

Longs Peak Resources
 Project: Weld County, CO
 Site: Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W
 Well: Oxnard West 3130-1NH
 Wellbore: Wellbore #1
 Design: Design #1
 Lat: 40.95897°N
 Long: 104.82310°W
 Pad GL: 6012.0
 KB: GL 6012 + 25 KB @ 6037.0usft

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2600.0	0.00	0.00	2600.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
3622.3	20.45	243.57	3600.8	-80.3	-161.6	2.00	243.57	-55.3	Start 3636.6 hold at 3622.3 MD
7258.9	20.45	243.57	7008.2	-645.7	-1299.3	0.00	0.00	-444.7	Start Drop -2.00
8281.2	0.00	263.29	8009.0	-726.0	-1460.9	2.00	180.00	-500.0	Start 500.0 hold at 8281.2 MD
8781.2	0.00	263.29	8509.0	-726.0	-1460.9	0.00	263.29	-500.0	Start Build 10.00
9681.2	90.00	359.97	9082.0	-153.1	-1461.2	10.00	359.97	66.6	Start 9874.2 hold at 9681.2 MD
9555.5	90.00	359.97	9082.0	9721.2	-1466.1	0.00	0.00	9831.1	TD at 19555.5

WELL DETAILS: Oxnard West 3130-1NH

6012.0							Slot	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.0	0.0	1592920.72	3186967.31	40.95897°N	104.82310°W			

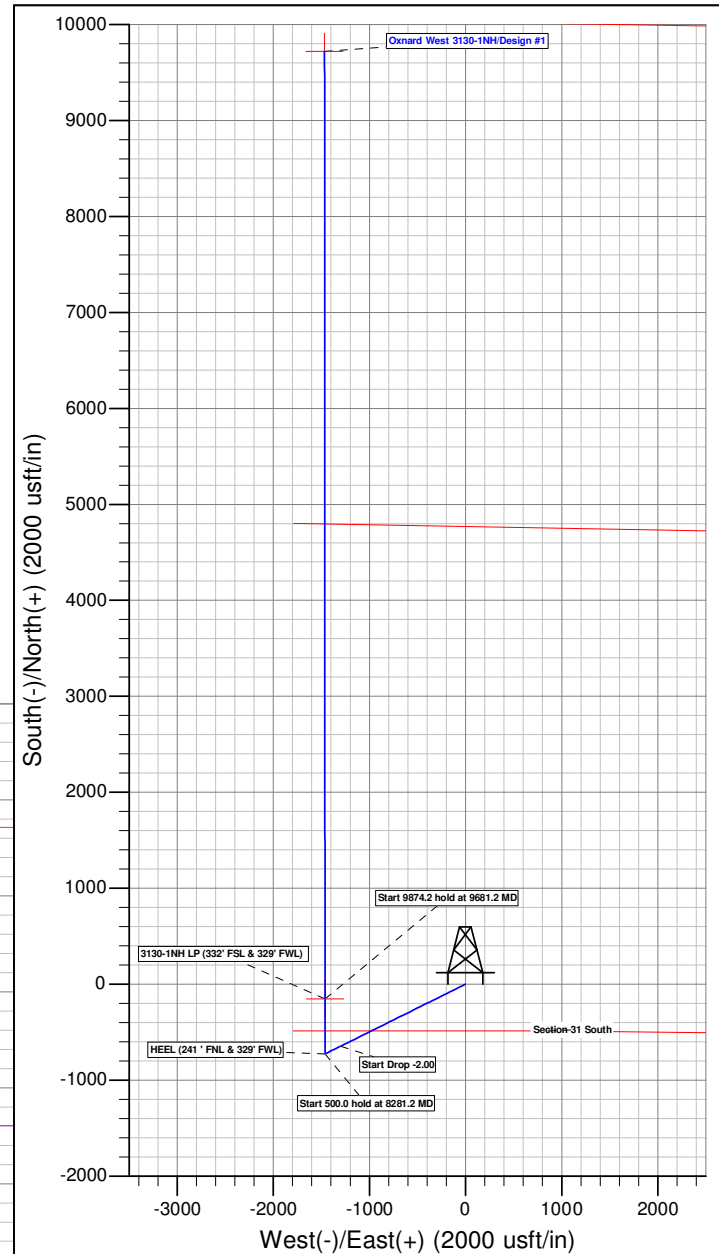
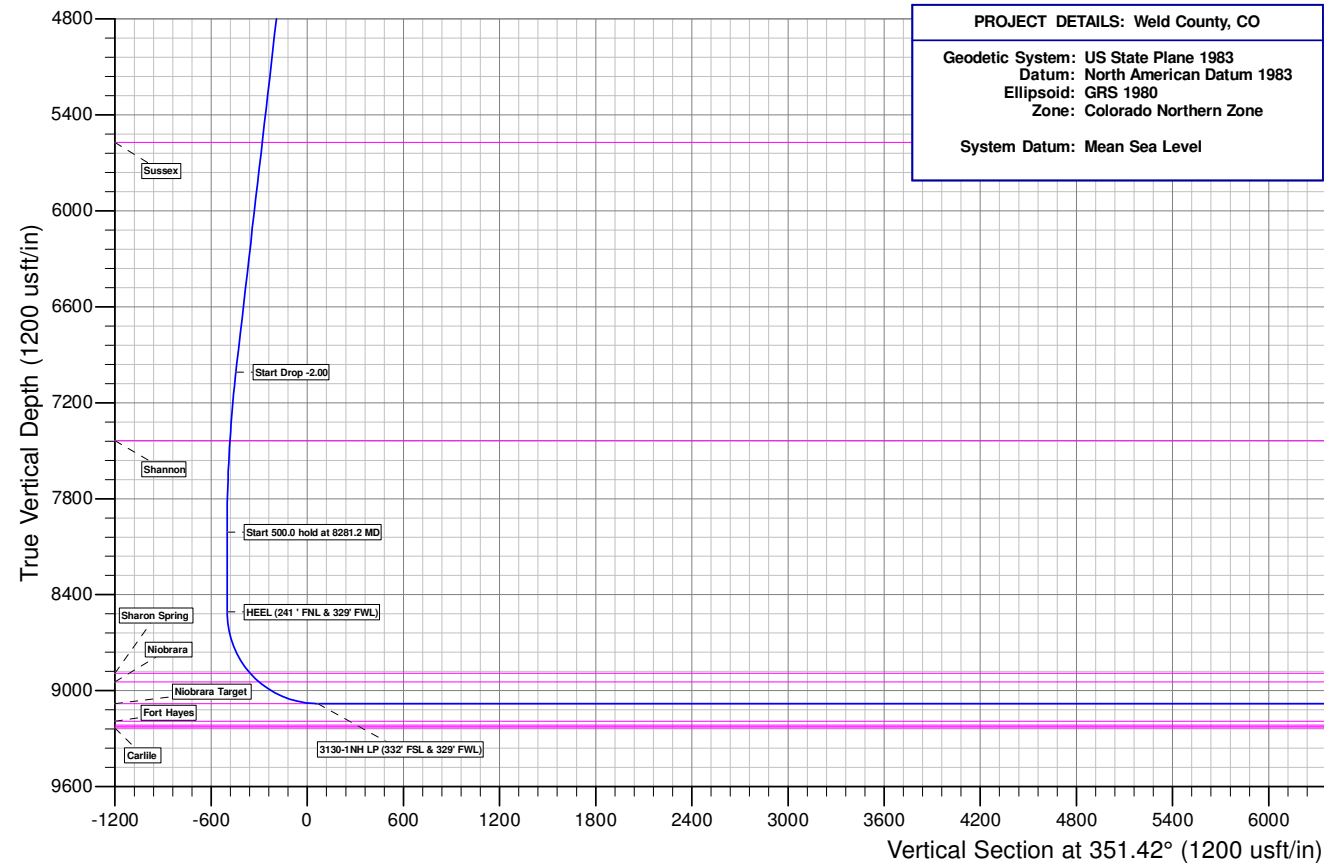
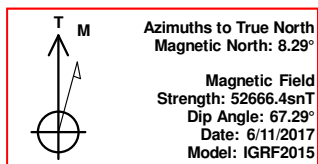
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
3130-1NH BHL	9082.0	9721.2	-1466.1	40.98565°N	104.82841°W	Point
3130-1NH LP	9082.0	-153.0	-1461.2	40.95855°N	104.82839°W	Point

PROJECT DETAILS: Weld County, CO

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone

System Datum: Mean Sea Level



Plan: Design #1 (Oxnard West 3130-1NH/Wellbore #1)

Created By: Stephanie Sneesby

Date: 17:55, June 28 2017

Longs Peak Resources

Weld County, CO

Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W

Oxnard West 3130-1NH

Wellbore #1

Plan: Design #1

Standard Planning Report

25 June, 2017

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Weld County, CO, ,		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W			
Site Position:		Northing:	1,592,920.72 usft	Latitude:	40.95897°N
From:	Lat/Long	Easting:	3,186,967.31 usft	Longitude:	104.82310°W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well	Oxnard West 3130-1NH					
Well Position	+N/-S	0.0 usft	Northing:	1,592,920.71 usft	Latitude:	40.95897°N
	+E/-W	0.0 usft	Easting:	3,186,967.31 usft	Longitude:	104.82310°W
Position Uncertainty		0.0 usft	Wellhead Elevation:	25.0 usft	Ground Level:	6,012.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.10	67.55	53,578.73864554
	IGRF2015	6/11/2017	8.29	67.29	52,666.39760217

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	351.42	

Plan Survey Tool Program	Date	6/25/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	19,555.5	Design #1 (Wellbore #1)		

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,622.3	20.45	243.57	3,600.8	-80.3	-161.6	2.00	2.00	0.00	243.57	
7,258.9	20.45	243.57	7,008.2	-645.7	-1,299.3	0.00	0.00	0.00	0.00	
8,281.2	0.00	263.29	8,009.0	-726.0	-1,460.9	2.00	-2.00	0.00	180.00	
8,781.2	0.00	263.29	8,509.0	-726.0	-1,460.9	0.00	0.00	0.00	263.29	
9,681.2	90.00	359.97	9,082.0	-153.0	-1,461.2	10.00	10.00	0.00	359.97	3130-1NH BHL
19,555.5	90.00	359.97	9,082.0	9,721.2	-1,466.1	0.00	0.00	0.00	0.00	3130-1NH BHL

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	
2,154.0	0.00	0.00	2,154.0	0.0	0.0	0.0	0.00	0.00	0.00	
Fox Hills										
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	
2,428.0	0.00	0.00	2,428.0	0.0	0.0	0.0	0.00	0.00	0.00	
Pierre										
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	
Start Build 2.00										
2,700.0	2.00	243.57	2,700.0	-0.8	-1.6	-0.5	2.00	2.00	0.00	
2,783.1	3.66	243.57	2,783.0	-2.6	-5.2	-1.8	2.00	2.00	0.00	
Teapot										
2,800.0	4.00	243.57	2,799.8	-3.1	-6.2	-2.1	2.00	2.00	0.00	
2,900.0	6.00	243.57	2,899.5	-7.0	-14.1	-4.8	2.00	2.00	0.00	
3,000.0	8.00	243.57	2,998.7	-12.4	-25.0	-8.5	2.00	2.00	0.00	
3,100.0	10.00	243.57	3,097.5	-19.4	-39.0	-13.3	2.00	2.00	0.00	
3,200.0	12.00	243.57	3,195.6	-27.9	-56.1	-19.2	2.00	2.00	0.00	
3,300.0	14.00	243.57	3,293.1	-37.9	-76.2	-26.1	2.00	2.00	0.00	
3,400.0	16.00	243.57	3,389.6	-49.4	-99.4	-34.0	2.00	2.00	0.00	
3,500.0	18.00	243.57	3,485.3	-62.4	-125.6	-43.0	2.00	2.00	0.00	
3,600.0	20.00	243.57	3,579.8	-76.9	-154.7	-53.0	2.00	2.00	0.00	
3,622.3	20.45	243.57	3,600.8	-80.3	-161.6	-55.3	2.00	2.00	0.00	
Start 3636.6 hold at 3622.3 MD										
3,700.0	20.45	243.57	3,673.5	-92.4	-185.9	-63.6	0.00	0.00	0.00	
3,800.0	20.45	243.57	3,767.2	-107.9	-217.2	-74.3	0.00	0.00	0.00	
3,900.0	20.45	243.57	3,860.9	-123.5	-248.5	-85.1	0.00	0.00	0.00	
4,000.0	20.45	243.57	3,954.6	-139.0	-279.8	-95.8	0.00	0.00	0.00	
4,100.0	20.45	243.57	4,048.3	-154.6	-311.1	-106.5	0.00	0.00	0.00	
4,200.0	20.45	243.57	4,142.0	-170.1	-342.3	-117.2	0.00	0.00	0.00	
4,300.0	20.45	243.57	4,235.7	-185.7	-373.6	-127.9	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
4,400.0	20.45	243.57	4,329.4	-201.2	-404.9	-138.6	0.00	0.00	0.00
4,500.0	20.45	243.57	4,423.1	-216.8	-436.2	-149.3	0.00	0.00	0.00
4,600.0	20.45	243.57	4,516.8	-232.3	-467.5	-160.0	0.00	0.00	0.00
4,700.0	20.45	243.57	4,610.5	-247.9	-498.8	-170.7	0.00	0.00	0.00
4,765.6	20.45	243.57	4,672.0	-258.1	-519.3	-177.7	0.00	0.00	0.00
Parkman									
4,800.0	20.45	243.57	4,704.2	-263.4	-530.0	-181.4	0.00	0.00	0.00
4,900.0	20.45	243.57	4,797.9	-279.0	-561.3	-192.1	0.00	0.00	0.00
5,000.0	20.45	243.57	4,891.6	-294.5	-592.6	-202.8	0.00	0.00	0.00
5,100.0	20.45	243.57	4,985.3	-310.0	-623.9	-213.5	0.00	0.00	0.00
5,200.0	20.45	243.57	5,079.0	-325.6	-655.2	-224.2	0.00	0.00	0.00
5,300.0	20.45	243.57	5,172.7	-341.1	-686.5	-235.0	0.00	0.00	0.00
5,400.0	20.45	243.57	5,266.4	-356.7	-717.7	-245.7	0.00	0.00	0.00
5,500.0	20.45	243.57	5,360.1	-372.2	-749.0	-256.4	0.00	0.00	0.00
5,600.0	20.45	243.57	5,453.8	-387.8	-780.3	-267.1	0.00	0.00	0.00
5,700.0	20.45	243.57	5,547.5	-403.3	-811.6	-277.8	0.00	0.00	0.00
5,726.1	20.45	243.57	5,572.0	-407.4	-819.8	-280.6	0.00	0.00	0.00
Sussex									
5,800.0	20.45	243.57	5,641.2	-418.9	-842.9	-288.5	0.00	0.00	0.00
5,900.0	20.45	243.57	5,734.9	-434.4	-874.2	-299.2	0.00	0.00	0.00
6,000.0	20.45	243.57	5,828.6	-450.0	-905.4	-309.9	0.00	0.00	0.00
6,100.0	20.45	243.57	5,922.3	-465.5	-936.7	-320.6	0.00	0.00	0.00
6,200.0	20.45	243.57	6,016.0	-481.1	-968.0	-331.3	0.00	0.00	0.00
6,300.0	20.45	243.57	6,109.7	-496.6	-999.3	-342.0	0.00	0.00	0.00
6,400.0	20.45	243.57	6,203.4	-512.1	-1,030.6	-352.7	0.00	0.00	0.00
6,500.0	20.45	243.57	6,297.1	-527.7	-1,061.9	-363.4	0.00	0.00	0.00
6,600.0	20.45	243.57	6,390.8	-543.2	-1,093.1	-374.1	0.00	0.00	0.00
6,700.0	20.45	243.57	6,484.5	-558.8	-1,124.4	-384.9	0.00	0.00	0.00
6,800.0	20.45	243.57	6,578.2	-574.3	-1,155.7	-395.6	0.00	0.00	0.00
6,900.0	20.45	243.57	6,671.9	-589.9	-1,187.0	-406.3	0.00	0.00	0.00
7,000.0	20.45	243.57	6,765.6	-605.4	-1,218.3	-417.0	0.00	0.00	0.00
7,100.0	20.45	243.57	6,859.3	-621.0	-1,249.6	-427.7	0.00	0.00	0.00
7,200.0	20.45	243.57	6,953.0	-636.5	-1,280.8	-438.4	0.00	0.00	0.00
7,258.9	20.45	243.57	7,008.2	-645.7	-1,299.3	-444.7	0.00	0.00	0.00
Start Drop -2.00									
7,300.0	19.62	243.57	7,046.8	-651.9	-1,311.9	-449.0	2.00	-2.00	0.00
7,400.0	17.62	243.57	7,141.6	-666.2	-1,340.5	-458.8	2.00	-2.00	0.00
7,500.0	15.62	243.57	7,237.4	-678.9	-1,366.1	-467.6	2.00	-2.00	0.00
7,600.0	13.62	243.57	7,334.2	-690.1	-1,388.7	-475.3	2.00	-2.00	0.00
7,700.0	11.62	243.57	7,431.7	-699.8	-1,408.3	-482.0	2.00	-2.00	0.00
7,705.4	11.52	243.57	7,437.0	-700.3	-1,409.2	-482.3	2.00	-2.00	0.00
Shannon									
7,800.0	9.62	243.57	7,530.0	-708.1	-1,424.8	-487.7	2.00	-2.00	0.00
7,900.0	7.62	243.57	7,628.9	-714.7	-1,438.2	-492.3	2.00	-2.00	0.00
8,000.0	5.62	243.57	7,728.2	-719.9	-1,448.5	-495.8	2.00	-2.00	0.00
8,100.0	3.62	243.57	7,827.9	-723.4	-1,455.8	-498.3	2.00	-2.00	0.00
8,200.0	1.62	243.57	7,927.8	-725.5	-1,459.9	-499.7	2.00	-2.00	0.00
8,281.2	0.00	0.00	8,009.0	-726.0	-1,460.9	-500.0	2.00	-2.00	0.00
Start 500.0 hold at 8281.2 MD									
8,300.0	0.00	0.00	8,027.8	-726.0	-1,460.9	-500.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,127.8	-726.0	-1,460.9	-500.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,227.8	-726.0	-1,460.9	-500.0	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
8,600.0	0.00	0.00	8,327.8	-726.0	-1,460.9	-500.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,427.8	-726.0	-1,460.9	-500.0	0.00	0.00	0.00
8,781.2	0.00	0.00	8,509.0	-726.0	-1,460.9	-500.0	0.00	0.00	0.00
Start Build 10.00									
8,800.0	1.88	359.97	8,527.8	-725.7	-1,460.9	-499.7	10.00	10.00	0.00
8,850.0	6.88	359.97	8,577.6	-721.9	-1,460.9	-495.9	10.00	10.00	0.00
8,900.0	11.88	359.97	8,626.9	-713.7	-1,460.9	-487.9	10.00	10.00	0.00
8,950.0	16.88	359.97	8,675.3	-701.3	-1,460.9	-475.6	10.00	10.00	0.00
9,000.0	21.88	359.97	8,722.5	-684.7	-1,460.9	-459.2	10.00	10.00	0.00
9,050.0	26.88	359.97	8,768.0	-664.1	-1,460.9	-438.8	10.00	10.00	0.00
9,100.0	31.88	359.97	8,811.6	-639.6	-1,460.9	-414.6	10.00	10.00	0.00
9,150.0	36.88	359.97	8,852.8	-611.4	-1,461.0	-386.7	10.00	10.00	0.00
9,200.0	41.88	359.97	8,891.5	-579.7	-1,461.0	-355.3	10.00	10.00	0.00
9,200.7	41.95	359.97	8,892.0	-579.2	-1,461.0	-354.8	10.00	10.00	0.00
Sharon Spring									
9,250.0	46.88	359.97	8,927.2	-544.7	-1,461.0	-320.7	10.00	10.00	0.00
9,279.8	49.86	359.97	8,947.0	-522.4	-1,461.0	-298.7	10.00	10.00	0.00
Niobrara									
9,300.0	51.88	359.97	8,959.7	-506.8	-1,461.0	-283.2	10.00	10.00	0.00
9,350.0	56.88	359.97	8,988.9	-466.1	-1,461.0	-243.0	10.00	10.00	0.00
9,400.0	61.88	359.97	9,014.3	-423.1	-1,461.1	-200.5	10.00	10.00	0.00
9,450.0	66.88	359.97	9,035.9	-378.0	-1,461.1	-155.9	10.00	10.00	0.00
9,500.0	71.88	359.97	9,053.5	-331.3	-1,461.1	-109.7	10.00	10.00	0.00
9,550.0	76.88	359.97	9,067.0	-283.1	-1,461.1	-62.1	10.00	10.00	0.00
9,600.0	81.88	359.97	9,076.2	-234.0	-1,461.1	-13.5	10.00	10.00	0.00
9,650.0	86.88	359.97	9,081.1	-184.3	-1,461.2	35.7	10.00	10.00	0.00
9,681.2	90.00	359.97	9,082.0	-153.0	-1,461.2	66.6	10.00	10.00	0.00
Start 9874.2 hold at 9681.2 MD - Niobrara Target									
9,681.3	90.00	359.97	9,082.0	-153.0	-1,461.2	66.6	0.00	0.00	0.00
3130-1NH LP									
9,700.0	90.00	359.97	9,082.0	-134.3	-1,461.2	85.1	0.00	0.00	0.00
9,800.0	90.00	359.97	9,082.0	-34.3	-1,461.2	184.0	0.00	0.00	0.00
9,900.0	90.00	359.97	9,082.0	65.7	-1,461.3	282.9	0.00	0.00	0.00
10,000.0	90.00	359.97	9,082.0	165.7	-1,461.3	381.8	0.00	0.00	0.00
10,100.0	90.00	359.97	9,082.0	265.7	-1,461.4	480.7	0.00	0.00	0.00
10,200.0	90.00	359.97	9,082.0	365.7	-1,461.4	579.6	0.00	0.00	0.00
10,300.0	90.00	359.97	9,082.0	465.7	-1,461.5	678.5	0.00	0.00	0.00
10,400.0	90.00	359.97	9,082.0	565.7	-1,461.5	777.4	0.00	0.00	0.00
10,500.0	90.00	359.97	9,082.0	665.7	-1,461.6	876.2	0.00	0.00	0.00
10,600.0	90.00	359.97	9,082.0	765.7	-1,461.6	975.1	0.00	0.00	0.00
10,700.0	90.00	359.97	9,082.0	865.7	-1,461.7	1,074.0	0.00	0.00	0.00
10,800.0	90.00	359.97	9,082.0	965.7	-1,461.7	1,172.9	0.00	0.00	0.00
10,900.0	90.00	359.97	9,082.0	1,065.7	-1,461.8	1,271.8	0.00	0.00	0.00
11,000.0	90.00	359.97	9,082.0	1,165.7	-1,461.8	1,370.7	0.00	0.00	0.00
11,100.0	90.00	359.97	9,082.0	1,265.7	-1,461.9	1,469.6	0.00	0.00	0.00
11,200.0	90.00	359.97	9,082.0	1,365.7	-1,461.9	1,568.5	0.00	0.00	0.00
11,300.0	90.00	359.97	9,082.0	1,465.7	-1,462.0	1,667.4	0.00	0.00	0.00
11,400.0	90.00	359.97	9,082.0	1,565.7	-1,462.0	1,766.3	0.00	0.00	0.00
11,500.0	90.00	359.97	9,082.0	1,665.7	-1,462.1	1,865.1	0.00	0.00	0.00
11,600.0	90.00	359.97	9,082.0	1,765.7	-1,462.1	1,964.0	0.00	0.00	0.00
11,700.0	90.00	359.97	9,082.0	1,865.7	-1,462.2	2,062.9	0.00	0.00	0.00
11,800.0	90.00	359.97	9,082.0	1,965.7	-1,462.2	2,161.8	0.00	0.00	0.00
11,900.0	90.00	359.97	9,082.0	2,065.7	-1,462.3	2,260.7	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
12,000.0	90.00	359.97	9,082.0	2,165.7	-1,462.3	2,359.6	0.00	0.00	0.00
12,100.0	90.00	359.97	9,082.0	2,265.7	-1,462.4	2,458.5	0.00	0.00	0.00
12,200.0	90.00	359.97	9,082.0	2,365.7	-1,462.4	2,557.4	0.00	0.00	0.00
12,300.0	90.00	359.97	9,082.0	2,465.7	-1,462.5	2,656.3	0.00	0.00	0.00
12,400.0	90.00	359.97	9,082.0	2,565.7	-1,462.5	2,755.1	0.00	0.00	0.00
12,500.0	90.00	359.97	9,082.0	2,665.7	-1,462.6	2,854.0	0.00	0.00	0.00
12,600.0	90.00	359.97	9,082.0	2,765.7	-1,462.6	2,952.9	0.00	0.00	0.00
12,700.0	90.00	359.97	9,082.0	2,865.7	-1,462.7	3,051.8	0.00	0.00	0.00
12,800.0	90.00	359.97	9,082.0	2,965.7	-1,462.7	3,150.7	0.00	0.00	0.00
12,900.0	90.00	359.97	9,082.0	3,065.7	-1,462.8	3,249.6	0.00	0.00	0.00
13,000.0	90.00	359.97	9,082.0	3,165.7	-1,462.8	3,348.5	0.00	0.00	0.00
13,100.0	90.00	359.97	9,082.0	3,265.7	-1,462.9	3,447.4	0.00	0.00	0.00
13,200.0	90.00	359.97	9,082.0	3,365.7	-1,462.9	3,546.3	0.00	0.00	0.00
13,300.0	90.00	359.97	9,082.0	3,465.7	-1,463.0	3,645.1	0.00	0.00	0.00
13,400.0	90.00	359.97	9,082.0	3,565.7	-1,463.0	3,744.0	0.00	0.00	0.00
13,500.0	90.00	359.97	9,082.0	3,665.7	-1,463.1	3,842.9	0.00	0.00	0.00
13,600.0	90.00	359.97	9,082.0	3,765.7	-1,463.1	3,941.8	0.00	0.00	0.00
13,700.0	90.00	359.97	9,082.0	3,865.7	-1,463.2	4,040.7	0.00	0.00	0.00
13,800.0	90.00	359.97	9,082.0	3,965.7	-1,463.2	4,139.6	0.00	0.00	0.00
13,900.0	90.00	359.97	9,082.0	4,065.7	-1,463.3	4,238.5	0.00	0.00	0.00
14,000.0	90.00	359.97	9,082.0	4,165.7	-1,463.3	4,337.4	0.00	0.00	0.00
14,100.0	90.00	359.97	9,082.0	4,265.7	-1,463.4	4,436.3	0.00	0.00	0.00
14,200.0	90.00	359.97	9,082.0	4,365.7	-1,463.4	4,535.1	0.00	0.00	0.00
14,300.0	90.00	359.97	9,082.0	4,465.7	-1,463.5	4,634.0	0.00	0.00	0.00
14,400.0	90.00	359.97	9,082.0	4,565.7	-1,463.5	4,732.9	0.00	0.00	0.00
14,500.0	90.00	359.97	9,082.0	4,665.7	-1,463.6	4,831.8	0.00	0.00	0.00
14,600.0	90.00	359.97	9,082.0	4,765.7	-1,463.6	4,930.7	0.00	0.00	0.00
14,700.0	90.00	359.97	9,082.0	4,865.7	-1,463.7	5,029.6	0.00	0.00	0.00
14,800.0	90.00	359.97	9,082.0	4,965.7	-1,463.7	5,128.5	0.00	0.00	0.00
14,900.0	90.00	359.97	9,082.0	5,065.7	-1,463.8	5,227.4	0.00	0.00	0.00
15,000.0	90.00	359.97	9,082.0	5,165.7	-1,463.8	5,326.3	0.00	0.00	0.00
15,100.0	90.00	359.97	9,082.0	5,265.7	-1,463.9	5,425.2	0.00	0.00	0.00
15,200.0	90.00	359.97	9,082.0	5,365.7	-1,463.9	5,524.0	0.00	0.00	0.00
15,300.0	90.00	359.97	9,082.0	5,465.7	-1,464.0	5,622.9	0.00	0.00	0.00
15,400.0	90.00	359.97	9,082.0	5,565.7	-1,464.0	5,721.8	0.00	0.00	0.00
15,500.0	90.00	359.97	9,082.0	5,665.7	-1,464.1	5,820.7	0.00	0.00	0.00
15,600.0	90.00	359.97	9,082.0	5,765.7	-1,464.1	5,919.6	0.00	0.00	0.00
15,700.0	90.00	359.97	9,082.0	5,865.7	-1,464.2	6,018.5	0.00	0.00	0.00
15,800.0	90.00	359.97	9,082.0	5,965.7	-1,464.2	6,117.4	0.00	0.00	0.00
15,900.0	90.00	359.97	9,082.0	6,065.7	-1,464.3	6,216.3	0.00	0.00	0.00
16,000.0	90.00	359.97	9,082.0	6,165.7	-1,464.3	6,315.2	0.00	0.00	0.00
16,100.0	90.00	359.97	9,082.0	6,265.7	-1,464.4	6,414.0	0.00	0.00	0.00
16,200.0	90.00	359.97	9,082.0	6,365.7	-1,464.4	6,512.9	0.00	0.00	0.00
16,300.0	90.00	359.97	9,082.0	6,465.7	-1,464.5	6,611.8	0.00	0.00	0.00
16,400.0	90.00	359.97	9,082.0	6,565.7	-1,464.5	6,710.7	0.00	0.00	0.00
16,500.0	90.00	359.97	9,082.0	6,665.7	-1,464.6	6,809.6	0.00	0.00	0.00
16,600.0	90.00	359.97	9,082.0	6,765.7	-1,464.6	6,908.5	0.00	0.00	0.00
16,700.0	90.00	359.97	9,082.0	6,865.7	-1,464.7	7,007.4	0.00	0.00	0.00
16,800.0	90.00	359.97	9,082.0	6,965.7	-1,464.7	7,106.3	0.00	0.00	0.00
16,900.0	90.00	359.97	9,082.0	7,065.7	-1,464.8	7,205.2	0.00	0.00	0.00
17,000.0	90.00	359.97	9,082.0	7,165.7	-1,464.8	7,304.0	0.00	0.00	0.00
17,100.0	90.00	359.97	9,082.0	7,265.7	-1,464.9	7,402.9	0.00	0.00	0.00
17,200.0	90.00	359.97	9,082.0	7,365.7	-1,464.9	7,501.8	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)	
17,300.0	90.00	359.97	9,082.0	7,465.7	-1,465.0	7,600.7	0.00	0.00	0.00	
17,400.0	90.00	359.97	9,082.0	7,565.7	-1,465.0	7,699.6	0.00	0.00	0.00	
17,500.0	90.00	359.97	9,082.0	7,665.7	-1,465.1	7,798.5	0.00	0.00	0.00	
17,600.0	90.00	359.97	9,082.0	7,765.7	-1,465.1	7,897.4	0.00	0.00	0.00	
17,700.0	90.00	359.97	9,082.0	7,865.7	-1,465.2	7,996.3	0.00	0.00	0.00	
17,800.0	90.00	359.97	9,082.0	7,965.7	-1,465.2	8,095.2	0.00	0.00	0.00	
17,900.0	90.00	359.97	9,082.0	8,065.7	-1,465.3	8,194.0	0.00	0.00	0.00	
18,000.0	90.00	359.97	9,082.0	8,165.7	-1,465.3	8,292.9	0.00	0.00	0.00	
18,100.0	90.00	359.97	9,082.0	8,265.7	-1,465.4	8,391.8	0.00	0.00	0.00	
18,200.0	90.00	359.97	9,082.0	8,365.7	-1,465.4	8,490.7	0.00	0.00	0.00	
18,300.0	90.00	359.97	9,082.0	8,465.7	-1,465.5	8,589.6	0.00	0.00	0.00	
18,400.0	90.00	359.97	9,082.0	8,565.7	-1,465.5	8,688.5	0.00	0.00	0.00	
18,500.0	90.00	359.97	9,082.0	8,665.7	-1,465.6	8,787.4	0.00	0.00	0.00	
18,600.0	90.00	359.97	9,082.0	8,765.7	-1,465.6	8,886.3	0.00	0.00	0.00	
18,700.0	90.00	359.97	9,082.0	8,865.7	-1,465.7	8,985.2	0.00	0.00	0.00	
18,800.0	90.00	359.97	9,082.0	8,965.7	-1,465.7	9,084.1	0.00	0.00	0.00	
18,900.0	90.00	359.97	9,082.0	9,065.7	-1,465.8	9,182.9	0.00	0.00	0.00	
19,000.0	90.00	359.97	9,082.0	9,165.7	-1,465.8	9,281.8	0.00	0.00	0.00	
19,100.0	90.00	359.97	9,082.0	9,265.7	-1,465.9	9,380.7	0.00	0.00	0.00	
19,200.0	90.00	359.97	9,082.0	9,365.7	-1,465.9	9,479.6	0.00	0.00	0.00	
19,300.0	90.00	359.97	9,082.0	9,465.7	-1,466.0	9,578.5	0.00	0.00	0.00	
19,400.0	90.00	359.97	9,082.0	9,565.7	-1,466.0	9,677.4	0.00	0.00	0.00	
19,500.0	90.00	359.97	9,082.0	9,665.7	-1,466.1	9,776.3	0.00	0.00	0.00	
19,555.4	90.00	359.97	9,082.0	9,721.1	-1,466.1	9,831.0	0.00	0.00	0.00	
TD at 19555.5										
19,555.5	90.00	359.97	9,082.0	9,721.2	-1,466.1	9,831.1	0.00	0.00	0.00	
3130-1NH BHL										

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	
3130-1NH BHL - plan hits target center - Point	0.00	263.29	9,082.0	9,721.2	-1,466.1	1,602,630.44	3,185,427.03	40.98565°N	104.82841°W	
3130-1NH LP - plan hits target center - Point	0.00	263.29	9,082.0	-153.0	-1,461.2	1,592,756.59	3,185,507.34	40.95855°N	104.82839°W	

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Oxnard West 3130-1NH
Company:	Longs Peak Resources	TVD Reference:	GL 6012 + 25 KB @ 6037.0usft
Project:	Weld County, CO	MD Reference:	GL 6012 + 25 KB @ 6037.0usft
Site:	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	North Reference:	True
Well:	Oxnard West 3130-1NH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,154.0	2,154.0	Fox Hills				
2,428.0	2,428.0	Pierre				
2,783.1	2,783.0	Teapot				
4,765.6	4,672.0	Parkman				
5,726.1	5,572.0	Sussex				
7,705.4	7,437.0	Shannon				
9,200.7	8,892.0	Sharon Spring				
9,279.8	8,947.0	Niobrara				
9,681.2	9,082.0	Niobrara Target				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,600.0	2,600.0	0.0	0.0	Start Build 2.00	
3,622.3	3,600.8	-80.3	-161.6	Start 3636.6 hold at 3622.3 MD	
7,258.9	7,008.2	-645.7	-1,299.3	Start Drop -2.00	
8,281.2	8,009.0	-726.0	-1,460.9	Start 500.0 hold at 8281.2 MD	
8,781.2	8,509.0	-726.0	-1,460.9	Start Build 10.00	
9,681.2	9,082.0	-153.0	-1,461.2	Start 9874.2 hold at 9681.2 MD	
19,555.4	9,082.0	9,721.1	-1,466.1	TD at 19555.5	