



**CHISHOLM
ENERGY**

Chisholm Energy Operating, LLC

Lea County, NM

Sec 2, T-19-S, R-33-E

Buffalo West 2 State Com 1BS 6H

ST 01

Design: ST 01

QES Survey Report

28 September, 2017



Company:	Chisholm Energy Operating, LLC	Local Co-ordinate Reference:	Well Buffalo West 2 State Com 1BS 6H
Project:	Lea County, NM	TVD Reference:	RKB @ 3802.0usft (Latshaw #17)
Site:	Sec 2, T-19-S, R-33-E	MD Reference:	RKB @ 3802.0usft (Latshaw #17)
Well:	Buffalo West 2 State Com 1BS 6H	North Reference:	Grid
Wellbore:	ST 01	Survey Calculation Method:	Minimum Curvature
Design:	ST 01	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
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 2, T-19-S, R-33-E				
Site Position:		Northing:	617,848.60 usft	Latitude:	32° 41' 47.519 N
From:	Map	Easting:	757,878.60 usft	Longitude:	103° 37' 45.915 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Buffalo West 2 State Com 1BS 6H					
Well Position	+N/-S	0.0 usft	Northing:	617,849.30 usft	Latitude:	32° 41' 47.522 N
	+E/-W	0.0 usft	Easting:	757,938.60 usft	Longitude:	103° 37' 45.213 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,776.0 usft

Wellbore	ST 01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/22/2017	7.00	60.48	48,191.06721179

Design	ST 01				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	9,122.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	179.55	

Survey Program	Date	9/28/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.0	9,122.0	MWD Surveys (Original Hole)	MWD	OWSG MWD - Standard	
9,154.0	14,230.0	ST #1 Surveys (ST 01)	MWD	OWSG MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
145.0	0.53	309.32	145.0	0.4	-0.5	-0.4	0.37	0.37	0.00	
266.0	0.53	280.49	266.0	0.9	-1.5	-0.9	0.22	0.00	-23.83	
414.0	0.10	19.45	414.0	1.1	-2.1	-1.1	0.37	-0.29	66.86	
503.0	0.44	120.70	503.0	1.0	-1.8	-1.0	0.53	0.38	113.76	
622.0	0.35	134.41	622.0	0.5	-1.2	-0.5	0.11	-0.08	11.52	
713.0	0.53	147.60	713.0	0.0	-0.7	0.0	0.23	0.20	14.49	
987.0	0.35	141.27	987.0	-1.7	0.5	1.7	0.07	-0.07	-2.31	
1,262.0	0.35	97.50	1,262.0	-2.5	1.8	2.5	0.09	0.00	-15.92	
1,464.0	0.35	116.48	1,464.0	-2.9	3.0	2.9	0.06	0.00	9.40	



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Project: Lea County, NM
Site: Sec 2, T-19-S, R-33-E
Well: Buffalo West 2 State Com 1BS 6H
Wellbore: ST 01
Design: ST 01

Local Co-ordinate Reference: Well Buffalo West 2 State Com 1BS 6H
TVD Reference: RKB @ 3802.0usft (Latshaw #17)
MD Reference: RKB @ 3802.0usft (Latshaw #17)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,572.0	0.18	120.70	1,572.0	-3.1	3.4	3.1	0.16	-0.16	3.91
1,635.0	0.18	87.83	1,635.0	-3.1	3.6	3.2	0.16	0.00	-52.17
1,728.0	0.35	90.29	1,728.0	-3.1	4.0	3.2	0.18	0.18	2.65
1,822.0	0.53	90.64	1,822.0	-3.1	4.8	3.2	0.19	0.19	0.37
1,917.0	0.44	81.15	1,917.0	-3.1	5.6	3.1	0.13	-0.09	-9.99
2,010.0	0.53	70.60	2,010.0	-2.9	6.3	2.9	0.14	0.10	-11.34
2,104.0	0.35	87.48	2,104.0	-2.7	7.0	2.8	0.23	-0.19	17.96
2,198.0	0.70	86.25	2,197.9	-2.7	7.9	2.7	0.37	0.37	-1.31
2,292.0	0.70	87.30	2,291.9	-2.6	9.0	2.7	0.01	0.00	1.12
2,386.0	0.79	86.95	2,385.9	-2.6	10.2	2.6	0.10	0.10	-0.37
2,480.0	1.23	72.54	2,479.9	-2.2	11.9	2.3	0.54	0.47	-15.33
2,574.0	1.67	77.28	2,573.9	-1.6	14.2	1.7	0.48	0.47	5.04
2,667.0	1.85	75.17	2,666.8	-0.9	16.9	1.1	0.21	0.19	-2.27
2,761.0	2.02	70.60	2,760.8	0.0	20.0	0.1	0.24	0.18	-4.86
2,855.0	1.41	76.05	2,854.7	0.8	22.6	-0.7	0.67	-0.65	5.80
2,948.0	0.53	85.37	2,947.7	1.1	24.2	-1.0	0.96	-0.95	10.02
3,042.0	0.18	177.13	3,041.7	1.0	24.6	-0.8	0.60	-0.37	97.62
3,136.0	0.09	158.32	3,135.7	0.8	24.7	-0.6	0.11	-0.10	-20.01
3,230.0	0.18	70.78	3,229.7	0.8	24.8	-0.6	0.21	0.10	-93.13
3,324.0	0.18	107.34	3,323.7	0.8	25.1	-0.6	0.12	0.00	38.89
3,418.0	0.35	109.98	3,417.7	0.7	25.5	-0.5	0.18	0.18	2.81
3,512.0	0.88	103.30	3,511.7	0.4	26.5	-0.2	0.57	0.56	-7.11
3,608.0	1.14	110.68	3,607.7	-0.1	28.1	0.3	0.30	0.27	7.69
3,701.0	1.23	116.48	3,700.7	-0.9	29.9	1.1	0.16	0.10	6.24
3,795.0	1.23	116.48	3,794.7	-1.8	31.7	2.0	0.00	0.00	0.00
3,888.0	1.06	114.20	3,887.7	-2.6	33.3	2.8	0.19	-0.18	-2.45
3,982.0	0.97	115.60	3,981.6	-3.3	34.9	3.6	0.10	-0.10	1.49
4,076.0	1.14	115.60	4,075.6	-4.0	36.4	4.3	0.18	0.18	0.00
4,170.0	0.97	116.13	4,169.6	-4.8	38.0	5.1	0.18	-0.18	0.56
4,264.0	0.88	107.69	4,263.6	-5.4	39.4	5.7	0.17	-0.10	-8.98
4,358.0	0.79	107.52	4,357.6	-5.8	40.7	6.1	0.10	-0.10	-0.18
4,453.0	0.88	105.41	4,452.6	-6.2	42.0	6.5	0.10	0.09	-2.22
4,547.0	0.70	107.17	4,546.6	-6.5	43.3	6.9	0.19	-0.19	1.87
4,640.0	0.88	105.23	4,639.6	-6.9	44.5	7.2	0.20	0.19	-2.09
4,735.0	0.70	118.42	4,734.5	-7.3	45.7	7.7	0.27	-0.19	13.88
4,828.0	0.62	116.83	4,827.5	-7.8	46.6	8.2	0.09	-0.09	-1.71
4,922.0	0.53	106.46	4,921.5	-8.2	47.5	8.6	0.15	-0.10	-11.03
5,015.0	0.62	113.14	5,014.5	-8.5	48.4	8.9	0.12	0.10	7.18
5,110.0	0.62	122.99	5,109.5	-9.0	49.3	9.4	0.11	0.00	10.37
5,203.0	0.70	118.94	5,202.5	-9.5	50.2	9.9	0.10	0.09	-4.35
5,356.0	0.53	107.69	5,355.5	-10.2	51.7	10.6	0.14	-0.11	-7.35
5,449.0	0.53	107.69	5,448.5	-10.5	52.5	10.9	0.00	0.00	0.00
5,543.0	0.53	106.11	5,542.5	-10.7	53.4	11.1	0.02	0.00	-1.68

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,638.0	0.44	98.20	5,637.5	-10.9	54.1	11.3	0.12	-0.09	-8.33	
5,732.0	0.35	92.05	5,731.5	-11.0	54.8	11.4	0.11	-0.10	-6.54	
5,826.0	0.18	106.46	5,825.5	-11.0	55.2	11.4	0.19	-0.18	15.33	
5,920.0	0.18	118.42	5,919.5	-11.1	55.5	11.6	0.04	0.00	12.72	
6,013.0	0.18	178.71	6,012.5	-11.3	55.6	11.8	0.19	0.00	64.83	
6,107.0	0.26	161.48	6,106.5	-11.7	55.7	12.1	0.11	0.09	-18.33	
6,201.0	0.35	177.66	6,200.5	-12.2	55.8	12.6	0.13	0.10	17.21	
6,295.0	0.44	171.15	6,294.5	-12.8	55.8	13.3	0.11	0.10	-6.93	
6,389.0	0.53	177.15	6,388.5	-13.6	55.9	14.0	0.11	0.10	6.38	
6,483.0	0.44	173.79	6,482.5	-14.4	56.0	14.8	0.10	-0.10	-3.57	
6,575.0	0.35	163.24	6,574.5	-15.0	56.1	15.5	0.13	-0.10	-11.47	
6,671.0	0.53	135.64	6,670.5	-15.6	56.5	16.1	0.28	0.19	-28.75	
6,765.0	0.62	133.18	6,764.5	-16.3	57.2	16.7	0.10	0.10	-2.62	
6,859.0	0.79	124.22	6,858.5	-17.0	58.1	17.4	0.22	0.18	-9.53	
6,954.0	0.88	125.98	6,953.5	-17.8	59.2	18.3	0.10	0.09	1.85	
7,046.0	0.88	119.82	7,045.4	-18.6	60.4	19.0	0.10	0.00	-6.70	
7,139.0	0.97	121.41	7,138.4	-19.3	61.7	19.8	0.10	0.10	1.71	
7,232.0	1.14	123.87	7,231.4	-20.2	63.1	20.7	0.19	0.18	2.65	
7,326.0	1.14	120.70	7,325.4	-21.2	64.7	21.8	0.07	0.00	-3.37	
7,420.0	1.06	113.32	7,419.4	-22.1	66.3	22.6	0.17	-0.09	-7.85	
7,514.0	0.88	120.53	7,513.4	-22.8	67.7	23.3	0.23	-0.19	7.67	
7,608.0	0.70	111.39	7,607.4	-23.4	68.9	23.9	0.23	-0.19	-9.72	
7,701.0	0.62	107.17	7,700.4	-23.7	69.9	24.3	0.10	-0.09	-4.54	
7,795.0	0.79	99.78	7,794.3	-24.0	71.0	24.5	0.20	0.18	-7.86	
7,889.0	0.97	101.89	7,888.3	-24.2	72.4	24.8	0.19	0.19	2.24	
7,984.0	1.23	93.28	7,983.3	-24.5	74.2	25.1	0.32	0.27	-9.06	
8,077.0	1.58	77.46	8,076.3	-24.2	76.5	24.8	0.56	0.38	-17.01	
8,171.0	1.32	190.84	8,170.3	-25.0	77.5	25.6	2.58	-0.28	120.62	
8,264.0	2.11	198.40	8,263.2	-27.7	76.8	28.3	0.88	0.85	8.13	
8,357.0	1.06	243.22	8,356.2	-29.7	75.5	30.3	1.67	-1.13	48.19	
8,451.0	1.14	273.10	8,450.2	-30.1	73.8	30.6	0.61	0.09	31.79	
8,497.0	1.41	278.03	8,496.2	-30.0	72.8	30.5	0.63	0.59	10.72	
8,528.0	2.37	83.08	8,527.2	-29.8	73.0	30.4	12.10	3.10	532.42	
8,559.0	8.27	83.61	8,558.0	-29.5	75.9	30.1	19.03	19.03	1.71	
8,590.0	14.60	81.50	8,588.4	-28.7	82.0	29.3	20.46	20.42	-6.81	
8,621.0	16.97	85.37	8,618.2	-27.7	90.3	28.4	8.36	7.65	12.48	
8,652.0	21.28	87.00	8,647.5	-27.1	100.5	27.9	14.01	13.90	5.26	
8,684.0	24.09	88.89	8,677.0	-26.6	112.8	27.5	9.07	8.78	5.91	
8,715.0	26.82	88.89	8,705.0	-26.4	126.1	27.4	8.81	8.81	0.00	
8,747.0	29.19	87.48	8,733.3	-25.9	141.1	27.0	7.69	7.41	-4.41	
8,778.0	32.01	86.42	8,759.9	-25.1	156.9	26.3	9.26	9.10	-3.42	
8,810.0	36.23	89.24	8,786.4	-24.4	174.8	25.8	14.08	13.19	8.81	
8,841.0	41.15	91.52	8,810.6	-24.5	194.2	26.1	16.52	15.87	7.35	

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,872.0	46.25	91.70	8,833.0	-25.2	215.6	26.8	16.46	16.45	0.58
8,903.0	51.79	91.52	8,853.3	-25.8	239.0	27.7	17.88	17.87	-0.58
8,934.0	53.73	92.40	8,872.1	-26.7	263.6	28.7	6.65	6.26	2.84
8,965.0	54.78	92.23	8,890.2	-27.7	288.8	29.9	3.42	3.39	-0.55
8,996.0	55.40	92.75	8,908.0	-28.8	314.2	31.2	2.43	2.00	1.68
9,028.0	57.33	95.04	8,925.7	-30.6	340.8	33.3	8.48	6.03	7.16
9,059.0	58.74	99.96	8,942.1	-34.0	366.8	36.9	14.21	4.55	15.87
9,091.0	60.59	105.23	8,958.3	-40.1	393.8	43.2	15.34	5.78	16.47
ST #1 Tie-In @ 9122.0' MD / 8973.2' TVD									
9,122.0	61.82	110.33	8,973.2	-48.4	419.6	51.7	14.95	3.97	16.45
9,154.0	60.15	114.02	8,988.7	-58.9	445.5	62.4	11.35	-5.22	11.53
9,185.0	56.72	114.20	9,005.0	-69.7	469.6	73.4	11.08	-11.06	0.58
9,216.0	55.05	113.85	9,022.3	-80.1	493.1	84.0	5.47	-5.39	-1.13
9,247.0	55.49	115.08	9,040.0	-90.7	516.2	94.8	3.56	1.42	3.97
9,279.0	58.65	119.12	9,057.4	-102.9	540.1	107.2	14.48	9.88	12.63
9,309.0	62.34	123.32	9,072.2	-116.5	562.4	120.9	17.31	12.30	14.00
9,341.0	65.51	127.91	9,086.2	-133.2	585.8	137.8	16.25	9.91	14.34
9,371.0	68.76	134.06	9,097.9	-151.4	606.6	156.1	21.77	10.83	20.50
9,403.0	72.02	140.04	9,108.7	-173.4	627.1	178.3	20.34	10.19	18.69
9,433.0	74.57	144.43	9,117.3	-196.1	644.7	201.2	16.39	8.50	14.63
ST #1 Crossed 330' HL @ 9435.6' MD / 9118.0' TVD									
9,435.6	74.64	144.65	9,118.0	-198.2	646.2	203.2	8.61	2.50	8.55
9,464.0	75.36	147.07	9,125.3	-220.9	661.6	226.1	8.61	2.55	8.51
9,495.0	76.06	149.88	9,133.0	-246.5	677.3	251.8	9.07	2.26	9.06
9,526.0	76.33	152.87	9,140.4	-272.9	691.7	278.3	9.41	0.87	9.65
9,557.0	77.21	156.56	9,147.5	-300.2	704.6	305.7	11.93	2.84	11.90
9,588.0	78.00	159.90	9,154.1	-328.3	715.8	333.9	10.83	2.55	10.77
9,620.0	78.35	163.42	9,160.7	-358.0	725.7	363.7	10.82	1.09	11.00
9,651.0	79.49	166.23	9,166.7	-387.4	733.6	393.1	9.63	3.68	9.06
9,682.0	80.64	170.81	9,172.0	-417.3	739.7	423.1	15.02	3.71	14.77
9,713.0	81.87	175.02	9,176.7	-447.7	743.5	453.5	14.00	3.97	13.58
9,752.0	82.17	180.73	9,182.1	-486.3	744.9	492.1	14.52	0.77	14.64
9,784.0	85.20	182.05	9,185.7	-518.1	744.1	523.9	10.32	9.47	4.13
9,815.0	89.33	182.75	9,187.1	-549.0	742.8	554.8	13.51	13.32	2.26
9,908.0	92.41	181.61	9,185.7	-641.9	739.3	647.7	3.53	3.31	-1.23
10,002.0	91.86	180.20	9,182.2	-735.8	737.8	741.6	1.61	-0.59	-1.50
10,096.0	89.22	179.06	9,181.3	-829.8	738.4	835.6	3.06	-2.81	-1.21
10,189.0	88.67	179.33	9,183.0	-922.8	739.7	928.6	0.66	-0.59	0.29
10,281.0	88.08	179.06	9,185.7	-1,014.7	741.0	1,020.5	0.71	-0.64	-0.29
10,373.0	86.03	178.36	9,190.4	-1,106.6	743.1	1,112.4	2.35	-2.23	-0.76
10,466.0	86.10	178.45	9,196.8	-1,199.3	745.7	1,205.1	0.12	0.08	0.10
10,559.0	87.07	178.10	9,202.3	-1,292.1	748.5	1,298.0	1.11	1.04	-0.38
10,653.0	87.68	178.01	9,206.6	-1,386.0	751.7	1,391.8	0.66	0.65	-0.10
10,745.0	88.41	177.83	9,209.7	-1,477.9	755.0	1,483.7	0.82	0.79	-0.20



Company: Chisholm Energy Operating, LLC
Project: Lea County, NM
Site: Sec 2, T-19-S, R-33-E
Well: Buffalo West 2 State Com 1BS 6H
Wellbore: ST 01
Design: ST 01

Local Co-ordinate Reference: Well Buffalo West 2 State Com 1BS 6H
TVD Reference: RKB @ 3802.0usft (Latshaw #17)
MD Reference: RKB @ 3802.0usft (Latshaw #17)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,838.0	87.29	179.41	9,213.2	-1,570.8	757.2	1,576.7	2.08	-1.20	1.70
10,932.0	87.59	180.38	9,217.4	-1,664.7	757.4	1,670.6	1.08	0.32	1.03
11,025.0	89.15	180.29	9,220.1	-1,757.6	756.9	1,763.5	1.68	1.68	-0.10
11,119.0	91.44	180.64	9,219.6	-1,851.6	756.1	1,857.5	2.46	2.44	0.37
11,212.0	90.21	180.47	9,218.3	-1,944.6	755.2	1,950.5	1.34	-1.32	-0.18
11,305.0	86.32	179.68	9,221.1	-2,037.5	755.1	2,043.4	4.27	-4.18	-0.85
11,397.0	86.80	179.50	9,226.6	-2,129.4	755.7	2,135.2	0.56	0.52	-0.20
11,490.0	87.95	178.62	9,230.9	-2,222.2	757.3	2,228.1	1.56	1.24	-0.95
11,583.0	89.86	178.71	9,232.6	-2,315.2	759.4	2,321.1	2.06	2.05	0.10
11,676.0	91.57	179.06	9,231.5	-2,408.2	761.2	2,414.1	1.88	1.84	0.38
11,769.0	91.53	179.24	9,229.0	-2,501.1	762.6	2,507.0	0.20	-0.04	0.19
11,861.0	91.35	178.80	9,226.6	-2,593.1	764.2	2,599.0	0.52	-0.20	-0.48
11,954.0	87.79	180.03	9,227.3	-2,686.1	765.1	2,692.0	4.05	-3.83	1.32
12,048.0	84.08	181.79	9,234.0	-2,779.8	763.6	2,785.7	4.37	-3.95	1.87
12,141.0	84.43	181.96	9,243.3	-2,872.3	760.6	2,878.2	0.42	0.38	0.18
12,234.0	87.22	181.96	9,250.1	-2,965.0	757.4	2,970.8	3.00	3.00	0.00
12,328.0	89.53	182.14	9,252.7	-3,058.9	754.1	3,064.7	2.46	2.46	0.19
12,420.0	89.11	181.35	9,253.8	-3,150.8	751.3	3,156.6	0.97	-0.46	-0.86
12,512.0	87.77	181.35	9,256.3	-3,242.8	749.1	3,248.5	1.46	-1.46	0.00
12,606.0	89.86	181.35	9,258.3	-3,336.7	746.9	3,342.5	2.22	2.22	0.00
12,700.0	90.23	179.06	9,258.2	-3,430.7	746.6	3,436.5	2.47	0.39	-2.44
12,794.0	87.68	176.60	9,259.9	-3,524.6	750.1	3,530.4	3.77	-2.71	-2.62
12,889.0	88.14	176.34	9,263.4	-3,619.4	756.0	3,625.2	0.56	0.48	-0.27
12,983.0	89.99	175.81	9,264.9	-3,713.1	762.4	3,719.0	2.05	1.97	-0.56
13,076.0	90.08	176.60	9,264.9	-3,805.9	768.6	3,811.8	0.85	0.10	0.85
13,169.0	87.02	179.41	9,267.2	-3,898.8	771.8	3,904.7	4.47	-3.29	3.02
13,264.0	86.96	180.12	9,272.2	-3,993.7	772.2	3,999.6	0.75	-0.06	0.75
13,358.0	89.53	180.12	9,275.1	-4,087.6	772.0	4,093.6	2.73	2.73	0.00
13,451.0	87.92	180.20	9,277.2	-4,180.6	771.7	4,186.5	1.73	-1.73	0.09
13,545.0	84.76	180.99	9,283.2	-4,274.4	770.8	4,280.3	3.46	-3.36	0.84
13,638.0	84.98	181.52	9,291.5	-4,367.0	768.7	4,372.9	0.61	0.24	0.57
13,733.0	87.18	181.65	9,298.0	-4,461.7	766.1	4,467.6	2.32	2.32	0.14
13,827.0	89.26	181.35	9,300.9	-4,555.6	763.6	4,561.5	2.24	2.21	-0.32
13,922.0	92.10	181.79	9,299.8	-4,650.6	761.0	4,656.4	3.03	2.99	0.46
14,015.0	91.79	180.38	9,296.6	-4,743.5	759.3	4,749.3	1.55	-0.33	-1.52
14,109.0	90.03	179.33	9,295.1	-4,837.5	759.5	4,843.3	2.18	-1.87	-1.12
14,149.0	90.63	178.80	9,294.9	-4,877.5	760.2	4,883.3	2.00	1.50	-1.33
ST #1 TD @ 14230.0' MD, 9294.0' TVD									
14,230.0	90.63	178.80	9,294.0	-4,958.5	761.9	4,964.3	0.00	0.00	0.00



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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,122.0	8,973.2	-48.4	419.6	ST #1 Tie-In @ 9122.0' MD / 8973.2' TVD
9,435.6	9,118.0	-198.2	646.2	ST #1 Crossed 330' HL @ 9435.6' MD / 9118.0' TVD
14,230.0	9,294.0	-4,958.5	761.9	ST #1 TD @ 14230.0' MD, 9294.0' TVD