Relinquished By:	Date: Røcelved By:		
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Delivered By: (Circle One)		ition CHECKED BY:	
Sampler - UPS - Bus - Other: 41/5	D S. So Bree Bree	Z I	
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