

Company Name: Chisholm Energy Operating, LLC
 Buffalo West 2 State Com 2BS 5H
 Lea County, NM
 Rig: Latshaw #17
 Created By: Keith Noack
 Date: 7/14/2017

Buffalo West 2 State Com 2BS 5H
 Lea County, NM
 Q170*** & WT-170***
 Design #1

PROJECT DETAILS: Lea County, NM

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level



WELL DETAILS: Buffalo West 2 State Com 2BS 5H

+N-S	+E-W	Northing	Ground Level: Easting	3777.9 Latitude	Longitude	Slot
0.0	0.0	617848.60	757878.60	32° 41' 47.519 N	103° 37' 45.915 W	

ANNOTATIONS

MD	Inc	Adj	TVD	+N-S	+E-W	Vsect	Departure	Annotation
8882.7	0.00	0.00	8882.7	0.0	0.0	0.0	0.0	Build 12.00°/100'
9183.4	28.48	289.21	9095.6	-0.7	-50.1	0.0	50.1	Build/Turn 12.00°/100'
9849.6	89.50	179.21	9523.9	-477.3	-254.7	473.7	695.2	EOG @ 89.49° Inc / 179.21° Azim / 9523.9' TVD
14334.9	89.50	179.21	9563.3	-4961.9	-192.7	4958.8	5093.3	TO @ 14334.9' MD, 9563.3' TVD

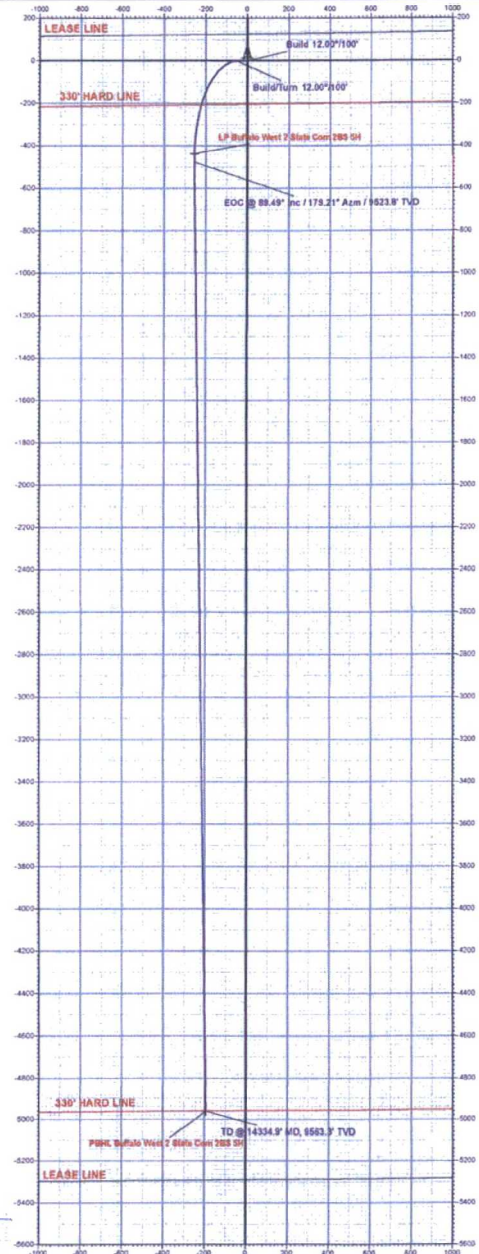
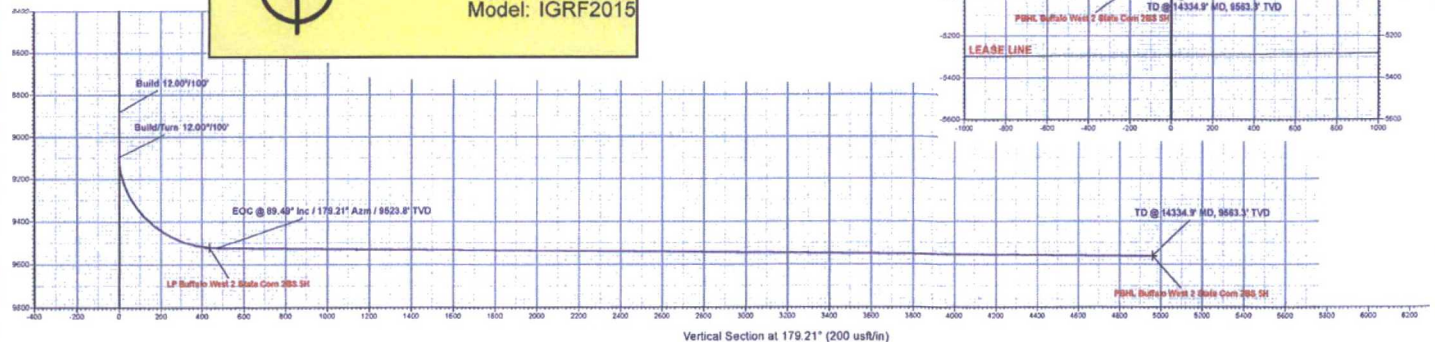
DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
LP Buffalo West 2 State Com 2BS 5H	9523.9	-437.5	-255.4	617411.10	757623.20	32° 41' 43.207 N	103° 37' 48.937 W
PBHL Buffalo West 2 State Com 2BS 5H	9563.3	-4961.9	-192.7	612895.70	757685.90	32° 40' 58.436 N	103° 37' 48.555 W



Azimuths to Grid North
 True North: -0.38°
 Magnetic North: 6.63°

Magnetic Field
 Strength: 48201.0snT
 Dip Angle: 60.49°
 Date: 7/18/2017
 Model: IGRF2015





Chisholm Energy Operating, LLC

Lea County, NM

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

Buffalo West 2 State Com 2BS 5H

Wellbore #1

Plan: Design #1

QES Well Planning Report

14 July, 2017





Well Planning Report



Database: EDM5002
Company: Chisholm Energy Operating, LLC
Project: Lea County, NM
Site: Sec 2, T-19-S, R-33-E
Well: Buffalo West 2 State Com 2BS 5H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Buffalo West 2 State Com 2BS 5H
TVD Reference: RKB @ 3803.0usft (Latahaw #17)
MD Reference: RKB @ 3803.0usft (Latahaw #17)
North Reference: Grd
Survey Calculation Method: Minimum Curvature

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:	Map	Northings: 617,848.60 usft	Latitude: 32° 41' 47.519 N
From:		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 2BS 5H		
Well Position	+N-S 0.0 usft	Northings: 617,848.60 usft	Latitude: 32° 41' 47.519 N
	+E-W 0.0 usft	Easting: 757,878.60 usft	Longitude: 103° 37' 45.915 W
Position Uncertainty	0.0 usft	Wellhead Elevation: 0.0 usft	Ground Level: 3,777.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/18/2017	7.01	60.46	48,201

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	179.21

Plan Sections									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TPO (°)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,882.7	0.00	0.00	8,882.7	0.0	0.0	0.00	0.00	0.00	0.00
9,103.4	26.48	269.21	9,096.6	-0.7	-50.1	12.00	12.00	0.00	269.21
9,849.6	89.50	179.21	9,523.8	-477.3	-254.7	12.00	8.44	-12.06	-90.23
14,334.9	89.50	179.21	9,563.3	-4,961.9	-192.7	0.00	0.00	0.00	0.00 PBHL Buffalo West

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Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Buffalo West 2 State Com 2BS 5H
TVD Reference: RKB @ 3803.0usft (Latshaw #17)
MD Reference: RKB @ 3803.0usft (Latshaw #17)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

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Planned 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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 12.00°/100'									
8,882.7	0.00	0.00	8,882.7	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	2.08	269.21	8,900.0	0.0	-0.3	0.0	12.00	12.00	0.00
8,925.0	5.08	269.21	8,924.9	0.0	-1.9	0.0	12.00	12.00	0.00
8,950.0	8.08	269.21	8,949.8	-0.1	-4.7	0.0	12.00	12.00	0.00
8,975.0	11.08	269.21	8,974.4	-0.1	-8.9	0.0	12.00	12.00	0.00
9,000.0	14.08	269.21	8,998.8	-0.2	-14.3	0.0	12.00	12.00	0.00
9,025.0	17.08	269.21	9,022.9	-0.3	-21.0	0.0	12.00	12.00	0.00
9,050.0	20.08	269.21	9,046.6	-0.4	-29.0	0.0	12.00	12.00	0.00
9,075.0	23.08	269.21	9,069.8	-0.5	-38.2	0.0	12.00	12.00	0.00
9,100.0	26.08	269.21	9,092.6	-0.7	-48.6	0.0	12.00	12.00	0.00
Build/Turn 12.00°/100'									
9,103.4	26.48	269.21	9,095.6	-0.7	-50.1	0.0	12.00	12.00	0.00
9,125.0	26.59	263.40	9,115.0	-1.3	-59.7	0.5	12.00	0.50	-26.85
9,150.0	27.00	256.81	9,137.3	-3.3	-70.8	2.3	12.00	1.65	-26.38
9,175.0	27.71	250.46	9,159.5	-6.5	-81.8	5.4	12.00	2.84	-25.38
9,200.0	28.70	244.46	9,181.5	-11.0	-92.7	9.7	12.00	3.94	-24.00
9,225.0	29.93	238.87	9,203.3	-16.8	-103.5	15.4	12.00	4.93	-22.36

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Survey Calculation Method: Minimum Curvature

Planned 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)
9,250.0	31.38	233.72	9,224.8	-23.9	-114.1	22.3	12.00	5.80	-20.61
9,275.0	33.02	229.00	9,246.0	-32.2	-124.4	30.5	12.00	6.56	-18.87
9,300.0	34.82	224.70	9,266.7	-41.8	-134.6	39.9	12.00	7.20	-17.21
9,325.0	36.76	220.78	9,287.0	-52.5	-144.5	50.5	12.00	7.76	-15.66
9,350.0	38.81	217.22	9,306.8	-64.4	-154.1	62.3	12.00	8.22	-14.27
9,375.0	40.97	213.96	9,326.0	-77.5	-163.5	75.2	12.00	8.62	-13.02
9,400.0	43.21	210.98	9,344.5	-91.6	-172.4	89.2	12.00	8.96	-11.92
9,425.0	45.52	208.24	9,362.4	-106.8	-181.1	104.3	12.00	9.24	-10.95
9,450.0	47.89	205.72	9,379.5	-123.0	-189.3	120.4	12.00	9.48	-10.11
9,475.0	50.31	203.37	9,395.9	-140.2	-197.2	137.5	12.00	9.69	-9.37
9,500.0	52.78	201.19	9,411.4	-158.3	-204.6	155.5	12.00	9.86	-8.73
9,525.0	55.28	199.15	9,426.1	-177.3	-211.5	174.4	12.00	10.01	-8.17
9,550.0	57.82	197.23	9,439.9	-197.1	-218.1	194.1	12.00	10.14	-7.69
9,575.0	60.38	195.41	9,452.7	-217.7	-224.1	214.6	12.00	10.25	-7.27
9,600.0	62.97	193.68	9,464.6	-239.0	-229.6	235.8	12.00	10.35	-6.91
9,625.0	65.57	192.03	9,475.5	-261.0	-234.6	257.7	12.00	10.43	-6.60
9,650.0	68.20	190.45	9,485.3	-283.5	-239.1	280.2	12.00	10.49	-6.33
9,675.0	70.83	188.93	9,494.0	-306.6	-243.0	303.2	12.00	10.55	-6.10
9,700.0	73.48	187.45	9,501.7	-330.1	-246.4	326.7	12.00	10.60	-5.91
9,725.0	76.15	186.01	9,508.2	-354.1	-249.2	350.6	12.00	10.64	-5.75
9,750.0	78.81	184.61	9,513.7	-378.4	-251.5	374.9	12.00	10.67	-5.62
9,775.0	81.49	183.23	9,517.9	-403.0	-253.2	399.4	12.00	10.70	-5.51
9,800.0	84.17	181.87	9,521.1	-427.8	-254.3	424.2	12.00	10.72	-5.44
9,825.0	86.85	180.53	9,523.0	-452.7	-254.8	449.1	12.00	10.73	-5.38
EOC @ 89.49° Inc / 179.21° Azm / 9523.8' TVD									
9,849.6	89.50	179.21	9,523.8	-477.3	-254.7	473.7	12.00	10.74	-5.36
9,900.0	89.50	179.21	9,524.2	-527.6	-254.0	524.1	0.00	0.00	0.00
10,000.0	89.50	179.21	9,525.1	-627.6	-252.7	624.1	0.00	0.00	0.00
10,100.0	89.50	179.21	9,526.0	-727.6	-251.3	724.1	0.00	0.00	0.00
10,200.0	89.50	179.21	9,526.9	-827.6	-249.9	824.1	0.00	0.00	0.00
10,300.0	89.50	179.21	9,527.8	-927.6	-248.5	924.1	0.00	0.00	0.00
10,400.0	89.50	179.21	9,528.6	-1,027.6	-247.1	1,024.1	0.00	0.00	0.00
10,500.0	89.50	179.21	9,529.5	-1,127.6	-245.7	1,124.1	0.00	0.00	0.00
10,600.0	89.50	179.21	9,530.4	-1,227.6	-244.4	1,224.1	0.00	0.00	0.00
10,700.0	89.50	179.21	9,531.3	-1,327.5	-243.0	1,324.1	0.00	0.00	0.00
10,800.0	89.50	179.21	9,532.2	-1,427.5	-241.6	1,424.1	0.00	0.00	0.00
10,900.0	89.50	179.21	9,533.0	-1,527.5	-240.2	1,524.1	0.00	0.00	0.00
11,000.0	89.50	179.21	9,533.9	-1,627.5	-238.8	1,624.0	0.00	0.00	0.00
11,100.0	89.50	179.21	9,534.8	-1,727.5	-237.4	1,724.0	0.00	0.00	0.00
11,200.0	89.50	179.21	9,535.7	-1,827.5	-236.1	1,824.0	0.00	0.00	0.00
11,300.0	89.50	179.21	9,536.6	-1,927.5	-234.7	1,924.0	0.00	0.00	0.00
11,400.0	89.50	179.21	9,537.4	-2,027.4	-233.3	2,024.0	0.00	0.00	0.00
11,500.0	89.50	179.21	9,538.3	-2,127.4	-231.9	2,124.0	0.00	0.00	0.00
11,600.0	89.50	179.21	9,539.2	-2,227.4	-230.5	2,224.0	0.00	0.00	0.00
11,700.0	89.50	179.21	9,540.1	-2,327.4	-229.1	2,324.0	0.00	0.00	0.00
11,800.0	89.50	179.21	9,541.0	-2,427.4	-227.8	2,424.0	0.00	0.00	0.00
11,900.0	89.50	179.21	9,541.8	-2,527.4	-226.4	2,524.0	0.00	0.00	0.00
12,000.0	89.50	179.21	9,542.7	-2,627.4	-225.0	2,624.0	0.00	0.00	0.00
12,100.0	89.50	179.21	9,543.6	-2,727.3	-223.6	2,724.0	0.00	0.00	0.00
12,200.0	89.50	179.21	9,544.5	-2,827.3	-222.2	2,824.0	0.00	0.00	0.00
12,300.0	89.50	179.21	9,545.4	-2,927.3	-220.8	2,924.0	0.00	0.00	0.00
12,400.0	89.50	179.21	9,546.2	-3,027.3	-219.5	3,024.0	0.00	0.00	0.00
12,500.0	89.50	179.21	9,547.1	-3,127.3	-218.1	3,124.0	0.00	0.00	0.00
12,600.0	89.50	179.21	9,548.0	-3,227.3	-216.7	3,224.0	0.00	0.00	0.00

Database: EDM5002
Company: Chisholm Energy Operating, LLC
Project: Lea County, NM
Site: Sec 2, T-19-S, R-33-E
Well: Buffalo West 2 State Com 2BS 5H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Buffalo West 2 State Com 2BS 5H
TVD Reference: RKB @ 3803.0usft (Latshaw #17)
MD Reference: RKB @ 3803.0usft (Latshaw #17)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
12,700.0	89.50	179.21	9,548.9	-3,327.3	-215.3	3,324.0	0.00	0.00	0.00
12,800.0	89.50	179.21	9,549.8	-3,427.3	-213.9	3,424.0	0.00	0.00	0.00
12,900.0	89.50	179.21	9,550.6	-3,527.2	-212.5	3,524.0	0.00	0.00	0.00
13,000.0	89.50	179.21	9,551.5	-3,627.2	-211.2	3,624.0	0.00	0.00	0.00
13,100.0	89.50	179.21	9,552.4	-3,727.2	-209.8	3,724.0	0.00	0.00	0.00
13,200.0	89.50	179.21	9,553.3	-3,827.2	-208.4	3,824.0	0.00	0.00	0.00
13,300.0	89.50	179.21	9,554.2	-3,927.2	-207.0	3,924.0	0.00	0.00	0.00
13,400.0	89.50	179.21	9,555.0	-4,027.2	-205.6	4,024.0	0.00	0.00	0.00
13,500.0	89.50	179.21	9,555.9	-4,127.2	-204.2	4,124.0	0.00	0.00	0.00
13,600.0	89.50	179.21	9,556.8	-4,227.1	-202.9	4,223.9	0.00	0.00	0.00
13,700.0	89.50	179.21	9,557.7	-4,327.1	-201.5	4,323.9	0.00	0.00	0.00
13,800.0	89.50	179.21	9,558.6	-4,427.1	-200.1	4,423.9	0.00	0.00	0.00
13,900.0	89.50	179.21	9,559.4	-4,527.1	-198.7	4,523.9	0.00	0.00	0.00
14,000.0	89.50	179.21	9,560.3	-4,627.1	-197.3	4,623.9	0.00	0.00	0.00
14,100.0	89.50	179.21	9,561.2	-4,727.1	-195.9	4,723.9	0.00	0.00	0.00
14,200.0	89.50	179.21	9,562.1	-4,827.1	-194.6	4,823.9	0.00	0.00	0.00
14,300.0	89.50	179.21	9,563.0	-4,927.1	-193.2	4,923.9	0.00	0.00	0.00
TD @ 14334.9' MD, 9563.3' TVD									
14,334.9	89.50	179.21	9,563.3	-4,961.9	-192.7	4,958.8	0.00	0.00	0.00

Design Targets
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP Buffalo West 2 Sta - plan misses target center by 2.0usft at 9810.0usft MD (9522.0 TVD, -437.7 N, -254.6 E) - Point	0.00	0.00	9,523.8	-437.5	-255.4	617,411.10	757,623.20	32° 41' 43.207 N	103° 37' 48.937 W
PBHL Buffalo West 2 - plan hits target center - Point	0.00	0.00	9,563.3	-4,961.9	-192.7	612,886.70	757,685.90	32° 40' 58.436 N	103° 37' 48.555 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,882.7	8,882.7	0.0	0.0	Build 12.00°/100'
9,103.4	9,095.6	-0.7	-50.1	Build/Turn 12.00°/100'
9,849.6	9,523.8	-477.3	-254.7	EOC @ 89.49° Inc / 179.21° Azm / 9523.8' TVD
14,334.9	9,563.3	-4,961.9	-192.7	TD @ 14334.9' MD, 9563.3' TVD