

District I1625 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

Form C-101
August 1, 2011

Permit 295536

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address CHISHOLM ENERGY OPERATING, LLC 801 Cherry Street Fort Worth, TX 76102		2. OGRID Number 372137
		3. API Number 30-015-48502
4. Property Code 330829	5. Property Name SALT DRAW 10 2BS STATE COM	6. Well No. 006H

7. Surface Location

UL - Lot A	Section 10	Township 25S	Range 28E	Lot Idn A	Feet From 150	N/S Line N	Feet From 1195	E/W Line E	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot P	Section 10	Township 25S	Range 28E	Lot Idn P	Feet From 100	N/S Line S	Feet From 400	E/W Line E	County Eddy
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9. Pool Information

SAN LORENZO;BONE SPRING	53600
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 2977
16. Multiple N	17. Proposed Depth 13199	18. Formation 2nd Bone Spring Sand	19. Contractor	20. Spud Date 11/15/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	450	470	0
Int1	12.25	9.625	40	2600	1130	0
Prod	8.75	5.5	20	13199	1835	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	2500	2500	Cameron
Double Ram	5000	5000	Cameron
Pipe	5000	5000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
 I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.

Signature:

OIL CONSERVATION DIVISION

Printed Name: Electronically filed by Jennifer Elrod	Approved By: Kurt Simmons
Title: Sr. Regulatory Tech	Title: Petroleum Specialist - A
Email Address: jelrod@chisholmenergy.com	Approved Date: 5/21/2021 Expiration Date: 5/21/2023
Date: 5/13/2021 Phone: 817-953-3728	Conditions of Approval Attached

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 53600 53610	³ Pool Name SAN LORENZO; BONE SPRING NORTH
⁴ Property Code	⁵ Property Name SALT DRAW 10 STATE COM 2BS	⁶ Well Number 6H
⁷ OGRID No. 372137	⁸ Operator Name CHISHOLM ENERGY OPERATING, LLC	⁹ Elevation 2977.4

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	10	25 S	28 E		150	NORTH	1195	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	25 S	28 E		100	SOUTH	400	EAST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAD83. LANDING POINT & FTP 200' FNL, 400' FEL LAT. = 32.1513143°N LONG. = 104.0678562°W N = 418884.78 E = 623496.94 GRID AZ. TO LP S86°51'22"E HORIZ. DIST 796.61 FT BOTTOM OF HOLE LAT. = 32.1376305°N LONG. = 104.0677933°W NMSP EAST (FT) N = 413908.99 E = 623528.68 SHL/LTP SALT DRAW 10 STATE COM 2BS 6H ELEV. = 2977.4' LAT. = 32.1514401°N (NAD83) LONG. = 104.0704255°W NMSP EAST (FT) N = 418928.62 E = 622701.66	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Jennifer Elrod</i> 03/25/2020 Signature Date JENIFER ELROD Printed Name JELROD@CHISHOLMENERGY.COM E-mail Address ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. DECEMBER 5, 2019 Date of Survey <i>Filimon F. Jaramillo</i> Signature and Seal of Professional Surveyor Certificate Number: FILIMON F. JARAMILLO, PLS 12797 SURVEY NO. 7839
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Intent ☐ As Drilled ☐API #

Operator Name: CHISHOLM ENERGY OPERATING, LLC	Property Name: SALT DRAW 10 STATE COM 2BS	Well Number 6H
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Kick Off Point (KOP)

UL A	Section 10	Township 25S	Range 28E	Lot	Feet 150	From N/S NORTH	Feet 1195	From E/W EAST	County EDDY
Latitude 32.1514401					Longitude 104.0704255			NAD 83	

First Take Point (FTP)

UL A	Section 10	Township 25S	Range 28E	Lot	Feet 200	From N/S NORTH	Feet 400	From E/W EAST	County EDDY
Latitude 32.1513143					Longitude 104.0678562			NAD 83	

Last Take Point (LTP)

UL P	Section 10	Township 25S	Range 28E	Lot	Feet 100	From N/S SOUTH	Feet 400	From E/W EAST	County EDDY
Latitude 32.1376306					Longitude 104.0677933			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit?

☐ NO

Is this well an infill well?

☒ YES

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #
30-015-45776

Operator Name: CHISHOLM ENERGY OPERATING, LLC	Property Name: SALT DRAW 10 STATE COM 3BS	Well Number 4H
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KZ 06/29/2018

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GAS CAPTURE PLAN

Date: 5/21/2021

☒ Original

Operator & OGRID No.: [372137] CHISHOLM ENERGY OPERATING, LLC

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
SALT DRAW 10 2BS STATE COM #006H	30-015-48502	A-10-25S-28E	0150N 1195E	1200	Flared	Flared gas only in case of emergency or curtailment

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to LUCID ENERGY DELAWARE, LLC and will be connected to LUCID ENERGY DELAWARE, LLC High/Low Pressure gathering system located in Eddy County, New Mexico. It will require 50' of pipeline to connect the facility to High/Low Pressure gathering system. CHISHOLM ENERGY OPERATING, LLC provides (periodically) to LUCID ENERGY DELAWARE, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, CHISHOLM ENERGY OPERATING, LLC and LUCID ENERGY DELAWARE, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LUCID ENERGY DELAWARE, LLC Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on LUCID ENERGY DELAWARE, LLC system at that time. Based on current information, it is CHISHOLM ENERGY OPERATING, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Conditions

Permit 295536

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: CHISHOLM ENERGY OPERATING, LLC [372137] 801 Cherry Street Fort Worth, TX 76102	API Number: 30-015-48502
	Well: SALT DRAW 10 2BS STATE COM #006H

OCD Reviewer	Condition
ksimmons	Notify OCD 24 hours prior to casing & cement
ksimmons	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ksimmons	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	Surface casing must be set 25' below top of Rustler Anhydrite or salt in order to seal off protectable water
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system



Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20 Proposal Geodetic



Report

Def Plan

Report Date: February 06, 2020 - 04:28 PM (UTC 0)
Client: Chisholm Energy Operating
Field: NM Eddy County (NAD 83)
Structure / Slot: Chisholm Salt Draw 10 State Com 2BS 6H
Well: Salt Draw 10 State Com 2BS 6H
Borehole: Salt Draw 10 State Com 2BS 6H
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20
Survey Date: February 06, 2020
Tort / AHD / DDI / ERD Ratio: 97.412' / 5849.204 ft / 5.959 / 0.707
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32°09'18.452"N, 104°4'13.53199"W
Location Grid NE YK: N 418928.620 ftUS, E 622701.660 ftUS
CRS Grid Convergence Angle: 0.1399"
Grid Scale Factor: 0.99991667
Version / Patch: 2019.8.0.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.630 °(GRID North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3009.400 ft above MSL
Seabed / Ground Elevation: 2977.400 ft above MSL
Magnetic Declination: 6.989°
Total Gravity Field Strength: 998.456mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47800.106 nT
Magnetic Dip Angle: 59.832°
Declination Date: February 06, 2020
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.1399°
Total Corr Mag North->Grid North: 6.8491°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL	0.00	0.00	81.50	0.00	-3,009.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07			
Nudge 1.5" DLS	800.00	0.00	81.50	800.00	-2,209.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
Hold	1,200.00	6.00	81.50	1,199.27	-1,810.13	-2.96	3.09	20.69	418,931.71	622,722.35	32.15	-104.07	1.50	1.50	0.00
KOP, Build 10" DLS	7,733.59	6.00	81.50	7,697.07	4,687.67	-99.54	104.04	696.14	419,032.65	623,397.74	32.15	-104.07	0.00	0.00	0.00
Build & Turn 10" DLS	8,079.28	35.00	163.06	8,020.42	5,011.02	-4.15	8.96	744.33	418,937.58	623,445.93	32.15	-104.07	10.00	9.60	7.37
Landing Point	8,647.71	90.20	179.63	8,273.34	5,263.94	476.40	-471.26	798.07	418,457.40	623,499.67	32.15	-104.07	10.00	9.75	2.49
Chisholm Salt Draw 10 State Cor	13,198.63	90.20	179.63	8,257.45	5,248.05	5,027.29	-5,022.06	827.09	413,906.99	623,528.68	32.14	-104.07	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA0 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	800.000	1/100.000	17.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	800.000	7,733.590	1/100.000	12.250			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	7,733.590	8,647.710	1/100.000	8.750			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	8,647.710	13,198.630	1/100.000	8.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (



Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20 Proposal Geodetic Report

Report Date: February 06, 2020 - 04:28 PM (UTC 0)
Client: Chisholm Energy Operating
Field: NM Eddy County (NAD 83)
Structure / Slot: Chisholm Salt Draw 10 State Com 2BS 6H
Well: Salt Draw 10 State Com 2BS 6H
Borehole: Salt Draw 10 State Com 2BS 6H
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20
Survey Date: February 06, 2020
Tort / AHD / DDI / ERD Ratio: 97.412 ° / 5849.204 ft / 5.959 / 0.707
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32°55.18422'N, 104°13.53199'W
Location Grid NIE YIX: N 418928.620 HUS, E 622701.660 HUS
CRS Grid Convergence Angle: 0.1399°
Grid Scale Factor: 0.99991667
Version / Patch: 2019.8.0.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.620 (GRID North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3029.400 ft above MSL
Sealbed / Ground Elevation: 2977.400 ft above MSL
Magnetic Declination: 6.989°
Total Gravity Field Strength: 996.450mg (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47800.105 nT
Magnetic Dip Angle: 59.632°
Declination Date: February 06, 2020
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.1399°
Total Com Mag North-Grid North: 6.8491°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDS (ft)	VSEC (ft)	AHD (ft)	NS (ft)	EW (ft)	DeltaMD (ft)	DeltaTVD (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	GTF (°)	MTF (°)	TF (°)	Northing (RUS)	Easting (RUS)	Latitude (° ° ')	Longitude (° ° ')	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)	Directional Difficulty Index	Tortuosity (°)	ERD Ratio
SHL	0.00	0.00	81.50	0.00	-3.009.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	2°55.184523'N	4°13.531995'W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
13.375 in Casing	760.20	0.00	81.50	760.20	-2.249.20	0.00	0.00	0.00	0.00	760.20	760.20	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	2°55.184523'N	4°13.531995'W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
Nadco 1.5" DLS	800.00	0.00	81.50	800.00	-2.209.40	0.00	0.00	0.00	0.00	39.80	39.80	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	2°55.184523'N	4°13.531995'W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
Castile	879.41	1.19	81.50	879.40	-2.130.00	-0.12	0.83	0.12	0.82	79.41	79.40	1.50	0.00	0.00	HS	81.50	81.5M	418.928.74	622.702.48	2°55.185710'N	4°13.522497'W	32.15	-104.07	0.83	81.50	0.00	1.19	0.00
Hold	1,200.00	6.00	81.50	1,199.27	-1,810.13	-2.96	20.92	3.09	20.69	320.59	319.87	1.50	0.00	0.00	HS	81.50	81.5M	418.931.71	622.722.35	2°55.214627'N	4°13.291195'W	32.15	-104.07	20.92	81.50	2.10	6.00	0.02
Delaware Mtn Gr	2,617.90	6.00	81.50	2,609.40	-400.00	-23.92	169.14	25.00	167.28	1,417.90	1,410.13	0.00	0.00	0.00	HS	81.50	81.5M	418.963.62	622.868.92	2°55.427895'N	4°11.565610'W	32.15	-104.07	169.14	81.50	3.01	6.00	0.06
Bone Spring	6,282.98	6.00	81.50	6,254.40	3,245.00	-78.10	552.24	81.63	546.17	3,665.08	3,645.00	0.00	0.00	0.00	HS	81.50	81.5M	419.010.24	623.247.79	2°55.978992'N	1°47.176889'W	32.15	-104.07	552.24	81.50	3.52	6.00	0.09
1st Bone Spring SS	7,243.24	6.00	81.50	7,209.40	4,200.00	-92.29	652.62	96.46	645.45	960.26	955.00	0.00	0.00	0.00	HS	81.50	81.5M	419.025.07	623.347.05	2°56.123365'N	1°46.021789'W	32.15	-104.07	652.62	81.50	3.59	6.00	0.09
KOP: Build 10" DLS	7,733.59	6.00	81.50	7,697.07	4,887.67	-99.54	703.87	104.04	696.14	490.36	487.67	0.00	0.00	90.21R	147.07	147.07M	419.032.65	623.397.74	2°56.197117'N	1°45.433840'W	32.15	-104.07	703.87	81.50	3.63	6.00	0.09	
9.624999999999999 in Casing	7,862.20	14.15	147.07	7,823.91	4,814.51	-87.19	724.37	91.79	711.40	128.61	126.84	10.00	6.34	50.99	25.31R	163.08	25.31R	419.020.40	623.413.00	2°56.075499'N	1°45.254834'W	32.15	-104.07	717.29	82.65	4.14	18.86	0.09
Build & Turn 10" DLS	8,079.28	35.00	163.08	8,020.42	5,011.02	-4.15	813.73	8.96	744.33	217.08	196.51	10.00	9.60	7.37	19.9R	168.04	19.9R	418.937.58	623.445.93	2°55.255112'N	1°44.874103'W	32.15	-104.07	744.39	89.91	4.52	40.57	0.10
2nd Bone Spring SS	8,182.34	44.81	168.04	8,095.40	5,090.00	59.92	879.73	-55.01	760.51	103.06	79.98	10.00	9.52	4.81	16.08R	179.63	16.08R	418.973.61	623.462.10	2°54.621684'N	1°44.687818'W	32.15	-104.07	762.49	94.15	4.66	50.97	0.11
Landing Point	8,647.71	90.20	179.63	8,273.34	5,263.94	476.40	1,298.31	-471.26	798.07	465.37	173.94	10.00	9.75	2.49	HS	179.63	HS	418.457.40	623.499.67	2°50.501932'N	1°44.262807'W	32.15	-104.07	926.83	120.56	5.12	97.41	0.16
Chisholm Salt Draw 10 State Ci	13,198.63	90.20	179.63	8,257.45	5,248.05	5,027.29	5,849.20	-5,022.06	827.09	4,550.92	-15.89	0.00	0.00	0.00	HS	179.63	HS	413.906.99	623.528.68	8°15.469969'N	1°44.055818'W	32.14	-104.07	5,089.71	170.65	5.96	97.41	0.71

Survey Type: Def Plan

Survey Error Model: ISOWSAD 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	800.000	1/100.000	17.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H
	1	800.000	7,733.590	1/100.000	12.250			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H
	1	7,733.590	8,647.710	1/100.000	8.750			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H
	1	8,647.710	13,198.630	1/100.000	8.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H



Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20 Proposal Geodetic Report



Report Date: February 06, 2020 - 04:30 PM (UTC 0)
Client: Chisholm Energy Operating
Field: NM Eddy County (NAD 83)
Structure / Slot: Chisholm Salt Draw 10 State Com 2BS 6H
Well: Salt Draw 10 State Com 2BS 6H
Borehole: Salt Draw 10 State Com 2BS 6H
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20
Survey Date: February 06, 2020
Tort / AHD / DDI / ERD Ratio: 97.412 / 5849.204 ft / 5.959 / 0.707
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32°05.18452'N, 104°41'13.53199'W
Location Grid NE Y/K: N 418928.620 HUS, E 622701.660 HUS
CRS Grid Convergence Angle: 0.1399°
Grid Scale Factor: 0.99991667
Version / Patch: 2019.8.0.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.630 (°GRID North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3009.400 ft above MSL
Seabed / Ground Elevation: 2977.400 ft above MSL
Magnetic Declination: 6.989°
Total Gravity Field Strength: 998.456mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47800.106 nT
Magnetic Dip Angle: 59.832°
Declination Date: February 06, 2020
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.1399°
Total Corr Mag North->Grid North: 6.8491°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVSSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL	0.00	0.00	81.50	0.00	-3.009.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07			
	100.00	0.00	81.50	100.00	-2.909.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	200.00	0.00	81.50	200.00	-2.809.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	300.00	0.00	81.50	300.00	-2.709.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	400.00	0.00	81.50	400.00	-2.609.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	500.00	0.00	81.50	500.00	-2.509.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	600.00	0.00	81.50	600.00	-2.409.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
Nudge 1.5° DLS Castile	700.00	0.00	81.50	700.00	-2.309.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	800.00	0.00	81.50	800.00	-2.209.40	0.00	0.00	0.00	418,928.62	622,701.66	32.15	-104.07	0.00	0.00	0.00
	879.41	1.19	81.50	879.40	-2.130.00	-0.12	0.12	0.82	418,928.74	622,702.48	32.15	-104.07	1.50	1.50	0.00
	900.00	1.50	81.50	899.99	-2.109.41	-0.19	0.19	1.29	418,928.81	622,702.95	32.15	-104.07	1.50	1.50	0.00
	1,000.00	3.00	81.50	999.91	-2.009.49	-0.74	0.77	5.18	418,929.39	622,706.84	32.15	-104.07	1.50	1.50	0.00
	1,100.00	4.50	81.50	1,099.69	-1.909.71	-1.67	1.74	11.65	418,930.36	622,713.30	32.15	-104.07	1.50	1.50	0.00
	1,200.00	6.00	81.50	1,199.27	-1.810.13	-2.96	3.09	20.69	418,931.71	622,722.35	32.15	-104.07	1.50	1.50	0.00
Hold	1,300.00	6.00	81.50	1,298.72	-1,710.68	-4.44	4.64	31.03	418,933.26	622,732.69	32.15	-104.07	0.00	0.00	0.00
	1,400.00	6.00	81.50	1,398.17	-1,611.23	-5.92	6.18	41.37	418,934.80	622,743.03	32.15	-104.07	0.00	0.00	0.00
	1,500.00	6.00	81.50	1,497.63	-1,511.77	-7.39	7.73	51.71	418,936.35	622,753.36	32.15	-104.07	0.00	0.00	0.00
	1,600.00	6.00	81.50	1,597.08	-1,412.32	-8.87	9.27	62.05	418,937.89	622,763.70	32.15	-104.07	0.00	0.00	0.00
	1,700.00	6.00	81.50	1,696.53	-1,312.87	-10.35	10.82	72.39	418,939.44	622,774.04	32.15	-104.07	0.00	0.00	0.00
	1,800.00	6.00	81.50	1,795.98	-1,213.42	-11.83	12.36	82.72	418,940.98	622,784.38	32.15	-104.07	0.00	0.00	0.00
	1,900.00	6.00	81.50	1,895.43	-1,113.97	-13.31	13.91	93.06	418,942.53	622,794.71	32.15	-104.07	0.00	0.00	0.00
	2,000.00	6.00	81.50	1,994.89	-1,014.51	-14.79	15.45	103.40	418,944.07	622,805.05	32.15	-104.07	0.00	0.00	0.00
	2,100.00	6.00	81.50	2,094.34	-915.06	-16.26	17.00	113.74	418,945.62	622,815.39	32.15	-104.07	0.00	0.00	0.00
	2,200.00	6.00	81.50	2,193.79	-815.61	-17.74	18.54	124.08	418,947.16	622,825.72	32.15	-104.07	0.00	0.00	0.00
	2,300.00	6.00	81.50	2,293.24	-716.16	-19.22	20.09	134.41	418,948.71	622,836.06	32.15	-104.07	0.00	0.00	0.00
	2,400.00	6.00	81.50	2,392.70	-616.70	-20.70	21.63	144.75	418,950.25	622,846.40	32.15	-104.07	0.00	0.00	0.00
	2,500.00	6.00	81.50	2,492.15	-517.25	-22.18	23.18	155.09	418,951.80	622,856.74	32.15	-104.07	0.00	0.00	0.00
	2,600.00	6.00	81.50	2,591.60	-417.80	-23.65	24.72	165.43	418,953.34	622,867.07	32.15	-104.07	0.00	0.00	0.00
	2,617.90	6.00	81.50	2,609.40	-400.00	-23.92	25.00	167.28	418,953.62	622,868.92	32.15	-104.07	0.00	0.00	0.00
	2,700.00	6.00	81.50	2,691.05	-318.35	-25.13	26.27	175.77	418,954.89	622,877.41	32.15	-104.07	0.00	0.00	0.00
	2,800.00	6.00	81.50	2,790.50	-218.90	-26.61	27.81	186.10	418,956.43	622,887.75	32.15	-104.07	0.00	0.00	0.00
Delaware Mtn Gr	2,900.00	6.00	81.50	2,889.96	-119.44	-28.09	29.36	196.44	418,957.98	622,898.08	32.15	-104.07	0.00	0.00	0.00
	3,000.00	6.00	81.50	2,989.41	-19.99	-29.57	30.90	206.78	418,959.52	622,908.42	32.15	-104.07	0.00	0.00	0.00
	3,100.00	6.00	81.50	3,088.86	79.46	-31.05	32.45	217.12	418,961.07	622,918.76	32.15	-104.07	0.00	0.00	0.00
	3,200.00	6.00	81.50	3,188.31	178.91	-32.52	33.99	227.46	418,962.61	622,929.10	32.15	-104.07	0.00	0.00	0.00
	3,300.00	6.00	81.50	3,287.77	278.37	-34.00	35.54	237.79	418,964.16	622,939.43	32.15	-104.07	0.00	0.00	0.00
	3,400.00	6.00	81.50	3,387.22	377.82	-35.48	37.08	248.13	418,965.70	622,949.77	32.15	-104.07	0.00	0.00	0.00
	3,500.00	6.00	81.50	3,486.67	477.27	-36.96	38.63	258.47	418,967.25	622,960.11	32.15	-104.07	0.00	0.00	0.00
	3,600.00	6.00	81.50	3,586.12	576.72	-38.44	40.17	268.81	418,968.79	622,970.44	32.15	-104.07	0.00	0.00	0.00
	3,700.00	6.00	81.50	3,685.57	676.17	-39.92	41.72	279.15	418,970.34	622,980.78	32.15	-104.07	0.00	0.00	0.00
	3,800.00	6.00	81.50	3,785.03	775.63	-41.39	43.26	289.48	418,971.88	622,991.12	32.15	-104.07	0.00	0.00	0.00
	3,900.00	6.00	81.50	3,884.48	875.08	-42.87	44.81	299.82	418,973.42	623,001.46	32.15	-104.07	0.00	0.00	0.00
	4,000.00	6.00	81.50	3,983.93	974.53	-44.35	46.35	310.16	418,974.97	623,011.79	32.15	-104.07	0.00	0.00	0.00
	4,100.00	6.00	81.50	4,083.38	1,073.98	-45.83	47.90	320.50	418,976.51	623,022.13	32.15	-104.07	0.00	0.00	0.00
	4,200.00	6.00	81.50	4,182.84	1,173.44	-47.31	49.44	330.84	418,978.06	623,032.47	32.15	-104.07	0.00	0.00	0.00
	4,300.00	6.00	81.50	4,282.29	1,272.89	-48.78	50.99	341.17	418,979.60	623,042.80	32.15	-104.07	0.00	0.00	0.00
	4,400.00	6.00	81.50	4,381.74	1,372.34	-50.26	52.53	351.51	418,981.15	623,053.14	32.15	-104.07	0.00	0.00	0.00
	4,500.00	6.00	81.50	4,481.19	1,471.79	-51.74	54.08	361.85	418,982.69	623,063.48	32.15	-104.07	0.00	0.00	0.00
	4,600.00	6.00	81.50	4,580.64	1,571.24	-53.22	55.62	372.19	418,984.24	623,073.82	32.15	-104.07	0.00	0.00	0.00
	4,700.00	6.00	81.50	4,680.10	1,670.70	-54.70	57.17	382.53	418,985.78	623,084.15	32.15	-104.07	0.00	0.00	0.00
	4,800.00	6.00	81.50	4,779.55	1,770.15	-56.18	58.71	392.86	418,987.33	623,094.49	32.15	-104.07	0.00	0.00	0.00
	4,900.00	6.00	81.50	4,879.00	1,869.60	-57.65	60.26	403.20	418,988.87	623,104.83	32.15	-104.07	0.00	0.00	0.00
	5,000.00	6.00	81.50	4,978.45	1,969.05	-59.13	61.80	413.54	418,990.42	623,115.16	32.15	-104.07	0.00	0.00	0.00
	5,100.00	6.00	81.50	5,077.90	2,068.50	-60.61	63.35	423.88	418,991.96	623,125.50	32.15	-104.07	0.00	0.00	0.00
	5,200.00	6.00	81.50	5,177.36	2,167.96	-62.09	64.89	434.22	418,993.51	623,135.84	32.15	-104.07	0.00	0.00	0.00
	5,300.00	6.00	81.50	5,276.81	2,267.41	-63.57	66.44	444.55	418,995.05	623,146.18	32.15	-104.07	0.00	0.00	0.00
	5,400.00	6.00	81.50	5,376.26	2,366.86	-65.05	67.98	454.89	418,996.60	623,156.51	32.15	-104.07	0.00	0.00	0.00
	5,500.00	6.00	81.50	5,475.71	2,466.31	-66.52	69.53	465.23	418,998.14	623,166.85	32.15	-104.07	0.00	0.00	0.00
	5,600.00	6.00	81.50	5,575.17	2,565.77	-68.00	71.07	475.57	418,999.69	623,177.19	32.15	-104.07	0.00	0.00	0.00
	5,700.00	6.00	81.50	5,674.62	2,665.22	-69.48	72.62	485.91	419,001.23	623,187.52	32.15	-104.07	0.00	0.00	0.00
	5,800.00	6.00	81.50	5,774.07	2,764.67	-70.96	74.16	496.24	419,002.78	623,197.86	32.15	-104.07	0.00	0.00	0.00
	5,900.00	6.00	81.50	5,873.52	2,864.12	-72.44	75.71	506.58	419,004.32	623,208.20	32.15	-104.07	0.00	0.00	0.00
	6,000.00	6.00	81.50	5,972.97	2,963.57	-73.91	77.25	516.92	419,005.87	623,218.54	32.15	-104.07	0.00	0.00	0.00
	6,100.00	6.00	81.50	6,072.43	3,063.03	-75.39	78.80	527.26	419,007.41	623,228.87	32.15	-104.07	0.00	0.00	0.00
	6,200.00	6.00	81.50	6,171.88	3,162.48	-76.87	80.34	537.60	419,008.96	623,239.21	32.15	-104.07	0.00	0.00	0.00
	6,282.98	6.00	81.50												

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	9,100.00	90.20	179.63	8,271.76	5,262.36	928.69	-923.54	800.96	418,005.16	623,502.55	32.15	-104.07	0.00	0.00	0.00
	9,200.00	90.20	179.63	8,271.41	5,262.01	1,028.69	-1,023.53	801.59	417,905.17	623,503.19	32.15	-104.07	0.00	0.00	0.00
	9,300.00	90.20	179.63	8,271.06	5,261.66	1,128.69	-1,123.53	802.23	417,805.18	623,503.82	32.15	-104.07	0.00	0.00	0.00
	9,400.00	90.20	179.63	8,270.71	5,261.31	1,228.69	-1,223.53	802.87	417,705.20	623,504.46	32.15	-104.07	0.00	0.00	0.00
	9,500.00	90.20	179.63	8,270.36	5,260.96	1,328.69	-1,323.53	803.51	417,605.21	623,505.10	32.15	-104.07	0.00	0.00	0.00
	9,600.00	90.20	179.63	8,270.01	5,260.61	1,428.69	-1,423.52	804.15	417,505.22	623,505.74	32.15	-104.07	0.00	0.00	0.00
	9,700.00	90.20	179.63	8,269.66	5,260.26	1,528.69	-1,523.52	804.78	417,405.23	623,506.37	32.15	-104.07	0.00	0.00	0.00
	9,800.00	90.20	179.63	8,269.32	5,259.92	1,628.69	-1,623.52	805.42	417,305.24	623,507.01	32.15	-104.07	0.00	0.00	0.00
	9,900.00	90.20	179.63	8,268.97	5,259.57	1,728.69	-1,723.52	806.06	417,205.25	623,507.65	32.15	-104.07	0.00	0.00	0.00
	10,000.00	90.20	179.63	8,268.62	5,259.22	1,828.68	-1,823.51	806.70	417,105.26	623,508.29	32.15	-104.07	0.00	0.00	0.00
	10,100.00	90.20	179.63	8,268.27	5,258.87	1,928.68	-1,923.51	807.33	417,005.27	623,508.92	32.15	-104.07	0.00	0.00	0.00
	10,200.00	90.20	179.63	8,267.92	5,258.52	2,028.68	-2,023.51	807.97	416,905.28	623,509.56	32.15	-104.07	0.00	0.00	0.00
	10,300.00	90.20	179.63	8,267.57	5,258.17	2,128.68	-2,123.51	808.61	416,805.30	623,510.20	32.15	-104.07	0.00	0.00	0.00
	10,400.00	90.20	179.63	8,267.22	5,257.82	2,228.68	-2,223.50	809.25	416,705.31	623,510.84	32.15	-104.07	0.00	0.00	0.00
	10,500.00	90.20	179.63	8,266.87	5,257.47	2,328.68	-2,323.50	809.88	416,605.32	623,511.47	32.15	-104.07	0.00	0.00	0.00
	10,600.00	90.20	179.63	8,266.52	5,257.12	2,428.68	-2,423.50	810.52	416,505.33	623,512.11	32.14	-104.07	0.00	0.00	0.00
	10,700.00	90.20	179.63	8,266.17	5,256.77	2,528.68	-2,523.50	811.16	416,405.34	623,512.75	32.14	-104.07	0.00	0.00	0.00
	10,800.00	90.20	179.63	8,265.82	5,256.42	2,628.68	-2,623.49	811.80	416,305.35	623,513.39	32.14	-104.07	0.00	0.00	0.00
	10,900.00	90.20	179.63	8,265.48	5,256.08	2,728.68	-2,723.49	812.43	416,205.36	623,514.02	32.14	-104.07	0.00	0.00	0.00
	11,000.00	90.20	179.63	8,265.13	5,255.73	2,828.68	-2,823.49	813.07	416,105.37	623,514.66	32.14	-104.07	0.00	0.00	0.00
	11,100.00	90.20	179.63	8,264.78	5,255.38	2,928.68	-2,923.48	813.71	416,005.38	623,515.30	32.14	-104.07	0.00	0.00	0.00
	11,200.00	90.20	179.63	8,264.43	5,255.03	3,028.68	-3,023.48	814.35	415,905.40	623,515.94	32.14	-104.07	0.00	0.00	0.00
	11,300.00	90.20	179.63	8,264.08	5,254.68	3,128.68	-3,123.48	814.98	415,805.41	623,516.58	32.14	-104.07	0.00	0.00	0.00
	11,400.00	90.20	179.63	8,263.73	5,254.33	3,228.68	-3,223.48	815.62	415,705.42	623,517.21	32.14	-104.07	0.00	0.00	0.00
	11,500.00	90.20	179.63	8,263.38	5,253.98	3,328.68	-3,323.47	816.26	415,605.43	623,517.85	32.14	-104.07	0.00	0.00	0.00
	11,600.00	90.20	179.63	8,263.03	5,253.63	3,428.68	-3,423.47	816.90	415,505.44	623,518.49	32.14	-104.07	0.00	0.00	0.00
	11,700.00	90.20	179.63	8,262.68	5,253.28	3,528.67	-3,523.47	817.54	415,405.45	623,519.13	32.14	-104.07	0.00	0.00	0.00
	11,800.00	90.20	179.63	8,262.33	5,252.93	3,628.67	-3,623.47	818.17	415,305.46	623,519.76	32.14	-104.07	0.00	0.00	0.00
	11,900.00	90.20	179.63	8,261.98	5,252.58	3,728.67	-3,723.46	818.81	415,205.47	623,520.40	32.14	-104.07	0.00	0.00	0.00
	12,000.00	90.20	179.63	8,261.64	5,252.24	3,828.67	-3,823.46	819.45	415,105.49	623,521.04	32.14	-104.07	0.00	0.00	0.00
	12,100.00	90.20	179.63	8,261.29	5,251.89	3,928.67	-3,923.46	820.09	415,005.50	623,521.68	32.14	-104.07	0.00	0.00	0.00
	12,200.00	90.20	179.63	8,260.94	5,251.54	4,028.67	-4,023.46	820.72	414,905.51	623,522.31	32.14	-104.07	0.00	0.00	0.00
	12,300.00	90.20	179.63	8,260.59	5,251.19	4,128.67	-4,123.45	821.36	414,805.52	623,522.95	32.14	-104.07	0.00	0.00	0.00
	12,400.00	90.20	179.63	8,260.24	5,250.84	4,228.67	-4,223.45	822.00	414,705.53	623,523.59	32.14	-104.07	0.00	0.00	0.00
	12,500.00	90.20	179.63	8,259.89	5,250.49	4,328.67	-4,323.45	822.64	414,605.54	623,524.23	32.14	-104.07	0.00	0.00	0.00
	12,600.00	90.20	179.63	8,259.54	5,250.14	4,428.67	-4,423.44	823.27	414,505.55	623,524.86	32.14	-104.07	0.00	0.00	0.00
	12,700.00	90.20	179.63	8,259.19	5,249.79	4,528.67	-4,523.44	823.91	414,405.56	623,525.50	32.14	-104.07	0.00	0.00	0.00
	12,800.00	90.20	179.63	8,258.84	5,249.44	4,628.67	-4,623.44	824.55	414,305.57	623,526.14	32.14	-104.07	0.00	0.00	0.00
	12,900.00	90.20	179.63	8,258.49	5,249.09	4,728.67	-4,723.44	825.19	414,205.59	623,526.78	32.14	-104.07	0.00	0.00	0.00
	13,000.00	90.20	179.63	8,258.14	5,248.74	4,828.67	-4,823.43	825.82	414,105.60	623,527.41	32.14	-104.07	0.00	0.00	0.00
	13,100.00	90.20	179.63	8,257.80	5,248.40	4,928.67	-4,923.43	826.46	414,005.61	623,528.05	32.14	-104.07	0.00	0.00	0.00
Chisholm Salt Draw 10 State Com 2BS 6H - BHL	13,198.63	90.20	179.63	8,257.45	5,248.05	5,027.29	-5,022.06	827.09	413,906.99	623,528.68	32.14	-104.07	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA0 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	800.000	1/100.000	17.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	800.000	7,733.590	1/100.000	12.250			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	7,733.590	8,647.710	1/100.000	8.750			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (
	1	8,647.710	13,198.630	1/100.000	8.500			NAL_MWD_1.0_DEG	Salt Draw 10 State Com 2BS 6H / (

Schlumberger

Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20 Proposal Geodetic Report**Def Plan**

Report Date: February 06, 2020 - 04:30 PM (UTC -8)
Client: Chisholm Energy Operating
Field: NM Eddy County (RAD 93)
Structure / Slat: Chisholm Salt Draw 10 State Com 2BS 6H
Well: Salt Draw 10 State Com 2BS 6H
Borehole: Salt Draw 10 State Com 2BS 6H
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Salt Draw 10 State Com 2BS 6H R0 IC 05Feb20
Survey Date: February 06, 2020
Tort / And / DDI / ERD Ratio: 97.432 / 1.849,204 R / 5.959 / 0.707
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32°55.18427N, 104°13.53197W
Location Grid N/E Y/X: N 418928.620 HUS, E 622701.660 HUS
CRS Grid Convergence Angle: 0.13967°
Grid Scale Factor: 0.999367
Version / Patch: 2015.8.0.1

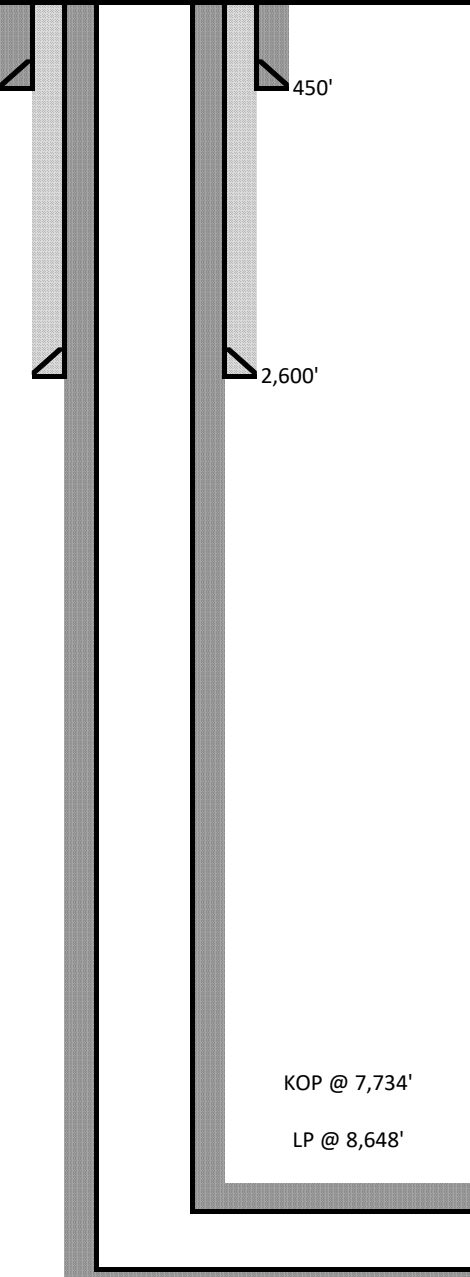
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.630 (GRD North)
Vertical Section Origin: 0.000 R, 0.000 H
VD Reference Datum: RKB
TYD Reference Elevation: 3009.400 R above MSL
Sealed / Ground Elevation: 2977.400 R above MSL
Magnetic Declination: 6.989°
Total Gravity Field Strength: 996.490rtns (8.06655 Gauss)
Gravity Model: GARM
Total Magnetic Field Strength: 47000.105 rT
Magnetic Dip Angle: 59.632°
Declination Date: February 06, 2020
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence: 0.13967°
Total Com Mag North-Grid North: 6.9491°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TYD (ft)	TVDS (ft)	VSEC (ft)	AHD (ft)	NS (ft)	EW (ft)	DeltaMD (ft)	DeltaTYD (ft)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)	GTF (°)	MTF (°)	TF (°)	Northing (ft)	Easting (ft)	Latitude (°)	Longitude (°)	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth	Directional Difficulty Index	Tortuosity (°)	ERD Ratio
SHL	0.00	0.00	81.50	0.00	-3.009.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	100.00	0.00	81.50	100.00	-2.909.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	200.00	0.00	81.50	200.00	-2.809.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	300.00	0.00	81.50	300.00	-2.709.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	400.00	0.00	81.50	400.00	-2.609.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	500.00	0.00	81.50	500.00	-2.509.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	600.00	0.00	81.50	600.00	-2.409.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	700.00	0.00	81.50	700.00	-2.309.40	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	800.00	0.00	81.50	800.00	-2.209.40	0.00	0.00	0.00	0.00	39.80	39.80	0.00	0.00	0.00	HS	81.50	81.5M	418.928.62	622.701.66	29°55.184527N	413.531995W	32.15	-104.07	0.00	0.00	0.00	0.00	0.00
	879.41	1.19	81.50	879.40	-2.130.00	-0.12	0.83	0.12	0.82	79.41	79.40	1.50	1.50	0.00	HS	81.50	81.5M	418.928.74	622.702.48	29°55.1857107N	413.522487W	32.15	-104.07	0.03	81.50	0.00	1.19	0.00
13.375 in Casing Nudge 1.5" DLS Castle	900.00	0.00	81.50	899.99	-2.109.41	-0.19	1.31	0.19	1.29	20.59	20.59	1.50	1.50	0.00	HS	81.50	81.5M	418.928.81	622.702.95	29°55.186407N	413.516832W	32.15	-104.07	1.31	81.50	0.28	1.50	0.00
	1,000.00	3.00	81.50	999.91	-2.009.49	-0.74	5.23	0.77	5.18	100.00	99.90	1.50	1.50	0.00	HS	81.50	81.5M	418.929.39	622.706.84	29°55.192054N	413.471753W	32.15	-104.07	5.23	81.50	1.20	3.00	0.01
	1,100.00	4.50	81.50	1,100.00	-1.909.69	-1.67	11.77	1.74	11.65	100.00	99.78	1.50	1.50	0.00	HS	81.50	81.5M	418.930.36	622.713.90	29°55.201463N	413.396491W	32.15	-104.07	11.77	81.50	1.72	4.50	0.01
	2,100.00	1.50	81.50	2,099.77	-1.810.13	-2.96	20.92	0.79	20.69	100.00	99.58	1.50	1.50	0.00	HS	81.50	81.5M	418.931.71	622.722.38	29°55.214277N	413.391195W	32.15	-104.07	20.92	81.50	2.10	6.00	0.01
	3,200.00	6.00	81.50	3,198.72	-1.710.68	-4.44	31.38	4.64	31.03	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.933.26	622.726.68	29°55.226667N	413.370906W	32.15	-104.07	31.38	81.50	2.28	6.00	0.01
	4,300.00	6.00	81.50	4,299.17	-1.611.23	-6.45	41.38	6.45	41.08	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.935.35	622.743.03	29°55.244707N	413.350991W	32.15	-104.07	41.38	81.50	2.46	6.00	0.01
	5,400.00	6.00	81.50	5,399.73	-1.511.77	-7.39	52.78	7.37	51.71	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.936.35	622.757.38	29°55.259743N	413.320362W	32.15	-104.07	52.78	81.50	2.50	6.00	0.01
	6,500.00	6.00	81.50	6,499.98	-1.412.32	-8.87	62.74	9.27	62.05	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.937.89	622.763.70	29°55.274781N	413.281003W	32.15	-104.07	62.74	81.50	2.58	6.00	0.01
	7,600.00	6.00	81.50	7,599.99	-1.312.87	-10.32	69.68	10.32	68.72	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.939.42	622.774.04	29°55.289820N	413.238971W	32.15	-104.07	69.68	81.50	2.63	6.00	0.01
	8,700.00	6.00	81.50	8,699.98	-1.213.42	-11.82	83.64	12.36	82.72	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.940.98	622.784.38	29°55.304587N	413.209457W	32.15	-104.07	83.64	81.50	2.70	6.00	0.01
Hold	9,800.00	6.00	81.50	9,799.43	-1.113.97	-13.31	94.09	13.91	93.06	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.942.53	622.794.71	29°55.319867N	413.149158W	32.15	-104.07	94.09	81.50	2.75	6.00	0.01
	10,900.00	6.00	81.50	10,899.49	-1.014.51	-14.75	104.51	15.04	103.45	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.944.07	622.804.94	29°55.334892N	413.123887W	32.15	-104.07	104.51	81.50	2.82	6.00	0.01
	12,000.00	6.00	81.50	12,004.34	-915.06	-16.26	115.00	17.00	113.74	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.945.62	622.815.39	29°55.349973N	413.102888W	32.15	-104.07	115.00	81.50	2.84	6.00	0.01
	13,100.00	6.00	81.50	13,099.43	-815.61	-17.74	125.45	18.54	124.08	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.947.16	622.825.72	29°55.365011N	413.088288W	32.15	-104.07	125.45	81.50	2.88	6.00	0.01
	14,200.00	6.00	81.50	14,199.44	-716.16	-19.22	135.94	20.59	134.47	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.948.71	622.836.06	29°55.390049N	413.068009W	32.15	-104.07	135.94	81.50	2.91	6.00	0.01
	15,300.00	6.00	81.50	15,299.45	-616.70	-20.70	146.36	21.63	144.75	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.950.25	622.846.40	29°55.395089N	413.047719W	32.15	-104.07	146.36	81.50	2.94	6.00	0.01
	16,400.00	6.00	81.50	16,399.46	-517.25	-22.18	156.81	23.18	155.09	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.951.80	622.856.74	29°55.410126N	413.027429W	32.15	-104.07	156.81	81.50	2.97	6.00	0.01
	17,500.00	6.00	81.50	17,499.47	-417.80	-23.65	167.26	24.72	165.43	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.953.34	622.867.07	29°55.425164N	413.007139W	32.15	-104.07	167.26	81.50	3.00	6.00	0.01
	18,600.00	6.00	81.50	18,599.48	-318.35	-25.13	177.72	26.27	175.77	82.10	81.65	0.00	0.00	0.00	HS	81.50	81.5M	418.954.49	622.877.45	29°55.440027N	412.988650W	32.15	-104.07	177.72	81.50	3.03	6.00	0.01
	19,700.00	6.00	81.50	19,699.49	-218.90	-26.61	188.17	27.81	186.10	79.41	78.96	0.00	0.00	0.00	HS	81.50	81.5M	418.956.43	622.887.75	29°55.452407N	412.968650W	32.15	-104.07	188.17	81.50	3.05	6.00	0.01
Delaware Mtn Gr	20,800.00	6.00	81.50	20,799.49	-119.44	-28.09	198.62	29.86	196.44	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.957.98	622.898.02	29°55.470278N	412.946270W	32.15	-104.07	198.62	81.50	3.08	6.00	0.01
	21,900.00	6.00	81.50	21,899.41	-19.99	-29.57	209.08	30.90	206.70	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.959.52	622.908.42	29°55.483167N	412.925980W	32.15	-104.07	209.08	81.50	3.10	6.00	0.01
	23,000.00	6.00	81.50	22,999.42	-9.46	-31.05	219.53	32.45	217.42	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.961.07	622.918.76	29°55.500354N	412.905690W	32.15	-104.07	219.53	81.50	3.12	6.00	0.01
	24,100.00	6.00	81.50	24,099.43	-178.91	-32.52	229.98	33.99	227.46	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.962.61	622.929.03	29°55.515392N	412.885401W	32.15	-104.07	229.98	81.50	3.14	6.00	0.01
	25,200.00	6.00	81.50	25,199.44	-278.37	-34.00	240.43	35.54	237.79	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.964.16	622.939.43	29°55.530430N	412.863117W	32.15	-104.07	240.43	81.50	3.16	6.00	0.01
	26,300.00	6.00	81.50	26,299.45	-377.82	-35.48	250.89	37.63	248.13	100.00	99.45	0.00	0.00	0.00	HS	81.50	81.5M	418.965.70	622.949.77	29°55.545468N	412.842421W	32.15	-104.07	250.89	81.50	3.18	6.00	0.01
	27,400.00	6.00	81.50	27,399.46	-477.27	-36.46	261.34	39.63	258.47	100.00	99.45	0.00	0.00	0.00	HS	81.50												

Comments	MD (ft)	Incl (°)	Azim (°)	TYD (ft)	TYDSS (ft)	VSEC (ft)	AHD (ft)	NS (ft)	EW (ft)	DeltaMD (ft)	DeltaTYD (ft)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)	GTF (°)	MTF (°)	TF (°)	Northing (RUS)	Easting (RUS)	Latitude (° " ")	Longitude (° " ")	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)	Directional Difficulty Index	Tortuosity (°)	ERD Ratio
Landing Point	8,400.00	65.84	174.50	8,222.47	5,213.07	236.16	1,057.77	-231.09	786.25	100.00	48.33	10.00	9.75	2.56	12.35R	176.69	12.35R	418.697.55	623.487.84	2°9'2.878789"N	1°44.333443"W	32.15	-104.07	819.51	106.38	4.89	72.64	0.13
	8,500.00	75.72	176.69	8,255.28	5,245.88	330.26	1,152.11	-325.14	793.44	100.00	32.80	10.00	9.78	2.20	11.62R	178.70	11.62R	418.603.51	623.495.04	2°9'11.347897"N	1°44.312449"W	32.15	-104.07	857.48	112.28	4.99	82.64	0.14
	8,600.00	85.52	178.70	8,271.56	5,262.16	428.74	1,250.65	-423.60	797.38	100.00	16.28	10.00	9.80	2.01	11.29R	179.63	11.29R	418.505.05	623.499.97	2°9'0.973529"N	1°44.269482"W	32.15	-104.07	902.92	117.98	5.08	92.64	0.15
	8,647.71	90.20	179.63	8,273.34	5,263.94	476.40	1,298.31	-471.26	796.07	47.71	1.78	10.00	9.81	1.96	HS	179.63	HS	418.457.40	623.499.67	2°9'0.501832"N	1°44.262807"W	32.15	-104.07	926.83	120.56	5.12	97.41	0.16
	8,700.00	90.20	179.63	8,273.15	5,263.75	528.69	1,350.60	-523.55	798.41	52.29	-0.18	0.00	0.00	0.00	HS	179.63	HS	418.405.12	623.500.00	°59.994510"N	1°44.260428"W	32.15	-104.07	954.75	123.25	5.14	97.41	0.16
	8,800.00	90.20	179.63	8,272.81	5,263.41	628.69	1,450.60	-623.55	799.04	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	418.305.13	623.500.64	°59.994986"N	1°44.255880"W	32.15	-104.07	1,013.55	127.97	5.18	97.41	0.18
	8,900.00	90.20	179.63	8,272.46	5,263.06	728.69	1,550.60	-723.54	799.68	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	418.205.14	623.501.27	°58.005485"N	1°44.251332"W	32.15	-104.07	1,078.43	132.14	5.21	97.41	0.19
	9,000.00	90.20	179.63	8,272.11	5,262.71	828.69	1,650.60	-823.54	800.32	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	418.105.15	623.501.91	°57.015973"N	1°44.246783"W	32.15	-104.07	1,148.36	135.82	5.24	97.41	0.20
	9,100.00	90.20	179.63	8,271.76	5,262.36	928.69	1,750.60	-923.54	800.96	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	418.005.16	623.502.55	°56.006460"N	1°44.242235"W	32.15	-104.07	1,222.48	139.07	5.25	97.41	0.21
	9,200.00	90.20	179.63	8,271.41	5,262.01	1,028.69	1,850.60	-1,023.53	801.59	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.905.17	623.503.19	°55.003647"N	1°44.237686"W	32.15	-104.07	1,300.07	141.93	5.30	97.41	0.22
	9,300.00	90.20	179.63	8,271.06	5,261.66	1,128.69	1,950.60	-1,123.53	802.23	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.805.18	623.503.82	°54.047435"N	1°44.233138"W	32.15	-104.07	1,380.54	144.47	5.33	97.41	0.24
	9,400.00	90.20	179.63	8,270.71	5,261.31	1,228.69	2,050.60	-1,223.53	802.87	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.705.20	623.504.46	°53.053072"N	1°44.228807"W	32.15	-104.07	1,463.43	146.73	5.35	97.41	0.25
	9,500.00	90.20	179.63	8,270.36	5,260.96	1,328.69	2,150.60	-1,323.53	803.51	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.605.21	623.505.10	°52.068409"N	1°44.224041"W	32.15	-104.07	1,548.34	148.74	5.38	97.41	0.26
	9,600.00	90.20	179.63	8,270.01	5,260.61	1,428.69	2,250.60	-1,423.52	804.15	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.505.22	623.505.74	°51.078897"N	1°44.219493"W	32.15	-104.07	1,634.95	150.54	5.41	97.41	0.27
	9,700.00	90.20	179.63	8,269.66	5,260.26	1,528.69	2,350.60	-1,523.52	804.78	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.405.23	623.506.37	°50.089347"N	1°44.214845"W	32.15	-104.07	1,723.02	152.16	5.43	97.41	0.28
	9,800.00	90.20	179.63	8,269.32	5,259.92	1,628.69	2,450.60	-1,623.52	805.42	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.305.24	623.507.01	°49.099871"N	1°44.210396"W	32.15	-104.07	1,812.32	153.61	5.45	97.41	0.30
	9,900.00	90.20	179.63	8,268.97	5,259.57	1,728.69	2,550.59	-1,723.52	806.06	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.205.25	623.507.65	°48.110258"N	1°44.205848"W	32.15	-104.07	1,902.69	154.94	5.47	97.41	0.31
	10,000.00	90.20	179.63	8,268.62	5,259.22	1,828.68	2,650.59	-1,823.51	806.70	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.105.26	623.508.29	°47.120845"N	1°44.201300"W	32.15	-104.07	1,993.88	156.14	5.49	97.41	0.32
	10,100.00	90.20	179.63	8,268.27	5,258.87	1,928.68	2,750.59	-1,923.51	807.33	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	417.005.27	623.508.92	°46.131332"N	1°44.196751"W	32.15	-104.07	2,086.07	157.23	5.51	97.41	0.33
	10,200.00	90.20	179.63	8,267.92	5,258.52	2,028.68	2,850.59	-2,023.51	807.97	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.905.28	623.509.56	°45.141819"N	1°44.192203"W	32.15	-104.07	2,178.85	158.23	5.53	97.41	0.34
	10,300.00	90.20	179.63	8,267.57	5,258.17	2,128.68	2,950.59	-2,123.51	808.61	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.805.30	623.510.20	°44.152306"N	1°44.187655"W	32.15	-104.07	2,272.75	159.15	5.55	97.41	0.36
	10,400.00	90.20	179.63	8,267.22	5,257.82	2,228.68	3,050.59	-2,223.50	809.25	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.705.31	623.510.84	°43.162793"N	1°44.183106"W	32.15	-104.07	2,366.19	160.00	5.57	97.41	0.37
	10,500.00	90.20	179.63	8,266.87	5,257.47	2,328.68	3,150.59	-2,323.50	809.89	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.605.32	623.511.47	°42.173289"N	1°44.178558"W	32.15	-104.07	2,460.60	160.78	5.59	97.41	0.38
	10,600.00	90.20	179.63	8,266.52	5,257.12	2,428.68	3,250.59	-2,423.50	810.52	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.505.33	623.512.11	°41.183766"N	1°44.174010"W	32.14	-104.07	2,555.44	161.51	5.61	97.41	0.39
	10,700.00	90.20	179.63	8,266.17	5,256.77	2,528.68	3,350.59	-2,523.50	811.16	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.405.34	623.512.75	°40.194253"N	1°44.169461"W	32.14	-104.07	2,650.66	162.18	5.63	97.41	0.41
	10,800.00	90.20	179.63	8,265.82	5,256.42	2,628.68	3,450.59	-2,623.49	811.80	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.305.35	623.513.39	°39.204740"N	1°44.164913"W	32.14	-104.07	2,746.22	162.81	5.64	97.41	0.42
	10,900.00	90.20	179.63	8,265.48	5,256.08	2,728.68	3,550.59	-2,723.49	812.43	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.205.36	623.514.02	°38.215226"N	1°44.160365"W	32.14	-104.07	2,842.08	163.39	5.66	97.41	0.43
	11,000.00	90.20	179.63	8,265.13	5,255.73	2,828.68	3,650.59	-2,823.49	813.07	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.105.37	623.514.66	°37.225713"N	1°44.155817"W	32.14	-104.07	2,938.22	163.94	5.67	97.41	0.44
	11,100.00	90.20	179.63	8,264.78	5,255.38	2,928.68	3,750.59	-2,923.48	813.71	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	416.005.38	623.515.30	°36.236200"N	1°44.151268"W	32.14	-104.07	3,034.61	164.45	5.69	97.41	0.45
	11,200.00	90.20	179.63	8,264.43	5,255.03	3,028.68	3,850.59	-3,023.48	814.35	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.905.40	623.515.94	°35.246696"N	1°44.146720"W	32.14	-104.07	3,131.23	164.93	5.71	97.41	0.47
	11,300.00	90.20	179.63	8,264.08	5,254.68	3,128.68	3,950.59	-3,123.48	814.98	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.805.41	623.516.58	°34.257173"N	1°44.142172"W	32.14	-104.07	3,228.05	165.38	5.72	97.41	0.48
	11,400.00	90.20	179.63	8,263.73	5,254.33	3,228.68	4,050.59	-3,223.48	815.62	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.705.42	623.517.21	°33.267659"N	1°44.137624"W	32.14	-104.07	3,325.05	165.80	5.74	97.41	0.49
	11,500.00	90.20	179.63	8,263.38	5,253.98	3,328.68	4,150.59	-3,323.47	816.26	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.605.43	623.517.85	°32.278145"N	1°44.133075"W	32.14	-104.07	3,422.24	166.20	5.75	97.41	0.50
	11,600.00	90.20	179.63	8,263.03	5,253.63	3,428.68	4,250.58	-3,423.47	816.90	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.505.44	623.518.48	°31.288632"N	1°44.128527"W	32.14	-104.07	3,519.58	166.58	5.76	97.41	0.51
	11,700.00	90.20	179.63	8,262.68	5,253.28	3,528.67	4,350.58	-3,523.47	817.54	100.00	-0.35	0.00	0.00	0.00	HS	179.63	HS	415.405.45</										

API # 30-015-

Updated: 03/25/2020

TVD <i>ft-RKB</i>	Geological Tops	Wellbore Sketch		Hole Size	Casing	Drilling Fluids	Cement	OH Evaluation/Logs
1,000'	876 Castile			17-1/2"	Surface: 13-3/8" 48# J55 STC	FW Spud Mud 8.4 - 9.4 ppg 32 - 34 Vis	Top of Cement: Surface 14.8 ppg 1.34 cuft/sk 470 sks - 100% XS	
2,000'								
3,000'	2,606 Delaware				12-1/4"	Intermediate: 9-5/8"40# J55 LTC	Brine 10.0 ppg 28 Vis	Top of Lead: Surface 11.5 ppg 2.59 cuft/sk 605 sks - 150% XS Top of Tail: 2,000' 14.8 ppg 1.33 cuft/sk 425 sks - 200% XS
4,000'								
5,000'								
6,000'	6,251 Bone Spring							
7,000'	7,206 1st Bone Spring SS							
8,000'	8,096 2nd Bone Spring SS							
9,000'								

Chisholm Energy Operating, LLC

801 Cherry St., Suite 1200-Unit 20

Fort Worth, TX 76102

H2S Contingency Plan

Eddy County, NM

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crew should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are NO homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'
100 ppm H₂S concentration shall trigger activation of this plan

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must:

- « Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- « Evacuate any public places encompassed by the 100 ppm ROE.
- « Be equipped with H₂S monitors and air packs in order to control the release.
- « Use the "buddy system" to ensure no injuries occur during the response.
- « Take precautions to avoid personal injury during this operation.
- « Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- « Have received training
 - in the: Detection of
 - H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm

Sulfur Dioxide	SO ₂	2.21 Air=1	2 ppm	N/A	1000 ppm
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Contacting Authorities

Chisholm Energy Operating personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Chisholm Energy Operating, LLC response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMERP).

Hydrogen Sulfide Drilling Operations Plan

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Principal and operation of H₂S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30-minute pressure demand air packs.
- 2 H₂S Detection and Alarm Systems:
 - A. H₂S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H₂S detectors may be placed as deemed necessary.
 - B. An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock on the rig floor and/ or top doghouse should be high enough to be visible.
- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag

indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H2S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.

5 Well control equipment:

A. See exhibit BOP and Choke Diagrams

6 Communication:

- A. While working under masks chalkboards will be used for communication.
- B. Hand signals will be used where chalk board is inappropriate.
- C. Two-way radio will be used to communicate off location in case of emergency help is required. In most cases, cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drill stem Testing:

No DSTs are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

Emergency Assistance Telephone List

Chisholm Energy Holdings, LLC

Chisholm Energy Operating, LLC

Vice President of Operations-Brad Grandstaff

Office: (817)953-6063

Office: (817)953-3150

Cell: (972)977-9221

Drilling Superintendent-Russell Simons

Cell: (830)285-7501

Production Superintendent-Paul Martinez

Cell: (325)206-1722

Public Safety:		911 or
Eddy County Sheriff's Department	Number:	(575)887-7551
Eddy County Emergency Management	Number:	(575)628-5450
Lea County Fire Service	Number:	(575)628-5450
Fire Department:		
Artesia Fire Department	Number:	(575)746-5060
Sun Country Volunteer Fire Department	Number:	(505)484-3599
Riverside Volunteer Fire Department	Number:	(505)365-7900
Cottonwood Volunteer Fire Department	Number:	(505)748-7344
Atoka Fire Department	Number:	(505)746-9562
Queen Volunteer Fire Department	Number:	(505)981-2498
Joel Volunteer Fire Department	Number:	(505)885-4966
Otis Fire Rescue	Number:	(575)236-6113
La Huerta Volunteer Fire Department	Number:	(505)887-6353
Carlsbad Fire Department	Number:	(575)885-3125
Hope Volunteer Fire Department	Number:	(505)484-3351
Loco Hills Fire Department	Number:	(505)677-2349
Loving Fire Department	Number:	(505)745-3600
White's City Fire Department	Number:	(505)785-2219
Hospital:		
Artesia General Hospital	Number:	(575)748-3333
Carlsbad Medical Center	Number:	(575)887-4100
AirMed: Medevac	Number:	(888)303-9112
Dept. of Public Safety	Number:	(505)827-9000
New Mexico OCD-Dist. 2-Artesia	Office	Number: (575)748-1283
	Emergency	Number: (575)626-0830
Eddy County Road Department-South	Number:	(575)885-4835
Eddy County Road Department-North	Number:	(575)746-9540
NMDOT	Number:	(505)827-5100