

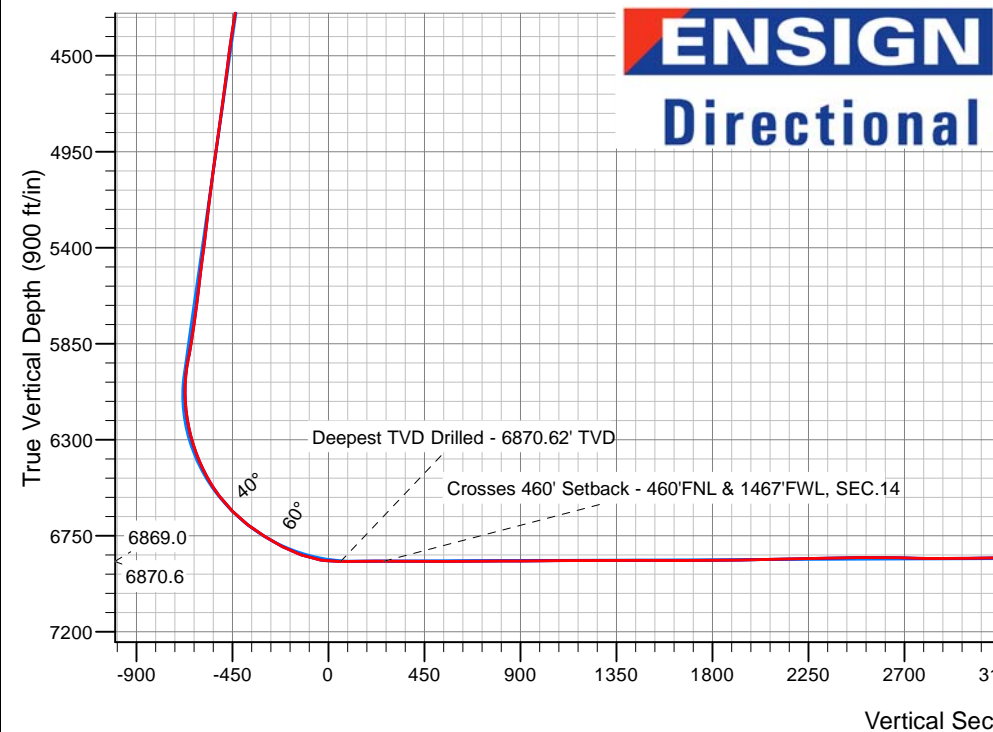
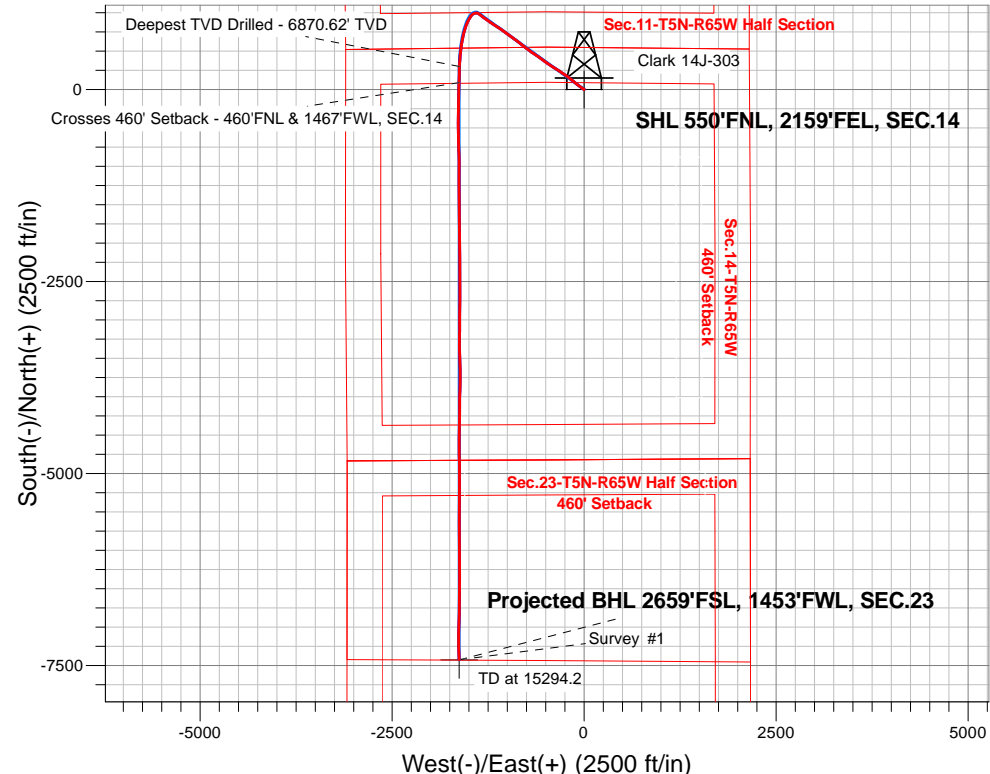
# PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Clark 14J-303**

Surface Location: Clark 5N65W14EJ Pad Sec.14-T5N-R65W  
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
Ground Elevation: 4616.0  
+N/-S+E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1391636.233242606.06 40.405172 -104.628835  
Ensign 158 RKB - 23' WELL @ 4639.0ft (Ensign 158 RKB - 23')

## FINAL SURVEY

**Projected Bottom Hole Location**  
**15,287'MD 6835'TVD 7426'S & 1629'W of SHL**  
**92.2 degree Incl @ 178.5 degree AZM**



**ENSIGN**  
**Directional**

Clark 5N65W14EJ Pad Sec.14-T5N-R65W  
Clark 14J-303  
Wellbore #1  
15:04, January 03 2017

### ANNOTATIONS

TVD	MD	Annotation
6870.6	7561.0	Deepest TVD Drilled - 6870.62' TVD
6869.0	7769.0	Crosses 460' Setback - 460'FNL & 1467'FWL, SEC.14

### LEGEND

- Clark 14J-303, Wellbore #1, Plan #4 (12-24-16)R V0
- Wellbore #1
- Survey #1



# **PETROLEUM DEVELOPMENT CORP DJ Basin**

**SEC.14-T5N-R65W**

**Clark 5N65W14EJ Pad Sec.14-T5N-R65W**

**Clark 14J-303**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**03 January, 2017**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Clark 14J-303
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	US_EDM

<b>Project</b>	SEC.14-T5N-R65W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		Clark 5N65W14EJ Pad Sec.14-T5N-R65W			
Site Position:		Northing:	1,391,636.33 usft	Latitude:	40.405173
From:	Lat/Long	Easting:	3,242,575.99 usft	Longitude:	-104.628943
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.56 °

Well	Clark 14J-303					
Well Position	+N/-S	0.0 ft	Northing:	1,391,636.23 usft	Latitude:	40.405172
	+E/-W	0.0 ft	Easting:	3,242,606.06 usft	Longitude:	-104.628835
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,616.0 ft

<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>
	IGRF2010	12/24/2016	8.05	66.88	52,567

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	192.36	

<b>Survey Program</b>	<b>Date</b>	1/3/2017			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
155.0	15,287.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
155.0	0.10	234.40	155.0	-0.1	-0.1	0.1	0.06	0.06	0.00	
251.0	0.10	86.10	251.0	-0.1	-0.1	0.1	0.20	0.00	-154.48	
346.0	0.30	56.70	346.0	0.0	0.2	-0.1	0.23	0.21	-30.95	
442.0	0.50	68.90	442.0	0.3	0.8	-0.5	0.23	0.21	12.71	
538.0	0.40	74.50	538.0	0.5	1.5	-0.9	0.11	-0.10	5.83	
633.0	0.40	272.60	633.0	0.7	1.5	-1.0	0.83	0.00	-170.42	
729.0	2.20	292.30	729.0	1.4	-0.5	-1.2	1.90	1.88	20.52	
824.0	3.90	294.60	823.8	3.4	-5.2	-2.2	1.79	1.79	2.42	
920.0	5.70	301.80	919.5	7.3	-12.2	-4.5	1.97	1.88	7.50	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Clark 14J-303
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,016.0	7.40	307.40	1,014.9	13.5	-21.2	-8.7	1.89	1.77	5.83
1,112.0	8.80	304.20	1,109.9	21.4	-32.1	-14.1	1.53	1.46	-3.33
1,208.0	10.20	304.30	1,204.6	30.3	-45.2	-20.0	1.46	1.46	0.10
1,304.0	11.70	307.60	1,298.8	41.1	-60.0	-27.3	1.69	1.56	3.44
1,400.0	12.70	307.60	1,392.7	53.5	-76.0	-35.9	1.04	1.04	0.00
1,505.0	13.10	306.20	1,495.0	67.5	-94.8	-45.7	0.48	0.38	-1.33
1,594.0	12.50	306.50	1,581.8	79.2	-110.7	-53.7	0.68	-0.67	0.34
1,690.0	13.40	313.40	1,675.4	93.0	-127.1	-63.7	1.86	0.94	7.19
1,786.0	15.80	309.90	1,768.3	109.1	-145.2	-75.5	2.66	2.50	-3.65
1,881.0	17.10	308.80	1,859.4	126.1	-166.0	-87.7	1.41	1.37	-1.16
1,977.0	17.90	308.30	1,950.9	144.1	-188.6	-100.4	0.85	0.83	-0.52
2,073.0	20.00	306.20	2,041.7	162.9	-213.4	-113.5	2.30	2.19	-2.19
2,169.0	21.30	304.40	2,131.5	182.5	-241.1	-126.7	1.51	1.35	-1.88
2,265.0	20.10	303.00	2,221.3	201.3	-269.3	-139.0	1.35	-1.25	-1.46
2,361.0	22.00	305.50	2,310.9	220.8	-297.8	-151.9	2.19	1.98	2.60
2,456.0	21.20	304.10	2,399.3	240.7	-326.5	-165.3	1.00	-0.84	-1.47
2,552.0	20.90	302.80	2,488.9	259.7	-355.2	-177.7	0.58	-0.31	-1.35
2,648.0	20.10	301.40	2,578.8	277.6	-383.7	-189.0	0.98	-0.83	-1.46
2,743.0	20.30	300.70	2,667.9	294.5	-411.8	-199.6	0.33	0.21	-0.74
2,839.0	20.80	305.10	2,757.8	312.8	-440.1	-211.4	1.69	0.52	4.58
2,935.0	19.70	304.40	2,847.9	331.8	-467.4	-224.1	1.17	-1.15	-0.73
3,031.0	18.70	304.10	2,938.6	349.5	-493.5	-235.8	1.05	-1.04	-0.31
3,127.0	18.90	306.90	3,029.4	367.5	-518.7	-248.0	0.96	0.21	2.92
3,222.0	19.00	305.80	3,119.3	385.8	-543.5	-260.5	0.39	0.11	-1.16
3,319.0	19.60	306.40	3,210.8	404.7	-569.4	-273.4	0.65	0.62	0.62
3,415.0	19.40	307.20	3,301.3	423.9	-595.1	-286.7	0.35	-0.21	0.83
3,510.0	19.50	303.50	3,390.9	442.2	-620.9	-299.0	1.30	0.11	-3.89
3,607.0	20.00	303.90	3,482.2	460.3	-648.1	-311.0	0.53	0.52	0.41
3,702.0	18.80	302.80	3,571.8	477.7	-674.5	-322.3	1.32	-1.26	-1.16
3,798.0	20.80	304.80	3,662.1	495.8	-701.5	-334.2	2.20	2.08	2.08
3,894.0	21.10	307.60	3,751.8	516.1	-729.2	-348.1	1.09	0.31	2.92
3,990.0	21.20	307.40	3,841.3	537.2	-756.6	-362.8	0.13	0.10	-0.21
4,085.0	20.90	307.10	3,930.0	557.8	-783.8	-377.2	0.34	-0.32	-0.32
4,180.0	19.70	308.10	4,019.1	577.9	-809.9	-391.2	1.31	-1.26	1.05
4,276.0	20.00	310.70	4,109.4	598.6	-835.1	-406.0	0.97	0.31	2.71
4,372.0	20.70	309.00	4,199.4	620.0	-860.7	-421.4	0.95	0.73	-1.77
4,468.0	19.60	308.10	4,289.5	640.6	-886.6	-436.0	1.19	-1.15	-0.94
4,564.0	19.70	307.80	4,379.9	660.5	-912.0	-450.0	0.15	0.10	-0.31
4,660.0	18.80	306.50	4,470.6	679.6	-937.3	-463.3	1.04	-0.94	-1.35
4,756.0	18.30	303.50	4,561.6	697.1	-962.3	-475.0	1.12	-0.52	-3.13
4,852.0	19.20	303.90	4,652.5	714.2	-987.9	-486.3	0.95	0.94	0.42
4,948.0	19.80	305.60	4,743.0	732.5	-1,014.3	-498.5	0.86	0.63	1.77
5,044.0	19.40	306.20	4,833.4	751.4	-1,040.4	-511.3	0.47	-0.42	0.63
5,139.0	20.30	302.80	4,922.8	769.6	-1,066.9	-523.5	1.54	0.95	-3.58

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<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
5,235.0	20.20	305.80	5,012.8	788.3	-1,094.4	-535.9	1.09	-0.10	3.13	
5,330.0	18.80	305.10	5,102.4	806.7	-1,120.2	-548.3	1.49	-1.47	-0.74	
5,427.0	19.00	303.50	5,194.1	824.4	-1,146.2	-560.1	0.57	0.21	-1.65	
5,522.0	18.40	300.50	5,284.1	840.6	-1,172.0	-570.3	1.19	-0.63	-3.16	
5,617.0	18.60	304.60	5,374.2	856.8	-1,197.4	-580.7	1.39	0.21	4.32	
5,713.0	19.70	306.00	5,464.9	875.0	-1,223.1	-593.0	1.24	1.15	1.46	
5,808.0	18.40	303.40	5,554.7	892.7	-1,248.5	-604.8	1.63	-1.37	-2.74	
5,933.0	17.50	304.90	5,673.6	914.3	-1,280.4	-619.1	0.81	-0.72	1.20	
6,028.0	17.40	308.80	5,764.3	931.4	-1,303.2	-630.9	1.24	-0.11	4.11	
6,124.0	20.80	308.30	5,855.0	950.9	-1,327.8	-644.7	3.55	3.54	-0.52	
6,220.0	22.30	307.40	5,944.2	972.5	-1,355.6	-659.9	1.60	1.56	-0.94	
6,268.0	20.50	306.30	5,988.9	983.1	-1,369.6	-667.2	3.84	-3.75	-2.29	
6,316.0	16.80	293.30	6,034.4	990.8	-1,382.8	-671.9	11.55	-7.71	-27.08	
6,364.0	15.70	276.60	6,080.5	994.3	-1,395.6	-672.6	9.97	-2.29	-34.79	
6,412.0	16.20	263.50	6,126.7	994.3	-1,408.7	-669.8	7.56	1.04	-27.29	
6,460.0	15.70	256.20	6,172.9	992.0	-1,421.7	-664.7	4.30	-1.04	-15.21	
6,507.0	15.80	246.90	6,218.1	987.9	-1,433.8	-658.2	5.37	0.21	-19.79	
6,555.0	17.30	237.60	6,264.1	981.5	-1,445.8	-649.4	6.33	3.13	-19.38	
6,603.0	19.40	228.10	6,309.7	972.4	-1,457.8	-637.9	7.60	4.38	-19.79	
6,651.0	22.40	219.30	6,354.5	960.0	-1,469.5	-623.3	9.03	6.25	-18.33	
6,699.0	24.40	217.20	6,398.6	945.0	-1,481.3	-606.1	4.51	4.17	-4.38	
6,747.0	27.10	209.80	6,441.8	927.6	-1,492.7	-586.7	8.74	5.63	-15.42	
6,795.0	31.50	209.50	6,483.7	907.2	-1,504.3	-564.2	9.17	9.17	-0.63	
6,842.0	34.80	208.10	6,523.0	884.7	-1,516.7	-539.6	7.21	7.02	-2.98	
6,891.0	36.90	202.80	6,562.7	858.8	-1,529.0	-511.7	7.65	4.29	-10.82	
6,987.0	45.00	195.60	6,635.2	799.4	-1,549.3	-449.3	9.75	8.44	-7.50	
7,083.0	52.40	194.20	6,698.6	729.7	-1,567.8	-377.3	7.79	7.71	-1.46	
7,178.0	57.20	191.00	6,753.3	654.0	-1,584.7	-299.7	5.75	5.05	-3.37	
7,274.0	63.10	187.90	6,801.1	571.9	-1,598.3	-216.6	6.75	6.15	-3.23	
7,370.0	70.00	187.20	6,839.3	484.6	-1,609.8	-128.9	7.22	7.19	-0.73	
7,466.0	80.90	184.70	6,863.3	392.4	-1,619.4	-36.7	11.63	11.35	-2.60	
7,561.0	90.30	181.50	6,870.6	297.9	-1,624.5	56.7	10.45	9.89	-3.37	
<b>Deepest TVD Drilled - 6870.62' TVD</b>										
7,657.0	90.80	181.00	6,869.7	201.9	-1,626.6	150.9	0.74	0.52	-0.52	
7,753.0	90.00	181.50	6,869.0	105.9	-1,628.7	245.0	0.98	-0.83	0.52	
7,769.0	89.93	181.57	6,869.0	90.0	-1,629.1	260.8	0.60	-0.42	0.42	
<b>Crosses 460' Setback - 460'FNL &amp; 1467'FWL, SEC.14</b>										
7,848.0	89.60	181.90	6,869.4	11.0	-1,631.5	338.4	0.60	-0.42	0.42	
7,944.0	90.00	181.90	6,869.7	-85.0	-1,634.7	432.8	0.42	0.42	0.00	
8,040.0	89.70	181.00	6,870.0	-180.9	-1,637.1	527.1	0.99	-0.31	-0.94	
8,135.0	90.60	180.00	6,869.7	-275.9	-1,637.9	620.0	1.42	0.95	-1.05	
8,231.0	90.50	179.80	6,868.8	-371.9	-1,637.8	713.8	0.23	-0.10	-0.21	
8,326.0	90.10	180.30	6,868.3	-466.9	-1,637.8	806.6	0.67	-0.42	0.53	

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<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
8,423.0	90.30	179.30	6,867.9	-563.9	-1,637.5	901.3	1.05	0.21	-1.03
8,518.0	90.20	178.90	6,867.5	-658.9	-1,636.0	993.7	0.43	-0.11	-0.42
8,614.0	90.30	178.20	6,867.1	-754.9	-1,633.6	1,087.0	0.74	0.10	-0.73
8,709.0	90.30	177.70	6,866.6	-849.8	-1,630.2	1,179.0	0.53	0.00	-0.53
8,805.0	90.60	179.60	6,865.9	-945.8	-1,627.9	1,272.2	2.00	0.31	1.98
8,901.0	89.90	179.30	6,865.4	-1,041.8	-1,627.0	1,365.8	0.79	-0.73	-0.31
8,997.0	89.70	180.00	6,865.8	-1,137.8	-1,626.4	1,459.5	0.76	-0.21	0.73
9,093.0	89.70	180.70	6,866.3	-1,233.8	-1,627.0	1,553.4	0.73	0.00	0.73
9,189.0	90.40	180.30	6,866.2	-1,329.8	-1,627.8	1,647.3	0.84	0.73	-0.42
9,284.0	90.50	180.10	6,865.4	-1,424.7	-1,628.2	1,740.2	0.24	0.11	-0.21
9,380.0	90.50	179.80	6,864.6	-1,520.7	-1,628.1	1,833.9	0.31	0.00	-0.31
9,476.0	91.00	179.40	6,863.4	-1,616.7	-1,627.4	1,927.6	0.67	0.52	-0.42
9,571.0	91.30	178.70	6,861.4	-1,711.7	-1,625.8	2,020.0	0.80	0.32	-0.74
9,667.0	91.00	178.90	6,859.5	-1,807.7	-1,623.8	2,113.3	0.38	-0.31	0.21
9,763.0	90.80	179.60	6,858.0	-1,903.6	-1,622.6	2,206.8	0.76	-0.21	0.73
9,858.0	91.70	178.90	6,855.9	-1,998.6	-1,621.3	2,299.3	1.20	0.95	-0.74
9,954.0	91.20	179.80	6,853.5	-2,094.6	-1,620.2	2,392.8	1.07	-0.52	0.94
10,050.0	90.70	180.00	6,851.9	-2,190.6	-1,620.1	2,486.5	0.56	-0.52	0.21
10,145.0	89.10	179.60	6,852.1	-2,285.5	-1,619.7	2,579.2	1.74	-1.68	-0.42
10,241.0	88.90	178.90	6,853.8	-2,381.5	-1,618.5	2,672.7	0.76	-0.21	-0.73
10,337.0	88.60	179.60	6,855.9	-2,477.5	-1,617.2	2,766.2	0.79	-0.31	0.73
10,433.0	90.20	180.70	6,856.9	-2,573.5	-1,617.5	2,860.0	2.02	1.67	1.15
10,528.0	90.90	180.10	6,855.9	-2,668.5	-1,618.1	2,952.9	0.97	0.74	-0.63
10,624.0	90.30	181.00	6,854.9	-2,764.5	-1,619.1	3,046.9	1.13	-0.63	0.94
10,720.0	90.60	180.50	6,854.2	-2,860.5	-1,620.3	3,140.9	0.61	0.31	-0.52
10,816.0	91.70	179.60	6,852.3	-2,956.4	-1,620.4	3,234.7	1.48	1.15	-0.94
10,912.0	90.90	180.10	6,850.1	-3,052.4	-1,620.2	3,328.4	0.98	-0.83	0.52
11,007.0	88.60	181.50	6,850.5	-3,147.4	-1,621.5	3,421.5	2.83	-2.42	1.47
11,102.0	89.00	180.30	6,852.5	-3,242.4	-1,623.0	3,514.6	1.33	0.42	-1.26
11,198.0	89.80	179.80	6,853.5	-3,338.3	-1,623.1	3,608.3	0.98	0.83	-0.52
11,294.0	89.70	178.90	6,853.9	-3,434.3	-1,622.0	3,701.9	0.94	-0.10	-0.94
11,390.0	90.20	177.80	6,854.0	-3,530.3	-1,619.2	3,795.0	1.26	0.52	-1.15
11,485.0	90.10	179.40	6,853.7	-3,625.3	-1,616.9	3,887.3	1.69	-0.11	1.68
11,581.0	90.00	179.10	6,853.7	-3,721.3	-1,615.6	3,980.8	0.33	-0.10	-0.31
11,677.0	90.20	181.40	6,853.5	-3,817.2	-1,616.0	4,074.7	2.40	0.21	2.40
11,773.0	90.10	181.00	6,853.2	-3,913.2	-1,618.1	4,168.8	0.43	-0.10	-0.42
11,868.0	90.60	180.70	6,852.7	-4,008.2	-1,619.5	4,261.9	0.61	0.53	-0.32
11,964.0	91.00	180.00	6,851.3	-4,104.2	-1,620.1	4,355.8	0.84	0.42	-0.73
12,060.0	90.70	181.00	6,849.9	-4,200.2	-1,620.9	4,449.8	1.09	-0.31	1.04
12,156.0	90.50	181.50	6,848.9	-4,296.2	-1,623.0	4,544.0	0.56	-0.21	0.52
12,252.0	90.60	181.00	6,848.0	-4,392.1	-1,625.1	4,638.2	0.53	0.10	-0.52
12,347.0	88.40	181.20	6,848.8	-4,487.1	-1,626.9	4,731.3	2.33	-2.32	0.21
12,443.0	88.70	180.50	6,851.2	-4,583.1	-1,628.3	4,825.4	0.79	0.31	-0.73
12,539.0	90.00	179.30	6,852.3	-4,679.1	-1,628.2	4,919.1	1.84	1.35	-1.25

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Clark 14J-303
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
12,634.0	90.70	177.80	6,851.7	-4,774.0	-1,625.8	5,011.3	1.74	0.74	-1.58	
12,730.0	90.90	178.90	6,850.4	-4,870.0	-1,623.0	5,104.5	1.16	0.21	1.15	
12,826.0	90.20	180.70	6,849.5	-4,966.0	-1,622.7	5,198.2	2.01	-0.73	1.88	
12,921.0	91.30	179.80	6,848.2	-5,060.9	-1,623.1	5,291.0	1.50	1.16	-0.95	
13,017.0	89.80	180.70	6,847.3	-5,156.9	-1,623.5	5,384.9	1.82	-1.56	0.94	
13,112.0	90.60	180.10	6,847.0	-5,251.9	-1,624.2	5,477.8	1.05	0.84	-0.63	
13,208.0	91.10	179.80	6,845.6	-5,347.9	-1,624.1	5,571.6	0.61	0.52	-0.31	
13,304.0	89.50	180.50	6,845.1	-5,443.9	-1,624.3	5,665.4	1.82	-1.67	0.73	
13,400.0	90.10	180.00	6,845.4	-5,539.9	-1,624.7	5,759.3	0.81	0.63	-0.52	
13,496.0	91.30	180.10	6,844.2	-5,635.9	-1,624.8	5,853.1	1.25	1.25	0.10	
13,592.0	89.70	180.50	6,843.4	-5,731.9	-1,625.3	5,946.9	1.72	-1.67	0.42	
13,687.0	90.60	180.00	6,843.1	-5,826.9	-1,625.7	6,039.8	1.08	0.95	-0.53	
13,783.0	89.60	180.50	6,843.0	-5,922.9	-1,626.2	6,133.7	1.16	-1.04	0.52	
13,879.0	89.80	179.10	6,843.5	-6,018.9	-1,625.8	6,227.4	1.47	0.21	-1.46	
13,975.0	90.80	178.40	6,843.0	-6,114.9	-1,623.7	6,320.7	1.27	1.04	-0.73	
14,070.0	90.00	179.10	6,842.3	-6,209.8	-1,621.7	6,413.0	1.12	-0.84	0.74	
14,166.0	90.50	179.10	6,841.9	-6,305.8	-1,620.1	6,506.5	0.52	0.52	0.00	
14,262.0	90.10	180.50	6,841.4	-6,401.8	-1,619.8	6,600.2	1.52	-0.42	1.46	
14,358.0	90.60	180.00	6,840.8	-6,497.8	-1,620.2	6,694.0	0.74	0.52	-0.52	
14,453.0	89.90	181.90	6,840.4	-6,592.8	-1,621.8	6,787.1	2.13	-0.74	2.00	
14,549.0	90.60	181.70	6,840.0	-6,688.7	-1,624.8	6,881.5	0.76	0.73	-0.21	
14,644.0	89.00	181.90	6,840.3	-6,783.7	-1,627.8	6,974.9	1.70	-1.68	0.21	
14,740.0	89.00	181.40	6,842.0	-6,879.6	-1,630.6	7,069.2	0.52	0.00	-0.52	
14,835.0	89.90	180.70	6,842.9	-6,974.6	-1,632.3	7,162.4	1.20	0.95	-0.74	
14,930.0	90.90	180.10	6,842.2	-7,069.6	-1,633.0	7,255.3	1.23	1.05	-0.63	
15,025.0	90.00	180.10	6,841.5	-7,164.6	-1,633.1	7,348.1	0.95	-0.95	0.00	
15,121.0	91.20	179.10	6,840.5	-7,260.6	-1,632.5	7,441.7	1.63	1.25	-1.04	
15,232.0	92.20	178.50	6,837.2	-7,371.5	-1,630.1	7,549.6	1.05	0.90	-0.54	
15,287.0	92.20	178.50	6,835.1	-7,426.5	-1,628.7	7,603.0	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL 550'FNL, 2159'FEL	0.00	0.00	1.0	0.0	0.0	1,391,636.26	3,242,606.06	40.405172	-104.628835	
- hit/miss target										
- Shape										
- survey hits target center										
- Point										
BHL 2658'FSL, 1455'FW	0.00	0.00	6,839.0	-7,427.5	-1,627.2	1,384,193.41	3,241,051.96	40.384784	-104.634676	
- survey misses target center by 4.3ft at 15287.0ft MD (6835.1 TVD, -7426.5 N, -1628.7 E)										
- Point										

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Clark 14J-303
<b>Project:</b>	SEC.14-T5N-R65W	<b>TVD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Site:</b>	Clark 5N65W14EJ Pad Sec.14-T5N-R65W	<b>MD Reference:</b>	WELL @ 4639.0ft (Ensign 158 RKB - 23')
<b>Well:</b>	Clark 14J-303	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	US_EDM

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,561.0	6,870.6	297.9	-1,624.5	Deepest TVD Drilled - 6870.62' TVD
7,769.0	6,869.0	90.0	-1,629.1	Crosses 460' Setback - 460'FNL & 1467'FWL, SEC.14

Checked By: _____	Approved By: _____	Date: _____
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