



CHISHOLM
ENERGY

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 06 2017

RECEIVED

Chisholm Energy Holdings, LLC

Eddy County, NM (NAD83)

Sec. 29, T26 S, 26 E

Cottonwood 29-32 Fed Com 2BS 2H

Wellbore #1

30-015-43704

Survey: MWD Surveys

Standard Survey Report

11 September, 2017

Please provide signature
page for directional survey





Integrity Directional Services, LLC

Survey Report



Company:	Chisholm Energy Holdings, LLC	Local Co-ordinate Reference:	Well Cottonwood 29-32 Fed Com 2BS 2H
Project:	Eddy County, NM (NAD83)	TVD Reference:	KB=22' @ 3455.00ft (Nabors M55)
Site:	Sec. 29, T26 S, 26 E	MD Reference:	KB=22' @ 3455.00ft (Nabors M55)
Well:	Cottonwood 29-32 Fed Com 2BS 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

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. 29, T26 S, 26 E				
Site Position:		Northing:	370,999.0000 usft	Latitude:	32.019956
From:	Map	Easting:	545,508.9000 usft	Longitude:	-104.319874
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.01 °

Well:	Cottonwood 29-32 Fed Com 2BS 2H					
Well Position	+N/-S	0.00 ft	Northing:	370,999.0000 usft	Latitude:	32.019956
	+E/-W	0.00 ft	Easting:	545,568.9000 usft	Longitude:	-104.319680
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,433.00 ft	

Wellbore:	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/14/2017	7.47	59.65	47,892

Design:	Wellbore #1
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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	9/11/2017	
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
96.00	13,960.00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard

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
	96.00	0.40	281.10	96.00	0.06	-0.33	-0.06	0.42	0.42	0.00
First MWD Survey	182.00	0.60	242.20	182.00	-0.09	-1.02	0.09	0.44	0.23	-45.23
	271.00	1.00	254.20	270.99	-0.52	-2.18	0.52	0.48	0.45	13.48
	359.00	1.10	261.10	358.97	-0.86	-3.75	0.86	0.18	0.11	7.84
	396.00	1.10	259.60	395.97	-0.98	-4.45	0.98	0.08	0.00	-4.05
	609.00	0.90	294.70	608.94	-0.65	-7.99	0.65	0.30	-0.09	16.48
	701.00	0.80	307.60	700.93	0.05	-9.15	-0.05	0.23	-0.11	14.02
	796.00	1.20	285.90	795.91	0.73	-10.63	-0.73	0.57	0.42	-22.84
	891.00	1.30	292.70	890.89	1.41	-12.58	-1.41	0.19	0.11	7.16



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Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

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)
986.00	1.30	292.30	985.86	2.24	-14.58	-2.24	0.01	0.00	-0.42
1,081.00	0.90	288.30	1,080.85	2.88	-16.28	-2.88	0.43	-0.42	-4.21
1,176.00	1.40	284.80	1,175.83	3.41	-18.11	-3.41	0.53	0.53	-3.68
1,271.00	0.70	294.80	1,270.81	3.95	-19.76	-3.95	0.76	-0.74	10.53
1,366.00	0.40	336.50	1,365.81	4.50	-20.42	-4.50	0.51	-0.32	43.89
1,461.00	0.30	22.10	1,460.80	5.03	-20.46	-5.03	0.30	-0.11	48.00
1,576.00	0.20	251.10	1,575.80	5.25	-20.53	-5.25	0.40	-0.09	-113.91
1,651.00	0.10	325.20	1,650.80	5.26	-20.70	-5.26	0.26	-0.13	98.80
1,746.00	0.30	290.70	1,745.80	5.42	-20.98	-5.42	0.24	0.21	-36.32
1,841.00	1.90	37.00	1,840.79	6.76	-20.26	-6.76	2.11	1.68	111.89
1,936.00	1.80	32.90	1,935.74	9.27	-18.50	-9.27	0.17	-0.11	-4.32
2,032.00	1.70	32.90	2,031.69	11.73	-16.91	-11.73	0.10	-0.10	0.00
2,126.00	1.70	32.80	2,125.65	14.08	-15.40	-14.08	0.00	0.00	-0.11
2,222.00	1.40	33.50	2,221.62	16.25	-13.98	-16.25	0.31	-0.31	0.73
2,316.00	1.50	37.30	2,315.59	18.19	-12.60	-18.19	0.15	0.11	4.04
2,412.00	1.10	50.10	2,411.56	19.78	-11.13	-19.78	0.51	-0.42	13.33
2,608.00	1.00	66.70	2,607.53	21.66	-8.12	-21.66	0.16	-0.05	8.47
2,702.00	1.10	68.10	2,701.51	22.32	-6.53	-22.32	0.11	0.11	1.49
2,797.00	1.10	70.60	2,796.49	22.97	-4.82	-22.97	0.05	0.00	2.63
2,892.00	0.90	76.70	2,891.48	23.44	-3.23	-23.44	0.24	-0.21	6.42
2,987.00	1.00	80.70	2,986.47	23.75	-1.69	-23.75	0.13	0.11	4.21
3,082.00	0.70	96.30	3,081.46	23.82	-0.29	-23.82	0.40	-0.32	16.42
3,176.00	0.50	100.70	3,175.45	23.68	0.68	-23.68	0.22	-0.21	4.68
3,271.00	0.70	113.30	3,270.45	23.37	1.62	-23.37	0.25	0.21	13.26
3,366.00	0.70	120.00	3,365.44	22.85	2.66	-22.85	0.09	0.00	7.05
3,461.00	0.70	134.50	3,460.43	22.15	3.57	-22.15	0.19	0.00	15.26
3,556.00	1.20	128.20	3,555.42	21.13	4.77	-21.13	0.54	0.53	-6.63
3,651.00	1.10	144.30	3,650.40	19.78	6.08	-19.78	0.35	-0.11	16.95
3,747.00	1.10	142.90	3,746.38	18.29	7.17	-18.29	0.03	0.00	-1.46
3,841.00	1.20	152.90	3,840.36	16.70	8.17	-16.70	0.24	0.11	10.64
3,936.00	1.80	134.70	3,935.33	14.76	9.68	-14.76	0.80	0.63	-19.16
4,032.00	0.70	140.90	4,031.31	13.25	11.12	-13.25	1.15	-1.15	6.46
4,126.00	0.70	144.00	4,125.30	12.34	11.82	-12.34	0.04	0.00	3.30
4,221.00	0.70	146.80	4,220.29	11.38	12.48	-11.38	0.04	0.00	2.95
4,316.00	0.70	156.20	4,315.29	10.36	13.03	-10.36	0.12	0.00	9.89
4,411.00	0.20	231.20	4,410.28	9.73	13.14	-9.73	0.71	-0.53	78.95
4,506.00	0.20	263.70	4,505.28	9.61	12.84	-9.61	0.12	0.00	34.21
4,601.00	0.30	245.10	4,600.28	9.48	12.45	-9.48	0.13	0.11	-19.58
4,696.00	0.40	228.10	4,695.28	9.16	11.98	-9.16	0.15	0.11	-17.89
4,791.00	0.70	222.00	4,790.28	8.51	11.35	-8.51	0.32	0.32	-6.42
4,885.00	0.80	218.80	4,884.27	7.57	10.55	-7.57	0.12	0.11	-3.40
4,980.00	1.10	212.00	4,979.25	6.28	9.65	-6.28	0.34	0.32	-7.16
5,076.00	1.30	206.40	5,075.23	4.52	8.68	-4.52	0.24	0.21	-5.83



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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)
5,170.00	1.10	193.30	5,169.21	2.69	8.00	-2.69	0.36	-0.21	-13.94
5,264.00	1.10	192.50	5,263.20	0.93	7.59	-0.93	0.02	0.00	-0.85
5,359.00	1.00	189.90	5,358.18	-0.78	7.26	0.78	0.12	-0.11	-2.74
5,454.00	1.10	215.90	5,453.16	-2.33	6.58	2.33	0.51	0.11	27.37
5,547.00	1.50	216.10	5,546.14	-4.04	5.34	4.04	0.43	0.43	0.22
5,642.00	1.50	214.80	5,641.11	-6.07	3.89	6.07	0.04	0.00	-1.37
5,738.00	1.80	192.10	5,737.07	-8.57	2.86	8.57	0.74	0.31	-23.65
5,833.00	1.00	195.70	5,832.04	-10.83	2.32	10.83	0.85	-0.84	3.79
5,928.00	1.00	206.50	5,927.02	-12.37	1.73	12.37	0.20	0.00	11.37
6,023.00	1.10	191.90	6,022.01	-14.00	1.17	14.00	0.30	0.11	-15.37
6,141.00	1.00	170.00	6,139.99	-16.13	1.12	16.13	0.35	-0.08	-18.56
6,173.00	2.10	118.60	6,171.98	-16.68	1.68	16.68	5.22	3.44	-160.63
6,205.00	3.70	108.40	6,203.94	-17.29	3.18	17.29	5.23	5.00	-31.88
6,236.00	5.70	105.90	6,234.83	-18.03	5.61	18.03	6.48	6.45	-8.06
6,268.00	7.00	100.80	6,266.63	-18.83	9.05	18.83	4.42	4.06	-15.94
6,300.00	8.10	97.50	6,298.36	-19.49	13.20	19.49	3.69	3.44	-10.31
6,330.00	11.20	88.70	6,327.93	-19.70	18.21	19.70	11.41	10.33	-29.33
6,362.00	15.00	93.00	6,359.09	-19.84	25.46	19.84	12.25	11.88	13.44
6,393.00	18.80	94.60	6,388.75	-20.45	34.44	20.45	12.35	12.26	5.16
6,425.00	22.90	95.20	6,418.65	-21.43	45.79	21.43	12.83	12.81	1.88
6,457.00	27.50	93.90	6,447.59	-22.50	59.37	22.50	14.48	14.38	-4.06
6,488.00	31.90	91.70	6,474.51	-23.23	74.70	23.23	14.62	14.19	-7.10
6,520.00	35.90	89.80	6,501.07	-23.45	92.54	23.45	12.93	12.50	-5.94
6,552.00	40.50	89.90	6,526.21	-23.40	112.33	23.40	14.38	14.38	0.31
6,583.00	44.90	90.80	6,548.99	-23.53	133.34	23.53	14.33	14.19	2.90
6,615.00	49.20	91.90	6,570.79	-24.09	156.75	24.09	13.67	13.44	3.44
6,647.00	53.90	92.20	6,590.68	-24.99	181.79	24.99	14.71	14.69	0.94
6,679.00	58.80	92.00	6,608.41	-25.96	208.40	25.96	15.32	15.31	-0.63
6,710.00	63.60	91.00	6,623.34	-26.67	235.55	26.67	15.74	15.48	-3.23
6,742.00	68.20	88.10	6,636.40	-26.43	264.75	26.43	16.58	14.38	-9.06
6,773.00	71.80	87.10	6,647.00	-25.20	293.85	25.20	12.00	11.61	-3.23
6,804.00	70.50	91.30	6,657.02	-24.79	323.17	24.79	13.49	-4.19	13.55
6,836.00	69.80	96.80	6,667.90	-26.91	353.18	26.91	16.31	-2.19	17.19
6,868.00	69.40	101.50	6,679.06	-31.68	382.79	31.68	13.82	-1.25	14.69
6,900.00	70.00	105.80	6,690.16	-38.76	411.94	38.76	12.74	1.88	13.44
6,931.00	72.60	109.60	6,700.10	-47.69	439.90	47.69	14.32	8.39	12.26
6,963.00	75.20	112.60	6,708.98	-58.76	468.58	58.76	12.13	8.13	9.38
6,995.00	76.80	115.40	6,716.72	-71.39	496.94	71.39	9.85	5.00	8.75
7,027.00	75.90	118.10	6,724.27	-85.39	524.70	85.39	8.67	-2.81	8.44
7,059.00	74.60	120.50	6,732.42	-100.53	551.69	100.53	8.31	-4.06	7.50
7,090.00	73.40	122.70	6,740.97	-116.14	577.07	116.14	7.84	-3.87	7.10
7,117.42	72.80	124.58	6,748.94	-130.67	598.91	130.67	6.93	-2.19	6.87
North 330' Hardline Crossing @ 7117.42'MD									



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7,122.00	72.70	124.90	6,750.30	-133.16	602.50	133.16	6.93	-2.16	6.90
7,154.00	73.90	128.40	6,759.50	-151.46	627.09	151.46	11.13	3.75	10.94
7,186.00	75.30	133.10	6,768.00	-171.59	650.45	171.59	14.82	4.38	14.69
7,217.00	77.40	137.90	6,775.32	-193.08	671.55	193.08	16.50	6.77	15.48
7,249.00	79.30	142.80	6,781.78	-217.20	691.54	217.20	16.13	5.94	15.31
7,281.00	80.10	147.70	6,787.51	-243.06	709.48	243.06	15.27	2.50	15.31
7,313.00	80.50	152.50	6,792.90	-270.40	725.19	270.40	14.84	1.25	15.00
7,344.00	80.30	157.70	6,798.08	-298.11	738.06	298.11	16.55	-0.65	16.77
7,376.00	81.60	162.10	6,803.11	-327.78	748.92	327.78	14.17	4.06	13.75
7,407.00	82.90	166.60	6,807.29	-357.35	757.20	357.35	14.98	4.19	14.52
7,439.00	84.30	170.70	6,810.86	-388.52	763.45	388.52	13.46	4.38	12.81
7,471.00	86.60	174.10	6,813.40	-420.14	767.67	420.14	12.80	7.19	10.63
7,502.00	89.10	177.80	6,814.57	-451.03	769.86	451.03	14.40	8.06	11.94
7,534.00	92.70	179.30	6,814.06	-483.01	770.67	483.01	12.19	11.25	4.69
7,566.00	94.10	179.80	6,812.16	-514.95	770.92	514.95	4.64	4.38	1.56
7,661.00	92.70	178.50	6,806.53	-609.77	772.32	609.77	2.01	-1.47	-1.37
7,755.00	92.60	178.50	6,802.18	-703.64	774.78	703.64	0.11	-0.11	0.00
7,850.00	92.80	178.80	6,797.71	-798.50	777.02	798.50	0.38	0.21	0.32
7,945.00	93.10	178.60	6,792.82	-893.35	779.17	893.35	0.38	0.32	-0.21
8,039.00	93.10	178.20	6,787.74	-987.18	781.79	987.18	0.42	0.00	-0.43
8,134.00	92.00	178.10	6,783.51	-1,082.03	784.85	1,082.03	1.16	-1.16	-0.11
8,228.00	90.20	178.30	6,781.71	-1,175.97	787.81	1,175.97	1.93	-1.91	0.21
8,323.00	89.50	179.90	6,781.95	-1,270.95	789.30	1,270.95	1.84	-0.74	1.68
8,418.00	90.30	180.30	6,782.12	-1,365.95	789.13	1,365.95	0.94	0.84	0.42
8,513.00	91.00	180.70	6,781.04	-1,460.94	788.30	1,460.94	0.85	0.74	0.42
8,607.00	91.30	181.10	6,779.16	-1,554.91	786.83	1,554.91	0.53	0.32	0.43
8,702.00	91.60	181.20	6,776.75	-1,649.86	784.92	1,649.86	0.33	0.32	0.11
8,797.00	92.00	181.60	6,773.77	-1,744.78	782.60	1,744.78	0.60	0.42	0.42
8,892.00	92.40	181.20	6,770.12	-1,839.68	780.28	1,839.68	0.60	0.42	-0.42
8,986.00	93.10	181.30	6,765.61	-1,933.55	778.23	1,933.55	0.75	0.74	0.11
9,081.00	92.00	180.10	6,761.38	-2,028.45	777.08	2,028.45	1.71	-1.16	-1.26
9,176.00	92.00	180.30	6,758.07	-2,123.39	776.74	2,123.39	0.21	0.00	0.21
9,271.00	92.70	180.30	6,754.17	-2,218.31	776.25	2,218.31	0.74	0.74	0.00
9,365.00	93.30	180.50	6,749.25	-2,312.18	775.59	2,312.18	0.67	0.64	0.21
9,460.00	91.90	179.90	6,744.94	-2,407.07	775.26	2,407.07	1.60	-1.47	-0.63
9,556.00	92.70	179.90	6,741.09	-2,503.00	775.43	2,503.00	0.83	0.83	0.00
9,650.00	91.10	179.30	6,737.98	-2,596.94	776.08	2,596.94	1.82	-1.70	-0.64
9,746.00	89.30	178.90	6,737.64	-2,692.92	777.59	2,692.92	1.92	-1.88	-0.42
9,841.00	89.10	178.70	6,738.97	-2,787.89	779.58	2,787.89	0.30	-0.21	-0.21
9,936.00	89.30	178.60	6,740.29	-2,882.86	781.82	2,882.86	0.24	0.21	-0.11
10,031.00	89.20	178.60	6,741.54	-2,977.82	784.14	2,977.82	0.11	-0.11	0.00
10,126.00	89.80	178.50	6,742.37	-3,072.79	786.54	3,072.79	0.64	0.63	-0.11
10,221.00	90.10	178.50	6,742.45	-3,167.75	789.03	3,167.75	0.32	0.32	0.00
10,315.00	90.30	178.10	6,742.12	-3,261.71	791.82	3,261.71	0.48	0.21	-0.43



Integrity Directional Services, LLC

Survey Report



Company: Chisholm Energy Holdings, LLC
Project: Eddy County, NM (NAD83)
Site: Sec. 29, T26 S, 26 E
Well: Cottonwood 29-32 Fed Com 2BS 2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Cottonwood 29-32 Fed Com 2BS 2H
TVD Reference: KB=22' @ 3455.00ft (Nabors M55)
MD Reference: KB=22' @ 3455.00ft (Nabors M55)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

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)
10,410.00	89.50	180.00	6,742.29	-3,356.69	793.39	3,356.69	2.17	-0.84	2.00
10,505.00	89.70	180.80	6,742.95	-3,451.69	792.73	3,451.69	0.87	0.21	0.84
10,599.00	90.00	181.30	6,743.20	-3,545.67	791.01	3,545.67	0.62	0.32	0.53
10,694.00	90.40	181.70	6,742.86	-3,640.64	788.52	3,640.64	0.60	0.42	0.42
10,789.00	90.80	181.70	6,741.87	-3,735.59	785.70	3,735.59	0.42	0.42	0.00
10,884.00	91.30	181.80	6,740.13	-3,830.53	782.80	3,830.53	0.54	0.53	0.11
10,979.00	92.00	181.70	6,737.39	-3,925.45	779.90	3,925.45	0.74	0.74	-0.11
11,074.00	90.60	181.30	6,735.24	-4,020.39	777.42	4,020.39	1.53	-1.47	-0.42
11,169.00	91.20	181.30	6,733.75	-4,115.35	775.26	4,115.35	0.63	0.63	0.00
11,264.00	90.90	181.40	6,732.00	-4,210.31	773.02	4,210.31	0.33	-0.32	0.11
11,359.00	89.50	180.40	6,731.67	-4,305.29	771.53	4,305.29	1.81	-1.47	-1.05
11,453.00	90.00	180.60	6,732.08	-4,399.29	770.71	4,399.29	0.57	0.53	0.21
11,548.00	90.20	180.70	6,731.92	-4,494.28	769.63	4,494.28	0.24	0.21	0.11
11,643.00	91.00	180.90	6,730.92	-4,589.26	768.31	4,589.26	0.87	0.84	0.21
11,738.00	91.30	180.80	6,729.02	-4,684.23	766.90	4,684.23	0.33	0.32	-0.11
11,833.00	91.80	181.00	6,726.45	-4,779.19	765.41	4,779.19	0.57	0.53	0.21
11,928.00	92.40	181.20	6,722.97	-4,874.11	763.58	4,874.11	0.67	0.63	0.21
12,023.00	90.90	179.80	6,720.23	-4,969.06	762.76	4,969.06	2.16	-1.58	-1.47
12,118.00	90.60	179.50	6,718.99	-5,064.05	763.34	5,064.05	0.45	-0.32	-0.32
12,213.00	90.90	179.70	6,717.74	-5,159.04	764.00	5,159.04	0.38	0.32	0.21
12,308.00	91.70	180.00	6,715.59	-5,254.01	764.25	5,254.01	0.90	0.84	0.32
12,403.00	91.60	180.80	6,712.85	-5,348.97	763.59	5,348.97	0.85	-0.11	0.84
12,497.00	91.80	179.50	6,710.06	-5,442.93	763.34	5,442.93	1.40	0.21	-1.38
12,592.00	93.20	179.50	6,705.92	-5,537.83	764.17	5,537.83	1.47	1.47	0.00
12,687.00	96.00	180.30	6,698.30	-5,632.51	764.33	5,632.51	3.06	2.95	0.84
12,781.00	93.10	179.90	6,690.85	-5,726.21	764.17	5,726.21	3.11	-3.09	-0.43
12,876.00	90.20	178.60	6,688.11	-5,821.15	765.41	5,821.15	3.35	-3.05	-1.37
12,970.00	87.50	178.80	6,690.00	-5,915.09	767.55	5,915.09	2.88	-2.87	0.21
13,065.00	88.00	179.00	6,693.73	-6,010.00	769.37	6,010.00	0.57	0.53	0.21
13,159.00	88.00	179.20	6,697.01	-6,103.93	770.84	6,103.93	0.21	0.00	0.21
13,254.00	88.40	179.40	6,699.99	-6,198.88	772.00	6,198.88	0.47	0.42	0.21
13,348.00	88.70	179.50	6,702.37	-6,292.85	772.91	6,292.85	0.34	0.32	0.11
13,442.00	89.00	179.50	6,704.26	-6,386.82	773.73	6,386.82	0.32	0.32	0.00
13,537.00	89.50	179.50	6,705.50	-6,481.81	774.56	6,481.81	0.53	0.53	0.00
13,632.00	88.30	179.40	6,707.32	-6,576.79	775.47	6,576.79	1.27	-1.26	-0.11
13,726.00	88.40	179.30	6,710.03	-6,670.74	776.53	6,670.74	0.15	0.11	-0.11
13,821.00	88.50	179.40	6,712.60	-6,765.70	777.61	6,765.70	0.15	0.11	0.11
13,897.00	88.60	179.50	6,714.52	-6,841.67	778.34	6,841.67	0.19	0.13	0.13
Final MWD Survey									
13,945.73	88.60	179.50	6,715.71	-6,890.39	778.77	6,890.39	0.00	0.00	0.00
South 330' Hardline Crossing @ 13945.73'MD - 29-32 Fed Com 2H BHL									
13,960.00	88.60	179.50	6,716.06	-6,904.65	778.89	6,904.65	0.00	0.00	0.00
Projection to TD									



Integrity Directional Services, LLC
Survey Report



Company:	Chisholm Energy Holdings, LLC	Local Co-ordinate Reference:	Well Cottonwood 29-32 Fed Com 2BS 2H
Project:	Eddy County, NM (NAD83)	TVD Reference:	KB=22' @ 3455.00ft (Nabors M55)
Site:	Sec. 29, T26 S, 26 E	MD Reference:	KB=22' @ 3455.00ft (Nabors M55)
Well:	Cottonwood 29-32 Fed Com 2BS 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
96.00	96.00	0.06	-0.33	First MWD Survey
7,117.42	6,748.94	-130.67	598.91	North 330' Hardline Crossing @ 7117.42'MD
13,897.00	6,714.52	-6,841.67	778.34	Final MWD Survey
13,945.73	6,715.71	-6,890.39	778.77	South 330' Hardline Crossing @ 13945.73'MD
13,960.00	6,716.06	-6,904.65	778.89	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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