

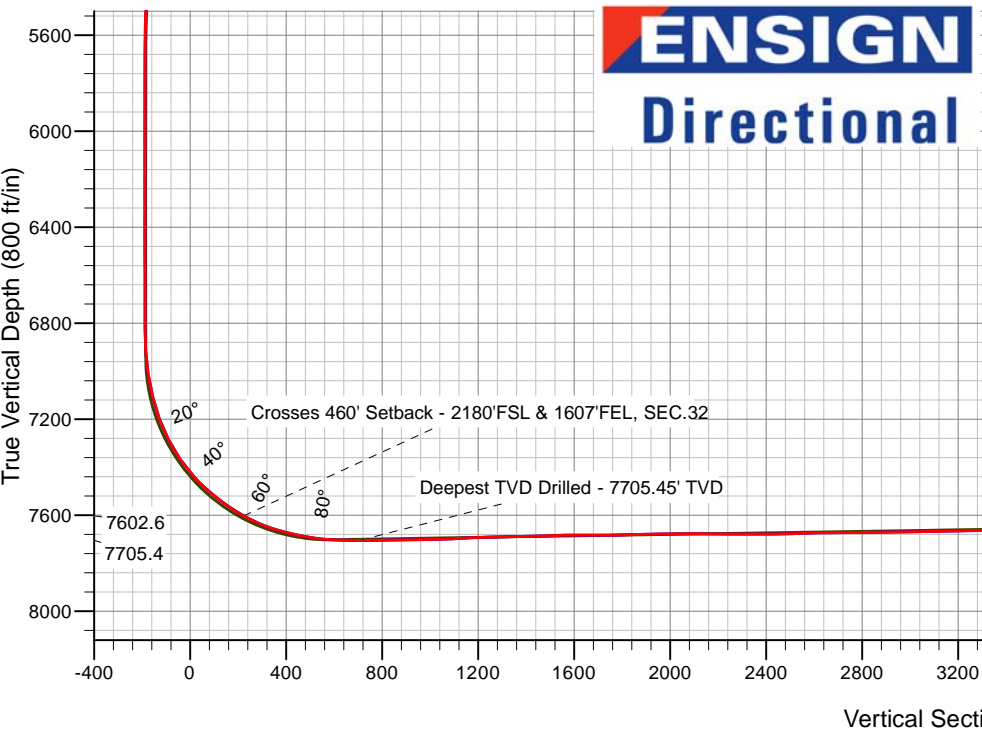
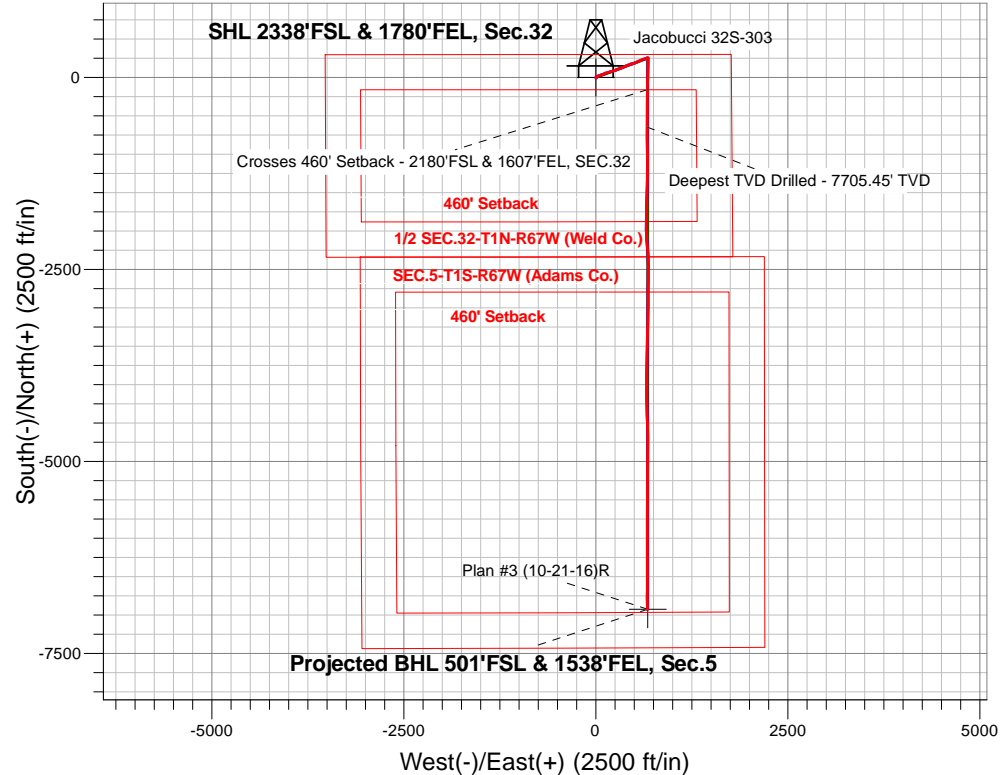
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Jacobucci 32S-303**

Surface Location: Jacobucci 1N67W32S Pad Sec.32-T1N-R67W  
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
Ground Elevation: 5059.0  
+N/-S+E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1245853.243164936.90 40.006750 -104.911200  
RKB - 23' WELL @ 5082.0ft (RKB - 23')

FINAL SURVEY

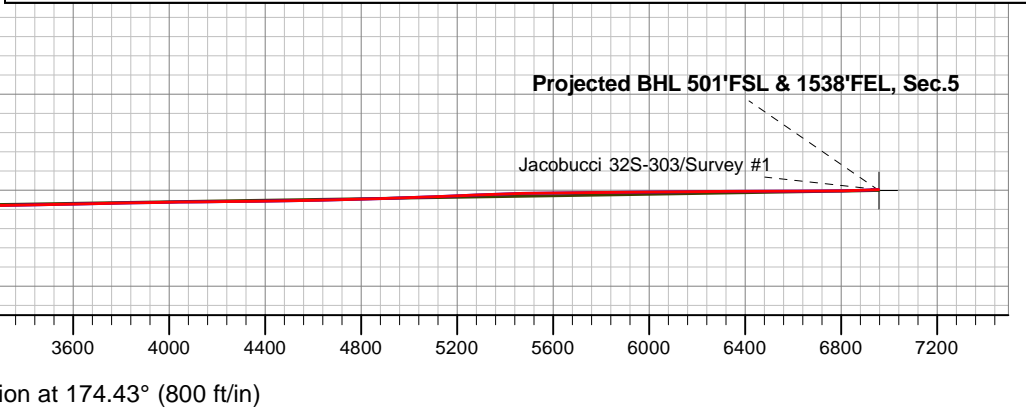
Projected Bottom Hole Location  
14598'MD 7598'TVD 6924'S & 671'E of SHL  
92.2 degree Incl @ 179.4 degree AZM



Jacobucci 1N67W32S Pad Sec.32-T1N-R67W Jacobucci 32S-303 Wellbore #1 8:30, November 01 2016	ANNOTATIONS		
	TVD	MD	Annotation
	7602.6	7812.5	Crosses 460' Setback - 2180'FSL & 1607'FEL, SEC.32
	7705.4	8317.0	Deepest TVD Drilled - 7705.45' TVD

LEGEND

- Jacobucci 32S-303, Wellbore #1, Plan #3 (10-21-16)R V0
- Wellbore #1
- Survey #1





# **PETROLEUM DEVELOPMENT CORP DJ Basin**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32S Pad Sec.32-T1N-R67W**

**Jacobucci 32S-303**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**01 November, 2016**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32S-303
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Site:</b>	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Well:</b>	Jacobucci 32S-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.32-T1N-R67W, 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		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W				
Site Position:		Northing:	1,245,853.29 usft	Latitude:	40.006750
From:	Lat/Long	Easting:	3,164,939.70 usft	Longitude:	-104.911190
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Jacobucci 32S-303					
Well Position	+N/-S	0.0 ft	Northing:	1,245,853.24 usft	Latitude:	40.006750
	+E/-W	0.0 ft	Easting:	3,164,936.90 usft	Longitude:	-104.911200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,059.0 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	10/21/2016	8.19	66.52	52,344

<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	174.43	

<b>Survey Program</b>	<b>Date</b>	11/1/2016			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
252.0	14,598.0	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
252.0	1.00	140.20	252.0	-1.7	1.4	1.8	0.40	0.40	0.00
348.0	1.20	137.90	348.0	-3.1	2.6	3.3	0.21	0.21	-2.40
444.0	0.80	144.10	444.0	-4.4	3.7	4.7	0.43	-0.42	6.46
540.0	0.90	149.00	539.9	-5.6	4.5	6.0	0.13	0.10	5.10
635.0	0.80	35.40	634.9	-5.7	5.2	6.1	1.50	-0.11	-119.58
731.0	1.10	11.50	730.9	-4.2	5.8	4.8	0.51	0.31	-24.90
826.0	1.10	359.00	825.9	-2.4	6.0	3.0	0.25	0.00	-13.16
922.0	1.30	355.20	921.9	-0.4	5.9	1.0	0.22	0.21	-3.96
1,018.0	1.40	354.10	1,017.9	1.9	5.7	-1.3	0.11	0.10	-1.15

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32S-303
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Site:</b>	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Well:</b>	Jacobucci 32S-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)
1,114.0	1.80	356.10	1,113.8	4.5	5.4	-4.0	0.42	0.42	2.08
1,210.0	2.30	31.60	1,209.8	7.7	6.3	-7.0	1.39	0.52	36.98
1,305.0	3.50	62.20	1,304.6	10.6	9.9	-9.6	2.02	1.26	32.21
1,402.0	4.70	68.80	1,401.4	13.5	16.2	-11.8	1.33	1.24	6.80
1,497.0	6.40	71.10	1,495.9	16.6	24.9	-14.1	1.80	1.79	2.42
1,593.0	7.70	70.80	1,591.2	20.4	36.0	-16.8	1.35	1.35	-0.31
1,689.0	9.10	69.90	1,686.2	25.2	49.2	-20.3	1.46	1.46	-0.94
1,785.0	10.00	68.50	1,780.9	30.8	64.1	-24.5	0.97	0.94	-1.46
1,881.0	9.50	69.40	1,875.5	36.7	79.3	-28.8	0.54	-0.52	0.94
1,972.0	9.80	67.80	1,965.2	42.2	93.5	-33.0	0.44	0.33	-1.76
2,070.0	8.70	64.40	2,061.9	48.6	107.9	-37.9	1.25	-1.12	-3.47
2,166.0	9.60	66.90	2,156.7	54.9	121.8	-42.8	1.02	0.94	2.60
2,262.0	9.70	74.80	2,251.3	60.1	136.9	-46.6	1.38	0.10	8.23
2,357.0	10.50	76.00	2,344.9	64.3	153.1	-49.2	0.87	0.84	1.26
2,453.0	10.40	75.50	2,439.3	68.6	169.9	-51.8	0.14	-0.10	-0.52
2,549.0	9.80	73.20	2,533.8	73.1	186.2	-54.7	0.75	-0.63	-2.40
2,645.0	9.30	73.80	2,628.4	77.7	201.4	-57.7	0.53	-0.52	0.63
2,740.0	10.70	72.40	2,722.0	82.5	217.2	-61.0	1.50	1.47	-1.47
2,836.0	10.20	72.00	2,816.4	87.8	233.8	-64.7	0.53	-0.52	-0.42
2,931.0	9.30	70.90	2,910.0	92.9	249.0	-68.3	0.97	-0.95	-1.16
3,027.0	9.70	70.60	3,004.7	98.1	264.0	-72.0	0.42	0.42	-0.31
3,126.0	9.20	69.00	3,102.4	103.7	279.3	-76.1	0.57	-0.51	-1.62
3,218.0	9.70	70.20	3,193.1	109.0	293.4	-80.0	0.58	0.54	1.30
3,314.0	10.10	72.70	3,287.7	114.2	309.1	-83.7	0.61	0.42	2.60
3,410.0	9.50	69.50	3,382.3	119.5	324.5	-87.5	0.84	-0.63	-3.33
3,505.0	10.40	68.10	3,475.9	125.5	339.8	-91.9	0.98	0.95	-1.47
3,601.0	9.80	65.10	3,570.4	132.1	355.3	-97.0	0.83	-0.63	-3.13
3,697.0	9.40	66.20	3,665.0	138.7	369.8	-102.2	0.46	-0.42	1.15
3,792.0	9.60	63.40	3,758.7	145.4	384.0	-107.5	0.53	0.21	-2.95
3,888.0	9.30	68.00	3,853.4	151.9	398.4	-112.5	0.85	-0.31	4.79
3,984.0	8.80	68.30	3,948.2	157.5	412.4	-116.8	0.52	-0.52	0.31
4,079.0	9.10	70.20	4,042.1	162.8	426.2	-120.6	0.44	0.32	2.00
4,175.0	9.50	67.10	4,136.8	168.4	440.7	-124.8	0.67	0.42	-3.23
4,271.0	9.80	73.10	4,231.5	173.9	455.8	-128.8	1.09	0.31	6.25
4,367.0	10.20	77.40	4,326.0	178.1	471.9	-131.5	0.88	0.42	4.48
4,463.0	9.80	71.30	4,420.5	182.6	487.9	-134.4	1.18	-0.42	-6.35
4,558.0	9.80	69.40	4,514.2	188.0	503.1	-138.3	0.34	0.00	-2.00
4,655.0	10.10	69.50	4,609.7	193.9	518.8	-142.6	0.31	0.31	0.10
4,750.0	10.10	64.80	4,703.2	200.4	534.2	-147.6	0.87	0.00	-4.95
4,846.0	10.60	68.00	4,797.7	207.3	550.0	-152.9	0.79	0.52	3.33
4,941.0	11.00	65.00	4,891.0	214.4	566.3	-158.4	0.73	0.42	-3.16
5,036.0	10.50	63.60	4,984.3	222.0	582.3	-164.5	0.59	-0.53	-1.47
5,132.0	10.50	65.80	5,078.7	229.5	598.1	-170.4	0.42	0.00	2.29
5,226.0	10.10	72.40	5,171.2	235.5	613.7	-174.8	1.32	-0.43	7.02

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32S-303
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Site:</b>	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Well:</b>	Jacobucci 32S-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)
5,321.0	9.00	72.90	5,264.9	240.2	628.8	-178.1	1.16	-1.16	0.53
5,417.0	8.30	72.00	5,359.8	244.6	642.6	-181.0	0.74	-0.73	-0.94
5,512.0	5.90	68.10	5,454.1	248.5	653.6	-183.9	2.58	-2.53	-4.11
5,607.0	4.10	68.80	5,548.7	251.6	661.3	-186.2	1.90	-1.89	0.74
5,703.0	1.80	79.70	5,644.6	253.1	666.0	-187.2	2.46	-2.40	11.35
5,799.0	1.70	70.90	5,740.5	253.8	668.8	-187.7	0.30	-0.10	-9.17
5,895.0	1.10	74.30	5,836.5	254.5	671.1	-188.2	0.63	-0.63	3.54
5,991.0	0.90	83.20	5,932.5	254.9	672.7	-188.4	0.26	-0.21	9.27
6,086.0	0.40	87.30	6,027.5	255.0	673.8	-188.4	0.53	-0.53	4.32
6,180.0	0.20	99.10	6,121.5	254.9	674.3	-188.3	0.22	-0.21	12.55
6,276.0	0.20	69.50	6,217.5	255.0	674.6	-188.3	0.11	0.00	-30.83
6,371.0	0.10	140.00	6,312.5	255.0	674.8	-188.3	0.20	-0.11	74.21
6,467.0	0.30	63.60	6,408.5	255.0	675.1	-188.3	0.31	0.21	-79.58
6,562.0	0.30	113.70	6,503.5	255.0	675.5	-188.3	0.27	0.00	52.74
6,658.0	0.30	145.10	6,599.5	254.7	675.9	-187.9	0.17	0.00	32.71
6,784.0	0.50	75.70	6,725.5	254.6	676.6	-187.7	0.38	0.16	-55.08
6,880.0	0.70	68.30	6,821.5	254.9	677.6	-187.9	0.22	0.21	-7.71
6,975.0	3.60	171.50	6,916.4	252.2	678.5	-185.1	4.02	3.05	108.63
7,071.0	8.80	182.40	7,011.8	241.9	678.7	-174.8	5.53	5.42	11.35
7,166.0	13.50	176.40	7,105.0	223.5	679.1	-156.5	5.09	4.95	-6.32
7,262.0	19.70	179.40	7,196.9	196.1	679.9	-129.2	6.52	6.46	3.13
7,358.0	27.70	183.40	7,284.8	157.6	678.8	-91.0	8.50	8.33	4.17
7,453.0	34.70	184.00	7,366.0	108.5	675.6	-42.4	7.38	7.37	0.63
7,549.0	42.60	179.90	7,440.9	48.7	673.7	16.9	8.65	8.23	-4.27
7,646.0	50.00	179.40	7,507.9	-21.4	674.2	86.7	7.64	7.63	-0.52
7,742.0	56.00	181.00	7,565.6	-98.0	673.9	163.0	6.39	6.25	1.67
7,812.5	60.75	180.70	7,602.6	-158.0	673.0	222.6	6.75	6.74	-0.43
<b>Crosses 460' Setback - 2180'FSL &amp; 1607'FEL, SEC.32</b>									
7,837.0	62.40	180.60	7,614.3	-179.6	672.7	244.0	6.75	6.74	-0.40
7,933.0	71.20	180.50	7,652.0	-267.7	671.9	331.7	9.17	9.17	-0.10
8,029.0	77.70	181.50	7,677.8	-360.2	670.3	423.5	6.84	6.77	1.04
8,125.0	81.10	181.30	7,695.4	-454.5	668.0	517.2	3.55	3.54	-0.21
8,221.0	88.30	180.30	7,704.3	-550.0	666.6	612.1	7.57	7.50	-1.04
8,317.0	90.30	179.20	7,705.4	-646.0	667.1	707.7	2.38	2.08	-1.15
<b>Deepest TVD Drilled - 7705.45' TVD</b>									
8,413.0	90.50	178.70	7,704.8	-742.0	668.8	803.4	0.56	0.21	-0.52
8,508.0	90.70	178.70	7,703.8	-836.9	671.0	898.1	0.21	0.21	0.00
8,604.0	91.20	179.90	7,702.2	-932.9	672.1	993.7	1.35	0.52	1.25
8,699.0	92.90	179.60	7,698.8	-1,027.8	672.6	1,088.3	1.82	1.79	-0.32
8,795.0	92.50	180.30	7,694.3	-1,123.7	672.6	1,183.7	0.84	-0.42	0.73
8,891.0	91.20	180.80	7,691.2	-1,219.7	671.7	1,279.1	1.45	-1.35	0.52
8,987.0	91.00	181.00	7,689.3	-1,315.6	670.2	1,374.5	0.29	-0.21	0.21
9,082.0	92.10	180.80	7,686.8	-1,410.6	668.7	1,468.8	1.18	1.16	-0.21

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32S-303
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Site:</b>	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Well:</b>	Jacobucci 32S-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)
9,178.0	91.20	181.50	7,684.0	-1,506.5	666.8	1,564.1	1.19	-0.94	0.73
9,274.0	89.40	181.00	7,683.5	-1,602.5	664.7	1,659.5	1.95	-1.88	-0.52
9,370.0	90.70	182.20	7,683.4	-1,698.5	662.0	1,754.7	1.84	1.35	1.25
9,466.0	91.80	182.00	7,681.3	-1,794.4	658.5	1,849.8	1.16	1.15	-0.21
9,562.0	91.20	180.60	7,678.8	-1,890.3	656.3	1,945.1	1.59	-0.63	-1.46
9,658.0	90.00	178.70	7,677.8	-1,986.3	656.9	2,040.7	2.34	-1.25	-1.98
9,753.0	89.80	175.70	7,678.0	-2,081.2	661.6	2,135.6	3.16	-0.21	-3.16
9,849.0	89.60	175.20	7,678.5	-2,176.9	669.2	2,231.5	0.56	-0.21	-0.52
9,945.0	89.80	176.20	7,679.0	-2,272.6	676.4	2,327.5	1.06	0.21	1.04
10,041.0	90.20	178.00	7,679.0	-2,368.5	681.2	2,423.4	1.92	0.42	1.88
10,136.0	92.30	180.30	7,676.9	-2,463.4	682.6	2,518.1	3.28	2.21	2.42
10,232.0	90.70	181.00	7,674.4	-2,559.4	681.5	2,613.5	1.82	-1.67	0.73
10,328.0	90.60	180.60	7,673.3	-2,655.4	680.2	2,708.9	0.43	-0.10	-0.42
10,424.0	90.40	180.30	7,672.5	-2,751.4	679.5	2,804.3	0.38	-0.21	-0.31
10,519.0	90.30	179.90	7,671.9	-2,846.4	679.3	2,898.9	0.43	-0.11	-0.42
10,615.0	91.50	181.00	7,670.4	-2,942.3	678.5	2,994.3	1.70	1.25	1.15
10,711.0	91.40	181.20	7,667.9	-3,038.3	676.7	3,089.6	0.23	-0.10	0.21
10,807.0	91.20	180.60	7,665.8	-3,134.3	675.2	3,185.0	0.66	-0.21	-0.63
10,902.0	90.90	180.50	7,664.0	-3,229.2	674.3	3,279.4	0.33	-0.32	-0.11
10,998.0	90.70	180.30	7,662.7	-3,325.2	673.6	3,374.9	0.29	-0.21	-0.21
11,094.0	91.30	181.00	7,661.0	-3,421.2	672.5	3,470.3	0.96	0.63	0.73
11,189.0	90.90	180.60	7,659.2	-3,516.2	671.2	3,564.7	0.60	-0.42	-0.42
11,285.0	91.40	181.90	7,657.2	-3,612.1	669.1	3,660.0	1.45	0.52	1.35
11,381.0	91.40	181.70	7,654.9	-3,708.1	666.1	3,755.2	0.21	0.00	-0.21
11,476.0	91.00	181.20	7,652.9	-3,803.0	663.7	3,849.5	0.67	-0.42	-0.53
11,572.0	90.80	180.50	7,651.4	-3,899.0	662.2	3,944.8	0.76	-0.21	-0.73
11,668.0	90.70	180.10	7,650.2	-3,995.0	661.7	4,040.3	0.43	-0.10	-0.42
11,764.0	90.90	179.80	7,648.8	-4,091.0	661.8	4,135.9	0.38	0.21	-0.31
11,859.0	90.80	178.50	7,647.4	-4,185.9	663.2	4,230.5	1.37	-0.11	-1.37
11,955.0	90.60	178.20	7,646.2	-4,281.9	666.0	4,326.3	0.38	-0.21	-0.31
12,051.0	90.20	178.20	7,645.6	-4,377.8	669.0	4,422.1	0.42	-0.42	0.00
12,147.0	90.90	178.30	7,644.6	-4,473.8	672.0	4,517.9	0.74	0.73	0.10
12,242.0	91.40	179.40	7,642.7	-4,568.8	673.9	4,612.6	1.27	0.53	1.16
12,339.0	91.20	178.90	7,640.5	-4,665.7	675.3	4,709.2	0.56	-0.21	-0.52
12,435.0	91.70	180.50	7,638.1	-4,761.7	675.8	4,804.8	1.75	0.52	1.67
12,531.0	92.00	180.30	7,635.0	-4,857.6	675.1	4,900.2	0.38	0.31	-0.21
12,626.0	92.10	179.90	7,631.6	-4,952.6	675.0	4,994.7	0.43	0.11	-0.42
12,722.0	92.60	179.90	7,627.7	-5,048.5	675.1	5,090.2	0.52	0.52	0.00
12,818.0	92.10	181.20	7,623.7	-5,144.4	674.2	5,185.5	1.45	-0.52	1.35
12,914.0	91.50	180.50	7,620.7	-5,240.3	672.8	5,280.9	0.96	-0.63	-0.73
13,009.0	92.30	180.10	7,617.6	-5,335.3	672.3	5,375.3	0.94	0.84	-0.42
13,105.0	91.50	180.10	7,614.4	-5,431.2	672.1	5,470.8	0.83	-0.83	0.00
13,201.0	90.90	179.90	7,612.4	-5,527.2	672.1	5,566.3	0.66	-0.63	-0.21
13,297.0	90.50	180.10	7,611.2	-5,623.2	672.1	5,661.9	0.47	-0.42	0.21

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32S-303
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Site:</b>	Jacobucci 1N67W32S Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5082.0ft (RKB - 23')
<b>Well:</b>	Jacobucci 32S-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)	
13,393.0	90.40	179.80	7,610.4	-5,719.2	672.2	5,757.4	0.33	-0.10	-0.31	
13,489.0	90.00	180.10	7,610.1	-5,815.2	672.3	5,853.0	0.52	-0.42	0.31	
13,584.0	91.50	180.10	7,608.9	-5,910.2	672.1	5,947.5	1.58	1.58	0.00	
13,681.0	90.70	180.10	7,607.0	-6,007.2	672.0	6,044.0	0.82	-0.82	0.00	
13,777.0	90.20	180.60	7,606.2	-6,103.2	671.4	6,139.5	0.74	-0.52	0.52	
13,872.0	90.00	180.50	7,606.1	-6,198.2	670.5	6,234.0	0.24	-0.21	-0.11	
13,968.0	90.30	179.90	7,605.8	-6,294.2	670.1	6,329.5	0.70	0.31	-0.63	
14,064.0	89.60	179.90	7,605.9	-6,390.2	670.3	6,425.0	0.73	-0.73	0.00	
14,160.0	91.10	179.80	7,605.3	-6,486.1	670.5	6,520.6	1.57	1.56	-0.10	
14,256.0	90.40	180.10	7,604.1	-6,582.1	670.6	6,616.2	0.79	-0.73	0.31	
14,352.0	89.90	180.30	7,603.8	-6,678.1	670.3	6,711.7	0.56	-0.52	0.21	
14,447.0	90.90	180.10	7,603.2	-6,773.1	670.0	6,806.2	1.07	1.05	-0.21	
14,538.0	92.20	179.40	7,600.7	-6,864.1	670.4	6,896.8	1.62	1.43	-0.77	
14,598.0	92.20	179.40	7,598.4	-6,924.1	671.0	6,956.5	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		
- hit/miss target										
- Shape										
SHL 2338'FSL & 1780'FI	0.00	0.00	1.0	0.0	0.0	1,245,853.27	3,164,936.90	40.006750		
- survey hits target center										
- Point										
BHL 500'FSL & 1534'FE	0.00	0.00	7,602.0	-6,925.1	675.3	1,238,933.07	3,165,658.15	39.987740		
- survey misses target center by 5.7ft at 14598.0ft MD (7598.4 TVD, -6924.1 N, 671.0 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,812.5	7,602.6	-158.0	673.0	Crosses 460' Setback - 2180'FSL & 1607'FEL, SEC.32	
8,317.0	7,705.4	-646.0	667.1	Deepest TVD Drilled - 7705.45' TVD	

Checked By: _____	Approved By: _____	Date: _____
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