PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chisholm Energy Operating, LLC
LEASE NO.:	NMNM-004312
WELL NAME & NO.:	Buffalo 12-1 Fed Com 2BS 5H
SURFACE HOLE FOOTAGE:	0443' FSL & 1290' FEL
BOTTOM HOLE FOOTAGE	0330' FNL & 0560' FEL Sec. 01, T. 19 S., R 33 E.
LOCATION:	Section 12, T. 19 S., R 33 E., NMPM
COUNTY:	County, New Mexico

Operator to submit sundry to remove "COM" from the well name.

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☐ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 3933612

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Artesia Group, Salado, and Capitan Reef.
Possibility of lost circulation in the Rustler, Red Beds, Artesia Group, Capitan Reef, and Delaware.

1. The **13-3/8** inch surface casing shall be set at approximately **1605** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

    ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

☐ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.**
    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. The appropriate BLM office shall be notified a minimum of hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    b. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 081518

Job#

Rig: 26' KB

Chisholm Energy Holdings

Lea County, NM (NAD 83) Buffalo 12-1 Fed Com 2BS 5H

API#

Buffalo 12-1 Fed Com 2BS 5H

Wellbore #1

Sperry Drilling Services

Ellipse Separation Anticollision Report

Minimum Magnetic Interference Warning level is 50' center to center

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Reference Design: Buffalo 12-1 Fed Com 2BS 5H - Buffalo 12-1 Fed Com 2BS 5H - Wellbore #1 - Plan 1

Well Coordinates:	33	North American Datum 1983
	-104	New Mexico Eastern Zone
		607,742.40 N
		763,237.91 E

Ground Level: 3,729.00 usft

Scan Range: 0.00 to 20,434.45 usft. Measured Depth.

Scan Radius is 2,220.46 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Version: 5000.1 Build: 81E

Report Version: Midcon Ellipse v1.60

HALLIBURTON

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Anticollision Summary

Reference Design: Buffalo 12-1 Fed Com 2BS 5H - Buffalo 12-1 Fed Com 2BS 5H - Wellbore #1 - Plan 1

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Scan Range: 0.00 to 20,434.45 usft. Measured Depth.
Scan Radius is 2,220.46 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Site Name Comparison Well Name - Wellbore Name - Design	Measured Depth (usft)	Minimum Distance (usft)	@Measured Depth (usft)	Ellipse Separation (usft)	@Measured Depth usft	Clearance Factor	Summary Based on Minimum
Buffalo 12-1 Fed Com 2BS 5H							
Pennzoil Fed 1 (Offset INC Only) - Wellbore #1 - Wellbore #1	[redacted]	97.50	17,257.64	-228.22	10,072.32	[redacted]	Centre Distance / Ellipse Separation / Clearance Factor
Pennzoil Fed 2 (Offset INC Only) - Wellbore #1 - Wellbore #1	[redacted]	98.72	18,553.74	-246.16	10,048.52	[redacted]	Centre Distance / Ellipse Separation / Clearance Factor

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Offset Design: Buffalo 12-1 Fed Com 2BS 5H - Pennzoil Fed 2 (Offset INC Only) - Wellbore #1 - Wellbore #1
200-2 INC-Only
Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Scan Range: 0.00 to 20,434.46 usft. Measured Depth.
Scan Radius is 2,220.46 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
16,400.00	10,050.00	6,160.32	697.73	107.17	10,048.52	10,047.30	8,313.71	591.51	202.72	2,156.01	1,910.35	-90.00	8.777
16,500.00	10,050.00	6,260.32	697.38	108.73	10,048.52	10,047.30	8,313.71	591.51	202.72	2,056.12	1,810.30	-90.00	8.365
16,600.00	10,050.00	6,360.32	697.03	110.29	10,048.52	10,047.30	8,313.71	591.51	202.72	1,956.24	1,710.26	-90.00	7.953
16,700.00	10,050.00	6,460.32	696.69	111.85	10,048.52	10,047.30	8,313.71	591.51	202.72	1,856.37	1,610.21	-90.00	7.541
16,800.00	10,050.00	6,560.32	696.34	113.41	10,048.52	10,047.30	8,313.71	591.51	202.72	1,756.52	1,510.15	-90.00	7.130
16,900.00	10,050.00	6,660.32	695.99	114.98	10,048.52	10,047.30	8,313.71	591.51	202.72	1,656.69	1,410.10	-90.00	6.718
17,000.00	10,050.00	6,760.32	695.64	116.55	10,048.52	10,047.30	8,313.71	591.51	202.72	1,556.88	1,310.03	-90.00	6.307
17,100.00	10,050.00	6,860.32	695.29	118.12	10,048.52	10,047.30	8,313.71	591.51	202.72	1,457.09	1,209.96	-90.00	5.896
17,200.00	10,050.00	6,960.32	694.94	119.70	10,048.52	10,047.30	8,313.71	591.51	202.72	1,357.34	1,109.88	-90.00	5.485
17,300.00	10,050.00	7,060.31	694.60	121.27	10,048.52	10,047.30	8,313.71	591.51	202.72	1,257.62	1,009.79	-90.00	5.074
17,400.00	10,050.00	7,160.31	694.25	122.85	10,048.52	10,047.30	8,313.71	591.51	202.72	1,157.96	909.67	-90.00	4.664
17,500.00	10,050.00	7,260.31	693.90	124.43	10,048.52	10,047.30	8,313.71	591.51	202.72	1,058.36	809.53	-90.00	4.253
17,600.00	10,050.00	7,360.31	693.55	126.01	10,048.52	10,047.30	8,313.71	591.51	202.72	958.84	709.35	-90.00	3.843
17,700.00	10,050.00	7,460.31	693.20	127.60	10,048.52	10,047.30	8,313.71	591.51	202.72	859.43	609.10	-90.00	3.433
17,800.00	10,050.00	7,560.31	692.85	129.19	10,048.52	10,047.30	8,313.71	591.51	202.72	760.18	508.74	-90.00	3.023
17,900.00	10,050.00	7,660.31	692.51	130.77	10,048.52	10,047.30	8,313.71	591.51	202.72	661.16	408.22	-90.00	2.614
18,000.00	10,050.00	7,760.31	692.16	132.36	10,048.52	10,047.30	8,313.71	591.51	202.72	562.47	307.40	-90.00	2.205
[illegible]	10,050.00	7,860.31	691.81	133.95	10,048.52	10,047.30	8,313.71	591.51	202.72	464.36	206.04	-90.00	[illegible]
[illegible]	10,050.00	7,960.31	691.46	135.55	10,048.52	10,047.30	8,313.71	591.51	202.72	367.26	103.62	-90.00	[illegible]
18,300.00	10,050.00	8,060.31	691.11	137.14	10,048.52	10,047.30	8,313.71	591.51	202.72	272.27	< 0	-90.00	0.935
18,400.00	10,050.00	8,160.31	690.77	138.74	10,048.52	10,047.30	8,313.71	591.51	202.72	182.71	< 0	-90.00	0.629
18,500.00	10,050.00	8,260.31	690.42	140.33	10,048.52	10,047.30	8,313.71	591.51	202.72	112.40	< 0	-90.00	0.397
18,553.72	10,050.00	8,314.05	690.23	141.19	10,048.52	10,047.30	8,313.71	591.51	202.72	98.72	< 0	-90.00	0.291
18,600.00	10,050.00	8,360.31	690.07	141.93	10,048.52	10,047.30	8,313.71	591.51	202.72	109.02	< 0	-90.00	0.331
18,700.00	10,050.00	8,460.31	689.72	143.53	10,048.52	10,047.30	8,313.71	591.51	202.72	176.45	< 0	-90.00	0.621
[illegible]	10,050.00	8,560.31	689.37	145.13	10,048.52	10,047.30	8,313.71	591.51	202.72	265.31	2.18	-90.00	[illegible]
[illegible]	10,050.00	8,660.30	689.02	146.74	10,048.52	10,047.30	8,313.71	591.51	202.72	360.05	105.76	-90.00	[illegible]
19,000.00	10,050.00	8,760.30	688.68	148.34	10,048.52	10,047.30	8,313.71	591.51	202.72	457.04	206.87	-90.00	[illegible]
19,100.00	10,050.00	8,860.30	688.33	149.95	10,048.52	10,047.30	8,313.71	591.51	202.72	555.10	307.03	-90.00	2.238
19,200.00	10,050.00	8,960.30	687.98	151.55	10,048.52	10,047.30	8,313.71	591.51	202.72	653.75	406.80	-90.00	2.647

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Offset Design: Buffalo 12-1 Fed Com 2BS 5H - Pennzoil Fed 2 (Offset INC Only) - Wellbore #1 - Wellbore #1
200-2 INC-Only
Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Scan Range: 0.00 to 20,434.45 usft. Measured Depth.
Scan Radius is 2,220.46 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
19,300.00	10,050.00	9,060.30	687.63	153.16	10,048.52	10,047.30	8,313.71	591.51	202.72	752.76	506.44	-90.00	3.056
19,400.00	10,050.00	9,160.30	687.28	154.77	10,048.52	10,047.30	8,313.71	591.51	202.72	851.99	606.03	-90.00	3.464
19,500.00	10,050.00	9,260.30	686.93	156.38	10,048.52	10,047.30	8,313.71	591.51	202.72	951.39	705.62	-90.00	3.871
19,600.00	10,050.00	9,360.30	686.59	157.99	10,048.52	10,047.30	8,313.71	591.51	202.72	1,050.90	805.22	-90.00	4.278
19,700.00	10,050.00	9,460.30	686.24	159.60	10,048.52	10,047.30	8,313.71	591.51	202.72	1,150.50	904.85	-90.00	4.683
19,800.00	10,050.00	9,560.30	685.89	161.21	10,048.52	10,047.30	8,313.71	591.51	202.72	1,250.16	1,004.50	-90.00	5.089
19,900.00	10,050.00	9,660.30	685.54	162.82	10,048.52	10,047.30	8,313.71	591.51	202.72	1,349.87	1,104.17	-90.00	5.494
20,000.00	10,050.00	9,760.30	685.19	164.44	10,048.52	10,047.30	8,313.71	591.51	202.72	1,449.62	1,203.86	-90.00	5.899
20,100.00	10,050.00	9,860.30	684.84	166.05	10,048.52	10,047.30	8,313.71	591.51	202.72	1,549.40	1,303.57	-90.00	6.303
20,200.00	10,050.00	9,960.30	684.50	167.67	10,048.52	10,047.30	8,313.71	591.51	202.72	1,649.21	1,403.30	-90.00	6.707
20,300.00	10,050.00	10,060.30	684.15	169.28	10,048.52	10,047.30	8,313.71	591.51	202.72	1,749.04	1,503.05	-90.00	7.110
20,400.00	10,050.00	10,160.30	683.80	170.90	10,048.52	10,047.30	8,313.71	591.51	202.72	1,848.89	1,602.80	-90.00	7.513
20,434.45	10,050.00	10,194.75	683.68	171.46	10,048.52	10,047.30	8,313.71	591.51	202.72	1,883.30	1,637.18	-90.00	7.652

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Offset Design: Buffalo 12-1 Fed Com 2BS 5H - Pennzoil Fed 1 (Offset INC Only) - Wellbore #1 - Wellbore #1
364-2 INC-Only
Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Scan Range: 0.00 to 20,434.46 usft. Measured Depth.
Scan Radius is 2,220.46 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
15,100.00	10,050.00	4,860.33	702.26	87.29	10,100.66	10,099.40	7,017.27	597.24	204.91	2,159.68	1,912.79	-106.24	8.747
15,200.00	10,050.00	4,960.33	701.91	88.80	10,099.20	10,097.94	7,017.29	597.24	204.88	2,059.80	1,812.81	-105.44	8.340
15,300.00	10,050.00	5,060.33	701.56	90.30	10,097.75	10,096.49	7,017.30	597.24	204.84	1,959.92	1,712.84	-104.65	7.932
15,400.00	10,050.00	5,160.33	701.21	91.81	10,096.31	10,095.06	7,017.32	597.24	204.81	1,860.06	1,612.87	-103.86	7.525
15,500.00	10,050.00	5,260.33	700.86	93.33	10,094.90	10,093.64	7,017.34	597.24	204.77	1,760.21	1,512.89	-103.07	7.117
15,600.00	10,050.00	5,360.32	700.52	94.85	10,093.49	10,092.24	7,017.36	597.24	204.74	1,660.39	1,412.92	-102.29	6.710
15,700.00	10,050.00	5,460.32	700.17	96.38	10,092.11	10,090.85	7,017.38	597.24	204.70	1,560.58	1,312.94	-101.51	6.302
15,800.00	10,050.00	5,560.32	699.82	97.91	10,090.74	10,089.48	7,017.39	597.24	204.67	1,460.79	1,212.97	-100.73	5.894
15,900.00	10,050.00	5,660.32	699.47	99.45	10,089.38	10,088.13	7,017.41	597.24	204.64	1,361.04	1,112.99	-99.96	5.487
16,000.00	10,050.00	5,760.32	699.12	100.98	10,088.04	10,086.78	7,017.43	597.24	204.60	1,261.33	1,013.01	-99.20	5.079
16,100.00	10,050.00	5,860.32	698.77	102.53	10,086.71	10,085.46	7,017.44	597.24	204.57	1,161.66	913.02	-98.43	4.672
16,200.00	10,050.00	5,960.32	698.43	104.07	10,085.40	10,084.14	7,017.46	597.24	204.54	1,062.05	813.02	-97.68	4.265
16,300.00	10,050.00	6,060.32	698.08	105.62	10,084.10	10,082.85	7,017.48	597.24	204.51	962.53	713.01	-96.93	3.858
16,400.00	10,050.00	6,160.32	697.73	107.17	10,082.81	10,081.56	7,017.49	597.24	204.48	863.11	612.97	-96.18	3.451
16,500.00	10,050.00	6,260.32	697.38	108.73	10,081.54	10,080.29	7,017.51	597.24	204.45	763.84	512.88	-95.44	3.044
16,600.00	10,050.00	6,360.32	697.03	110.29	10,080.28	10,079.03	7,017.52	597.24	204.41	664.79	412.71	-94.71	2.637
16,700.00	10,050.00	6,460.32	696.69	111.85	10,079.04	10,077.78	7,017.54	597.24	204.38	566.07	312.39	-93.98	2.231
[redacted]	10,050.00	6,560.32	696.34	113.41	10,077.80	10,076.55	7,017.55	597.24	204.35	467.88	211.76	-93.26	[redacted]
[redacted]	10,050.00	6,660.32	695.99	114.98	10,076.58	10,075.33	7,017.57	597.24	204.32	370.67	110.52	-92.54	[redacted]
[redacted]	10,050.00	6,760.32	695.64	116.55	10,075.37	10,074.12	7,017.58	597.24	204.29	275.46	7.91	-91.83	[redacted]
[redacted]	10,050.00	6,860.32	695.29	118.12	10,074.18	10,072.93	7,017.60	597.24	204.27	185.35	< 0	-91.13	[redacted]
[redacted]	10,050.00	6,960.32	694.94	119.70	10,073.00	10,071.74	7,017.61	597.24	204.24	113.27	< 0	-90.44	[redacted]
[redacted]	10,050.00	7,017.96	694.74	120.61	10,072.32	10,071.07	7,017.62	597.24	204.22	97.50	< 0	-90.04	[redacted]
[redacted]	10,050.00	7,060.31	694.60	121.27	10,071.82	10,070.57	7,017.62	597.24	204.21	106.31	< 0	-89.75	[redacted]
[redacted]	10,050.00	7,160.31	694.25	122.85	10,070.66	10,069.41	7,017.64	597.24	204.18	172.54	< 0	-89.07	[redacted]
[redacted]	10,050.00	7,260.31	693.90	124.43	10,069.52	10,068.26	7,017.65	597.24	204.15	261.22	2.85	-88.39	[redacted]
[redacted]	10,050.00	7,360.31	693.55	126.01	10,068.38	10,067.13	7,017.66	597.24	204.12	355.95	104.32	-87.73	[redacted]
[redacted]	10,050.00	7,460.31	693.20	127.60	10,067.25	10,066.00	7,017.68	597.24	204.10	452.95	204.30	-87.07	[redacted]
17,800.00	10,050.00	7,560.31	692.85	129.19	10,066.14	10,064.89	7,017.69	597.24	204.07	551.02	303.82	-86.41	2.229
17,900.00	10,050.00	7,660.31	692.51	130.77	10,065.03	10,063.78	7,017.70	597.24	204.04	649.67	403.22	-85.77	2.636

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Offset Design: Buffalo 12-1 Fed Com 2BS 5H - Pennzoil Fed 1 (Offset INC Only) - Wellbore #1 - Wellbore #1
364-2 INC-Only
Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Scan Range: 0.00 to 20,434.45 usft. Measured Depth.
Scan Radius is 2,220.46 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
18,000.00	10,050.00	7,760.31	692.16	132.36	10,063.94	10,062.69	7,017.71	597.24	204.01	748.68	502.63	-85.13	3.043
18,100.00	10,050.00	7,860.31	691.81	133.95	10,062.86	10,061.61	7,017.73	597.24	203.99	847.93	602.08	-84.50	3.449
18,200.00	10,050.00	7,960.31	691.46	135.55	10,061.79	10,060.54	7,017.74	597.24	203.96	947.33	701.59	-83.87	3.855
18,300.00	10,050.00	8,060.31	691.11	137.14	10,060.72	10,059.47	7,017.75	597.24	203.94	1,046.84	801.14	-83.26	4.261
18,400.00	10,050.00	8,160.31	690.77	138.74	10,059.67	10,058.42	7,017.76	597.24	203.91	1,146.44	900.73	-82.65	4.666
18,500.00	10,050.00	8,260.31	690.42	140.33	10,058.63	10,057.38	7,017.77	597.24	203.89	1,246.10	1,000.37	-82.05	5.071
18,600.00	10,050.00	8,360.31	690.07	141.93	10,057.60	10,056.35	7,017.79	597.24	203.86	1,345.81	1,100.04	-81.45	5.476
18,700.00	10,050.00	8,460.31	689.72	143.53	10,056.58	10,055.33	7,017.80	597.24	203.83	1,445.56	1,199.74	-80.87	5.881
18,800.00	10,050.00	8,560.31	689.37	145.13	10,055.56	10,054.31	7,017.81	597.24	203.81	1,545.34	1,299.46	-80.29	6.285
18,900.00	10,050.00	8,660.30	689.02	146.74	10,054.56	10,053.31	7,017.82	597.24	203.79	1,645.14	1,399.20	-79.72	6.689
19,000.00	10,050.00	8,760.30	688.68	148.34	10,053.56	10,052.32	7,017.83	597.24	203.76	1,744.97	1,498.96	-79.15	7.093
19,100.00	10,050.00	8,860.30	688.33	149.95	10,052.58	10,051.33	7,017.84	597.24	203.74	1,844.82	1,598.74	-78.60	7.497
19,200.00	10,050.00	8,960.30	687.98	151.55	10,051.60	10,050.36	7,017.85	597.24	203.71	1,944.68	1,698.53	-78.05	7.900
19,300.00	10,050.00	9,060.30	687.63	153.16	10,050.64	10,049.39	7,017.86	597.24	203.69	2,044.56	1,798.33	-77.50	8.304
19,400.00	10,050.00	9,160.30	687.28	154.77	10,049.68	10,048.43	7,017.87	597.24	203.67	2,144.44	1,898.14	-76.97	8.707

Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Reference Well Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	20,434.45	Plan 1	2_MWD

Anticollision Info

Error Model: ISCWSA
Scan Method: Closest Approach 3D
Output errors are at 2.00 sigma

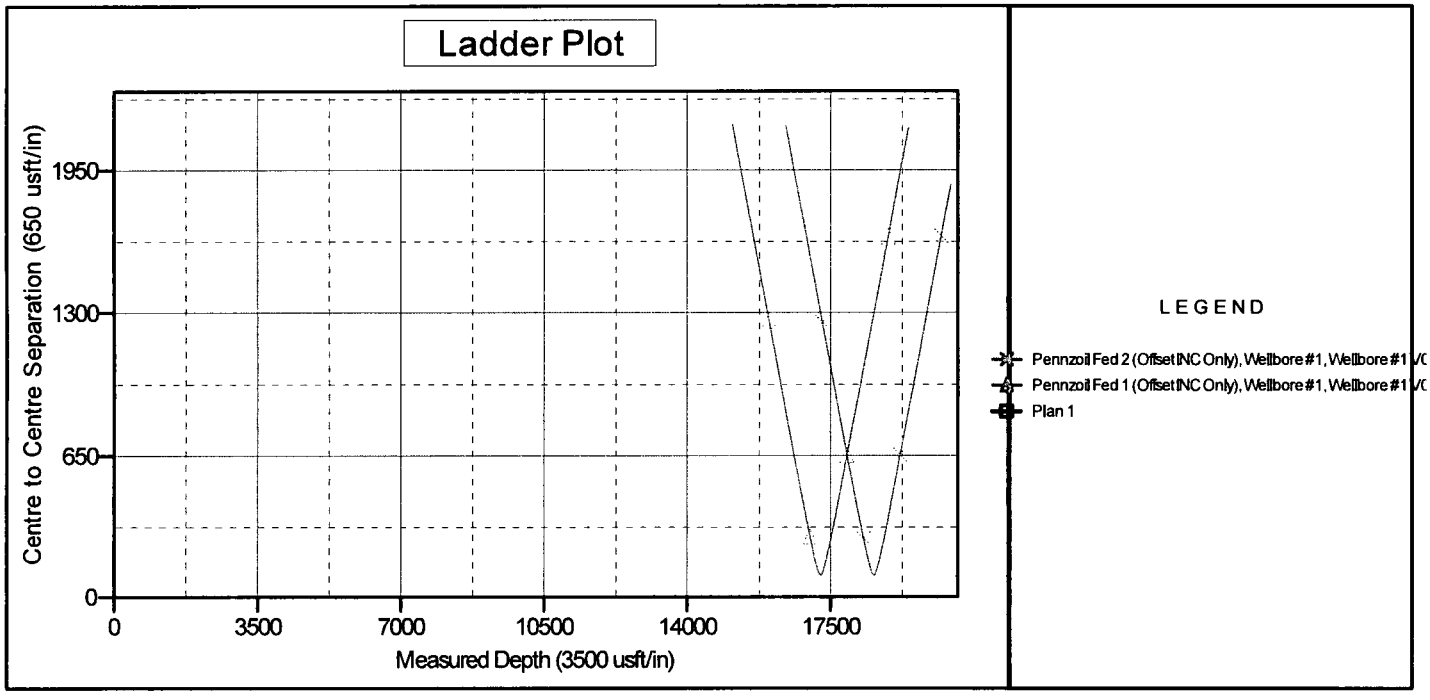
Ellipse error terms are correlated across survey tool tie-on points.
Calculated ellipses incorporate surface errors.
Separation is the actual distance between ellipsoids.
Distance Between centres is the straight line distance between wellbore centres.
Clearance Factor = Distance Between Profiles / (Distance Between Profiles - Ellipse Separation).
All station coordinates were calculated using the Minimum Curvature method.

Approval Date: 08/23/2018

HALLIBURTON

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

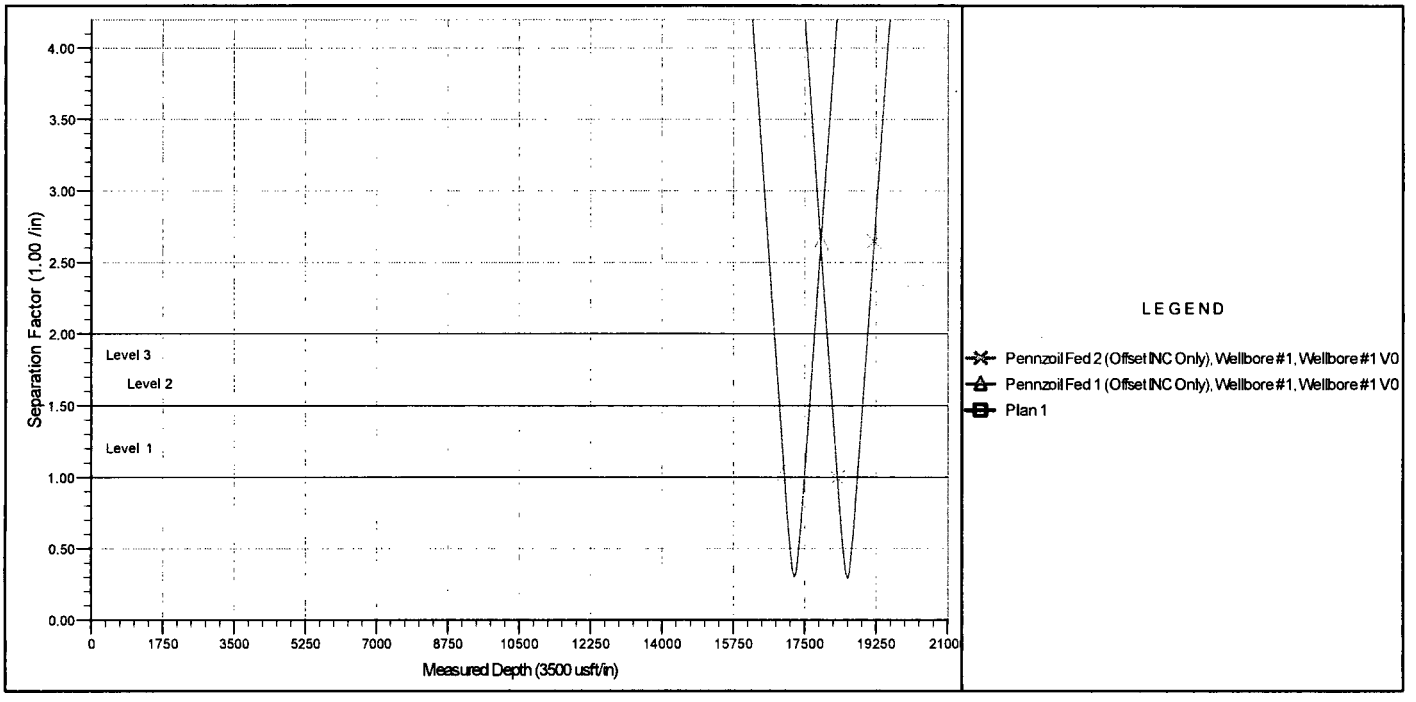
Direction and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to GE 3729 + 26 @ 3755.00usft (26' KB). Northing and Easting are relative to Buffalo 12-1 Fed Com 2BS 5H.
Coordinate System is US State Plane 1983, New Mexico Eastern Zone.
Central Meridian is -104.00°, Grid Convergence at Surface is: 0.39 °.
Summary is based on Minimum Centre Distance



Approval Date: 08/23/2018

Anticollision Report for Buffalo 12-1 Fed Com 2BS 5H - Plan 1

Clearance Factor Plot: Measured Depth versus Separation(Clearance) Factor



Approval Date: 08/23/2018

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chisolm Energy Operating LLC
LEASE NO.:	NMNM004312
WELL NAME & NO.:	Buffalo 12-1 Fed Com 2BS 5H
SURFACE HOLE FOOTAGE:	443'/S & 1290'/E
BOTTOM HOLE FOOTAGE	330'/N & 560'/E
LOCATION:	Section 12, T.19 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for

acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed
Surface disturbance will not be allowed (within x feet of drainage; or describe pad restriction).
The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Below Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Range

Cattle Guard Requirement
Where entry is granted across a fence line for an access road, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations. Once the road is abandoned, the fence would be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

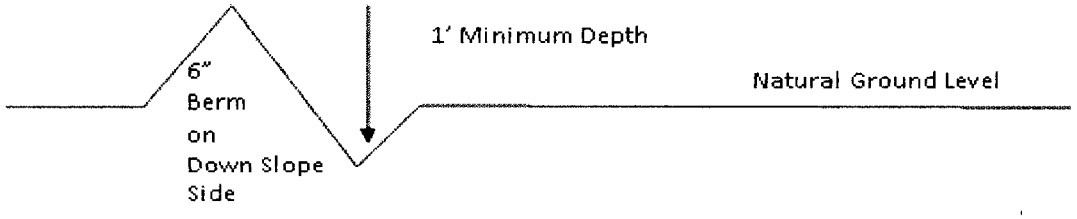
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, leadoff ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

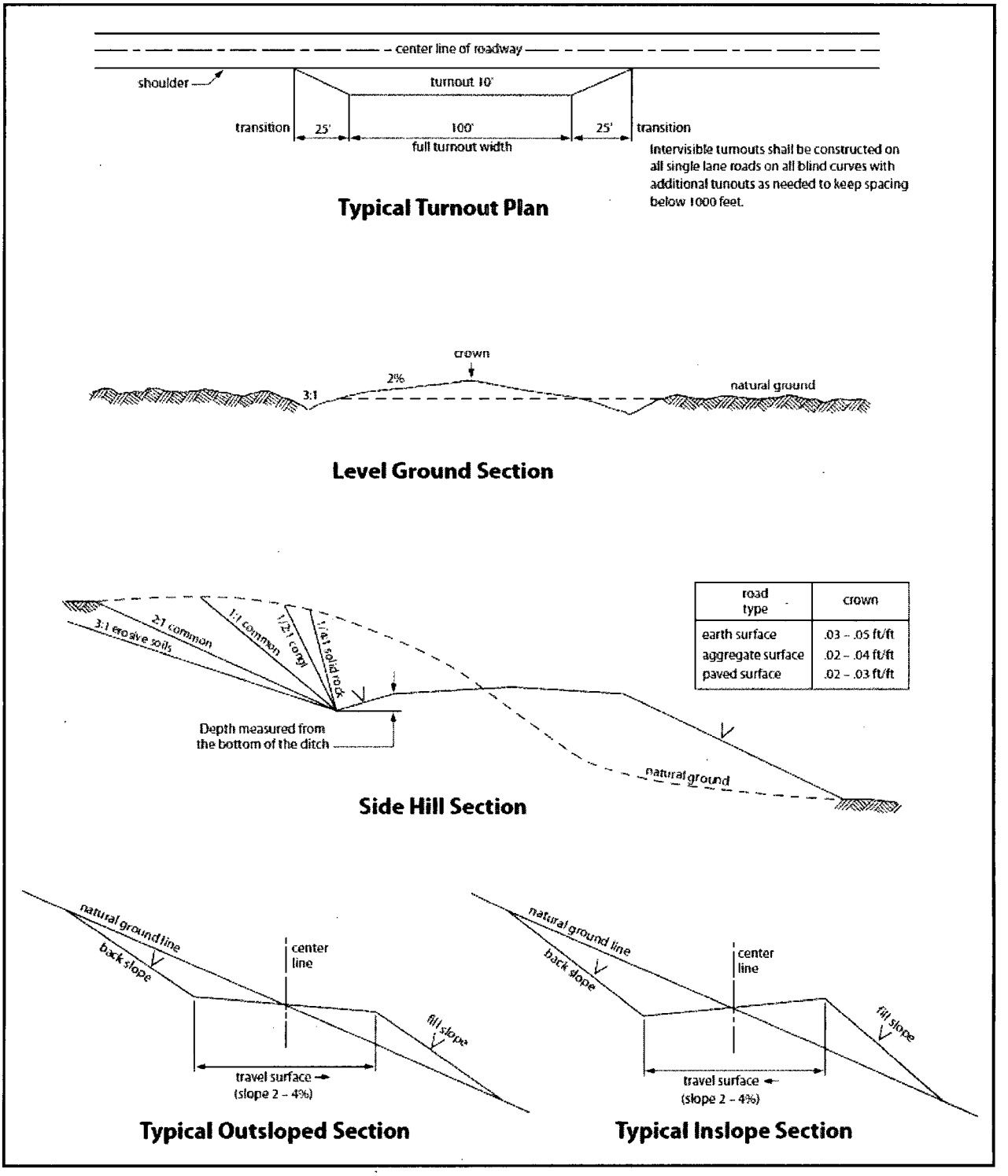


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. VII.PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Below Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chisolm Energy Operating LLC
LEASE NO.:	NMNM004312
WELL NAME & NO.:	Buffalo 12-1 Fed Com 2BS 4H
SURFACE HOLE FOOTAGE:	443'/S & 1350'/E
BOTTOM HOLE FOOTAGE	330'/N & 1660'/E
LOCATION:	Section 12, T.19 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for

acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed
Surface disturbance will not be allowed (within x feet of drainage; or describe pad restriction).
The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Below Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Range

Cattle Guard Requirement
Where entry is granted across a fence line for an access road, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations. Once the road is abandoned, the fence would be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

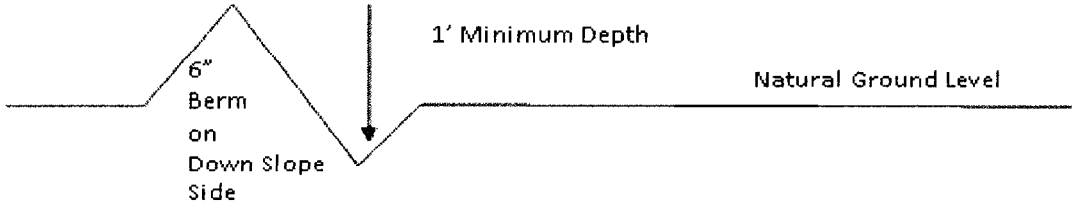
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, leadoff ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

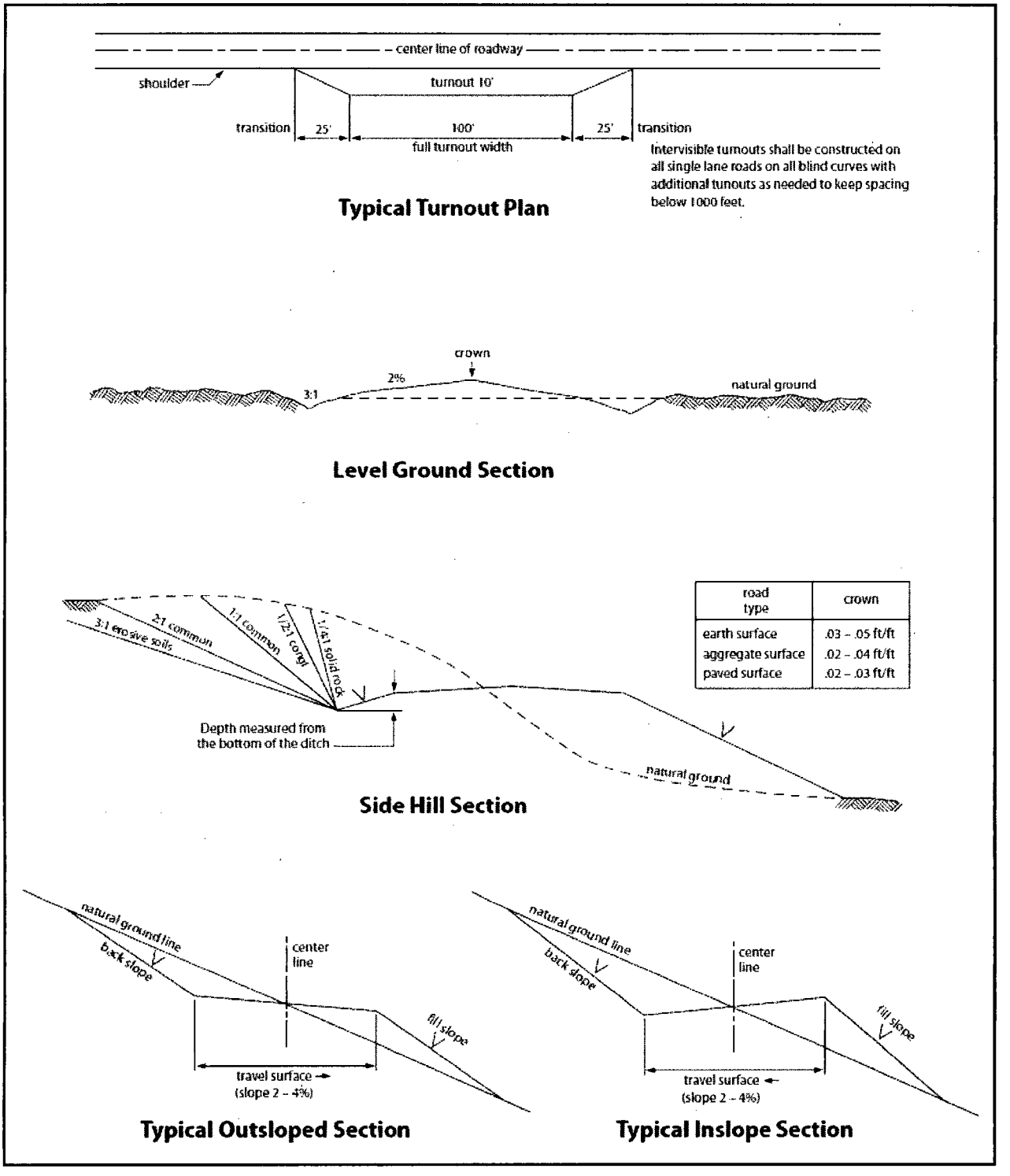


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

08/23/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Jennifer Elrod **Signed on:** 01/31/2018

Title: Senior Regulatory Technician

Street Address: 801 CHERRY STREET, SUITE 1200-UNIT 20

City: Fort Worth **State:** TX **Zip:** 76102

Phone: (817)953-3728

Email address: jelrod@chisholmenergy.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

Chisholm Energy Holdings, LLC

Lea County, NM (NAD83)
Sec 12-T19S-R33E
Buffalo 12-1 Fed Com 2BS 5H

Wellbore #1

Plan: Plan #1

Standard Planning Report

11 January, 2018

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 (S02). 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 SO,

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H2S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO2	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 sit e. The following call list of essential and potential responders has been prepared for use during a release.
Nearburg Producing Company's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMERP).

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 12-T19S-R33E				
Site Position:		**Northing:**	607,285.4100 usft	**Latitude:**	32.667475
From:	Map	**Easting:**	759,263.6300 usft	**Longitude:**	-103.625148
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	Buffalo 12-1 Fed Com 2BS 5H					
Well Position	**+N/-S**	456.99 ft	**Northing:**	607,742.4000 usft	**Latitude:**	32.668658
	+E/-W	3,974.29 ft	**Easting:**	763,237.9100 usft	**Longitude:**	-103.612224
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,729.90 ft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	1/11/2018	6.75	60.67	48,324

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.00	0.00	0.00	359.80	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,418.36	0.00	0.00	9,418.36	0.00	0.00	0.00	0.00	0.00	0.00	
9,967.11	65.85	90.00	9,854.04	0.00	282.12	12.00	12.00	0.00	90.00	
10,718.63	90.00	359.80	10,050.00	478.99	717.52	12.00	3.21	-12.00	-90.08	
20,204.58	90.00	359.80	10,050.00	9,964.87	684.48	0.00	0.00	0.00	0.00	PBHL Buffalo 12-1 Fe

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,418.36	0.00	0.00	9,418.36	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 12.00									
9,425.00	0.80	90.00	9,425.00	0.00	0.05	0.00	12.00	12.00	0.00
9,450.00	3.80	90.00	9,449.98	0.00	1.05	0.00	12.00	12.00	0.00
9,475.00	6.80	90.00	9,474.87	0.00	3.36	-0.01	12.00	12.00	0.00
9,500.00	9.80	90.00	9,499.60	0.00	6.96	-0.02	12.00	12.00	0.00
9,525.00	12.80	90.00	9,524.12	0.00	11.86	-0.04	12.00	12.00	0.00
9,550.00	15.80	90.00	9,548.34	0.00	18.03	-0.06	12.00	12.00	0.00
9,575.00	18.80	90.00	9,572.21	0.00	25.46	-0.09	12.00	12.00	0.00
9,600.00	21.80	90.00	9,595.65	0.00	34.14	-0.12	12.00	12.00	0.00
9,625.00	24.80	90.00	9,618.61	0.00	44.02	-0.15	12.00	12.00	0.00
9,650.00	27.80	90.00	9,641.02	0.00	55.10	-0.19	12.00	12.00	0.00

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,675.00	30.80	90.00	9,662.82	0.00	67.33	-0.24	12.00	12.00	0.00
9,700.00	33.80	90.00	9,683.95	0.00	80.68	-0.28	12.00	12.00	0.00
9,725.00	36.80	90.00	9,704.35	0.00	95.13	-0.33	12.00	12.00	0.00
9,750.00	39.80	90.00	9,723.97	0.00	110.62	-0.39	12.00	12.00	0.00
9,775.00	42.80	90.00	9,742.75	0.00	127.12	-0.44	12.00	12.00	0.00
9,800.00	45.80	90.00	9,760.64	0.00	144.57	-0.50	12.00	12.00	0.00
9,825.00	48.80	90.00	9,777.59	0.00	162.94	-0.57	12.00	12.00	0.00
9,850.00	51.80	90.00	9,793.56	0.00	182.18	-0.64	12.00	12.00	0.00
9,875.00	54.80	90.00	9,808.50	0.00	202.22	-0.71	12.00	12.00	0.00
9,900.00	57.80	90.00	9,822.37	0.00	223.01	-0.78	12.00	12.00	0.00
9,925.00	60.80	90.00	9,835.14	0.00	244.51	-0.85	12.00	12.00	0.00
9,950.00	63.80	90.00	9,846.76	0.00	266.64	-0.93	12.00	12.00	0.00
9,967.11	65.85	90.00	9,854.04	0.00	282.12	-0.98	12.00	12.00	0.00
Start DLS 12.00 TFO -90.08									
9,975.00	65.85	88.96	9,857.26	0.07	289.32	-0.94	12.00	0.03	-13.15
10,000.00	65.91	85.68	9,867.48	1.13	312.11	0.04	12.00	0.21	-13.15
10,025.00	66.03	82.39	9,877.67	3.50	334.81	2.34	12.00	0.49	-13.13
10,050.00	66.22	79.12	9,887.79	7.18	357.37	5.93	12.00	0.77	-13.10
10,075.00	66.48	75.86	9,897.82	12.14	379.73	10.81	12.00	1.05	-13.05
10,100.00	66.81	72.61	9,907.73	18.37	401.81	16.97	12.00	1.32	-12.99
10,125.00	67.21	69.38	9,917.50	25.87	423.57	24.39	12.00	1.58	-12.92
10,150.00	67.67	66.17	9,927.09	34.60	444.93	33.05	12.00	1.84	-12.84
10,175.00	68.19	62.98	9,936.49	44.55	465.85	42.92	12.00	2.09	-12.75
10,200.00	68.78	59.82	9,945.66	55.68	486.27	53.98	12.00	2.34	-12.65
10,225.00	69.42	56.68	9,954.58	67.97	506.12	66.20	12.00	2.57	-12.55
10,250.00	70.12	53.57	9,963.23	81.38	525.36	79.55	12.00	2.79	-12.44
10,275.00	70.87	50.49	9,971.58	95.88	543.94	93.98	12.00	3.01	-12.33
10,300.00	71.67	47.44	9,979.61	111.42	561.79	109.46	12.00	3.21	-12.21
10,325.00	72.52	44.41	9,987.29	127.97	578.88	125.94	12.00	3.40	-12.09
10,350.00	73.42	41.42	9,994.62	145.47	595.15	143.39	12.00	3.58	-11.98
10,375.00	74.35	38.45	10,001.56	163.88	610.57	161.75	12.00	3.75	-11.86
10,400.00	75.33	35.52	10,008.10	183.16	625.08	180.97	12.00	3.91	-11.75
10,425.00	76.35	32.60	10,014.21	203.24	638.66	201.01	12.00	4.06	-11.65
10,450.00	77.39	29.72	10,019.89	224.07	651.25	221.79	12.00	4.19	-11.55
10,475.00	78.47	26.85	10,025.12	245.60	662.83	243.28	12.00	4.31	-11.45
10,500.00	79.58	24.01	10,029.88	267.76	673.37	265.41	12.00	4.43	-11.36
10,525.00	80.71	21.19	10,034.16	290.49	682.84	288.11	12.00	4.53	-11.28
10,550.00	81.86	18.39	10,037.95	313.74	691.20	311.33	12.00	4.61	-11.21
10,575.00	83.04	15.61	10,041.23	337.44	698.45	335.00	12.00	4.69	-11.14
10,600.00	84.23	12.83	10,044.01	361.52	704.55	359.06	12.00	4.75	-11.09
10,625.00	85.43	10.07	10,046.26	385.92	709.49	383.44	12.00	4.81	-11.04
10,650.00	86.64	7.32	10,047.99	410.57	713.26	408.08	12.00	4.85	-11.00
10,675.00	87.86	4.58	10,049.19	435.41	715.85	432.91	12.00	4.88	-10.98
10,700.00	89.09	1.84	10,049.86	460.36	717.25	457.85	12.00	4.90	-10.96
10,718.63	90.00	359.80	10,050.00	478.99	717.52	476.48	12.00	4.91	-10.95
Start 9485.94 hold at 10718.63 MD									
10,800.00	90.00	359.80	10,050.00	560.35	717.23	557.85	0.00	0.00	0.00
10,900.00	90.00	359.80	10,050.00	660.35	716.88	657.85	0.00	0.00	0.00
11,000.00	90.00	359.80	10,050.00	760.35	716.53	757.85	0.00	0.00	0.00
11,100.00	90.00	359.80	10,050.00	860.35	716.19	857.85	0.00	0.00	0.00
11,200.00	90.00	359.80	10,050.00	960.35	715.84	957.85	0.00	0.00	0.00
11,300.00	90.00	359.80	10,050.00	1,060.35	715.49	1,057.85	0.00	0.00	0.00
11,400.00	90.00	359.80	10,050.00	1,160.35	715.14	1,157.85	0.00	0.00	0.00
11,500.00	90.00	359.80	10,050.00	1,260.35	714.79	1,257.85	0.00	0.00	0.00

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,600.00	90.00	359.80	10,050.00	1,360.35	714.44	1,357.85	0.00	0.00	0.00
11,700.00	90.00	359.80	10,050.00	1,460.35	714.09	1,457.85	0.00	0.00	0.00
11,800.00	90.00	359.80	10,050.00	1,560.35	713.74	1,557.85	0.00	0.00	0.00
11,900.00	90.00	359.80	10,050.00	1,660.35	713.39	1,657.85	0.00	0.00	0.00
12,000.00	90.00	359.80	10,050.00	1,760.34	713.04	1,757.85	0.00	0.00	0.00
12,100.00	90.00	359.80	10,050.00	1,860.34	712.69	1,857.85	0.00	0.00	0.00
12,200.00	90.00	359.80	10,050.00	1,960.34	712.35	1,957.85	0.00	0.00	0.00
12,300.00	90.00	359.80	10,050.00	2,060.34	712.00	2,057.85	0.00	0.00	0.00
12,400.00	90.00	359.80	10,050.00	2,160.34	711.65	2,157.85	0.00	0.00	0.00
12,500.00	90.00	359.80	10,050.00	2,260.34	711.30	2,257.85	0.00	0.00	0.00
12,600.00	90.00	359.80	10,050.00	2,360.34	710.95	2,357.85	0.00	0.00	0.00
12,700.00	90.00	359.80	10,050.00	2,460.34	710.60	2,457.85	0.00	0.00	0.00
12,800.00	90.00	359.80	10,050.00	2,560.34	710.25	2,557.85	0.00	0.00	0.00
12,900.00	90.00	359.80	10,050.00	2,660.34	709.90	2,657.85	0.00	0.00	0.00
13,000.00	90.00	359.80	10,050.00	2,760.34	709.55	2,757.85	0.00	0.00	0.00
13,100.00	90.00	359.80	10,050.00	2,860.34	709.20	2,857.85	0.00	0.00	0.00
13,200.00	90.00	359.80	10,050.00	2,960.34	708.85	2,957.85	0.00	0.00	0.00
13,300.00	90.00	359.80	10,050.00	3,060.34	708.51	3,057.85	0.00	0.00	0.00
13,400.00	90.00	359.80	10,050.00	3,160.34	708.16	3,157.85	0.00	0.00	0.00
13,500.00	90.00	359.80	10,050.00	3,260.34	707.81	3,257.85	0.00	0.00	0.00
13,600.00	90.00	359.80	10,050.00	3,360.34	707.46	3,357.85	0.00	0.00	0.00
13,700.00	90.00	359.80	10,050.00	3,460.33	707.11	3,457.85	0.00	0.00	0.00
13,800.00	90.00	359.80	10,050.00	3,560.33	706.76	3,557.85	0.00	0.00	0.00
13,900.00	90.00	359.80	10,050.00	3,660.33	706.41	3,657.85	0.00	0.00	0.00
14,000.00	90.00	359.80	10,050.00	3,760.33	706.06	3,757.85	0.00	0.00	0.00
14,100.00	90.00	359.80	10,050.00	3,860.33	705.71	3,857.85	0.00	0.00	0.00
14,200.00	90.00	359.80	10,050.00	3,960.33	705.36	3,957.85	0.00	0.00	0.00
14,300.00	90.00	359.80	10,050.00	4,060.33	705.02	4,057.85	0.00	0.00	0.00
14,400.00	90.00	359.80	10,050.00	4,160.33	704.67	4,157.85	0.00	0.00	0.00
14,500.00	90.00	359.80	10,050.00	4,260.33	704.32	4,257.85	0.00	0.00	0.00
14,600.00	90.00	359.80	10,050.00	4,360.33	703.97	4,357.85	0.00	0.00	0.00
14,700.00	90.00	359.80	10,050.00	4,460.33	703.62	4,457.85	0.00	0.00	0.00
14,800.00	90.00	359.80	10,050.00	4,560.33	703.27	4,557.85	0.00	0.00	0.00
14,900.00	90.00	359.80	10,050.00	4,660.33	702.92	4,657.85	0.00	0.00	0.00
15,000.00	90.00	359.80	10,050.00	4,760.33	702.57	4,757.85	0.00	0.00	0.00
15,100.00	90.00	359.80	10,050.00	4,860.33	702.22	4,857.85	0.00	0.00	0.00
15,200.00	90.00	359.80	10,050.00	4,960.33	701.87	4,957.85	0.00	0.00	0.00
15,300.00	90.00	359.80	10,050.00	5,060.32	701.52	5,057.85	0.00	0.00	0.00
15,400.00	90.00	359.80	10,050.00	5,160.32	701.18	5,157.85	0.00	0.00	0.00
15,500.00	90.00	359.80	10,050.00	5,260.32	700.83	5,257.85	0.00	0.00	0.00
15,600.00	90.00	359.80	10,050.00	5,360.32	700.48	5,357.85	0.00	0.00	0.00
15,700.00	90.00	359.80	10,050.00	5,460.32	700.13	5,457.85	0.00	0.00	0.00
15,800.00	90.00	359.80	10,050.00	5,560.32	699.78	5,557.85	0.00	0.00	0.00
15,900.00	90.00	359.80	10,050.00	5,660.32	699.43	5,657.85	0.00	0.00	0.00
16,000.00	90.00	359.80	10,050.00	5,760.32	699.08	5,757.85	0.00	0.00	0.00
16,100.00	90.00	359.80	10,050.00	5,860.32	698.73	5,857.85	0.00	0.00	0.00
16,200.00	90.00	359.80	10,050.00	5,960.32	698.38	5,957.85	0.00	0.00	0.00
16,300.00	90.00	359.80	10,050.00	6,060.32	698.03	6,057.85	0.00	0.00	0.00
16,400.00	90.00	359.80	10,050.00	6,160.32	697.68	6,157.85	0.00	0.00	0.00
16,500.00	90.00	359.80	10,050.00	6,260.32	697.34	6,257.85	0.00	0.00	0.00
16,600.00	90.00	359.80	10,050.00	6,360.32	696.99	6,357.85	0.00	0.00	0.00
16,700.00	90.00	359.80	10,050.00	6,460.32	696.64	6,457.85	0.00	0.00	0.00
16,800.00	90.00	359.80	10,050.00	6,560.32	696.29	6,557.85	0.00	0.00	0.00
16,900.00	90.00	359.80	10,050.00	6,660.32	695.94	6,657.85	0.00	0.00	0.00

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,000.00	90.00	359.80	10,050.00	6,760.31	695.59	6,757.85	0.00	0.00	0.00
17,100.00	90.00	359.80	10,050.00	6,860.31	695.24	6,857.85	0.00	0.00	0.00
17,200.00	90.00	359.80	10,050.00	6,960.31	694.89	6,957.85	0.00	0.00	0.00
17,300.00	90.00	359.80	10,050.00	7,060.31	694.54	7,057.85	0.00	0.00	0.00
17,400.00	90.00	359.80	10,050.00	7,160.31	694.19	7,157.85	0.00	0.00	0.00
17,500.00	90.00	359.80	10,050.00	7,260.31	693.85	7,257.85	0.00	0.00	0.00
17,600.00	90.00	359.80	10,050.00	7,360.31	693.50	7,357.85	0.00	0.00	0.00
17,700.00	90.00	359.80	10,050.00	7,460.31	693.15	7,457.85	0.00	0.00	0.00
17,800.00	90.00	359.80	10,050.00	7,560.31	692.80	7,557.85	0.00	0.00	0.00
17,900.00	90.00	359.80	10,050.00	7,660.31	692.45	7,657.85	0.00	0.00	0.00
18,000.00	90.00	359.80	10,050.00	7,760.31	692.10	7,757.85	0.00	0.00	0.00
18,100.00	90.00	359.80	10,050.00	7,860.31	691.75	7,857.85	0.00	0.00	0.00
18,200.00	90.00	359.80	10,050.00	7,960.31	691.40	7,957.85	0.00	0.00	0.00
18,300.00	90.00	359.80	10,050.00	8,060.31	691.05	8,057.85	0.00	0.00	0.00
18,400.00	90.00	359.80	10,050.00	8,160.31	690.70	8,157.85	0.00	0.00	0.00
18,500.00	90.00	359.80	10,050.00	8,260.31	690.35	8,257.85	0.00	0.00	0.00
18,600.00	90.00	359.80	10,050.00	8,360.30	690.01	8,357.85	0.00	0.00	0.00
18,700.00	90.00	359.80	10,050.00	8,460.30	689.66	8,457.85	0.00	0.00	0.00
18,800.00	90.00	359.80	10,050.00	8,560.30	689.31	8,557.85	0.00	0.00	0.00
18,900.00	90.00	359.80	10,050.00	8,660.30	688.96	8,657.85	0.00	0.00	0.00
19,000.00	90.00	359.80	10,050.00	8,760.30	688.61	8,757.85	0.00	0.00	0.00
19,100.00	90.00	359.80	10,050.00	8,860.30	688.26	8,857.85	0.00	0.00	0.00
19,200.00	90.00	359.80	10,050.00	8,960.30	687.91	8,957.85	0.00	0.00	0.00
19,300.00	90.00	359.80	10,050.00	9,060.30	687.56	9,057.85	0.00	0.00	0.00
19,400.00	90.00	359.80	10,050.00	9,160.30	687.21	9,157.85	0.00	0.00	0.00
19,500.00	90.00	359.80	10,050.00	9,260.30	686.86	9,257.85	0.00	0.00	0.00
19,600.00	90.00	359.80	10,050.00	9,360.30	686.51	9,357.85	0.00	0.00	0.00
19,700.00	90.00	359.80	10,050.00	9,460.30	686.17	9,457.85	0.00	0.00	0.00
19,800.00	90.00	359.80	10,050.00	9,560.30	685.82	9,557.85	0.00	0.00	0.00
19,900.00	90.00	359.80	10,050.00	9,660.30	685.47	9,657.85	0.00	0.00	0.00
20,000.00	90.00	359.80	10,050.00	9,760.30	685.12	9,757.85	0.00	0.00	0.00
20,100.00	90.00	359.80	10,050.00	9,860.30	684.77	9,857.85	0.00	0.00	0.00
20,204.58	90.00	359.80	10,050.00	9,964.87	684.48	9,962.42	0.00	0.00	0.00

TD at 20204.57 - PBHL Buffalo 12-1 Fed Com 2BS 5H

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Buffalo 12-1 Fed (- plan hits target center - Point	0.00	0.00	10,050.00	9,964.87	684.48	617,707.2500	763,922.3900	32.696033	-103.609779

Database:	EDM 5000.1	**Local Co-ordinate Reference:**	Well Buffalo 12-1 Fed Com 2BS 5H
Company:	Chisholm Energy Holdings, LLC	**TVD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Project:	Lea County, NM (NAD83)	**MD Reference:**	KB=26 @ 3755.90ft (Latshaw 17)
Site:	Sec 12-T19S-R33E	**North Reference:**	Grid
Well:	Buffalo 12-1 Fed Com 2BS 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
9,418.36	9,418.36	0.00	0.00	Start Build 12.00
9,967.11	9,854.04	0.00	282.12	Start DLS 12.00 TFO -90.08
10,718.63	10,050.00	478.99	717.52	Start 9485.94 hold at 10718.63 MD
20,204.58	10,050.00	9,964.87	684.40	TD at 20204.57

CHISHOLM ENERGY

Chisholm Energy Holdings, LLC
Project: Lea County, NM (NAD83)
Site: Sec 12-T19S-R33E
Well: Buffalo 12-1 Fed Com 2BS 5H
Wellbore: Wellbore #1
Plan: Plan #1 (Buffalo 12-1 Fed Com 2BS 5H/Wellbore #1)
Latshaw 17

INTEGRITY Directional Services

WELL DETAILS: Buffalo 12-1 Fed Com 2BS 5H

Ground Elevation:: 3729.90
RKB Elevation: KB=26 @ 3755.90ft (Latshaw 17)
Rig Name: Latshaw 17

Northing	Easting	Latittude	Longitude
607742.4000	763237.9100	32.668657	-103.612224

T G M

Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.36°

Magnetic Field
Strength: 48324.3snT
Dip Angle: 60.67°
Date: 1/11/2018
Model: HDGM

Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	9418.36	0.00	0.00	9418.36	0.00	0.00	0.00	0.00	0.00
3	9967.11	65.85	90.00	9854.04	0.00	282.12	12.00	90.00	-0.98
4	10718.63	90.00	359.80	10050.00	478.99	717.52	12.00	-90.08	476.48
5	20204.57	90.00	359.80	10050.00	9964.87	684.48	0.00	0.00	9962.42