

Longs Peak Resources  
 Project: Weld County, CO  
 Site: Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W  
 Well: Oxnard West 3130-2CH  
 Wellbore: Wellbore #1  
 Design: Design #1  
 Lat: 40.95897°N  
 Long: 104.82296°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
3379.8	15.60	236.95	3370.2	-57.5	-88.4	2.00	236.95	-47.0	Start 4165.9 hold at 3379.8 MD
7545.8	15.60	236.95	7382.8	-668.5	-1027.2	0.00	0.00	-546.3	Start Drop -2.00
8325.6	0.00	0.00	8153.0	-726.0	-1115.6	2.00	180.00	-593.4	Start 500.0 hold at 8325.6 MD
8825.6	0.00	0.00	8653.0	-726.0	-1115.6	0.00	0.00	-593.4	Start Build 10.00
9725.6	90.00	359.97	9226.0	-153.0	-1115.9	10.00	359.97	-24.2	Start 9870.6 hold at 9725.6 MD
9596.2	90.00	359.97	9226.0	9717.5	-1121.0	0.00	0.00	9782.0	TD at 19596.2

#### WELL DETAILS: Oxnard West 3130-2CH

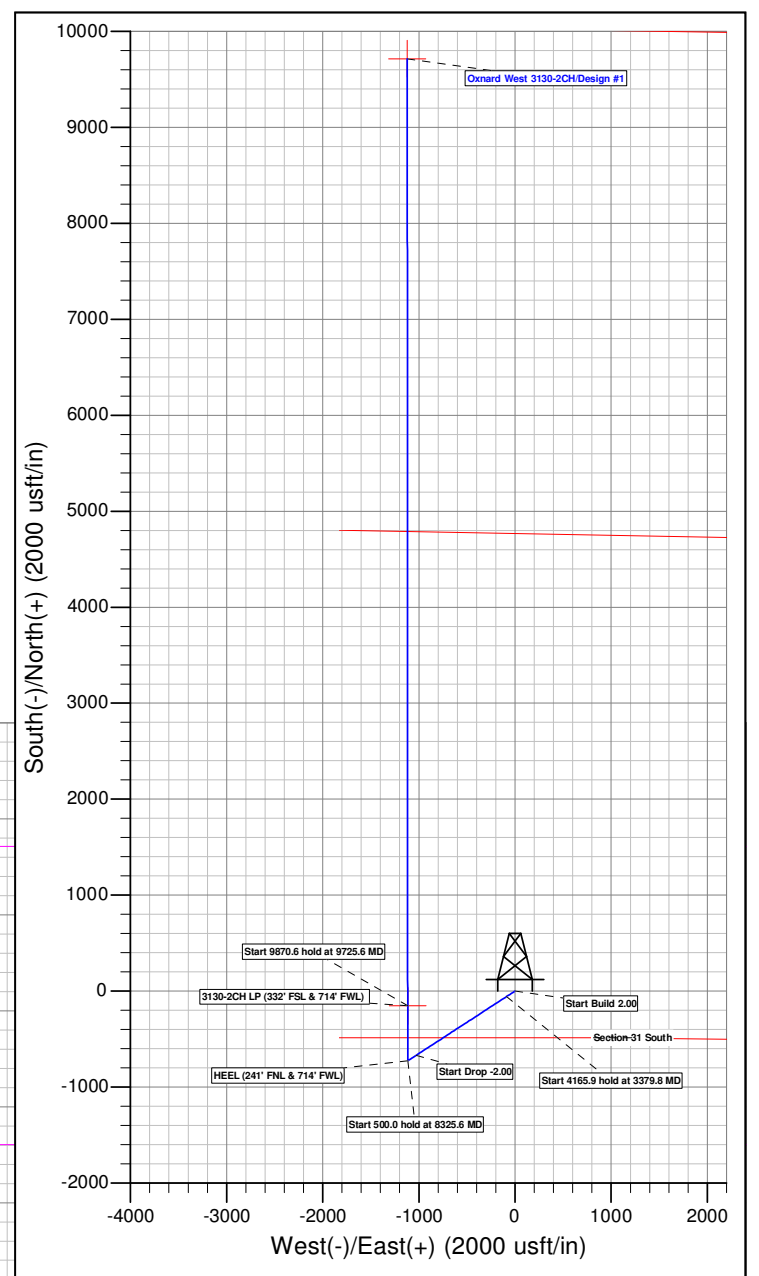
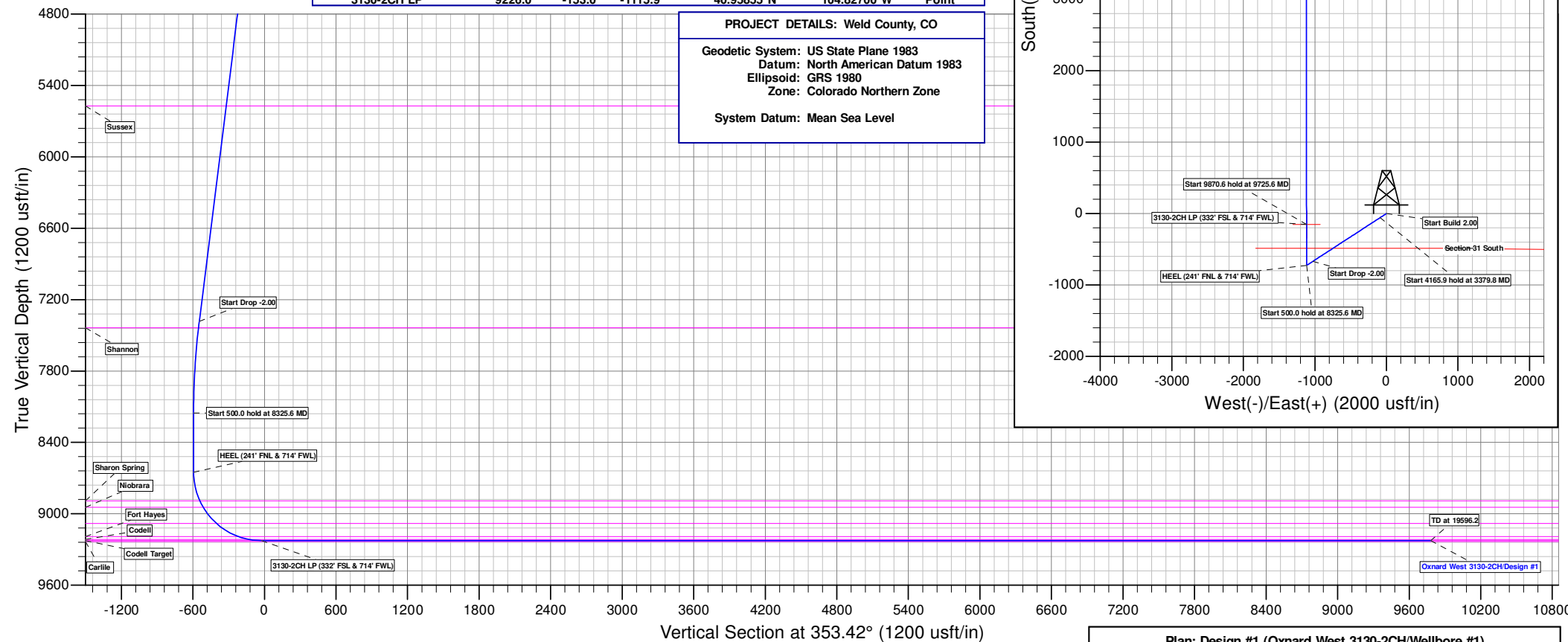
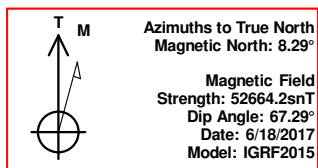
6012.0							Slot
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.0	0.0	1592921.01	3187005.97	40.95897°N	104.82296°W		

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
3130-2CH BHL	9226.0	9717.5	-1121.0	40.98564°N	104.82702°W	Point
3130-2CH LP	9226.0	-153.0	-1115.9	40.95855°N	104.82700°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 3130-2CH/Wellbore #1)

Created By: Stephanie Sneesby

Date: 18:03, June 28 2017

# **Longs Peak Resources**

**Weld County, CO**

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

**Oxnard West 3130-2CH**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**25 June, 2017**

## Planning Report

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

<b>Project</b>	Weld County, CO, ,		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 3130-2CH					
Well Position	+N/-S	0.0 usft	Northing:	1,592,921.01 usft	Latitude:	40.95897°N
	+E/-W	38.7 usft	Easting:	3,187,005.98 usft	Longitude:	104.82296°W
Position Uncertainty		0.0 usft	Wellhead Elevation:	25.0 usft	Ground Level:	6,012.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	9.10	67.55	53,578.75346681
	IGRF2015	6/18/2017	8.29	67.29	52,664.21380531

<b>Design</b>	Design #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE		<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	353.42	

<b>Plan Survey Tool Program</b>		<b>Date</b> 6/18/2017			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.0	19,596.2	Design #1 (Wellbore #1)		

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	
3,379.8	15.60	236.95	3,370.2	-57.5	-88.4	2.00	2.00	0.00	236.95	
7,545.8	15.60	236.95	7,382.8	-668.5	-1,027.2	0.00	0.00	0.00	0.00	
8,325.6	0.00	0.00	8,153.0	-726.0	-1,115.6	2.00	-2.00	0.00	180.00	
8,825.6	0.00	0.00	8,653.0	-726.0	-1,115.6	0.00	0.00	0.00	0.00	
9,725.6	90.00	359.97	9,226.0	-153.0	-1,115.9	10.00	10.00	0.00	359.97	3130-2CH BHL
19,596.2	90.00	359.97	9,226.0	9,717.5	-1,121.0	0.00	0.00	0.00	0.00	3130-2CH BHL

# Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	
<b>Fox Hills</b>										
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	
<b>Pierre</b>										
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	
<b>Start Build 2.00</b>										
2,700.0	2.00	236.95	2,700.0	-1.0	-1.5	-0.8	2.00	2.00	0.00	
2,783.1	3.66	236.95	2,783.0	-3.2	-4.9	-2.6	2.00	2.00	0.00	
<b>Teapot</b>										
2,800.0	4.00	236.95	2,799.8	-3.8	-5.8	-3.1	2.00	2.00	0.00	
2,900.0	6.00	236.95	2,899.5	-8.6	-13.2	-7.0	2.00	2.00	0.00	
3,000.0	8.00	236.95	2,998.7	-15.2	-23.4	-12.4	2.00	2.00	0.00	
3,100.0	10.00	236.95	3,097.5	-23.7	-36.5	-19.4	2.00	2.00	0.00	
3,200.0	12.00	236.95	3,195.6	-34.1	-52.5	-27.9	2.00	2.00	0.00	
3,300.0	14.00	236.95	3,293.1	-46.4	-71.3	-37.9	2.00	2.00	0.00	
3,379.8	15.60	236.95	3,370.2	-57.5	-88.4	-47.0	2.00	2.00	0.00	
<b>Start 4165.9 hold at 3379.8 MD</b>										
3,400.0	15.60	236.95	3,389.7	-60.5	-93.0	-49.4	0.00	0.00	0.00	
3,500.0	15.60	236.95	3,486.0	-75.2	-115.5	-61.4	0.00	0.00	0.00	
3,600.0	15.60	236.95	3,582.3	-89.8	-138.0	-73.4	0.00	0.00	0.00	
3,700.0	15.60	236.95	3,678.6	-104.5	-160.6	-85.4	0.00	0.00	0.00	
3,800.0	15.60	236.95	3,774.9	-119.2	-183.1	-97.4	0.00	0.00	0.00	
3,900.0	15.60	236.95	3,871.3	-133.8	-205.6	-109.4	0.00	0.00	0.00	
4,000.0	15.60	236.95	3,967.6	-148.5	-228.2	-121.4	0.00	0.00	0.00	
4,100.0	15.60	236.95	4,063.9	-163.1	-250.7	-133.3	0.00	0.00	0.00	
4,200.0	15.60	236.95	4,160.2	-177.8	-273.2	-145.3	0.00	0.00	0.00	
4,300.0	15.60	236.95	4,256.5	-192.5	-295.8	-157.3	0.00	0.00	0.00	

# Planning Report

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<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	15.60	236.95	4,352.8	-207.1	-318.3	-169.3	0.00	0.00	0.00
4,500.0	15.60	236.95	4,449.2	-221.8	-340.8	-181.3	0.00	0.00	0.00
4,600.0	15.60	236.95	4,545.5	-236.5	-363.4	-193.3	0.00	0.00	0.00
4,700.0	15.60	236.95	4,641.8	-251.1	-385.9	-205.3	0.00	0.00	0.00
4,731.4	15.60	236.95	4,672.0	-255.7	-393.0	-209.0	0.00	0.00	0.00
<b>Parkman</b>									
4,800.0	15.60	236.95	4,738.1	-265.8	-408.4	-217.2	0.00	0.00	0.00
4,900.0	15.60	236.95	4,834.4	-280.5	-431.0	-229.2	0.00	0.00	0.00
5,000.0	15.60	236.95	4,930.7	-295.1	-453.5	-241.2	0.00	0.00	0.00
5,100.0	15.60	236.95	5,027.1	-309.8	-476.0	-253.2	0.00	0.00	0.00
5,200.0	15.60	236.95	5,123.4	-324.5	-498.6	-265.2	0.00	0.00	0.00
5,300.0	15.60	236.95	5,219.7	-339.1	-521.1	-277.2	0.00	0.00	0.00
5,400.0	15.60	236.95	5,316.0	-353.8	-543.6	-289.2	0.00	0.00	0.00
5,500.0	15.60	236.95	5,412.3	-368.5	-566.2	-301.1	0.00	0.00	0.00
5,600.0	15.60	236.95	5,508.7	-383.1	-588.7	-313.1	0.00	0.00	0.00
5,665.8	15.60	236.95	5,572.0	-392.8	-603.5	-321.0	0.00	0.00	0.00
<b>Sussex</b>									
5,700.0	15.60	236.95	5,605.0	-397.8	-611.3	-325.1	0.00	0.00	0.00
5,800.0	15.60	236.95	5,701.3	-412.5	-633.8	-337.1	0.00	0.00	0.00
5,900.0	15.60	236.95	5,797.6	-427.1	-656.3	-349.1	0.00	0.00	0.00
6,000.0	15.60	236.95	5,893.9	-441.8	-678.9	-361.1	0.00	0.00	0.00
6,100.0	15.60	236.95	5,990.2	-456.4	-701.4	-373.1	0.00	0.00	0.00
6,200.0	15.60	236.95	6,086.6	-471.1	-723.9	-385.0	0.00	0.00	0.00
6,300.0	15.60	236.95	6,182.9	-485.8	-746.5	-397.0	0.00	0.00	0.00
6,400.0	15.60	236.95	6,279.2	-500.4	-769.0	-409.0	0.00	0.00	0.00
6,500.0	15.60	236.95	6,375.5	-515.1	-791.5	-421.0	0.00	0.00	0.00
6,600.0	15.60	236.95	6,471.8	-529.8	-814.1	-433.0	0.00	0.00	0.00
6,700.0	15.60	236.95	6,568.2	-544.4	-836.6	-445.0	0.00	0.00	0.00
6,800.0	15.60	236.95	6,664.5	-559.1	-859.1	-457.0	0.00	0.00	0.00
6,900.0	15.60	236.95	6,760.8	-573.8	-881.7	-468.9	0.00	0.00	0.00
7,000.0	15.60	236.95	6,857.1	-588.4	-904.2	-480.9	0.00	0.00	0.00
7,100.0	15.60	236.95	6,953.4	-603.1	-926.7	-492.9	0.00	0.00	0.00
7,200.0	15.60	236.95	7,049.7	-617.8	-949.3	-504.9	0.00	0.00	0.00
7,300.0	15.60	236.95	7,146.1	-632.4	-971.8	-516.9	0.00	0.00	0.00
7,400.0	15.60	236.95	7,242.4	-647.1	-994.3	-528.9	0.00	0.00	0.00
7,500.0	15.60	236.95	7,338.7	-661.8	-1,016.9	-540.9	0.00	0.00	0.00
7,545.8	15.60	236.95	7,382.8	-668.5	-1,027.2	-546.3	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
7,600.0	14.51	236.95	7,435.1	-676.1	-1,039.0	-552.6	2.00	-2.00	0.00
7,601.9	14.47	236.95	7,437.0	-676.4	-1,039.4	-552.8	2.00	-2.00	0.00
<b>Shannon</b>									
7,700.0	12.51	236.95	7,532.4	-688.9	-1,058.6	-563.0	2.00	-2.00	0.00
7,800.0	10.51	236.95	7,630.4	-699.8	-1,075.3	-571.9	2.00	-2.00	0.00
7,900.0	8.51	236.95	7,729.0	-708.8	-1,089.2	-579.3	2.00	-2.00	0.00
8,000.0	6.51	236.95	7,828.1	-715.9	-1,100.1	-585.1	2.00	-2.00	0.00
8,100.0	4.51	236.95	7,927.6	-721.2	-1,108.2	-589.4	2.00	-2.00	0.00
8,200.0	2.51	236.95	8,027.5	-724.5	-1,113.3	-592.1	2.00	-2.00	0.00
8,300.0	0.51	236.95	8,127.4	-725.9	-1,115.5	-593.3	2.00	-2.00	0.00
8,325.6	0.00	0.00	8,153.0	-726.0	-1,115.6	-593.4	2.00	-2.00	0.00
<b>Start 500.0 hold at 8325.6 MD</b>									
8,400.0	0.00	0.00	8,227.4	-726.0	-1,115.6	-593.4	0.00	0.00	0.00
8,500.0	0.00	0.00	8,327.4	-726.0	-1,115.6	-593.4	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	8,427.4	-726.0	-1,115.6	-593.4	0.00	0.00	0.00
8,700.0	0.00	0.00	8,527.4	-726.0	-1,115.6	-593.4	0.00	0.00	0.00
8,800.0	0.00	0.00	8,627.4	-726.0	-1,115.6	-593.4	0.00	0.00	0.00
8,825.6	0.00	0.00	8,653.0	-726.0	-1,115.6	-593.4	0.00	0.00	0.00
<b>Start Build 10.00</b>									
8,850.0	2.44	359.97	8,677.4	-725.5	-1,115.6	-592.9	10.00	10.00	0.00
8,900.0	7.44	359.97	8,727.2	-721.2	-1,115.6	-588.6	10.00	10.00	0.00
8,950.0	12.44	359.97	8,776.4	-712.5	-1,115.6	-580.0	10.00	10.00	0.00
9,000.0	17.44	359.97	8,824.7	-699.7	-1,115.6	-567.2	10.00	10.00	0.00
9,050.0	22.44	359.97	8,871.7	-682.6	-1,115.6	-550.3	10.00	10.00	0.00
9,072.1	24.65	359.97	8,892.0	-673.8	-1,115.6	-541.5	10.00	10.00	0.00
<b>Sharon Spring</b>									
9,100.0	27.44	359.97	8,917.0	-661.5	-1,115.6	-529.3	10.00	10.00	0.00
9,134.3	30.87	359.97	8,947.0	-644.8	-1,115.6	-512.7	10.00	10.00	0.00
<b>Niobrara</b>									
9,150.0	32.44	359.97	8,960.4	-636.6	-1,115.6	-504.5	10.00	10.00	0.00
9,200.0	37.44	359.97	9,001.3	-608.0	-1,115.7	-476.1	10.00	10.00	0.00
9,250.0	42.44	359.97	9,039.7	-575.9	-1,115.7	-444.2	10.00	10.00	0.00
9,300.0	47.44	359.97	9,075.0	-540.6	-1,115.7	-409.1	10.00	10.00	0.00
9,310.4	48.48	359.97	9,082.0	-532.8	-1,115.7	-401.5	10.00	10.00	0.00
<b>Niobrara Target</b>									
9,350.0	52.44	359.97	9,107.2	-502.3	-1,115.7	-371.1	10.00	10.00	0.00
9,400.0	57.44	359.97	9,135.9	-461.4	-1,115.7	-330.5	10.00	10.00	0.00
9,450.0	62.44	359.97	9,160.9	-418.1	-1,115.8	-287.5	10.00	10.00	0.00
9,500.0	67.44	359.97	9,182.1	-372.8	-1,115.8	-242.5	10.00	10.00	0.00
9,527.3	70.17	359.97	9,192.0	-347.4	-1,115.8	-217.2	10.00	10.00	0.00
<b>Fort Hayes</b>									
9,550.0	72.44	359.97	9,199.3	-325.9	-1,115.8	-195.9	10.00	10.00	0.00
9,600.0	77.44	359.97	9,212.2	-277.6	-1,115.8	-147.9	10.00	10.00	0.00
9,624.1	79.86	359.97	9,217.0	-254.0	-1,115.8	-124.4	10.00	10.00	0.00
<b>Codell</b>									
9,650.0	82.44	359.97	9,221.0	-228.4	-1,115.9	-99.0	10.00	10.00	0.00
9,700.0	87.44	359.97	9,225.4	-178.6	-1,115.9	-49.6	10.00	10.00	0.00
9,725.6	90.00	359.97	9,226.0	-153.0	-1,115.9	-24.1	9.98	9.98	0.00
<b>Start 9870.6 hold at 9725.6 MD - Codell Target - 3130-2CH LP</b>									
9,800.0	90.00	359.97	9,226.0	-78.6	-1,115.9	49.8	0.00	0.00	0.00
9,900.0	90.00	359.97	9,226.0	21.4	-1,116.0	149.1	0.00	0.00	0.00
10,000.0	90.00	359.97	9,226.0	121.4	-1,116.0	248.5	0.00	0.00	0.00
10,100.0	90.00	359.97	9,226.0	221.4	-1,116.1	347.8	0.00	0.00	0.00
10,200.0	90.00	359.97	9,226.0	321.4	-1,116.1	447.2	0.00	0.00	0.00
10,300.0	90.00	359.97	9,226.0	421.4	-1,116.2	546.5	0.00	0.00	0.00
10,400.0	90.00	359.97	9,226.0	521.4	-1,116.2	645.9	0.00	0.00	0.00
10,500.0	90.00	359.97	9,226.0	621.4	-1,116.3	745.2	0.00	0.00	0.00
10,600.0	90.00	359.97	9,226.0	721.4	-1,116.3	844.6	0.00	0.00	0.00
10,700.0	90.00	359.97	9,226.0	821.4	-1,116.4	943.9	0.00	0.00	0.00
10,800.0	90.00	359.97	9,226.0	921.4	-1,116.4	1,043.2	0.00	0.00	0.00
10,900.0	90.00	359.97	9,226.0	1,021.4	-1,116.5	1,142.6	0.00	0.00	0.00
11,000.0	90.00	359.97	9,226.0	1,121.4	-1,116.6	1,241.9	0.00	0.00	0.00
11,100.0	90.00	359.97	9,226.0	1,221.4	-1,116.6	1,341.3	0.00	0.00	0.00
11,200.0	90.00	359.97	9,226.0	1,321.4	-1,116.7	1,440.6	0.00	0.00	0.00
11,300.0	90.00	359.97	9,226.0	1,421.4	-1,116.7	1,540.0	0.00	0.00	0.00
11,400.0	90.00	359.97	9,226.0	1,521.4	-1,116.8	1,639.3	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
11,500.0	90.00	359.97	9,226.0	1,621.4	-1,116.8	1,738.7	0.00	0.00	0.00
11,600.0	90.00	359.97	9,226.0	1,721.4	-1,116.9	1,838.0	0.00	0.00	0.00
11,700.0	90.00	359.97	9,226.0	1,821.4	-1,116.9	1,937.4	0.00	0.00	0.00
11,800.0	90.00	359.97	9,226.0	1,921.4	-1,117.0	2,036.7	0.00	0.00	0.00
11,900.0	90.00	359.97	9,226.0	2,021.4	-1,117.0	2,136.1	0.00	0.00	0.00
12,000.0	90.00	359.97	9,226.0	2,121.4	-1,117.1	2,235.4	0.00	0.00	0.00
12,100.0	90.00	359.97	9,226.0	2,221.4	-1,117.1	2,334.8	0.00	0.00	0.00
12,200.0	90.00	359.97	9,226.0	2,321.4	-1,117.2	2,434.1	0.00	0.00	0.00
12,300.0	90.00	359.97	9,226.0	2,421.4	-1,117.2	2,533.5	0.00	0.00	0.00
12,400.0	90.00	359.97	9,226.0	2,521.4	-1,117.3	2,632.8	0.00	0.00	0.00
12,500.0	90.00	359.97	9,226.0	2,621.4	-1,117.3	2,732.1	0.00	0.00	0.00
12,600.0	90.00	359.97	9,226.0	2,721.4	-1,117.4	2,831.5	0.00	0.00	0.00
12,700.0	90.00	359.97	9,226.0	2,821.4	-1,117.4	2,930.8	0.00	0.00	0.00
12,800.0	90.00	359.97	9,226.0	2,921.4	-1,117.5	3,030.2	0.00	0.00	0.00
12,900.0	90.00	359.97	9,226.0	3,021.4	-1,117.5	3,129.5	0.00	0.00	0.00
13,000.0	90.00	359.97	9,226.0	3,121.4	-1,117.6	3,228.9	0.00	0.00	0.00
13,100.0	90.00	359.97	9,226.0	3,221.4	-1,117.6	3,328.2	0.00	0.00	0.00
13,200.0	90.00	359.97	9,226.0	3,321.4	-1,117.7	3,427.6	0.00	0.00	0.00
13,300.0	90.00	359.97	9,226.0	3,421.4	-1,117.7	3,526.9	0.00	0.00	0.00
13,400.0	90.00	359.97	9,226.0	3,521.4	-1,117.8	3,626.3	0.00	0.00	0.00
13,500.0	90.00	359.97	9,226.0	3,621.4	-1,117.8	3,725.6	0.00	0.00	0.00
13,600.0	90.00	359.97	9,226.0	3,721.4	-1,117.9	3,825.0	0.00	0.00	0.00
13,700.0	90.00	359.97	9,226.0	3,821.4	-1,117.9	3,924.3	0.00	0.00	0.00
13,800.0	90.00	359.97	9,226.0	3,921.4	-1,118.0	4,023.7	0.00	0.00	0.00
13,900.0	90.00	359.97	9,226.0	4,021.4	-1,118.0	4,123.0	0.00	0.00	0.00
14,000.0	90.00	359.97	9,226.0	4,121.4	-1,118.1	4,222.4	0.00	0.00	0.00
14,100.0	90.00	359.97	9,226.0	4,221.4	-1,118.2	4,321.7	0.00	0.00	0.00
14,200.0	90.00	359.97	9,226.0	4,321.4	-1,118.2	4,421.0	0.00	0.00	0.00
14,300.0	90.00	359.97	9,226.0	4,421.4	-1,118.3	4,520.4	0.00	0.00	0.00
14,400.0	90.00	359.97	9,226.0	4,521.4	-1,118.3	4,619.7	0.00	0.00	0.00
14,500.0	90.00	359.97	9,226.0	4,621.4	-1,118.4	4,719.1	0.00	0.00	0.00
14,600.0	90.00	359.97	9,226.0	4,721.4	-1,118.4	4,818.4	0.00	0.00	0.00
14,700.0	90.00	359.97	9,226.0	4,821.4	-1,118.5	4,917.8	0.00	0.00	0.00
14,800.0	90.00	359.97	9,226.0	4,921.4	-1,118.5	5,017.1	0.00	0.00	0.00
14,900.0	90.00	359.97	9,226.0	5,021.4	-1,118.6	5,116.5	0.00	0.00	0.00
15,000.0	90.00	359.97	9,226.0	5,121.4	-1,118.6	5,215.8	0.00	0.00	0.00
15,100.0	90.00	359.97	9,226.0	5,221.4	-1,118.7	5,315.2	0.00	0.00	0.00
15,200.0	90.00	359.97	9,226.0	5,321.4	-1,118.7	5,414.5	0.00	0.00	0.00
15,300.0	90.00	359.97	9,226.0	5,421.4	-1,118.8	5,513.9	0.00	0.00	0.00
15,400.0	90.00	359.97	9,226.0	5,521.4	-1,118.8	5,613.2	0.00	0.00	0.00
15,500.0	90.00	359.97	9,226.0	5,621.4	-1,118.9	5,712.6	0.00	0.00	0.00
15,600.0	90.00	359.97	9,226.0	5,721.4	-1,118.9	5,811.9	0.00	0.00	0.00
15,700.0	90.00	359.97	9,226.0	5,821.4	-1,119.0	5,911.3	0.00	0.00	0.00
15,800.0	90.00	359.97	9,226.0	5,921.4	-1,119.0	6,010.6	0.00	0.00	0.00
15,900.0	90.00	359.97	9,226.0	6,021.4	-1,119.1	6,109.9	0.00	0.00	0.00
16,000.0	90.00	359.97	9,226.0	6,121.4	-1,119.1	6,209.3	0.00	0.00	0.00
16,100.0	90.00	359.97	9,226.0	6,221.4	-1,119.2	6,308.6	0.00	0.00	0.00
16,200.0	90.00	359.97	9,226.0	6,321.4	-1,119.2	6,408.0	0.00	0.00	0.00
16,300.0	90.00	359.97	9,226.0	6,421.4	-1,119.3	6,507.3	0.00	0.00	0.00
16,400.0	90.00	359.97	9,226.0	6,521.4	-1,119.3	6,606.7	0.00	0.00	0.00
16,500.0	90.00	359.97	9,226.0	6,621.4	-1,119.4	6,706.0	0.00	0.00	0.00
16,600.0	90.00	359.97	9,226.0	6,721.4	-1,119.4	6,805.4	0.00	0.00	0.00
16,700.0	90.00	359.97	9,226.0	6,821.4	-1,119.5	6,904.7	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
16,800.0	90.00	359.97	9,226.0	6,921.4	-1,119.5	7,004.1	0.00	0.00	0.00
16,900.0	90.00	359.97	9,226.0	7,021.4	-1,119.6	7,103.4	0.00	0.00	0.00
17,000.0	90.00	359.97	9,226.0	7,121.4	-1,119.6	7,202.8	0.00	0.00	0.00
17,100.0	90.00	359.97	9,226.0	7,221.4	-1,119.7	7,302.1	0.00	0.00	0.00
17,200.0	90.00	359.97	9,226.0	7,321.4	-1,119.7	7,401.5	0.00	0.00	0.00
17,300.0	90.00	359.97	9,226.0	7,421.4	-1,119.8	7,500.8	0.00	0.00	0.00
17,400.0	90.00	359.97	9,226.0	7,521.4	-1,119.9	7,600.2	0.00	0.00	0.00
17,500.0	90.00	359.97	9,226.0	7,621.4	-1,119.9	7,699.5	0.00	0.00	0.00
17,600.0	90.00	359.97	9,226.0	7,721.4	-1,120.0	7,798.8	0.00	0.00	0.00
17,700.0	90.00	359.97	9,226.0	7,821.4	-1,120.0	7,898.2	0.00	0.00	0.00
17,800.0	90.00	359.97	9,226.0	7,921.4	-1,120.1	7,997.5	0.00	0.00	0.00
17,900.0	90.00	359.97	9,226.0	8,021.4	-1,120.1	8,096.9	0.00	0.00	0.00
18,000.0	90.00	359.97	9,226.0	8,121.4	-1,120.2	8,196.2	0.00	0.00	0.00
18,100.0	90.00	359.97	9,226.0	8,221.4	-1,120.2	8,295.6	0.00	0.00	0.00
18,200.0	90.00	359.97	9,226.0	8,321.4	-1,120.3	8,394.9	0.00	0.00	0.00
18,300.0	90.00	359.97	9,226.0	8,421.4	-1,120.3	8,494.3	0.00	0.00	0.00
18,400.0	90.00	359.97	9,226.0	8,521.4	-1,120.4	8,593.6	0.00	0.00	0.00
18,500.0	90.00	359.97	9,226.0	8,621.4	-1,120.4	8,693.0	0.00	0.00	0.00
18,600.0	90.00	359.97	9,226.0	8,721.4	-1,120.5	8,792.3	0.00	0.00	0.00
18,700.0	90.00	359.97	9,226.0	8,821.4	-1,120.5	8,891.7	0.00	0.00	0.00
18,800.0	90.00	359.97	9,226.0	8,921.4	-1,120.6	8,991.0	0.00	0.00	0.00
18,900.0	90.00	359.97	9,226.0	9,021.4	-1,120.6	9,090.4	0.00	0.00	0.00
19,000.0	90.00	359.97	9,226.0	9,121.4	-1,120.7	9,189.7	0.00	0.00	0.00
19,100.0	90.00	359.97	9,226.0	9,221.4	-1,120.7	9,289.1	0.00	0.00	0.00
19,200.0	90.00	359.97	9,226.0	9,321.4	-1,120.8	9,388.4	0.00	0.00	0.00
19,300.0	90.00	359.97	9,226.0	9,421.4	-1,120.8	9,487.7	0.00	0.00	0.00
19,400.0	90.00	359.97	9,226.0	9,521.4	-1,120.9	9,587.1	0.00	0.00	0.00
19,500.0	90.00	359.97	9,226.0	9,621.4	-1,120.9	9,686.4	0.00	0.00	0.00
19,596.2	90.00	359.97	9,226.0	9,717.5	-1,121.0	9,782.0	0.00	0.00	0.00
TD at 19596.2 - 3130-2CH BHL - 3120-2CH 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
3130-2CH BHL - plan hits target center - Point	0.00	0.00	9,226.0	9,717.5	-1,121.0	1,602,629.70	3,185,810.83	40.98564°N	104.82702°W
3130-2CH LP - plan hits target center - Point	0.00	0.00	9,226.0	-153.0	-1,115.9	1,592,759.50	3,185,891.27	40.95855°N	104.82700°W

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Oxnard West 3130-2CH
<b>Company:</b>	Longs Peak Resources	<b>TVD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Project:</b>	Weld County, CO	<b>MD Reference:</b>	GL 6012 + 25 KB @ 6037.0usft
<b>Site:</b>	Southblock Ph 2 - Oxnard West Pad SEC.31-T12N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Oxnard West 3130-2CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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				
4,731.4	4,672.0	Parkman				
5,665.8	5,572.0	Sussex				
7,601.9	7,437.0	Shannon				
9,072.1	8,892.0	Sharon Spring				
9,134.3	8,947.0	Niobrara				
9,310.4	9,082.0	Niobrara Target				
9,527.3	9,192.0	Fort Hayes				
9,624.1	9,217.0	Codell				
9,725.6	9,226.0	Codell 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	
3,379.8	3,370.2	-57.5	-88.4	Start 4165.9 hold at 3379.8 MD	
7,545.8	7,382.8	-668.5	-1,027.2	Start Drop -2.00	
8,325.6	8,153.0	-726.0	-1,115.6	Start 500.0 hold at 8325.6 MD	
8,825.6	8,653.0	-726.0	-1,115.6	Start Build 10.00	
9,725.6	9,226.0	-153.0	-1,115.9	Start 9870.6 hold at 9725.6 MD	
19,596.2	9,226.0	9,717.5	-1,121.0	TD at 19596.2	