

Chisholm Energy Holdings, LLC

Eddy County, NM (NAD83)

Sec 15-T23S-R26E

Dark Canyon 15-22 State Com WCB 2H

30.015-44538

Wellbore #1

**NM OIL CONSERVATION
ARTESIA DISTRICT**

Design: Wellbore #1

JUL 24 2018

RECEIVED

Standard Survey Report

16 April, 2018

**Provide Signature Page for
Directional Survey**



INTEGRITY
DIRECTIONAL

Survey Report



Company: Chisholm Energy Holdings, LLC
Project: Eddy County, NM (NAD83)
Sits: Sec 15-T23S-R26E
Well: Dark Canyon 15-22 State Com WCB 2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dark Canyon 15-22 State Com WCB 2H
TVD Reference: KB=26 @ 3352.40ft (Latshaw 7)
MD Reference: KB=26 @ 3352.40ft (Latshaw 7)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Project	Eddy 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 15-T23S-R26E			
Site Position:		Northing:	477,089.98 usft	Latitude: 32.311586
From:	Map	Easting:	554,828.56 usft	Longitude: -104.289664
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.02 °

Well	Dark Canyon 15-22 State Com WCB 2H, WA			
Well Position	+N/-S	0.00 ft	Northing:	476,974.83 usft
	+E/-W	0.00 ft	Easting:	555,428.59 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 3,326.40 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/26/2018	7.42	60.02	48,009

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date 4/16/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
148.00	16,571.00	IDS MWD Surveys (Wellbore #1)	MWD	MWD - Standard

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
148.00	0.20	183.30	148.00	-0.26	-0.01	0.26	0.14	0.14	0.00
First IDS MWD Survey									
239.00	0.10	330.90	239.00	-0.35	-0.06	0.35	0.32	-0.11	162.20
331.00	0.20	102.90	331.00	-0.31	0.05	0.31	0.30	0.11	143.48
371.00	0.40	105.00	371.00	-0.36	0.26	0.36	0.50	0.50	5.25
490.00	0.40	75.10	490.00	-0.37	1.06	0.37	0.17	0.00	-25.13
560.00	0.70	73.10	559.99	-0.18	1.71	0.18	0.43	0.43	-2.86
619.00	0.50	42.60	618.99	0.12	2.22	-0.12	0.63	-0.34	-51.70
710.00	1.10	40.20	709.98	1.08	3.06	-1.08	0.66	0.66	-2.64
801.00	1.80	57.00	800.95	2.52	4.82	-2.52	0.89	0.77	18.46

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Design: Wellbore #1

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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)
893.00	2.00	51.90	892.90	4.30	7.29	-4.30	0.28	0.22	-5.54
985.00	1.40	8.50	984.86	6.40	8.72	-6.40	1.49	-0.65	-47.17
1,076.00	1.10	317.70	1,075.84	8.15	8.30	-8.15	1.22	-0.33	-55.82
1,169.00	0.80	346.00	1,168.83	9.44	7.54	-9.44	0.59	-0.32	30.43
1,263.00	1.20	36.00	1,262.82	10.87	7.96	-10.87	0.98	0.43	53.19
1,357.00	2.50	39.90	1,356.77	13.24	9.86	-13.24	1.39	1.38	4.15
1,451.00	1.80	12.90	1,450.70	16.25	11.50	-16.25	1.29	-0.74	-28.72
1,545.00	1.00	287.00	1,544.68	17.93	11.05	-17.93	2.12	-0.85	-91.38
1,640.00	2.40	219.60	1,639.65	16.64	8.99	-16.64	2.33	1.47	-70.95
1,733.00	1.10	184.00	1,732.60	14.25	7.68	-14.25	1.76	-1.40	-38.28
1,827.00	1.10	166.10	1,826.59	12.47	7.84	-12.47	0.36	0.00	-19.04
1,922.00	1.10	158.50	1,921.57	10.74	8.39	-10.74	0.15	0.00	-8.00
2,017.00	1.20	160.50	2,016.55	8.95	9.06	-8.95	0.11	0.11	2.11
2,111.00	1.10	158.70	2,110.53	7.18	9.71	-7.18	0.11	-0.11	-1.91
2,205.00	1.10	159.50	2,204.51	5.50	10.36	-5.50	0.02	0.00	0.85
2,300.00	1.30	156.30	2,299.49	3.66	11.11	-3.66	0.22	0.21	-3.37
2,394.00	1.40	158.70	2,393.47	1.61	11.95	-1.61	0.12	0.11	2.55
2,488.00	1.40	160.50	2,487.44	-0.54	12.75	0.54	0.05	0.00	1.91
2,582.00	1.60	160.80	2,581.41	-2.86	13.57	2.86	0.21	0.21	0.32
2,676.00	1.60	168.10	2,675.37	-5.39	14.27	5.39	0.22	0.00	7.77
2,771.00	1.80	167.30	2,770.33	-8.14	14.87	8.14	0.21	0.21	-0.84
2,865.00	1.90	165.90	2,864.28	-11.09	15.58	11.09	0.12	0.11	-1.49
2,960.00	1.10	188.30	2,959.25	-13.52	15.83	13.52	1.03	-0.84	23.58
3,054.00	0.90	205.00	3,053.23	-15.08	15.39	15.08	0.37	-0.21	17.77
3,148.00	0.90	218.10	3,147.22	-16.33	14.62	16.33	0.22	0.00	13.94
3,243.00	1.10	217.40	3,242.21	-17.64	13.60	17.64	0.21	0.21	-0.74
3,337.00	1.20	213.40	3,336.19	-19.18	12.51	19.18	0.14	0.11	-4.26
3,431.00	1.70	208.60	3,430.16	-21.23	11.31	21.23	0.55	0.53	-5.11
3,525.00	2.40	212.20	3,524.10	-24.12	9.59	24.12	0.76	0.74	3.83
3,619.00	1.40	220.60	3,618.04	-26.66	7.79	26.66	1.10	-1.06	8.94
3,714.00	1.30	248.10	3,713.02	-27.94	6.04	27.94	0.68	-0.11	28.95
3,808.00	1.60	261.00	3,806.99	-28.54	3.75	28.54	0.47	0.32	13.72
3,902.00	1.80	262.90	3,900.95	-28.93	0.99	28.93	0.22	0.21	2.02
3,997.00	1.70	262.50	3,995.90	-29.30	-1.89	29.30	0.11	-0.11	-0.42
4,091.00	1.50	269.70	4,089.86	-29.49	-4.50	29.49	0.30	-0.21	7.66
4,187.00	1.90	264.50	4,185.82	-29.65	-7.34	29.65	0.45	0.42	-5.42
4,281.00	2.00	276.50	4,279.77	-29.61	-10.52	29.61	0.45	0.11	12.77
4,376.00	1.70	279.10	4,374.72	-29.20	-13.56	29.20	0.33	-0.32	2.74
4,471.00	1.60	290.00	4,469.68	-28.52	-16.20	28.52	0.35	-0.11	11.47
4,566.00	1.20	276.90	4,564.65	-27.95	-18.43	27.95	0.54	-0.42	-13.79
4,660.00	1.50	271.40	4,658.63	-27.80	-20.64	27.80	0.35	0.32	-5.85
4,755.00	1.10	288.70	4,753.60	-27.48	-22.74	27.48	0.59	-0.42	18.21
4,849.00	1.50	279.60	4,847.58	-26.98	-24.81	26.98	0.48	0.43	-9.68

Survey Report



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Site:	Sec 15-T23S-R26E	MD Reference:	KB=26 @ 3352.40ft (Latshaw 7)
Well:	Dark Canyon 15-22 State Com WCB 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1

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)
4,943.00	1.20	273.70	4,941.55	-26.71	-27.01	26.71	0.35	-0.32	-6.28
5,037.00	1.50	260.00	5,035.52	-26.86	-29.20	26.86	0.47	0.32	-14.57
5,131.00	1.70	268.20	5,129.49	-27.12	-31.81	27.12	0.32	0.21	8.72
5,225.00	2.20	269.90	5,223.43	-27.17	-35.00	27.17	0.54	0.53	1.81
5,319.00	2.30	277.70	5,317.36	-26.92	-38.68	26.92	0.34	0.11	8.30
5,414.00	2.10	279.70	5,412.29	-26.37	-42.28	26.37	0.23	-0.21	2.11
5,508.00	1.10	267.20	5,506.25	-26.12	-44.88	26.12	1.12	-1.06	-13.30
5,603.00	0.70	226.10	5,601.24	-26.57	-46.21	26.57	0.77	-0.42	-43.26
5,697.00	0.40	203.60	5,695.24	-27.27	-46.76	27.27	0.39	-0.32	-23.94
5,790.00	0.60	204.50	5,788.23	-28.01	-47.09	28.01	0.22	0.22	0.97
5,884.00	0.70	205.80	5,882.23	-28.98	-47.54	28.98	0.11	0.11	1.38
5,978.00	0.60	178.30	5,976.22	-29.99	-47.78	29.99	0.34	-0.11	-29.26
6,072.00	0.60	178.60	6,070.22	-30.97	-47.75	30.97	0.00	0.00	0.32
6,166.00	0.70	184.70	6,164.21	-32.03	-47.79	32.03	0.13	0.11	6.49
6,261.00	0.70	188.70	6,259.20	-33.19	-47.92	33.19	0.05	0.00	4.21
6,355.00	1.00	202.80	6,353.19	-34.51	-48.33	34.51	0.39	0.32	15.00
6,449.00	0.60	181.20	6,447.18	-35.76	-48.65	35.76	0.53	-0.43	-22.98
6,544.00	0.80	211.40	6,542.18	-36.82	-49.01	36.82	0.43	0.21	31.79
6,638.00	0.70	205.40	6,636.17	-37.90	-49.60	37.90	0.14	-0.11	-6.38
6,733.00	0.90	212.10	6,731.16	-39.06	-50.24	39.06	0.23	0.21	7.05
6,827.00	0.90	242.70	6,825.15	-40.02	-51.29	40.02	0.51	0.00	32.55
6,921.00	0.70	250.00	6,919.14	-40.55	-52.49	40.55	0.24	-0.21	7.77
7,016.00	1.00	241.30	7,014.13	-41.15	-53.76	41.15	0.34	0.32	-9.16
7,110.00	1.10	234.90	7,108.11	-42.06	-55.22	42.06	0.16	0.11	-6.81
7,204.00	1.10	234.80	7,202.10	-43.10	-56.69	43.10	0.00	0.00	-0.11
7,298.00	1.40	240.20	7,296.07	-44.19	-58.43	44.19	0.34	0.32	5.74
7,393.00	1.00	211.50	7,391.05	-45.48	-59.87	45.48	0.75	-0.42	-30.21
7,488.00	1.40	181.10	7,486.03	-47.34	-60.32	47.34	0.78	0.42	-32.00
7,582.00	1.80	140.20	7,580.00	-49.63	-59.40	49.63	1.25	0.43	-43.51
7,676.00	2.50	120.20	7,673.93	-51.79	-56.68	51.79	1.08	0.74	-21.28
7,770.00	3.20	106.00	7,767.82	-53.55	-52.39	53.55	1.05	0.74	-15.11
7,864.00	3.70	111.10	7,861.65	-55.36	-47.04	55.36	0.62	0.53	5.43
7,959.00	3.30	108.00	7,956.47	-57.31	-41.58	57.31	0.47	-0.42	-3.26
8,117.00	3.20	146.40	8,114.24	-62.39	-34.81	62.39	1.35	-0.06	24.30
8,211.00	2.10	147.40	8,208.13	-66.03	-32.43	66.03	1.17	-1.17	1.06
8,305.00	1.90	160.20	8,302.08	-68.94	-30.97	68.94	0.52	-0.21	13.62
8,399.00	1.80	174.70	8,396.03	-71.88	-30.31	71.88	0.51	-0.11	15.43
8,493.00	1.90	172.00	8,489.98	-74.89	-29.96	74.89	0.14	0.11	-2.87
8,588.00	1.90	172.00	8,584.93	-78.01	-29.52	78.01	0.00	0.00	0.00
8,597.00	1.40	116.50	8,593.92	-78.21	-29.40	78.21	17.76	-5.56	-616.67
8,628.00	1.00	189.90	8,624.92	-78.64	-29.11	78.64	4.74	-1.29	236.77
8,659.00	2.40	343.10	8,655.91	-78.29	-29.34	78.29	10.72	4.52	494.19
8,691.00	8.80	278.40	8,687.76	-77.29	-31.96	77.29	25.22	20.00	-202.19

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8,722.00	12.90	283.70	8,718.20	-76.12	-37.67	76.12	13.60	13.23	17.10
8,753.00	16.80	286.50	8,748.16	-74.03	-45.33	74.03	12.79	12.58	9.03
8,785.00	20.90	279.20	8,778.44	-71.80	-55.41	71.80	14.76	12.81	-22.81
8,816.00	25.10	274.90	8,806.97	-70.36	-67.42	70.36	14.58	13.55	-13.87
8,847.00	27.30	269.20	8,834.79	-69.89	-81.09	69.89	10.78	7.10	-18.39
8,880.00	29.80	260.30	8,863.79	-71.38	-96.75	71.38	14.93	7.58	-26.97
8,911.00	33.60	253.10	8,890.17	-75.18	-112.56	75.18	17.28	12.26	-23.23
8,942.00	37.30	247.90	8,915.42	-81.21	-129.48	81.21	15.39	11.94	-16.77
8,973.00	38.90	239.60	8,939.83	-89.67	-146.59	89.67	17.30	5.16	-26.77
9,005.00	41.50	232.30	8,964.29	-101.25	-163.66	101.25	16.81	8.13	-22.81
9,036.00	43.20	224.50	8,987.21	-115.11	-179.23	115.11	17.81	5.48	-25.16
9,068.00	44.60	217.30	9,010.28	-131.87	-193.73	131.87	16.20	4.38	-22.50
9,099.00	46.80	211.00	9,031.95	-150.22	-206.15	150.22	16.18	7.10	-20.32
9,131.00	48.70	205.20	9,053.47	-171.11	-217.28	171.11	14.67	5.94	-18.13
9,162.00	49.00	199.20	9,073.88	-192.70	-228.09	192.70	14.60	0.97	-19.35
9,194.00	49.70	195.90	9,094.73	-215.85	-233.40	215.85	8.12	2.19	-10.31
9,225.00	49.70	189.40	9,114.79	-238.89	-238.58	238.89	15.99	0.00	-20.97
9,257.00	48.30	182.70	9,135.80	-262.88	-241.13	262.88	16.39	-4.38	-20.94
9,288.00	48.30	174.80	9,156.44	-285.99	-240.63	285.99	19.02	0.00	-25.48
9,319.00	48.10	170.20	9,177.11	-308.89	-237.62	308.89	11.08	-0.65	-14.84
9,351.00	49.00	170.10	9,198.29	-332.52	-233.51	332.52	2.82	2.81	-0.31
9,382.00	50.90	170.60	9,218.24	-355.91	-229.54	355.91	6.25	6.13	1.61
9,413.00	54.50	171.50	9,237.02	-380.27	-225.71	380.27	11.84	11.61	2.90
9,445.00	57.20	172.70	9,254.98	-406.50	-222.07	406.50	8.99	8.44	3.75
9,476.00	60.60	174.90	9,270.99	-432.88	-219.21	432.88	12.54	10.97	7.10
9,508.00	63.80	175.40	9,285.92	-461.08	-216.82	461.08	10.10	10.00	1.56
9,539.00	65.90	177.00	9,299.09	-489.08	-214.97	489.08	8.23	6.77	5.16
9,571.00	69.60	178.80	9,311.21	-518.67	-213.89	518.67	12.68	11.58	5.63
9,602.00	74.70	179.90	9,320.71	-548.16	-213.56	548.16	16.79	16.45	3.55
9,633.00	80.00	179.90	9,327.49	-578.40	-213.50	578.40	17.10	17.10	0.00
9,700.00	87.10	181.41	9,335.01	-644.93	-214.27	644.93	10.83	10.60	2.25
9,754.00	88.20	181.10	9,337.23	-698.87	-215.45	698.87	2.12	2.04	-0.57
9,848.00	88.40	180.90	9,340.02	-792.81	-217.09	792.81	0.30	0.21	-0.21
9,941.00	90.30	179.91	9,341.07	-885.80	-217.75	885.80	2.30	2.04	-1.06
10,028.00	89.80	179.10	9,341.00	-972.79	-217.00	972.79	1.09	-0.57	-0.93
10,122.00	89.00	176.31	9,341.98	-1,066.70	-213.23	1,066.70	3.09	-0.85	-2.97
10,216.00	90.20	173.80	9,342.64	-1,160.34	-205.13	1,160.34	2.96	1.28	-2.67
10,311.00	90.70	175.40	9,341.89	-1,254.91	-196.19	1,254.91	1.76	0.53	1.68
10,405.00	90.90	176.71	9,340.58	-1,348.68	-189.73	1,348.68	1.41	0.21	1.39
10,499.00	91.80	178.51	9,338.36	-1,442.57	-185.81	1,442.57	2.14	0.96	1.91
10,593.00	91.90	177.71	9,335.33	-1,536.47	-182.71	1,536.47	0.86	0.11	-0.85
10,688.00	90.90	177.71	9,333.01	-1,631.36	-178.91	1,631.36	1.05	-1.05	0.00
10,782.00	90.20	178.71	9,332.11	-1,725.31	-175.98	1,725.31	1.30	-0.74	1.06
10,876.00	90.50	179.41	9,331.53	-1,819.29	-174.44	1,819.29	0.81	0.32	0.74

Survey Report



Company: Chisholm Energy Holdings, LLC
Project: Eddy County, NM (NAD83)
Site: Sec 15-T23S-R26E
Well: Dark Canyon 15-22 State Com WCB 2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dark Canyon 15-22 State Com WCB 2H
TVD Reference: KB=26 @ 3352.40ft (Latshaw 7)
MD Reference: KB=26 @ 3352.40ft (Latshaw 7)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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)
10,970.00	87.70	180.31	9,333.01	-1,913.27	-174.21	1,913.27	3.13	-2.98	0.96
11,065.00	87.50	181.71	9,336.99	-2,008.17	-175.88	2,008.17	1.49	-0.21	1.47
11,159.00	86.20	180.41	9,342.15	-2,102.01	-177.62	2,102.01	1.95	-1.38	-1.38
11,253.00	85.60	180.91	9,348.87	-2,195.76	-178.70	2,195.76	0.83	-0.64	0.53
11,348.00	85.90	180.41	9,355.91	-2,290.49	-179.79	2,290.49	0.61	0.32	-0.53
11,442.00	85.20	180.01	9,363.21	-2,384.21	-180.13	2,384.21	0.86	-0.74	-0.43
11,536.00	89.40	179.91	9,367.63	-2,478.08	-180.07	2,478.08	4.47	4.47	-0.11
11,631.00	87.40	179.61	9,370.29	-2,573.04	-179.67	2,573.04	2.13	-2.11	-0.32
11,725.00	91.30	180.61	9,371.35	-2,667.02	-179.85	2,667.02	4.28	4.15	1.06
11,819.00	88.60	179.41	9,371.43	-2,761.01	-179.87	2,761.01	3.14	-2.87	-1.28
11,913.00	91.70	180.51	9,371.19	-2,854.99	-179.80	2,854.99	3.50	3.30	1.17
12,007.00	89.80	181.61	9,369.96	-2,948.96	-181.54	2,948.96	2.34	-2.02	1.17
12,101.00	90.90	181.61	9,369.38	-3,042.92	-184.18	3,042.92	1.17	1.17	0.00
12,196.00	90.50	182.71	9,368.22	-3,137.85	-187.76	3,137.85	1.23	-0.42	1.16
12,290.00	89.10	183.51	9,368.55	-3,231.70	-192.86	3,231.70	1.72	-1.49	0.85
12,384.00	89.70	183.51	9,369.53	-3,325.52	-198.61	3,325.52	0.64	0.64	0.00
12,478.00	90.30	183.71	9,369.53	-3,419.33	-204.53	3,419.33	0.67	0.64	0.21
12,573.00	90.70	183.91	9,368.71	-3,514.12	-210.84	3,514.12	0.47	0.42	0.21
12,667.00	90.90	183.41	9,367.39	-3,607.92	-216.84	3,607.92	0.57	0.21	-0.53
12,761.00	93.60	184.51	9,363.70	-3,701.61	-223.33	3,701.61	3.10	2.87	1.17
12,856.00	90.40	182.51	9,360.39	-3,796.36	-229.14	3,796.36	3.97	-3.37	-2.11
12,950.00	90.90	182.31	9,359.32	-3,890.27	-233.09	3,890.27	0.57	0.53	-0.21
13,043.00	92.00	180.01	9,356.97	-3,983.21	-234.97	3,983.21	2.74	1.18	-2.47
13,137.00	90.50	178.21	9,354.92	-4,077.17	-233.51	4,077.17	2.49	-1.60	-1.91
13,231.00	89.80	176.31	9,354.67	-4,171.06	-229.02	4,171.06	2.15	-0.74	-2.02
13,325.00	92.70	176.31	9,352.62	-4,264.83	-222.97	4,264.83	3.09	3.09	0.00
13,419.00	91.50	176.31	9,349.18	-4,358.57	-216.93	4,358.57	1.28	-1.28	0.00
13,513.00	92.70	176.51	9,345.73	-4,452.32	-211.05	4,452.32	1.29	1.28	0.21
13,607.00	92.70	177.31	9,341.30	-4,546.08	-205.98	4,546.08	0.85	0.00	0.85
13,701.00	94.40	178.41	9,335.48	-4,639.83	-202.48	4,639.83	2.15	1.81	1.17
13,795.00	93.20	179.01	9,329.25	-4,733.60	-200.37	4,733.60	1.43	-1.28	0.64
13,889.00	92.90	179.41	9,324.25	-4,827.46	-199.08	4,827.46	0.53	-0.32	0.43
13,983.00	93.00	179.91	9,319.41	-4,921.33	-198.52	4,921.33	0.54	0.11	0.53
14,074.00	90.90	181.61	9,316.32	-5,012.26	-199.73	5,012.26	2.97	-2.31	1.87
14,168.00	88.80	181.61	9,316.56	-5,106.22	-202.37	5,106.22	2.23	-2.23	0.00
14,262.00	89.10	182.31	9,318.29	-5,200.15	-205.58	5,200.15	0.81	0.32	0.74
14,357.00	89.20	182.51	9,319.70	-5,295.05	-209.58	5,295.05	0.24	0.11	0.21
14,451.00	89.60	181.61	9,320.68	-5,388.99	-212.95	5,388.99	1.05	0.43	-0.96
14,545.00	88.40	181.61	9,322.32	-5,482.93	-215.59	5,482.93	1.28	-1.28	0.00
14,639.00	89.20	181.51	9,324.29	-5,576.88	-218.15	5,576.88	0.86	0.85	-0.11
14,734.00	87.60	181.01	9,326.94	-5,671.81	-220.24	5,671.81	1.76	-1.68	-0.53
14,828.00	89.60	181.11	9,329.24	-5,765.76	-221.98	5,765.76	2.13	2.13	0.11
14,922.00	89.00	180.11	9,330.39	-5,859.75	-222.98	5,859.75	1.24	-0.64	-1.06

Survey Report



Company: Chisholm Energy Holdings, LLC
Project: Eddy County, NM (NAD83)
Site: Sec 15-T23S-R26E
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Dark Canyon 15-22 State Com WCB 2H
TVD Reference: KB=26 @ 3352.40ft (Latshaw 7)
MD Reference: KB=26 @ 3352.40ft (Latshaw 7)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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)
15,016.00	84.40	177.51	9,335.80	-5,953.54	-221.04	5,953.54	5.62	-4.89	-2.77
15,110.00	88.70	177.41	9,341.45	-6,047.26	-216.88	6,047.26	4.58	4.57	-0.11
15,205.00	90.70	175.81	9,341.95	-6,142.08	-211.26	6,142.08	2.70	2.11	-1.68
15,299.00	91.50	175.21	9,340.15	-6,235.77	-203.90	6,235.77	1.06	0.85	-0.64
15,393.00	90.00	176.01	9,338.91	-6,329.49	-196.71	6,329.49	1.81	-1.60	0.85
15,487.00	90.50	174.71	9,338.50	-6,423.18	-189.11	6,423.18	1.48	0.53	-1.38
15,581.00	91.20	173.71	9,337.11	-6,516.68	-179.63	6,516.68	1.30	0.74	-1.06
15,675.00	91.00	176.51	9,335.31	-6,610.32	-171.61	6,610.32	2.99	-0.21	2.98
15,769.00	91.30	178.71	9,333.42	-6,704.21	-167.70	6,704.21	2.36	0.32	2.34
15,863.00	88.90	178.61	9,333.25	-6,798.18	-165.50	6,798.18	2.56	-2.55	-0.11
15,957.00	88.20	179.71	9,335.63	-6,892.13	-164.12	6,892.13	1.39	-0.74	1.17
16,051.00	88.40	180.01	9,338.42	-6,986.09	-163.89	6,986.09	0.38	0.21	0.32
16,145.00	88.00	179.41	9,341.37	-7,080.04	-163.41	7,080.04	0.77	-0.43	-0.64
16,240.00	89.80	180.01	9,343.20	-7,175.02	-162.93	7,175.02	2.00	1.89	0.63
16,334.00	87.50	178.71	9,345.41	-7,268.98	-161.89	7,268.98	2.81	-2.45	-1.38
16,428.00	88.70	178.71	9,348.53	-7,362.90	-159.77	7,362.90	1.28	1.28	0.00
16,523.00	89.90	178.21	9,349.69	-7,457.86	-157.22	7,457.86	1.37	1.26	-0.53
Last IDS MWD Survey									
16,570.33	89.90	178.21	9,349.77	-7,505.16	-155.74	7,505.16	0.00	0.00	0.00
PBHL 15-22 WCB 2H									
16,571.00	89.90	178.21	9,349.77	-7,505.84	-155.72	7,505.84	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
148.00	148.00	-0.26	-0.01	First IDS MWD Survey
16,523.00	9,349.69	-7,457.86	-157.22	Last IDS MWD Survey
16,571.00	9,349.77	-7,505.84	-155.72	Projection to TD

Checked By: _____ Approved By: _____ Date: _____