

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 290409

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 30-025-48284
4. Property Code 329918	5. Property Name GRAMA RIDGE EAST 34 STATE COM 1BS	6. Well No. 011H

7. Surface Location

UL - Lot P	Section 34	Township 21S	Range 34E	Lot Idn P	Feet From 143	N/S Line S	Feet From 1213	E/W Line E	County Lea
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8. Proposed Bottom Hole Location

UL - Lot A	Section 34	Township 21S	Range 34E	Lot Idn A	Feet From 100	N/S Line N	Feet From 410	E/W Line E	County Lea
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9. Pool Information

GRAMA RIDGE;BONE SPRING, NE	28435
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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 3616
16. Multiple N	17. Proposed Depth 14491	18. Formation 1st Bone Spring Sand	19. Contractor	20. Spud Date 4/30/2021
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	54.5	1750	1390	0
Int1	12.25	9.625	40	5600	2045	0
Prod	8.75	5.5	20	14491	1505	4500

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.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Jennifer Elrod	Approved By: Paul F Kautz	
Title: Sr. Regulatory Tech	Title: Geologist	
Email Address: jelrod@chisholmenergy.com	Approved Date: 1/3/2021	Expiration Date: 1/3/2023
Date: 12/18/2020	Phone: 817-953-3728	Conditions of Approval Attached

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Phone (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1226 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 28435	Pool Name GRAMA RIDGE; BONE SPRING, NE
Property Code	Property Name GRAMA RIDGE EAST 34 STATE COM 1BS	Well Number 11H
OGRID No. 372137	Operator Name CHISHOLM ENERGY OPERATING, LLC	Elevation 3616'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	FEET from the	North/South line	FEET from the	East/West line	County
P	34	21 S	34 E		143	SOUTH	1213	EAST	LEA

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
A	34	21 S	34 E		100	NORTH	410	EAST	LEA
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

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

N: 525857.8 E: 808809.9 (NAD 83)	LAST TAKE POINT BOTTOM HOLE LOCATION Lat - N 32.442393° Long - W 103.450504° NMSPCE- N 525799.1 E 813686.4 (NAD-83)	N: 525883.7 E: 811449.7 (NAD 83)	B.H. 410' 100' N: 525908.9 E: 814090.9 (NAD 83)	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> 12/18/2020 Signature Date JENNIFER ELROD Printed Name JELROD@CHISHOLMENERGY.COM Email Address
N: 523215.0 E: 808832.6 (NAD 83)				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. NOVEMBER 27, 2020 Date Surveyed Signature & Seal of Professional Surveyor  Certificate No. Gary L. Jones 7977 BASIN SURVEYS
N: 520568.2 E: 808855.9 (NAD 83)	FIRST TAKE POINT LANDING POINT 100' FSL & 410' FEL Lat - N 32.428437° Long - W 103.450514° NMSPCE- N 520722.0 E 813725.5 (NAD-83)	N: 523268.7 E: 814113.1 (NAD 83)		0' 500' 1000' 1500' 2000' SCALE: 1" = 1000' WO Num.: 34223
N: 520568.2 E: 808855.9 (NAD 83)	SURFACE LOCATION Lat - N 32.428549° Long - W 103.453115° NMSPCE- N 520756.1 E 812922.4 (NAD-83)	N: 520597.5 E: 811496.6 (NAD 83)	143' 1213' S.L. L.P. N: 520626.5 E: 814136.3 (NAD 83)	

Intent ☒ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number
	GRAMA RIDGE EAST 34 STATE COM 1BS	11H

Kick Off Point (KOP)

UL P	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	34	21S	34E		143	SOUTH	1213	EAST	LEA
Latitude					Longitude				NAD
32.428549					-103.453115				83

First Take Point (FTP)

UL P	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	34	21S	34E		100	SOUTH	410	EAST	LEA
Latitude					Longitude				NAD
32.428437					-103.450514				83

Last Take Point (LTP)

UL A	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	34	21S	34E		100	NORTH	410	EAST	LEA
Latitude					Longitude				NAD
32.442393					-103.450504				84

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 #		
30-025-45625		
Operator Name:	Property Name:	Well Number
CHISHOLM ENERGY OPERATING, LLC	GRAMA RIDGE EAST 34 STATE COM 2BS	5H

KZ 06/29/2018

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GAS CAPTURE PLAN

Date: 1/4/2021

☒ 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
GRAMA RIDGE EAST 34 STATE COM 1BS #011H	30-025-48284	P-34-21S-34E	0143S 1213E	1200	Flared	FLARED ONLY WHEN NEEDED

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 3BEAR FIELD SERVICES, LLC and will be connected to 3BEAR FIELD SERVICES, LLC Low Pressure gathering system located in Lea County, New Mexico. It will require 50' of pipeline to connect the facility to Low Pressure gathering system. CHISHOLM ENERGY OPERATING, LLC provides (periodically) to 3BEAR FIELD SERVICES, 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 3BEAR FIELD SERVICES, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at 3BEAR FIELD SERVICES, LLC Processing Plant located in Sec. 26, Twn. 20S, Rng. 34E, Lea 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 3BEAR FIELD SERVICES, 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 Comments

Permit 290409

PERMIT COMMENTS

Operator Name and Address: CHISHOLM ENERGY OPERATING, LLC [372137] 801 Cherry Street Fort Worth, TX 76102		API Number: 30-025-48284
		Well: GRAMA RIDGE EAST 34 STATE COM 1BS #011H
Created By	Comment	Comment Date

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Form APD Conditions

Permit 290409

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: CHISHOLM ENERGY OPERATING, LLC [372137] 801 Cherry Street Fort Worth, TX 76102	API Number: 30-025-48284
	Well: GRAMA RIDGE EAST 34 STATE COM 1BS #011H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.



Chisholm

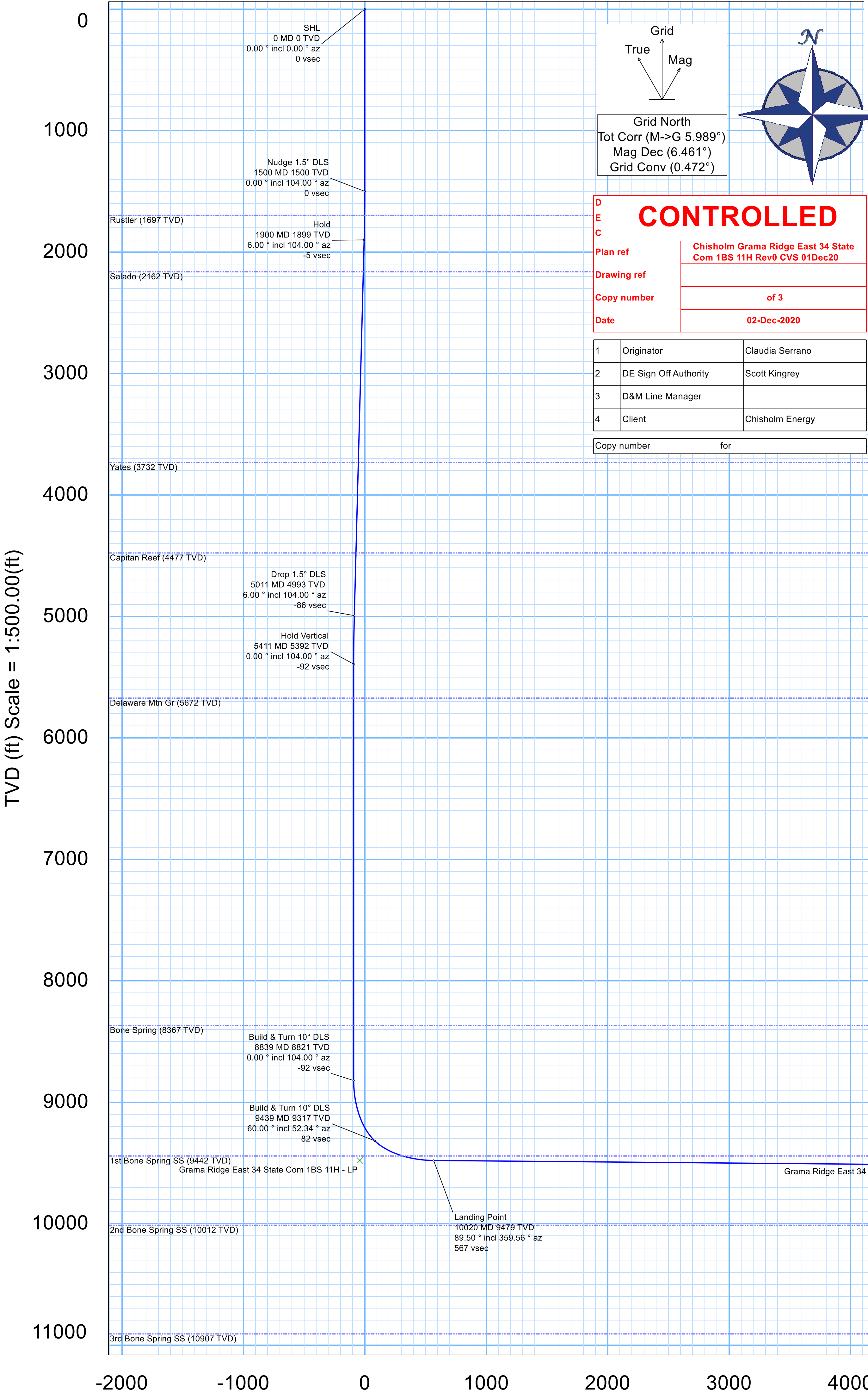
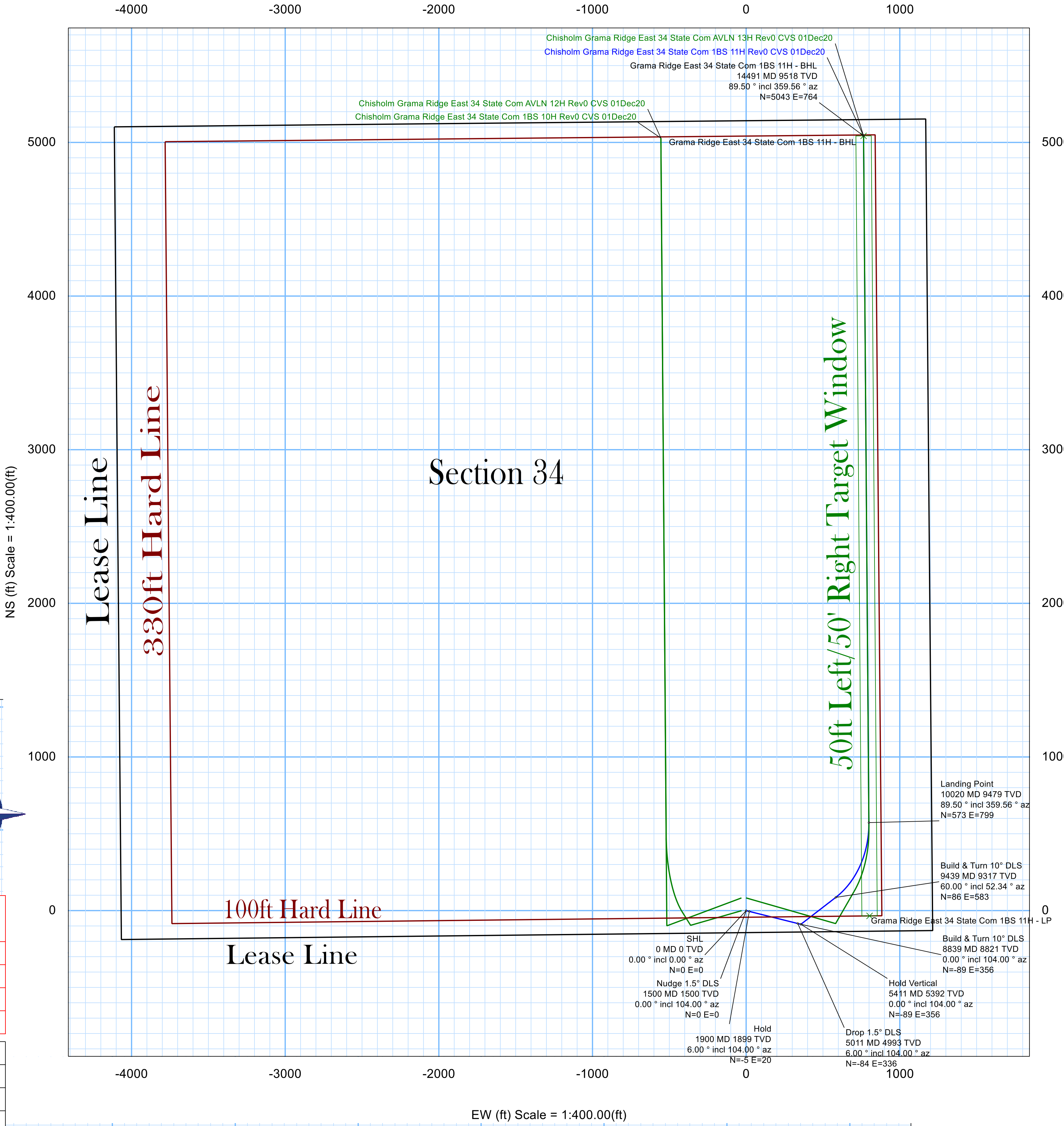
Rev0



Borehole:	Well:	Field:	Structure:
Grama Ridge East 34 State Com 1BS 11H	Grama Ridge East 34 State Com 1BS 11H	NM Lea County (NAD 83)	Chisholm Grama Ridge East 34 State Com 1BS Pad

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	HDGM 2020	Dip:	60.214°	Date:	01-Dec-2020	Lat:	N 32 25 42.78	Northings:	520756.1ftUS	Grid Conv:	0.472°
MagDec:	6.461°	FS:	47876.305NT	Gravity FS:	998.48mgn (9.80665 Based)	Lon:	W 103 27 11.22	Easting:	812922.4ftUS	Scale Fact:	0.99999356
								Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20			
								TVD Ref: RKB(3642ft above MSL)			
								Plan: Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20			

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nudge 1.5° DLS	1500.00	0.00	104.00	1500.00	0.00	0.00	0.00	0.00
Rustler	1697.09	2.96	104.00	1697.00	-1.27	-1.23	4.93	1.50
Hold	1900.00	6.00	104.00	1899.27	-5.22	-5.06	20.30	1.50
Salado	2164.18	6.00	104.00	2162.00	-12.10	-11.74	47.10	0.00
Yates	3742.83	6.00	104.00	3732.00	-53.25	-51.66	207.21	0.00
Capitan Reef	4491.93	6.00	104.00	4477.00	-72.78	-70.61	283.19	0.00
Drop 1.5° DLS	5010.56	6.00	104.00	4992.79	-86.30	-83.72	335.79	0.00
Hold Vertical	5410.56	0.00	104.00	5392.06	-91.52	-88.78	356.09	1.50
Delaware Mtn Gr	5690.50	0.00	104.00	5672.00	-91.52	-88.78	356.09	0.00
Bone Spring	8385.50	0.00	104.00	8367.00	-91.52	-88.78	356.09	0.00
Build & Turn 10° DLS	8839.28	0.00	104.00	8820.78	-91.52	-88.78	356.09	0.00
Build & Turn 10° DLS	9439.28	60.00	52.34	9316.97	81.77	86.25	582.88	10.00
1st Bone Spring SS	9757.00	74.53	21.52	9442.00	312.93	318.72	752.32	10.00
Landing Point	10020.49	89.50	359.56	9478.95	566.93	573.08	798.69	10.00
Grama Ridge East 34 State Com 1BS 11H - BHL	14490.76	89.50	359.56	9517.96	5037.03	5043.04	764.01	0.00
2nd Bone Spring SS	NaN			10012.00				
Wolfcamp	NaN			11202.00				
3rd Bone Spring SS	NaN			10907.00				



Vertical Section (ft) Azim = 359.56° Scale = 1:500.00(ft) Origin = 0N/-S, 0E/-W



Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20 Proposal Geodetic Report (Def Plan)



Report Date: December 02, 2020 - 09:38 AM
Client: Chisholm
Field: NM Lea County (NAD 83)
Structure / Slot: Chisholm Grama Ridge East 34 State Com 1BS Pad / Grama Ridge East 34 State Com 1BS 11H
Well: Grama Ridge East 34 State Com 1BS 11H
Borehole: Grama Ridge East 34 State Com 1BS 11H
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20
Survey Date: December 01, 2020
Tort / AHD / DDI / ERD Ratio: 130.121 ° / 5674.843 ft / 6.051 / 0.596
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 25' 42.77741", W 103° 27' 11.21525"
Location Grid N/E Y/X: N 520756.100 ftUS, E 812922.400 ftUS
CRS Grid Convergence Angle: 0.4720 °
Grid Scale Factor: 0.99999356
Version / Patch: 2.10.821.3

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.560 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3642.000 ft above MSL
Seabed / Ground Elevation: 3616.000 ft above MSL
Magnetic Declination: 6.461 °
Total Gravity Field Strength: 998.4797mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47876.305 nT
Magnetic Dip Angle: 60.214 °
Declination Date: December 01, 2020
Magnetic Declination Model: HDGM 2020
North Reference: Grid North
Grid Convergence Used: 0.4720 °
Total Corr Mag North->Grid North: 5.9890 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
Nudge 1.5° DLS	1500.00	0.00	104.00	1500.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
Hold	1900.00	6.00	104.00	1899.27	-5.22	-5.06	20.30	1.50	520751.04	812942.70	N 32 25 42.73	W 103 27 10.98
Drop 1.5° DLS	5010.56	6.00	104.00	4992.79	-86.30	-83.72	335.79	0.00	520672.38	813258.18	N 32 25 41.92	W 103 27 7.31
Hold Vertical	5410.56	0.00	104.00	5392.06	-91.52	-88.78	356.09	1.50	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
Build & Turn 10° DLS	8839.28	0.00	104.00	8820.78	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
Build & Turn 10° DLS	9439.28	60.00	52.34	9316.97	81.77	86.25	582.88	10.00	520842.35	813505.28	N 32 25 43.58	W 103 27 4.41
Landing Point	10020.49	89.50	359.56	9478.95	566.93	573.08	798.69	10.00	521329.17	813721.09	N 32 25 48.38	W 103 27 1.84
Grama Ridge East 34 State Com 1BS 11H - BHL	14490.76	89.50	359.56	9517.96	5037.03	5043.04	764.01	0.00	525799.10	813686.40	N 32 26 32.61	W 103 27 1.82

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% 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	26.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG-Depth Only	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama Ridge East 34 State Com 1BS
	1	26.000	1500.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama
	1	1500.000	8870.000	1/100.000	12.250	9.625		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama
	1	8870.000	9970.000	1/100.000	8.750	7.000		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama
	1	9970.000	14490.759	1/100.000	8.500	5.500		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama



Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20

Proposal Geodetic Report

(Def Plan)



Report Date: December 02, 2020 - 09:39 AM Client: Chisholm Field: NM Lea County (NAD 83) Structure / Slot: Chisholm Grama Ridge East 34 State Com 1BS Pad / Grama Ridge East 34 State Com 1BS 11H Well: Grama Ridge East 34 State Com 1BS 11H Borehole: Grama Ridge East 34 State Com 1BS 11H UWI / API#: Unknown / Unknown Survey Name: Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20 Survey Date: December 01, 2020 Tort / AHD / DDI / ERD Ratio: 130.121 ° / 5674.843 ft / 6.051 / 0.596 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 25' 42.77741", W 103° 27' 11.21525" Location Grid N/E Y/X: N 520756.100 ftUS, E 812922.400 ftUS CRS Grid Convergence Angle: 0.4720 ° Grid Scale Factor: 0.99999356 Version / Patch: 2.10.821.3	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 359.560 ° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft TVD Reference Datum: RKB TVD Reference Elevation: 3642.000 ft above MSL Seabed / Ground Elevation: 3616.000 ft above MSL Magnetic Declination: 6.461 ° Total Gravity Field Strength: 998.4797mgn (9.80665 Based) Gravity Model: GARM Total Magnetic Field Strength: 47876.305 nT Magnetic Dip Angle: 60.214 ° Declination Date: December 01, 2020 Magnetic Declination Model: HDGM 2020 North Reference: Grid North Grid Convergence Used: 0.4720 ° Total Corr Mag North->Grid North: 5.9890 ° Local Coord Referenced To: Well Head	
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	100.00	0.00	104.00	100.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	200.00	0.00	104.00	200.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	300.00	0.00	104.00	300.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	400.00	0.00	104.00	400.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	500.00	0.00	104.00	500.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	600.00	0.00	104.00	600.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	700.00	0.00	104.00	700.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	800.00	0.00	104.00	800.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	900.00	0.00	104.00	900.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1000.00	0.00	104.00	1000.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1100.00	0.00	104.00	1100.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1200.00	0.00	104.00	1200.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1300.00	0.00	104.00	1300.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1400.00	0.00	104.00	1400.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
Nudge 1.5° DLS	1500.00	0.00	104.00	1500.00	0.00	0.00	0.00	0.00	520756.10	812922.40	N 32 25 42.78	W 103 27 11.22
	1600.00	1.50	104.00	1599.99	-0.33	-0.32	1.27	1.50	520755.78	812923.67	N 32 25 42.77	W 103 27 11.20
Rustler	1697.09	2.96	104.00	1697.00	-1.27	-1.23	4.93	1.50	520754.87	812927.33	N 32 25 42.76	W 103 27 11.16
	1700.00	3.00	104.00	1699.91	-1.31	-1.27	5.08	1.50	520754.83	812927.48	N 32 25 42.76	W 103 27 11.16
	1800.00	4.50	104.00	1799.69	-2.94	-2.85	11.43	1.50	520753.25	812933.83	N 32 25 42.75	W 103 27 11.08
Hold	1900.00	6.00	104.00	1899.27	-5.22	-5.06	20.30	1.50	520751.04	812942.70	N 32 25 42.73	W 103 27 10.98
	2000.00	6.00	104.00	1998.72	-7.82	-7.59	30.45	0.00	520748.51	812952.85	N 32 25 42.70	W 103 27 10.86
	2100.00	6.00	104.00	2098.17	-10.43	-10.12	40.59	0.00	520745.98	812962.99	N 32 25 42.67	W 103 27 10.74
Salado	2164.18	6.00	104.00	2162.00	-12.10	-11.74	47.10	0.00	520744.36	812969.50	N 32 25 42.66	W 103 27 10.67
	2200.00	6.00	104.00	2197.63	-13.04	-12.65	50.73	0.00	520743.45	812973.13	N 32 25 42.65	W 103 27 10.62
	2300.00	6.00	104.00	2297.08	-15.64	-15.18	60.87	0.00	520740.92	812983.27	N 32 25 42.62	W 103 27 10.51
	2400.00	6.00	104.00	2396.53	-18.25	-17.71	71.02	0.00	520738.39	812993.41	N 32 25 42.60	W 103 27 10.39
	2500.00	6.00	104.00	2495.98	-20.86	-20.23	81.16	0.00	520735.87	813003.56	N 32 25 42.57	W 103 27 10.27
	2600.00	6.00	104.00	2595.43	-23.46	-22.76	91.30	0.00	520733.34	813013.70	N 32 25 42.54	W 103 27 10.15
	2700.00	6.00	104.00	2694.89	-26.07	-25.29	101.44	0.00	520730.81	813023.84	N 32 25 42.52	W 103 27 10.03
	2800.00	6.00	104.00	2794.34	-28.68	-27.82	111.58	0.00	520728.28	813033.98	N 32 25 42.49	W 103 27 9.92
	2900.00	6.00	104.00	2893.79	-31.28	-30.35	121.73	0.00	520725.75	813044.13	N 32 25 42.47	W 103 27 9.80
	3000.00	6.00	104.00	2993.24	-33.89	-32.88	131.87	0.00	520723.22	813054.27	N 32 25 42.44	W 103 27 9.68
	3100.00	6.00	104.00	3092.70	-36.50	-35.41	142.01	0.00	520720.69	813064.41	N 32 25 42.42	W 103 27 9.56
	3200.00	6.00	104.00	3192.15	-39.10	-37.94	152.15	0.00	520718.16	813074.55	N 32 25 42.39	W 103 27 9.44
	3300.00	6.00	104.00	3291.60	-41.71	-40.46	162.30	0.00	520715.64	813084.69	N 32 25 42.36	W 103 27 9.33
	3400.00	6.00	104.00	3391.05	-44.32	-42.99	172.44	0.00	520713.11	813094.84	N 32 25 42.34	W 103 27 9.21
	3500.00	6.00	104.00	3490.50	-46.92	-45.52	182.58	0.00	520710.58	813104.98	N 32 25 42.31	W 103 27 9.09
	3600.00	6.00	104.00	3589.96	-49.53	-48.05	192.72	0.00	520708.05	813115.12	N 32 25 42.29	W 103 27 8.97
	3700.00	6.00	104.00	3689.41	-52.14	-50.58	202.87	0.00	520705.52	813125.26	N 32 25 42.26	W 103 27 8.85
Yates	3742.83	6.00	104.00	3732.00	-53.25	-51.66	207.21	0.00	520704.44	813129.61	N 32 25 42.25	W 103 27 8.80
	3800.00	6.00	104.00	3788.86	-54.74	-53.11	213.01	0.00	520702.99	813135.41	N 32 25 42.23	W 103 27 8.74
	3900.00	6.00	104.00	3888.31	-57.35	-55.64	223.15	0.00	520700.46	813145.55	N 32 25 42.21	W 103 27 8.62
	4000.00	6.00	104.00	3987.77	-59.96	-58.17	233.29	0.00	520697.93	813155.69	N 32 25 42.18	W 103 27 8.50
	4100.00	6.00	104.00	4087.22	-62.56	-60.70	243.44	0.00	520695.41	813165.83	N 32 25 42.16	W 103 27 8.38
	4200.00	6.00	104.00	4186.67	-65.17	-63.22	253.58	0.00	520692.88	813175.98	N 32 25 42.13	W 103 27 8.26
	4300.00	6.00	104.00	4286.12	-67.78	-65.75	263.72	0.00	520690.35	813186.12	N 32 25 42.11	W 103 27 8.14
	4400.00	6.00	104.00	4385.57	-70.38	-68.28	273.86	0.00	520687.82	813196.26	N 32 25 42.08	W 103 27 8.03
Capitan Reef	4491.93	6.00	104.00	4477.00	-72.78	-70.61	283.19	0.00	520685.49	813205.58	N 32 25 42.06	W 103 27 7.92
	4500.00	6.00	104.00	4485.03	-72.99	-70.81	284.00	0.00	520685.29	813206.40	N 32 25 42.05	W 103 27 7.91
	4600.00	6.00	104.00	4584.48	-75.60	-73.34	294.15	0.00	520682.76	813216.54	N 32 25 42.03	W 103 27 7.79
	4700.00	6.00	104.00	4683.93	-78.20	-75.87	304.29	0.00	520680.23	813226.69	N 32 25 42.00	W 103 27 7.67
	4800.00	6.00	104.00	4783.38	-80.81	-78.40	314.43	0.00	520677.70	813236.83	N 32 25 41.98	W 103 27 7.55
	4900.00	6.00	104.00	4882.84	-83.42	-80.93	324.57	0.00	520675.18	813246.97	N 32 25 41.95	W 103 27 7.44
	5000.00	6.00	104.00	4982.29	-86.02	-83.45	334.72	0.00	520672.65	813257.11	N 32 25 41.92	W 103 27 7.32
Drop 1.5° DLS	5010.56	6.00	104.00	4992.79	-86.30	-83.72	335.79	0.00	520672.38	813258.18	N 32 25 41.92	W 103 27 7.31
	5100.00	4.66	104.00	5081.84	-88.37	-85.73	343.85	1.50	520670.37	813266.24	N 32 25 41.90	W 103 27 7.21
	5200.00	3.16	104.00	5181.61	-90.07	-87.38	350.46	1.50	520668.72	813272.86	N 32 25 41.88	W 103 27 7.14
	5300.00	1.66	104.00	5281.51	-91.12	-88.40	354.54	1.50	520667.70	813276.94	N 32 25 41.87	W 103 27 7.09
	5400.00	0.16	104.00	5381.50	-91.51	-88.78	356.08	1.50	520667.32	813278.47	N 32 25 41.87	W 103 27 7.07
Hold Vertical	5410.56	0.00	104.00	5392.06	-91.52	-88.78	356.09	1.50	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	5500.00	0.00	104.00	5481.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	5600.00	0.00	104.00	5581.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
Delaware Mtn Gr	5690.50	0.00	104.00	5672.00	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	5700.00	0.00	104.00	5681.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	5800.00	0.00	104.00	5781.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	5900.00	0.00	104.00	5881.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6000.00	0.00	104.00	5981.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6100.00	0.00	104.00	6081.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07

...Chisholm Grama Ridge East 34 State Com 1BS 11H Rev0 CVS 01Dec20

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6200.00	0.00	104.00	6181.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6300.00	0.00	104.00	6281.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6400.00	0.00	104.00	6381.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6500.00	0.00	104.00	6481.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6600.00	0.00	104.00	6581.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6700.00	0.00	104.00	6681.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6800.00	0.00	104.00	6781.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	6900.00	0.00	104.00	6881.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7000.00	0.00	104.00	6981.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7100.00	0.00	104.00	7081.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7200.00	0.00	104.00	7181.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7300.00	0.00	104.00	7281.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7400.00	0.00	104.00	7381.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7500.00	0.00	104.00	7481.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7600.00	0.00	104.00	7581.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7700.00	0.00	104.00	7681.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7800.00	0.00	104.00	7781.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	7900.00	0.00	104.00	7881.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8000.00	0.00	104.00	7981.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8100.00	0.00	104.00	8081.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8200.00	0.00	104.00	8181.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8300.00	0.00	104.00	8281.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
Bone Spring	8385.50	0.00	104.00	8367.00	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8400.00	0.00	104.00	8381.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8500.00	0.00	104.00	8481.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8600.00	0.00	104.00	8581.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8700.00	0.00	104.00	8681.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8800.00	0.00	104.00	8781.50	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
Build & Turn 10° DLS	8839.28	0.00	104.00	8820.78	-91.52	-88.78	356.09	0.00	520667.32	813278.49	N 32 25 41.87	W 103 27 7.07
	8900.00	6.07	52.34	8881.39	-89.57	-86.82	358.64	10.00	520669.28	813281.03	N 32 25 41.89	W 103 27 7.04
	9000.00	16.07	52.34	8979.40	-77.97	-75.10	373.82	10.00	520681.00	813296.22	N 32 25 42.00	W 103 27 6.86
	9100.00	26.07	52.34	9072.59	-56.25	-53.16	402.25	10.00	520702.94	813324.64	N 32 25 42.22	W 103 27 6.53
	9200.00	36.07	52.34	9158.14	-25.07	-21.67	443.05	10.00	520734.43	813365.45	N 32 25 42.53	W 103 27 6.05
	9300.00	46.07	52.34	9233.43	14.62	18.42	495.00	10.00	520774.52	813417.39	N 32 25 42.92	W 103 27 5.44
	9400.00	56.07	52.34	9296.18	61.62	65.89	556.51	10.00	520821.99	813478.90	N 32 25 43.38	W 103 27 4.72
Build & Turn 10° DLS	9439.28	60.00	52.34	9316.97	81.77	86.25	582.88	10.00	520842.35	813505.28	N 32 25 43.58	W 103 27 4.41
	9500.00	62.26	45.91	9346.31	116.26	121.04	623.03	10.00	520877.14	813545.43	N 32 25 43.92	W 103 27 3.93
	9600.00	66.60	35.91	9389.55	183.94	189.18	681.88	10.00	520945.28	813604.27	N 32 25 44.59	W 103 27 3.24
	9700.00	71.52	26.58	9425.35	263.34	268.96	730.13	10.00	521025.05	813652.52	N 32 25 45.38	W 103 27 2.67
1st Bone Spring SS	9757.00	74.53	21.52	9442.00	312.93	318.72	752.32	10.00	521074.82	813674.71	N 32 25 45.87	W 103 27 2.41
	9800.00	76.87	17.80	9452.62	352.06	357.95	766.33	10.00	521114.05	813688.72	N 32 25 46.26	W 103 27 2.24
	9900.00	82.51	9.40	9470.54	447.39	453.47	789.37	10.00	521209.56	813711.76	N 32 25 47.20	W 103 27 1.96
	10000.00	88.30	1.22	9478.55	546.44	552.59	798.56	10.00	521308.69	813720.95	N 32 25 48.18	W 103 27 1.85
Landing Point	10020.49	89.50	359.56	9478.95	566.93	573.08	798.69	10.00	521329.17	813721.09	N 32 25 48.38	W 103 27 1.84
	10100.00	89.50	359.56	9479.64	646.43	652.58	798.08	0.00	521408.68	813720.47	N 32 25 49.17	W 103 27 1.84
	10200.00	89.50	359.56	9480.51	746.43	752.58	797.30	0.00	521508.67	813719.69	N 32 25 50.16	W 103 27 1.84
	10300.00	89.50	359.56	9481.39	846.43	852.57	796.52	0.00	521608.66	813718.92	N 32 25 51.15	W 103 27 1.84
	10400.00	89.50	359.56	9482.26	946.42	952.56	795.75	0.00	521708.65	813718.14	N 32 25 52.14	W 103 27 1.84
	10500.00	89.50	359.56	9483.13	1046.42	1052.56	794.97	0.00	521808.65	813717.37	N 32 25 53.13	W 103 27 1.84
	10600.00	89.50	359.56	9484.00	1146.42	1152.55	794.20	0.00	521908.64	813716.59	N 32 25 54.12	W 103 27 1.84
	10700.00	89.50	359.56	9484.88	1246.41	1252.54	793.42	0.00	522008.63	813715.81	N 32 25 55.11	W 103 27 1.84
	10800.00	89.50	359.56	9485.75	1346.41	1352.53	792.65	0.00	522108.62	813715.04	N 32 25 56.10	W 103 27 1.84
	10900.00	89.50	359.56	9486.62	1446.40	1452.53	791.87	0.00	522208.62	813714.26	N 32 25 57.08	W 103 27 1.84
	11000.00	89.50	359.56	9487.49	1546.40	1552.52	791.09	0.00	522308.61	813713.49	N 32 25 58.07	W 103 27 1.84
	11100.00	89.50	359.56	9488.37	1646.40	1652.51	790.32	0.00	522408.60	813712.71	N 32 25 59.06	W 103 27 1.84
	11200.00	89.50	359.56	9489.24	1746.39	1752.51	789.54	0.00	522508.59	813711.93	N 32 26 0.05	W 103 27 1.84
	11300.00	89.50	359.56	9490.11	1846.39	1852.50	788.77	0.00	522608.58	813711.16	N 32 26 1.04	W 103 27 1.83
	11400.00	89.50	359.56	9490.99	1946.39	1952.49	787.99	0.00	522708.58	813710.38	N 32 26 2.03	W 103 27 1.83
	11500.00	89.50	359.56	9491.86	2046.38	2052.49	787.21	0.00	522808.57	813709.61	N 32 26 3.02	W 103 27 1.83
	11600.00	89.50	359.56	9492.73	2146.38	2152.48	786.44	0.00	522908.56	813708.83	N 32 26 4.01	W 103 27 1.83
	11700.00	89.50	359.56	9493.60	2246.37	2252.47	785.66	0.00	523008.55	813708.05	N 32 26 5.00	W 103 27 1.83
	11800.00	89.50	359.56	9494.48	2346.37	2352.47	784.89	0.00	523108.55	813707.28	N 32 26 5.99	W 103 27 1.83
	11900.00	89.50	359.56	9495.35	2446.37	2452.46	784.11	0.00	523208.54	813706.50	N 32 26 6.98	W 103 27 1.83
	12000.00	89.50	359.56	9496.22	2546.36	2552.45	783.33	0.00	523308.53	813705.73	N 32 26 7.97	W 103 27 1.83
	12100.00	89.50	359.56	9497.09	2646.36	2652.45	782.56	0.00	523408.52	813704.95	N 32 26 8.96	W 103 27 1.83
	12200.00	89.50	359.56	9497.97	2746.35	2752.44	781.78	0.00	523508.52	813704.18	N 32 26 9.95	W 103 27 1.83
	12300.00	89.50	359.56	9498.84	2846.35	2852.43	781.01	0.00	523608.51	813703.40	N 32 26 10.94	W 103 27 1.83
	12400.00	89.50	359.56	9499.71	2946.35	2952.43	780.23	0.00	523708.50	813702.62	N 32 26 11.93	W 103 27 1.83
	12500.00	89.50	359.56	9500.58	3046.34	3052.42	779.45	0.00	523808.49	813701.85	N 32 26 12.92	W 103 27 1.83
	12600.00	89.50	359.56	9501.46	3146.34	3152.41	778.68	0.00	523908.49	813701.07	N 32 26 13.91	W 103 27 1.83
	12700.00	89.50	359.56	9502.33	3246.34	3252.41	777.90	0.00	524008.48	813700.30	N 32 26 14.89	W 103 27 1.83
	12800.00	89.50	359.56	9503.20	3346.33	3352.40	777.13	0.00	524108.47	813699.52	N 32 26 15.88	W 103 27 1.83
	12900.00	89.50	359.56	9504.08	3446.33	3452.39	776.35	0.00	524208.46	813698.74	N 32 26 16.87	W 103 27 1.83
	13000.00	89.50	359.56	9504.95	3546.32	3552.38	775.57	0.00	524308.45	813697.97	N 32 26 17.86	W 103 27 1.82
	13100.00	89.50	359.56	9505.82	3646.32	3652.38	774.80	0.00	524408.45	813697.19	N 32 26 18.85	W 103 27 1.82
	13200.00	89.50	359.56	9506.69	3746.32	3752.37	774.02	0.00	524508.44	813696.42	N 32 26 19.84	W 103 27 1.82
	13300.											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
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	26.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG-Depth Only	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama Ridge East 34 State Com 1BS			
	1	26.000	1500.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama			
	1	1500.000	8870.000	1/100.000	12.250	9.625		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama			
	1	8870.000	9970.000	1/100.000	8.750	7.000		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama			
	1	9970.000	14490.759	1/100.000	8.500	5.500		NAL_MWD_1.0_DEG	Grama Ridge East 34 State Com 1BS 11H / Chisholm Grama			

Chisholm Energy Operating, LLC

801 Cherry St., Suite 1200-Unit 20

Fort Worth, TX 76102

H2S Contingency Plan

Lea 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

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	
Lea County Sheriff's Department	Number:	(575)396-3611	
Lea County Emergency Management-Lorenzo Velasquez	Number:	(575)391-2983	
Lea County Fire Marshal			
Lorenzo Velasquez, Director	Number:	(575)391-2983	
Jeff Broom, Deputy Fire Marshal	Number:	(575)391-2988	
Fire Department:			
Knowles Fire Department	Number:	(505)392-2810	
City of Hobbs Fire Department	Number:	(505)397-9308	
Jal Volunteer Fire Department	Number:	(505)395-2221	
Lovington Fire Department	Number:	(575)396-2359	
Maljamar Fire Department	Number:	(505)676-4100	
Tatum Volunteer Fire Department	Number:	(505)398-3473	
Eunice Fire Department	Number:	(575)394-3258	
Hospital: Lea Regional Medical Center	Number:	(575)492-5000	
AirMed: Medevac	Number:	(888)303-9112	
Dept. of Public Safety	Number:	(505)827-9000	
New Mexico OCD-Dist. 1-Hobbs-	Office	Number:	(575)393-6161
	Emergency	Number:	(575)370-3186
Lea County Road Department	Number:	(575)391-2940	
NMDOT	Number:	(505)827-5100	