

Longs Peak Resources

Well Name: **OXNARD EAST 3130-12CH**

Surface Location: OXNARD EAST PAD 31-12N-66W

North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 5975.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot

0.0 0.0 1592998.53 189977.52 40.959120 -104.812200

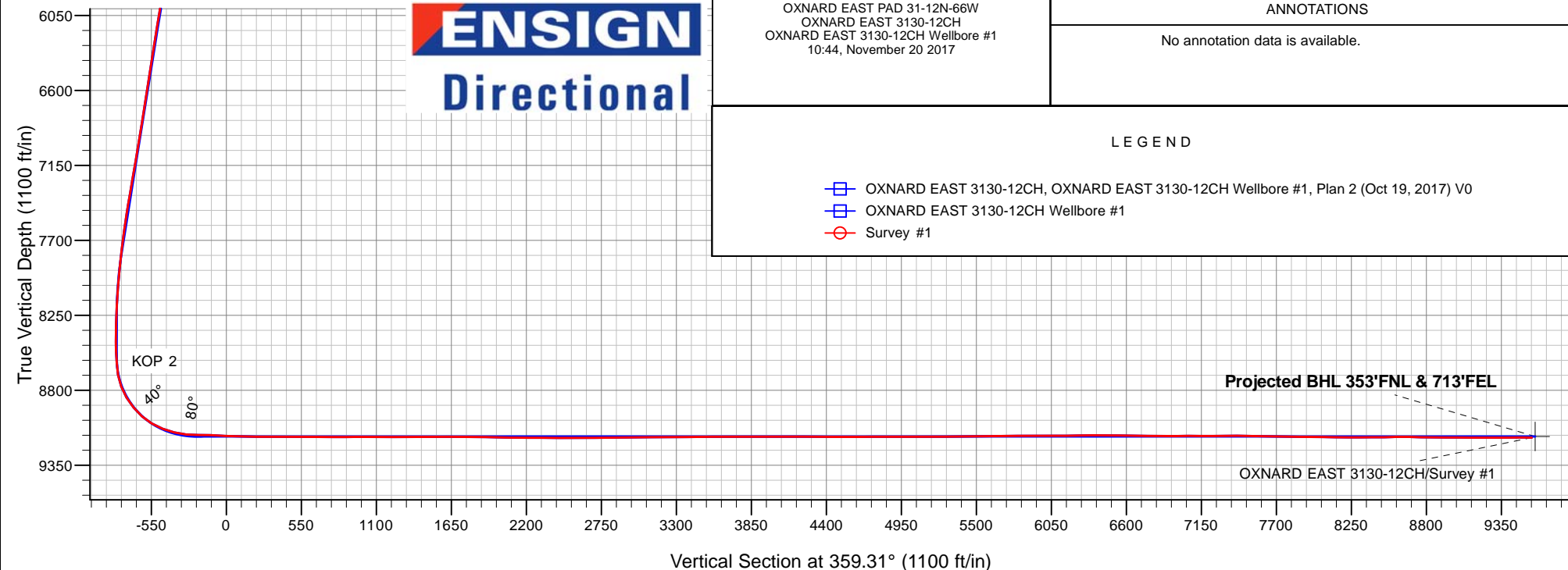
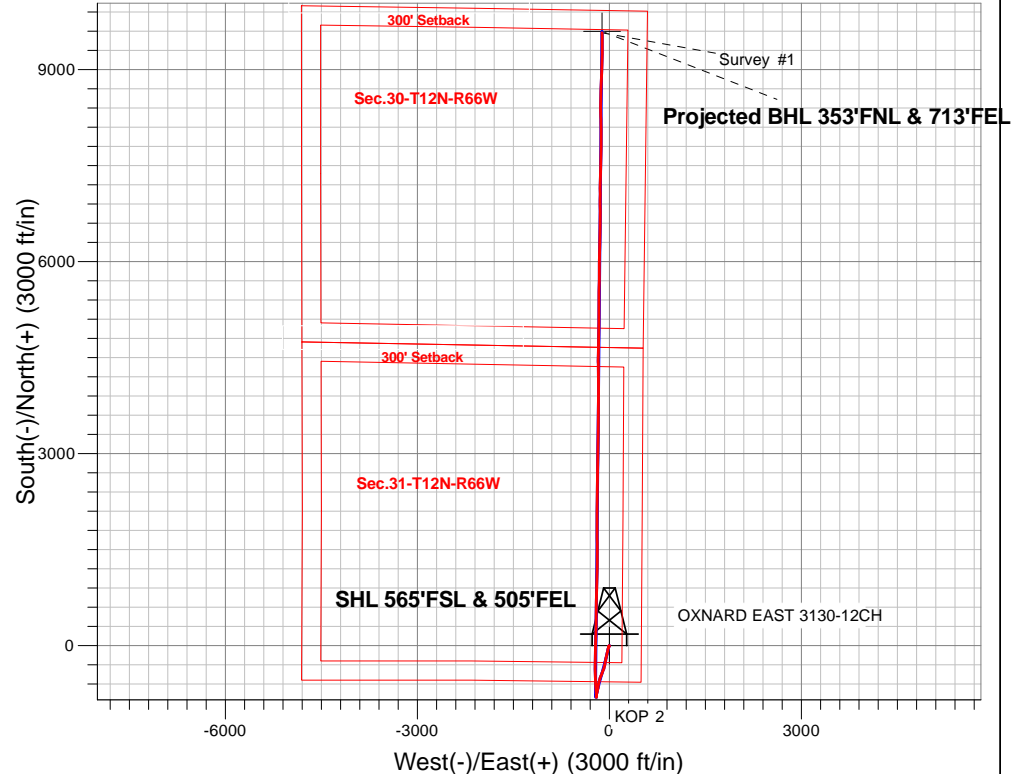
ENSIGN 145 RKB @ 5988.0ft (ENSIGN 145)

FINAL SURVEY

Projected Bottom Hole Location

19,338'MD 9147'TVD 9574'N & 114'W of SHL

89.7 degree Incl @ 358.2 degree AZM



OXNARD EAST PAD 31-12N-66W
OXNARD EAST 3130-12CH
OXNARD EAST 3130-12CH Wellbore #1
10:44, November 20 2017

ANNOTATIONS

No annotation data is available.

LEGEND

- OXNARD EAST 3130-12CH, OXNARD EAST 3130-12CH Wellbore #1, Plan 2 (Oct 19, 2017) V0
- OXNARD EAST 3130-12CH Wellbore #1
- Survey #1



Longs Peak Resources

SEC.31-T12N-R66W

OXNARD EAST PAD 31-12N-66W

OXNARD EAST 3130-12CH

OXNARD EAST 3130-12CH Wellbore #1

Survey: Survey #1

Standard Survey Report

20 November, 2017

Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well OXNARD EAST 3130-12CH
Project:	SEC.31-T12N-R66W	TVD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Site:	OXNARD EAST PAD 31-12N-66W	MD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Well:	OXNARD EAST 3130-12CH	North Reference:	True
Wellbore:	OXNARD EAST 3130-12CH Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OXNARD EAST 3130-12CH Wellbore #1	Database:	US_EDM

Project	SEC.31-T12N-R66W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		OXNARD EAST PAD 31-12N-66W			
Site Position:		Northing:	1,592,998.55 usft	Latitude:	40.959120
From:	Lat/Long	Easting:	3,189,977.52 usft	Longitude:	-104.812200
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well	OXNARD EAST 3130-12CH					
Well Position	+N/-S	0.0 ft	Northing:	1,592,998.55 usft	Latitude:	40.959120
	+E/-W	0.0 ft	Easting:	3,189,977.52 usft	Longitude:	-104.812200
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,975.0 ft

Wellbore	OXNARD EAST 3130-12CH Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/19/2017	8.53	67.22	52,648

Design	OXNARD EAST 3130-12CH Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	359.31	

Survey Program	Date	11/20/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
115.0	19,338.0	Survey #1 (OXNARD EAST 3130-12CH W	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 565'FSL & 505'FEL									
115.0	1.00	221.60	115.0	-0.8	-0.7	-0.7	0.87	0.87	0.00
204.0	1.00	232.30	204.0	-1.8	-1.8	-1.8	0.21	0.00	12.02
294.0	1.40	214.90	294.0	-3.2	-3.0	-3.2	0.60	0.44	-19.33
384.0	0.70	209.80	383.9	-4.6	-3.9	-4.5	0.78	-0.78	-5.67
474.0	0.50	218.40	473.9	-5.4	-4.5	-5.3	0.24	-0.22	9.56
564.0	0.60	217.40	563.9	-6.0	-5.0	-6.0	0.11	0.11	-1.11
654.0	0.70	206.50	653.9	-6.9	-5.5	-6.8	0.18	0.11	-12.11
744.0	0.60	202.20	743.9	-7.8	-6.0	-7.8	0.12	-0.11	-4.78
834.0	0.80	208.20	833.9	-8.8	-6.4	-8.7	0.24	0.22	6.67

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Site:	OXNARD EAST PAD 31-12N-66W	MD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Well:	OXNARD EAST 3130-12CH	North Reference:	True
Wellbore:	OXNARD EAST 3130-12CH Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OXNARD EAST 3130-12CH Wellbore #1	Database:	US_EDM

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)
924.0	0.70	213.30	923.9	-9.8	-7.0	-9.7	0.13	-0.11	5.67
1,013.0	0.30	216.10	1,012.9	-10.5	-7.5	-10.4	0.45	-0.45	3.15
1,103.0	0.30	184.10	1,102.9	-10.9	-7.6	-10.8	0.18	0.00	-35.56
1,193.0	0.40	202.10	1,192.9	-11.4	-7.8	-11.3	0.16	0.11	20.00
1,283.0	0.20	195.90	1,282.9	-11.9	-7.9	-11.8	0.22	-0.22	-6.89
1,372.0	0.10	136.50	1,371.9	-12.1	-7.9	-12.0	0.19	-0.11	-66.74
1,462.0	0.10	245.50	1,461.9	-12.2	-7.9	-12.1	0.18	0.00	121.11
1,551.0	0.30	191.00	1,550.9	-12.4	-8.0	-12.3	0.29	0.22	-61.24
1,640.0	0.40	180.80	1,639.9	-13.0	-8.1	-12.9	0.13	0.11	-11.46
1,729.0	0.40	175.90	1,728.9	-13.6	-8.1	-13.5	0.04	0.00	-5.51
1,819.0	0.40	211.00	1,818.9	-14.2	-8.2	-14.1	0.27	0.00	39.00
1,909.0	0.60	174.50	1,908.9	-14.9	-8.3	-14.8	0.41	0.22	-40.56
1,999.0	0.40	200.50	1,998.9	-15.7	-8.4	-15.6	0.33	-0.22	28.89
2,089.0	0.70	181.00	2,088.9	-16.5	-8.5	-16.4	0.39	0.33	-21.67
2,178.0	0.40	162.30	2,177.9	-17.4	-8.4	-17.2	0.39	-0.34	-21.01
2,268.0	0.50	160.20	2,267.9	-18.0	-8.2	-17.9	0.11	0.11	-2.33
2,358.0	0.40	185.70	2,357.9	-18.7	-8.1	-18.6	0.25	-0.11	28.33
2,449.0	0.60	194.00	2,448.9	-19.5	-8.2	-19.4	0.23	0.22	9.12
2,539.0	1.00	163.90	2,538.9	-20.7	-8.1	-20.6	0.63	0.44	-33.44
2,573.0	1.00	186.60	2,572.9	-21.3	-8.1	-21.2	1.16	0.00	66.76
2,655.0	0.80	171.50	2,654.8	-22.5	-8.1	-22.5	0.38	-0.24	-18.41
2,745.0	1.80	222.10	2,744.8	-24.2	-8.9	-24.1	1.59	1.11	56.22
2,834.0	2.60	204.00	2,833.8	-27.1	-10.7	-27.0	1.18	0.90	-20.34
2,923.0	4.00	200.80	2,922.6	-31.8	-12.6	-31.7	1.59	1.57	-3.60
3,013.0	5.70	200.10	3,012.3	-39.0	-15.3	-38.8	1.89	1.89	-0.78
3,103.0	6.90	200.10	3,101.7	-48.3	-18.7	-48.0	1.33	1.33	0.00
3,193.0	8.90	193.80	3,190.9	-60.1	-22.2	-59.8	2.42	2.22	-7.00
3,283.0	8.90	193.80	3,279.8	-73.6	-25.5	-73.3	0.00	0.00	0.00
3,372.0	8.80	192.70	3,367.7	-86.9	-28.6	-86.6	0.22	-0.11	-1.24
3,462.0	8.80	192.40	3,456.7	-100.4	-31.6	-100.0	0.05	0.00	-0.33
3,552.0	8.50	191.70	3,545.7	-113.6	-34.5	-113.2	0.35	-0.33	-0.78
3,642.0	8.10	190.50	3,634.7	-126.4	-37.0	-125.9	0.48	-0.44	-1.33
3,732.0	7.80	191.50	3,723.8	-138.6	-39.3	-138.1	0.37	-0.33	1.11
3,822.0	9.30	193.60	3,812.8	-151.6	-42.3	-151.1	1.70	1.67	2.33
3,911.0	9.20	193.10	3,900.7	-165.6	-45.6	-165.0	0.14	-0.11	-0.56
4,001.0	8.90	192.70	3,989.6	-179.4	-48.7	-178.8	0.34	-0.33	-0.44
4,090.0	8.60	191.20	4,077.5	-192.6	-51.5	-192.0	0.42	-0.34	-1.69
4,180.0	8.50	190.10	4,166.5	-205.8	-54.0	-205.1	0.21	-0.11	-1.22
4,269.0	8.40	188.90	4,254.6	-218.6	-56.2	-218.0	0.23	-0.11	-1.35
4,359.0	9.60	193.60	4,343.5	-232.4	-59.0	-231.7	1.56	1.33	5.22
4,448.0	9.50	192.00	4,431.2	-246.8	-62.2	-246.1	0.32	-0.11	-1.80
4,537.0	9.40	190.60	4,519.0	-261.2	-65.1	-260.4	0.28	-0.11	-1.57
4,626.0	9.20	189.60	4,606.8	-275.3	-67.6	-274.5	0.29	-0.22	-1.12

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Survey									
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4,715.0	8.90	186.90	4,694.7	-289.2	-69.6	-288.3	0.58	-0.34	-3.03
4,805.0	9.10	191.70	4,783.6	-303.1	-71.9	-302.2	0.86	0.22	5.33
4,895.0	9.10	194.70	4,872.5	-316.9	-75.2	-316.0	0.53	0.00	3.33
4,984.0	8.80	192.90	4,960.4	-330.4	-78.5	-329.4	0.46	-0.34	-2.02
5,074.0	8.30	194.20	5,049.4	-343.4	-81.6	-342.3	0.60	-0.56	1.44
5,164.0	8.40	200.50	5,138.5	-355.8	-85.5	-354.8	1.02	0.11	7.00
5,254.0	8.40	199.40	5,227.5	-368.2	-90.0	-367.1	0.18	0.00	-1.22
5,343.0	8.00	198.50	5,315.6	-380.2	-94.1	-379.0	0.47	-0.45	-1.01
5,433.0	9.20	204.00	5,404.6	-392.7	-99.0	-391.5	1.61	1.33	6.11
5,524.0	9.40	202.40	5,494.4	-406.2	-104.8	-404.9	0.36	0.22	-1.76
5,614.0	9.70	201.50	5,583.1	-420.1	-110.4	-418.7	0.37	0.33	-1.00
5,704.0	9.60	200.50	5,671.9	-434.1	-115.8	-432.7	0.22	-0.11	-1.11
5,794.0	10.00	200.50	5,760.5	-448.5	-121.2	-447.0	0.44	0.44	0.00
5,884.0	10.10	200.10	5,849.2	-463.2	-126.6	-461.7	0.14	0.11	-0.44
5,974.0	10.10	201.00	5,937.8	-478.0	-132.1	-476.4	0.18	0.00	1.00
6,063.0	9.80	202.20	6,025.4	-492.3	-137.8	-490.6	0.41	-0.34	1.35
6,152.0	9.10	203.60	6,113.2	-505.8	-143.5	-504.0	0.83	-0.79	1.57
6,241.0	9.80	199.60	6,201.0	-519.3	-148.8	-517.5	1.08	0.79	-4.49
6,330.0	9.10	200.10	6,288.8	-533.1	-153.8	-531.2	0.79	-0.79	0.56
6,419.0	10.10	190.80	6,376.6	-547.4	-157.7	-545.4	2.07	1.12	-10.45
6,508.0	9.70	192.70	6,464.2	-562.3	-160.8	-560.4	0.58	-0.45	2.13
6,597.0	9.20	192.70	6,552.0	-576.6	-164.0	-574.6	0.56	-0.56	0.00
6,687.0	8.50	191.70	6,641.0	-590.1	-166.9	-588.1	0.80	-0.78	-1.11
6,776.0	9.10	193.60	6,728.9	-603.4	-169.9	-601.3	0.75	0.67	2.13
6,866.0	9.80	191.90	6,817.7	-617.8	-173.2	-615.7	0.84	0.78	-1.89
6,956.0	8.40	186.10	6,906.6	-631.9	-175.5	-629.7	1.86	-1.56	-6.44
7,046.0	9.00	185.50	6,995.5	-645.4	-176.8	-643.2	0.67	0.67	-0.67
7,136.0	10.60	190.30	7,084.2	-660.6	-179.0	-658.3	1.99	1.78	5.33
7,225.0	9.60	186.90	7,171.8	-676.0	-181.3	-673.7	1.31	-1.12	-3.82
7,315.0	10.70	194.20	7,260.4	-691.5	-184.3	-689.3	1.88	1.22	8.11
7,405.0	10.20	191.30	7,348.9	-707.4	-187.9	-705.1	0.81	-0.56	-3.22
7,495.0	9.60	189.20	7,437.6	-722.7	-190.7	-720.3	0.78	-0.67	-2.33
7,585.0	9.40	197.70	7,526.4	-737.1	-194.1	-734.7	1.57	-0.22	9.44
7,675.0	7.90	195.00	7,615.3	-750.1	-197.9	-747.6	1.73	-1.67	-3.00
7,765.0	7.50	191.50	7,704.5	-761.8	-200.7	-759.3	0.68	-0.44	-3.89
7,854.0	6.40	186.90	7,792.9	-772.4	-202.5	-769.9	1.38	-1.24	-5.17
7,944.0	5.60	184.50	7,882.4	-781.8	-203.4	-779.2	0.93	-0.89	-2.67
8,034.0	4.90	181.00	7,972.0	-790.0	-203.8	-787.5	0.85	-0.78	-3.89
8,123.0	5.20	176.20	8,060.7	-797.8	-203.6	-795.3	0.58	0.34	-5.39
8,213.0	3.10	183.10	8,150.4	-804.3	-203.5	-801.8	2.39	-2.33	7.67
8,303.0	1.90	173.80	8,240.3	-808.2	-203.4	-805.7	1.40	-1.33	-10.33
8,392.0	1.30	157.10	8,329.3	-810.6	-202.9	-808.1	0.85	-0.67	-18.76
8,482.0	1.30	157.90	8,419.3	-812.5	-202.1	-810.0	0.02	0.00	0.89

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8,572.0	2.20	16.40	8,509.2	-811.8	-201.2	-809.3	3.69	1.00	-157.22
8,661.0	4.60	357.30	8,598.1	-806.6	-200.9	-804.1	2.95	2.70	-21.46
8,750.0	9.00	2.90	8,686.4	-796.1	-200.7	-793.6	4.99	4.94	6.29
8,839.0	21.00	351.10	8,772.3	-773.3	-202.9	-770.8	13.85	13.48	-13.26
8,929.0	30.80	358.50	8,853.1	-734.2	-206.0	-731.7	11.45	10.89	8.22
9,018.0	39.20	356.60	8,926.0	-683.2	-208.2	-680.7	9.52	9.44	-2.13
9,107.0	48.50	356.00	8,990.1	-621.8	-212.2	-619.2	10.46	10.45	-0.67
9,196.0	58.60	357.30	9,042.9	-550.4	-216.4	-547.8	11.41	11.35	1.46
9,286.0	69.30	356.90	9,082.4	-469.8	-220.5	-467.1	11.90	11.89	-0.44
9,375.0	75.20	359.20	9,109.5	-385.1	-223.3	-382.4	7.07	6.63	2.58
9,464.0	85.40	1.00	9,124.5	-297.5	-223.1	-294.8	11.63	11.46	2.02
9,529.0	89.01	1.00	9,127.6	-232.5	-222.0	-229.8	5.56	5.56	0.00
LP 330'FSL & 715'FEL									
9,554.0	90.40	1.00	9,127.8	-207.6	-221.6	-204.9	5.56	5.56	0.00
9,643.0	87.50	2.20	9,129.4	-118.7	-219.1	-116.0	3.53	-3.26	1.35
9,734.0	87.10	2.00	9,133.7	-27.8	-215.8	-25.2	0.49	-0.44	-0.22
9,824.0	88.40	1.30	9,137.2	62.1	-213.2	64.6	1.64	1.44	-0.78
9,913.0	88.10	1.00	9,139.9	151.0	-211.4	153.6	0.48	-0.34	-0.34
10,003.0	90.00	1.50	9,141.4	241.0	-209.4	243.5	2.18	2.11	0.56
10,092.0	90.00	1.10	9,141.4	329.9	-207.4	332.4	0.45	0.00	-0.45
10,181.0	90.00	0.40	9,141.4	418.9	-206.2	421.4	0.79	0.00	-0.79
10,271.0	89.50	0.40	9,141.8	508.9	-205.6	511.4	0.56	-0.56	0.00
10,360.0	89.80	1.00	9,142.4	597.9	-204.5	600.4	0.75	0.34	0.67
10,452.0	89.30	0.60	9,143.1	689.9	-203.2	692.3	0.70	-0.54	-0.43
10,541.0	90.30	1.70	9,143.4	778.9	-201.5	781.3	1.67	1.12	1.24
10,631.0	90.30	1.90	9,142.9	868.8	-198.6	871.2	0.22	0.00	0.22
10,721.0	90.20	0.80	9,142.5	958.8	-196.5	961.1	1.23	-0.11	-1.22
10,811.0	89.90	1.50	9,142.5	1,048.8	-194.7	1,051.1	0.85	-0.33	0.78
10,901.0	90.10	0.80	9,142.5	1,138.8	-192.9	1,141.0	0.81	0.22	-0.78
10,991.0	90.00	1.00	9,142.4	1,228.8	-191.5	1,231.0	0.25	-0.11	0.22
11,081.0	89.80	0.80	9,142.5	1,318.8	-190.1	1,321.0	0.31	-0.22	-0.22
11,171.0	89.40	0.80	9,143.2	1,408.7	-188.8	1,410.9	0.44	-0.44	0.00
11,261.0	90.40	359.20	9,143.3	1,498.7	-188.8	1,500.9	2.10	1.11	-1.78
11,350.0	90.50	358.90	9,142.6	1,587.7	-190.3	1,589.9	0.36	0.11	-0.34
11,440.0	91.00	359.90	9,141.5	1,677.7	-191.2	1,679.9	1.24	0.56	1.11
11,529.0	89.10	359.20	9,141.4	1,766.7	-191.9	1,768.9	2.28	-2.13	-0.79
11,619.0	89.30	359.00	9,142.6	1,856.7	-193.3	1,858.9	0.31	0.22	-0.22
11,709.0	88.60	1.10	9,144.3	1,946.7	-193.3	1,948.9	2.46	-0.78	2.33
11,798.0	88.60	1.70	9,146.5	2,035.6	-191.1	2,037.8	0.67	0.00	0.67
11,887.0	89.80	1.10	9,147.7	2,124.6	-188.9	2,126.7	1.51	1.35	-0.67
11,977.0	89.50	359.60	9,148.2	2,214.6	-188.4	2,216.7	1.70	-0.33	-1.67
12,066.0	89.30	359.60	9,149.2	2,303.6	-189.0	2,305.7	0.22	-0.22	0.00
12,156.0	90.10	0.40	9,149.7	2,393.6	-189.0	2,395.7	1.26	0.89	0.89
12,245.0	90.00	0.30	9,149.6	2,482.6	-188.4	2,484.7	0.16	-0.11	-0.11

Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well OXNARD EAST 3130-12CH
Project:	SEC.31-T12N-R66W	TVD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Site:	OXNARD EAST PAD 31-12N-66W	MD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Well:	OXNARD EAST 3130-12CH	North Reference:	True
Wellbore:	OXNARD EAST 3130-12CH Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OXNARD EAST 3130-12CH Wellbore #1	Database:	US_EDM

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)
12,335.0	90.10	359.70	9,149.5	2,572.6	-188.4	2,574.6	0.68	0.11	-0.67
12,425.0	90.50	2.20	9,149.0	2,662.5	-186.9	2,664.6	2.81	0.44	2.78
12,515.0	90.70	1.30	9,148.1	2,752.5	-184.2	2,754.5	1.02	0.22	-1.00
12,605.0	90.70	1.00	9,147.0	2,842.5	-182.4	2,844.5	0.33	0.00	-0.33
12,695.0	90.40	0.60	9,146.1	2,932.5	-181.1	2,934.4	0.56	-0.33	-0.44
12,786.0	90.40	1.10	9,145.5	3,023.4	-179.8	3,025.4	0.55	0.00	0.55
12,876.0	90.40	1.00	9,144.9	3,113.4	-178.1	3,115.3	0.11	0.00	-0.11
12,965.0	90.40	0.80	9,144.2	3,202.4	-176.7	3,204.3	0.22	0.00	-0.22
13,054.0	90.50	1.10	9,143.5	3,291.4	-175.3	3,293.3	0.36	0.11	0.34
13,143.0	90.50	1.10	9,142.8	3,380.4	-173.6	3,382.2	0.00	0.00	0.00
13,233.0	90.60	1.00	9,141.9	3,470.4	-171.9	3,472.2	0.16	0.11	-0.11
13,323.0	90.70	1.50	9,140.9	3,560.3	-169.9	3,562.1	0.57	0.11	0.56
13,413.0	89.70	359.90	9,140.6	3,650.3	-168.8	3,652.1	2.10	-1.11	-1.78
13,502.0	89.80	359.20	9,140.9	3,739.3	-169.5	3,741.1	0.79	0.11	-0.79
13,592.0	90.30	359.40	9,140.9	3,829.3	-170.6	3,831.1	0.60	0.56	0.22
13,682.0	90.30	359.40	9,140.4	3,919.3	-171.6	3,921.1	0.00	0.00	0.00
13,772.0	90.00	0.60	9,140.2	4,009.3	-171.6	4,011.1	1.37	-0.33	1.33
13,862.0	89.90	0.60	9,140.2	4,099.3	-170.6	4,101.1	0.11	-0.11	0.00
13,951.0	89.90	359.90	9,140.4	4,188.3	-170.3	4,190.0	0.79	0.00	-0.79
14,042.0	89.90	359.90	9,140.6	4,279.3	-170.4	4,281.0	0.00	0.00	0.00
14,131.0	88.80	358.30	9,141.6	4,368.3	-171.8	4,370.0	2.18	-1.24	-1.80
14,221.0	90.30	359.70	9,142.3	4,458.2	-173.4	4,460.0	2.28	1.67	1.56
14,311.0	90.10	0.80	9,142.0	4,548.2	-173.0	4,550.0	1.24	-0.22	1.22
14,400.0	90.30	1.50	9,141.6	4,637.2	-171.2	4,639.0	0.82	0.22	0.79
14,489.0	90.20	1.10	9,141.3	4,726.2	-169.2	4,727.9	0.46	-0.11	-0.45
14,579.0	89.70	1.10	9,141.3	4,816.2	-167.5	4,817.9	0.56	-0.56	0.00
14,669.0	90.50	1.50	9,141.2	4,906.2	-165.4	4,907.8	0.99	0.89	0.44
14,758.0	90.00	0.30	9,140.8	4,995.1	-164.0	4,996.8	1.46	-0.56	-1.35
14,847.0	90.10	1.70	9,140.7	5,084.1	-162.5	5,085.7	1.58	0.11	1.57
14,936.0	89.40	359.40	9,141.1	5,173.1	-161.6	5,174.7	2.70	-0.79	-2.58
15,025.0	90.60	358.70	9,141.1	5,262.1	-163.1	5,263.7	1.56	1.35	-0.79
15,114.0	91.20	0.10	9,139.7	5,351.1	-164.0	5,352.7	1.71	0.67	1.57
15,204.0	91.10	359.70	9,137.9	5,441.1	-164.2	5,442.7	0.46	-0.11	-0.44
15,294.0	90.00	1.30	9,137.0	5,531.1	-163.4	5,532.6	2.16	-1.22	1.78
15,384.0	90.70	1.90	9,136.5	5,621.0	-160.9	5,622.6	1.02	0.78	0.67
15,473.0	90.60	2.00	9,135.5	5,710.0	-157.8	5,711.5	0.16	-0.11	0.11
15,563.0	90.40	1.50	9,134.7	5,799.9	-155.1	5,801.4	0.60	-0.22	-0.56
15,653.0	89.70	0.40	9,134.6	5,889.9	-153.6	5,891.3	1.45	-0.78	-1.22
15,743.0	90.30	359.90	9,134.6	5,979.9	-153.4	5,981.3	0.87	0.67	-0.56
15,834.0	90.70	359.40	9,133.8	6,070.9	-153.9	6,072.3	0.70	0.44	-0.55
15,924.0	90.40	0.60	9,133.0	6,160.9	-153.9	6,162.3	1.37	-0.33	1.33
16,014.0	90.80	0.60	9,132.0	6,250.9	-153.0	6,252.3	0.44	0.44	0.00
16,103.0	90.00	1.70	9,131.4	6,339.9	-151.2	6,341.2	1.53	-0.90	1.24

Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well OXNARD EAST 3130-12CH
Project:	SEC.31-T12N-R66W	TVD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Site:	OXNARD EAST PAD 31-12N-66W	MD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Well:	OXNARD EAST 3130-12CH	North Reference:	True
Wellbore:	OXNARD EAST 3130-12CH Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OXNARD EAST 3130-12CH Wellbore #1	Database:	US_EDM

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)
16,193.0	89.40	1.50	9,131.9	6,429.8	-148.7	6,431.1	0.70	-0.67	-0.22
16,284.0	89.80	2.00	9,132.5	6,520.8	-145.9	6,522.1	0.70	0.44	0.55
16,373.0	90.00	1.90	9,132.6	6,609.7	-142.9	6,611.0	0.25	0.22	-0.11
16,462.0	89.00	359.70	9,133.4	6,698.7	-141.6	6,699.9	2.72	-1.12	-2.47
16,551.0	88.30	358.90	9,135.5	6,787.7	-142.7	6,788.9	1.19	-0.79	-0.90
16,640.0	90.40	359.70	9,136.5	6,876.7	-143.8	6,877.9	2.52	2.36	0.90
16,729.0	91.20	1.10	9,135.3	6,965.6	-143.2	6,966.9	1.81	0.90	1.57
16,818.0	89.70	359.20	9,134.6	7,054.6	-143.0	7,055.8	2.72	-1.69	-2.13
16,907.0	89.50	359.70	9,135.2	7,143.6	-143.8	7,144.8	0.61	-0.22	0.56
16,997.0	90.60	1.90	9,135.1	7,233.6	-142.6	7,234.8	2.73	1.22	2.44
17,086.0	90.60	1.10	9,134.2	7,322.6	-140.2	7,323.7	0.90	0.00	-0.90
17,176.0	90.00	2.90	9,133.7	7,412.5	-137.1	7,413.6	2.11	-0.67	2.00
17,266.0	88.30	1.30	9,135.1	7,502.4	-133.8	7,503.5	2.59	-1.89	-1.78
17,355.0	89.50	0.80	9,136.8	7,591.4	-132.2	7,592.4	1.46	1.35	-0.56
17,445.0	88.30	0.60	9,138.5	7,681.4	-131.1	7,682.4	1.35	-1.33	-0.22
17,535.0	89.30	1.30	9,140.4	7,771.3	-129.6	7,772.3	1.36	1.11	0.78
17,625.0	89.50	0.30	9,141.3	7,861.3	-128.3	7,862.3	1.13	0.22	-1.11
17,715.0	89.40	359.40	9,142.2	7,951.3	-128.5	7,952.3	1.01	-0.11	-1.00
17,805.0	89.50	359.60	9,143.1	8,041.3	-129.3	8,042.3	0.25	0.11	0.22
17,895.0	88.90	358.70	9,144.3	8,131.3	-130.7	8,132.3	1.20	-0.67	-1.00
17,985.0	89.50	357.60	9,145.6	8,221.2	-133.6	8,222.2	1.39	0.67	-1.22
18,074.0	90.70	359.00	9,145.4	8,310.2	-136.2	8,311.2	2.07	1.35	1.57
18,164.0	90.00	359.70	9,144.9	8,400.2	-137.2	8,401.2	1.10	-0.78	0.78
18,254.0	91.30	1.90	9,143.8	8,490.2	-136.0	8,491.2	2.84	1.44	2.44
18,343.0	90.90	0.80	9,142.1	8,579.1	-133.9	8,580.1	1.31	-0.45	-1.24
18,433.0	89.00	1.90	9,142.2	8,669.1	-131.8	8,670.0	2.44	-2.11	1.22
18,523.0	88.70	1.50	9,144.0	8,759.0	-129.1	8,760.0	0.56	-0.33	-0.44
18,613.0	89.20	2.60	9,145.7	8,849.0	-125.9	8,849.8	1.34	0.56	1.22
18,702.0	89.50	3.10	9,146.7	8,937.8	-121.4	8,938.7	0.66	0.34	0.56
18,792.0	90.10	2.40	9,147.0	9,027.7	-117.1	9,028.5	1.02	0.67	-0.78
18,881.0	89.70	1.50	9,147.1	9,116.7	-114.1	9,117.4	1.11	-0.45	-1.01
18,971.0	90.00	0.80	9,147.4	9,206.7	-112.3	9,207.3	0.85	0.33	-0.78
19,060.0	89.90	0.60	9,147.5	9,295.7	-111.2	9,296.3	0.25	-0.11	-0.22
19,150.0	90.50	0.10	9,147.1	9,385.7	-110.7	9,386.3	0.87	0.67	-0.56
19,240.0	89.80	358.90	9,146.9	9,475.6	-111.4	9,476.3	1.54	-0.78	-1.33
19,278.0	89.70	358.20	9,147.1	9,513.6	-112.4	9,514.3	1.86	-0.26	-1.84
19,338.0	89.70	358.20	9,147.4	9,573.6	-114.3	9,574.3	0.00	0.00	0.00
BHL 330'FNL & 715'FEL									

Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well OXNARD EAST 3130-12CH
Project:	SEC.31-T12N-R66W	TVD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Site:	OXNARD EAST PAD 31-12N-66W	MD Reference:	RKB @ 5988.0ft (ENSIGN 145)
Well:	OXNARD EAST 3130-12CH	North Reference:	True
Wellbore:	OXNARD EAST 3130-12CH Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OXNARD EAST 3130-12CH Wellbore #1	Database:	US_EDM

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 565'FSL & 505'FEL - survey misses target center by 3.0ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Point	0.00	0.00	-3.0	0.0	0.0	1,592,998.55	3,189,977.52	40.959120	-104.812200
BHL 330'FNL & 715'FEL - survey misses target center by 24.9ft at 19338.0ft MD (9147.4 TVD, 9573.6 N, -114.3 E) - Point	0.00	0.00	9,139.0	9,597.0	-116.0	1,602,594.62	3,189,787.12	40.985460	-104.812620

Checked By: _____	Approved By: _____	Date: _____
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