

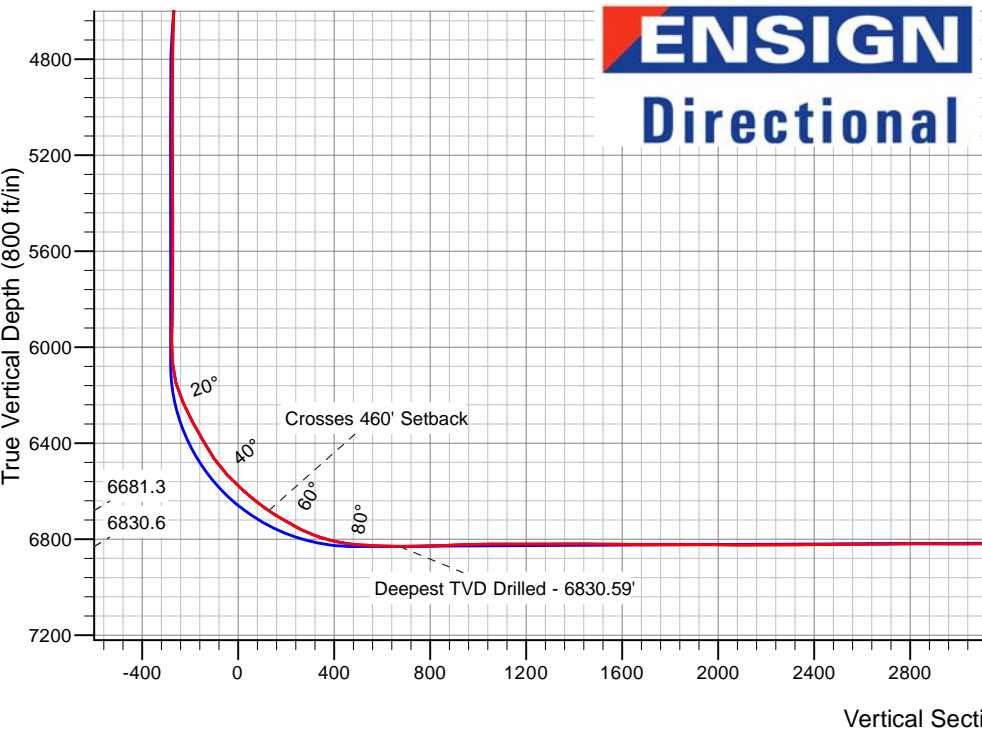
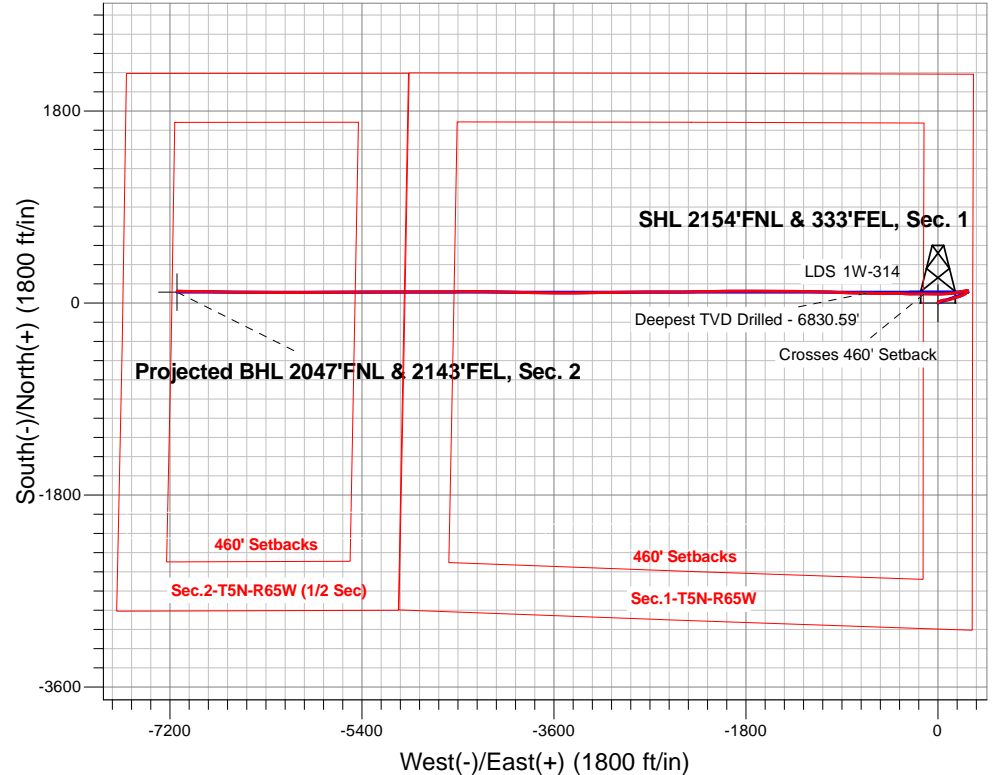
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: LDS 1W-314

Surface Location: LDS 5N65W1W Pad Sec.1-T5N-R65W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4613.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 400464.68 3249728.59 40.429210 -104.602940
Ensign Rig #161 - RKB - 23'WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')

FINAL SURVEY

Projected Bottom Hole Location
13877'MD 6796'TVD 111'N & 7131'W of SHL
90.7 degree Incl @ 271.1 degree AZM



LDS 5N65W1W Pad Sec.1-T5N-R65W
LDS 1W-314
Wellbore #1
10:56, February 02 2016

ANNOTATIONS

TVD	MD	Annotation
6681.3	6839.5	Crosses 460' Setback
6830.6	7416.0	Deepest TVD Drilled - 6830.59'

LEGEND

- ✕ LDS 1W-314, Wellbore #1, Plan #4 (1-22-16)R V0
- Wellbore #1
- Survey #1

Vertical Section at 270.83° (800 ft/in)



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.1-T5N-R65W

LDS 5N65W1W Pad Sec.1-T5N-R65W

LDS 1W-314

Wellbore #1

Survey: Survey #1

Standard Survey Report

02 February, 2016

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well LDS 1W-314
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Site:	LDS 5N65W1W Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Well:	LDS 1W-314	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.1-T5N-R65W, Weld County, CO		
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		LDS 5N65W1W Pad Sec.1-T5N-R65W			
Site Position:		Northing:	1,400,464.71 usft	Latitude:	40.429210
From:	Lat/Long	Easting:	3,249,728.59 usft	Longitude:	-104.602940
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.58 °

Well	LDS 1W-314					
Well Position	+N/-S	0.0 ft	Northing:	1,400,464.68 usft	Latitude:	40.429210
	+E/-W	0.0 ft	Easting:	3,249,728.59 usft	Longitude:	-104.602940
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,613.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/22/2016	8.16	66.94	52,680

Design	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	270.83	

Survey Program	Date	2/2/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
138.0	13,877.0	Survey #1 (Wellbore #1)	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	
1.0	0.00	71.80	1.0	0.0	0.0	0.0	0.00	0.00	0.00	
SHL 2154'FNL & 333'FEL, Sec. 1										
138.0	0.10	71.80	138.0	0.0	0.1	-0.1	0.07	0.07	0.00	
231.0	0.30	344.60	231.0	0.3	0.1	-0.1	0.34	0.22	-93.76	
323.0	0.40	53.20	323.0	0.7	0.3	-0.3	0.44	0.11	74.57	
414.0	0.30	33.80	414.0	1.1	0.7	-0.7	0.17	-0.11	-21.32	
506.0	0.80	22.70	506.0	1.9	1.1	-1.1	0.55	0.54	-12.07	
598.0	0.90	33.50	598.0	3.1	1.7	-1.7	0.20	0.11	11.74	
691.0	1.20	21.50	691.0	4.6	2.5	-2.4	0.40	0.32	-12.90	
784.0	1.40	26.60	783.9	6.5	3.4	-3.3	0.25	0.22	5.48	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well LDS 1W-314
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Site:	LDS 5N65W1W Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Well:	LDS 1W-314	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)
876.0	1.50	39.50	875.9	8.5	4.6	-4.5	0.37	0.11	14.02
968.0	0.70	66.20	967.9	9.6	5.9	-5.8	1.01	-0.87	29.02
1,059.0	0.50	43.80	1,058.9	10.1	6.7	-6.5	0.33	-0.22	-24.62
1,152.0	0.80	41.40	1,151.9	10.9	7.4	-7.2	0.32	0.32	-2.58
1,244.0	0.40	353.70	1,243.9	11.7	7.8	-7.6	0.66	-0.43	-51.85
1,334.0	0.50	343.40	1,333.9	12.4	7.6	-7.5	0.14	0.11	-11.44
1,423.0	0.30	332.80	1,422.9	13.0	7.4	-7.2	0.24	-0.22	-11.91
1,587.0	0.70	3.80	1,586.9	14.4	7.3	-7.1	0.29	0.24	18.90
1,676.0	0.80	348.80	1,675.9	15.5	7.2	-7.0	0.25	0.11	-16.85
1,766.0	0.40	64.40	1,765.9	16.3	7.4	-7.1	0.89	-0.44	84.00
1,855.0	0.10	23.50	1,854.9	16.5	7.7	-7.4	0.37	-0.34	-45.96
1,945.0	0.40	273.20	1,944.9	16.6	7.4	-7.2	0.49	0.33	-122.56
2,034.0	1.30	125.90	2,033.8	16.0	7.9	-7.7	1.85	1.01	-165.51
2,123.0	2.20	96.20	2,122.8	15.2	10.4	-10.2	1.40	1.01	-33.37
2,213.0	3.20	77.10	2,212.7	15.6	14.6	-14.4	1.48	1.11	-21.22
2,302.0	4.50	74.60	2,301.5	17.1	20.4	-20.1	1.47	1.46	-2.81
2,392.0	5.70	68.60	2,391.1	19.6	27.9	-27.7	1.46	1.33	-6.67
2,481.0	5.70	73.40	2,479.7	22.5	36.3	-36.0	0.54	0.00	5.39
2,571.0	4.90	70.20	2,569.3	25.1	44.2	-43.8	0.95	-0.89	-3.56
2,660.0	6.10	82.20	2,657.9	27.0	52.5	-52.1	1.86	1.35	13.48
2,749.0	7.70	88.10	2,746.3	27.9	63.1	-62.7	1.96	1.80	6.63
2,839.0	7.10	86.90	2,835.5	28.4	74.7	-74.3	0.69	-0.67	-1.33
2,928.0	8.20	82.00	2,923.7	29.5	86.5	-86.0	1.44	1.24	-5.51
3,017.0	7.70	79.00	3,011.9	31.6	98.6	-98.1	0.73	-0.56	-3.37
3,107.0	6.30	75.30	3,101.2	34.0	109.3	-108.8	1.63	-1.56	-4.11
3,196.0	6.30	69.30	3,189.7	36.9	118.6	-118.0	0.74	0.00	-6.74
3,286.0	6.90	69.90	3,279.1	40.5	128.3	-127.7	0.67	0.67	0.67
3,375.0	6.10	65.10	3,367.5	44.4	137.6	-136.9	1.09	-0.90	-5.39
3,465.0	5.70	66.30	3,457.0	48.2	146.0	-145.3	0.47	-0.44	1.33
3,554.0	6.80	76.90	3,545.5	51.1	155.2	-154.4	1.79	1.24	11.91
3,643.0	7.80	77.40	3,633.8	53.7	166.2	-165.4	1.13	1.12	0.56
3,733.0	8.30	74.80	3,722.9	56.7	178.5	-177.6	0.69	0.56	-2.89
3,822.0	8.80	75.00	3,810.9	60.1	191.2	-190.3	0.56	0.56	0.22
3,912.0	8.40	72.80	3,899.9	63.9	204.2	-203.2	0.58	-0.44	-2.44
4,001.0	7.60	67.90	3,988.0	68.0	215.8	-214.8	1.18	-0.90	-5.51
4,090.0	8.40	68.10	4,076.1	72.6	227.3	-226.2	0.90	0.90	0.22
4,180.0	7.20	66.20	4,165.3	77.4	238.6	-237.4	1.36	-1.33	-2.11
4,269.0	6.20	60.90	4,253.7	82.0	247.9	-246.7	1.32	-1.12	-5.96
4,358.0	5.30	54.00	4,342.3	86.7	255.4	-254.1	1.27	-1.01	-7.75
4,448.0	4.80	50.50	4,431.9	91.5	261.7	-260.3	0.65	-0.56	-3.89
4,537.0	4.00	45.80	4,520.6	96.1	266.8	-265.4	0.99	-0.90	-5.28
4,626.0	2.90	41.90	4,609.5	99.9	270.5	-269.0	1.26	-1.24	-4.38
4,716.0	2.30	42.10	4,699.4	103.0	273.2	-271.7	0.67	-0.67	0.22

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well LDS 1W-314
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Site:	LDS 5N65W1W Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Well:	LDS 1W-314	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)
4,805.0	1.10	43.80	4,788.3	104.9	275.0	-273.5	1.35	-1.35	1.91
4,894.0	0.50	28.90	4,877.3	105.9	275.8	-274.2	0.71	-0.67	-16.74
4,984.0	0.40	20.30	4,967.3	106.5	276.1	-274.5	0.13	-0.11	-9.56
5,073.0	0.40	343.90	5,056.3	107.1	276.1	-274.5	0.28	0.00	-40.90
5,162.0	0.40	332.80	5,145.3	107.7	275.9	-274.3	0.09	0.00	-12.47
5,252.0	0.80	325.60	5,235.3	108.5	275.4	-273.8	0.45	0.44	-8.00
5,341.0	0.70	296.40	5,324.3	109.2	274.6	-272.9	0.44	-0.11	-32.81
5,431.0	0.80	347.60	5,414.3	110.1	273.9	-272.3	0.73	0.11	56.89
5,520.0	1.10	358.00	5,503.3	111.5	273.8	-272.1	0.39	0.34	11.69
5,609.0	0.60	38.60	5,592.3	112.7	274.0	-272.4	0.85	-0.56	45.62
5,698.0	0.60	54.70	5,681.3	113.4	274.7	-273.0	0.19	0.00	18.09
5,788.0	1.10	52.60	5,771.3	114.2	275.8	-274.1	0.56	0.56	-2.33
5,877.0	0.90	63.20	5,860.3	115.0	277.1	-275.4	0.31	-0.22	11.91
5,987.0	0.80	67.60	5,970.3	115.7	278.5	-276.8	0.11	-0.09	4.00
6,076.0	4.30	277.10	6,059.2	116.3	275.8	-274.1	5.63	3.93	-169.10
6,166.0	14.60	263.70	6,147.8	115.5	261.1	-259.4	11.63	11.44	-14.89
6,255.0	25.50	257.60	6,231.3	110.2	231.2	-229.6	12.45	12.25	-6.85
6,344.0	29.00	259.00	6,310.4	101.9	191.3	-189.8	4.00	3.93	1.57
6,434.0	29.80	261.10	6,388.9	94.3	147.8	-146.4	1.45	0.89	2.33
6,523.0	33.20	265.50	6,464.7	89.0	101.6	-100.3	4.61	3.82	4.94
6,612.0	45.10	269.50	6,533.6	86.8	45.6	-44.3	13.66	13.37	4.49
6,702.0	47.00	270.60	6,596.1	86.8	-19.2	20.4	2.29	2.11	1.22
6,791.0	53.20	269.50	6,653.2	86.9	-87.4	88.7	7.03	6.97	-1.24
6,839.5	55.98	269.33	6,681.3	86.5	-127.0	128.2	5.74	5.73	-0.35
Crosses 460' Setback									
6,880.0	58.30	269.20	6,703.2	86.0	-161.0	162.2	5.74	5.73	-0.33
6,970.0	61.30	271.00	6,748.5	86.2	-238.7	240.0	3.75	3.33	2.00
7,059.0	70.10	273.40	6,785.1	89.3	-319.7	321.0	10.19	9.89	2.70
7,148.0	77.60	270.40	6,809.8	92.1	-405.1	406.4	9.03	8.43	-3.37
7,238.0	85.40	268.10	6,823.1	91.0	-494.0	495.3	9.03	8.67	-2.56
7,327.0	87.90	270.60	6,828.3	89.9	-582.8	584.1	3.97	2.81	2.81
7,416.0	89.20	271.30	6,830.6	91.4	-671.8	673.0	1.66	1.46	0.79
Deepest TVD Drilled - 6830.59'									
7,506.0	91.10	272.00	6,830.4	94.0	-761.8	763.0	2.25	2.11	0.78
7,595.0	93.00	272.70	6,827.2	97.7	-850.6	851.9	2.27	2.13	0.79
7,684.0	92.40	272.70	6,823.0	101.8	-939.4	940.8	0.67	-0.67	0.00
7,781.0	89.70	271.00	6,821.2	105.0	-1,036.3	1,037.7	3.29	-2.78	-1.75
7,873.0	90.00	271.30	6,821.4	106.8	-1,128.3	1,129.7	0.46	0.33	0.33
7,965.0	90.50	271.30	6,821.0	108.9	-1,220.3	1,221.7	0.54	0.54	0.00
8,056.0	90.40	271.00	6,820.3	110.7	-1,311.3	1,312.7	0.35	-0.11	-0.33
8,148.0	90.00	269.50	6,820.0	111.1	-1,403.3	1,404.7	1.69	-0.43	-1.63
8,241.0	88.90	269.70	6,820.9	110.5	-1,496.3	1,497.7	1.20	-1.18	0.22
8,334.0	89.30	270.40	6,822.4	110.6	-1,589.2	1,590.7	0.87	0.43	0.75
8,426.0	90.00	271.10	6,822.9	111.8	-1,681.2	1,682.7	1.08	0.76	0.76

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Well:	LDS 1W-314	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)
8,518.0	90.30	270.20	6,822.7	112.8	-1,773.2	1,774.7	1.03	0.33	-0.98
8,611.0	89.60	269.20	6,822.8	112.3	-1,866.2	1,867.7	1.31	-0.75	-1.08
8,702.0	90.40	269.70	6,822.8	111.5	-1,957.2	1,958.6	1.04	0.88	0.55
8,794.0	89.10	268.80	6,823.2	110.3	-2,049.2	2,050.6	1.72	-1.41	-0.98
8,887.0	89.50	269.20	6,824.3	108.6	-2,142.2	2,143.5	0.61	0.43	0.43
8,976.0	90.00	269.20	6,824.7	107.4	-2,231.2	2,232.5	0.56	0.56	0.00
9,066.0	90.70	269.20	6,824.1	106.1	-2,321.2	2,322.5	0.78	0.78	0.00
9,155.0	91.30	269.20	6,822.6	104.9	-2,410.1	2,411.4	0.67	0.67	0.00
9,245.0	90.40	270.10	6,821.3	104.3	-2,500.1	2,501.4	1.41	-1.00	1.00
9,334.0	90.90	270.20	6,820.2	104.6	-2,589.1	2,590.4	0.57	0.56	0.11
9,423.0	89.60	269.40	6,819.9	104.3	-2,678.1	2,679.3	1.72	-1.46	-0.90
9,512.0	90.00	269.70	6,820.2	103.6	-2,767.1	2,768.3	0.56	0.45	0.34
9,602.0	90.80	270.10	6,819.5	103.4	-2,857.1	2,858.3	0.99	0.89	0.44
9,691.0	89.60	268.70	6,819.2	102.5	-2,946.1	2,947.3	2.07	-1.35	-1.57
9,781.0	90.00	268.80	6,819.5	100.5	-3,036.1	3,037.2	0.46	0.44	0.11
9,870.0	91.00	269.50	6,818.8	99.2	-3,125.1	3,126.2	1.37	1.12	0.79
9,959.0	89.60	269.40	6,818.3	98.3	-3,214.1	3,215.1	1.58	-1.57	-0.11
10,049.0	89.90	269.20	6,818.7	97.2	-3,304.1	3,305.1	0.40	0.33	-0.22
10,138.0	90.50	269.40	6,818.4	96.1	-3,393.0	3,394.1	0.71	0.67	0.22
10,227.0	90.70	269.90	6,817.4	95.6	-3,482.0	3,483.1	0.61	0.22	0.56
10,317.0	91.00	270.40	6,816.1	95.8	-3,572.0	3,573.0	0.65	0.33	0.56
10,406.0	89.30	270.80	6,815.9	96.8	-3,661.0	3,662.0	1.96	-1.91	0.45
10,496.0	89.70	270.60	6,816.7	97.9	-3,751.0	3,752.0	0.50	0.44	-0.22
10,585.0	90.10	271.00	6,816.8	99.1	-3,840.0	3,841.0	0.64	0.45	0.45
10,674.0	90.70	271.10	6,816.2	100.7	-3,929.0	3,930.0	0.68	0.67	0.11
10,764.0	90.90	271.30	6,814.9	102.6	-4,019.0	4,020.0	0.31	0.22	0.22
10,853.0	91.50	271.70	6,813.1	105.0	-4,107.9	4,109.0	0.81	0.67	0.45
10,942.0	91.10	270.80	6,811.1	106.9	-4,196.9	4,198.0	1.11	-0.45	-1.01
11,031.0	89.30	270.40	6,810.7	107.8	-4,285.8	4,287.0	2.07	-2.02	-0.45
11,121.0	89.30	269.70	6,811.8	107.9	-4,375.8	4,376.9	0.78	0.00	-0.78
11,210.0	90.00	269.90	6,812.4	107.6	-4,464.8	4,465.9	0.82	0.79	0.22
11,299.0	90.60	269.70	6,811.9	107.3	-4,553.8	4,554.9	0.71	0.67	-0.22
11,389.0	91.60	269.90	6,810.2	107.0	-4,643.8	4,644.9	1.13	1.11	0.22
11,478.0	90.50	269.70	6,808.6	106.7	-4,732.8	4,733.8	1.26	-1.24	-0.22
11,567.0	90.90	270.20	6,807.5	106.6	-4,821.8	4,822.8	0.72	0.45	0.56
11,657.0	91.40	270.40	6,805.7	107.1	-4,911.8	4,912.8	0.60	0.56	0.22
11,746.0	90.00	269.90	6,804.6	107.3	-5,000.8	5,001.8	1.67	-1.57	-0.56
11,835.0	90.40	269.50	6,804.3	106.8	-5,089.8	5,090.8	0.64	0.45	-0.45
11,925.0	90.90	269.20	6,803.3	105.8	-5,179.8	5,180.7	0.65	0.56	-0.33
12,014.0	89.30	269.20	6,803.1	104.6	-5,268.7	5,269.7	1.80	-1.80	0.00
12,104.0	89.30	269.40	6,804.2	103.5	-5,358.7	5,359.7	0.22	0.00	0.22
12,193.0	90.00	269.40	6,804.7	102.5	-5,447.7	5,448.6	0.79	0.79	0.00
12,282.0	91.20	269.90	6,803.8	102.0	-5,536.7	5,537.6	1.46	1.35	0.56

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well LDS 1W-314
Project:	SEC.1-T5N-R65W	TVD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Site:	LDS 5N65W1W Pad Sec.1-T5N-R65W	MD Reference:	WELL @ 4636.0ft (Ensign Rig #161 - RKB - 23')
Well:	LDS 1W-314	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)
12,372.0	90.00	269.00	6,802.9	101.1	-5,626.7	5,627.6	1.67	-1.33	-1.00
12,461.0	90.30	269.50	6,802.6	100.0	-5,715.7	5,716.5	0.66	0.34	0.56
12,551.0	90.90	269.50	6,801.7	99.2	-5,805.7	5,806.5	0.67	0.67	0.00
12,640.0	88.70	269.70	6,802.0	98.6	-5,894.7	5,895.5	2.48	-2.47	0.22
12,729.0	88.80	270.10	6,803.9	98.4	-5,983.7	5,984.4	0.46	0.11	0.45
12,819.0	89.00	270.20	6,805.7	98.6	-6,073.6	6,074.4	0.25	0.22	0.11
12,908.0	88.40	270.60	6,807.7	99.3	-6,162.6	6,163.4	0.81	-0.67	0.45
12,997.0	89.40	270.10	6,809.4	99.8	-6,251.6	6,252.4	1.26	1.12	-0.56
13,086.0	90.70	270.20	6,809.3	100.0	-6,340.6	6,341.4	1.46	1.46	0.11
13,176.0	90.90	270.80	6,808.1	100.8	-6,430.6	6,431.4	0.70	0.22	0.67
13,265.0	90.90	271.00	6,806.7	102.2	-6,519.6	6,520.3	0.22	0.00	0.22
13,355.0	91.30	271.10	6,804.9	103.9	-6,609.5	6,610.3	0.46	0.44	0.11
13,444.0	91.50	271.00	6,802.8	105.5	-6,698.5	6,699.3	0.25	0.22	-0.11
13,533.0	92.00	271.10	6,800.0	107.1	-6,787.4	6,788.3	0.57	0.56	0.11
13,623.0	90.70	270.40	6,797.9	108.3	-6,877.4	6,878.2	1.64	-1.44	-0.78
13,712.0	90.20	270.20	6,797.2	108.8	-6,966.4	6,967.2	0.61	-0.56	-0.22
13,821.0	90.70	271.10	6,796.4	110.0	-7,075.4	7,076.2	0.94	0.46	0.83
13,877.0	90.70	271.10	6,795.7	111.1	-7,131.4	7,132.2	0.00	0.00	0.00
BHL 2055'FNL & 2144'FEL, Sec. 2									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 2154'FNL & 333'FE	0.00	0.00	1.0	0.0	0.0	1,400,464.71	3,249,728.59	40.429210	-104.602940
- survey hits target center									
- Point									
BHL 2055'FNL & 2144'F	0.00	0.00	6,795.0	103.1	-7,132.6	1,400,495.59	3,242,595.59	40.429490	-104.628560
- survey misses target center by 8.1ft at 13877.0ft MD (6795.7 TVD, 111.1 N, -7131.4 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,839.5	6,681.3	86.5	-127.0	Crosses 460' Setback
7,416.0	6,830.6	91.4	-671.8	Deepest TVD Drilled - 6830.59'

Checked By: _____	Approved By: _____	Date: _____
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