

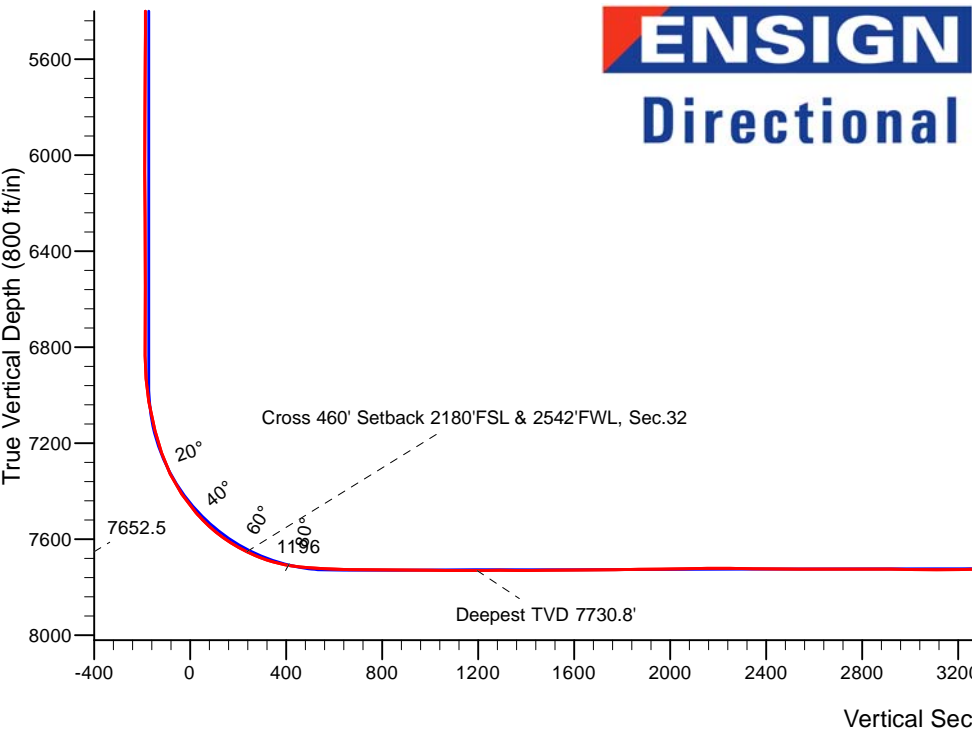
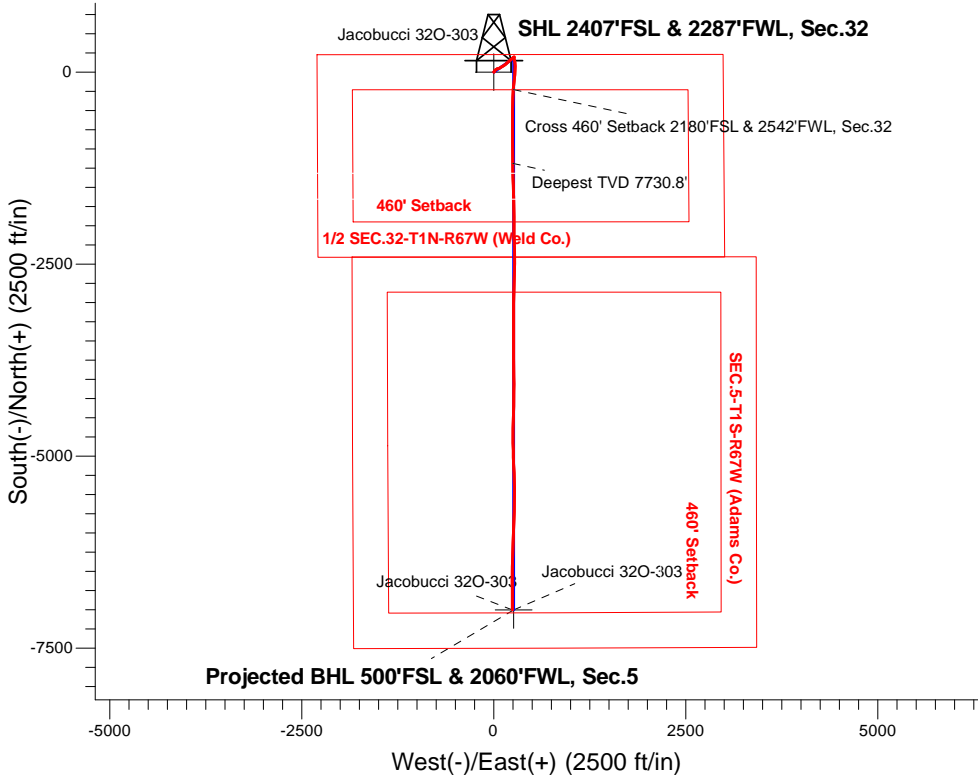
PETROLEUM DEVELOPMENT CORP DJ Basin

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

Surface Location: Jacobucci 1N67W32O Pad Sec.32-T1N-R67W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 5058.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1245914.363163715.12 40.006940 -104.915560
Ensign Rig #121 - RKB - 13.5'WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')

FINAL SURVEY

Projected Bottom Hole Location
14615'MD 7705'TVD 7001'S & 240'E of SHL
91.5 degree Incl @ 180.5 degree AZM



Jacobucci 1N67W32O Pad Sec.32-T1N-R67W Jacobucci 32O-303 Wellbore #1 16:53, September 08 2016	ANNOTATIONS		
	TVD	MD	Annotation
	7652.5	7828.0	Cross 460' Setback 2180'FSL & 2542'FWL, Sec.32
	7730.7	8799.4	Deepest TVD 7730.8'

LEGEND

- Jacobucci 32O-303, Wellbore #1, Plan #2 (8-26-16)R V0
- Wellbore #1
- Survey #1

Projected BHL 500'FSL & 2060'FWL, Sec.5

Jacobucci 32O-303

Jacobucci 32O-303

Vertical Section at 177.89° (800 ft/in)



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.32-T1N-R67W

Jacobucci 1N67W32O Pad Sec.32-T1N-R67W

Jacobucci 32O-303

Wellbore #1

Survey: Survey #1

Standard Survey Report

08 September, 2016

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-303
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Site:	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Well:	Jacobucci 32O-303	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.32-T1N-R67W, 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	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W				
Site Position:		Northing:	1,245,914.62 usft	Latitude:	40.006940
From:	Lat/Long	Easting:	3,163,748.73 usft	Longitude:	-104.915440
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Jacobucci 32O-303					
Well Position	+N/-S	0.0 ft	Northing:	1,245,914.35 usft	Latitude:	40.006940
	+E/-W	0.0 ft	Easting:	3,163,715.12 usft	Longitude:	-104.915560
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,058.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/26/2016	8.21	66.53	52,360

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	177.89	

Survey Program	Date	9/8/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
244.0	14,615.0	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	
244.0	0.50	48.80	244.0	0.7	0.8	-0.7	0.20	0.20	0.00	
340.0	0.70	21.40	340.0	1.5	1.3	-1.5	0.36	0.21	-28.54	
436.0	0.80	26.30	436.0	2.7	1.8	-2.6	0.12	0.10	5.10	
531.0	0.40	16.00	531.0	3.6	2.2	-3.5	0.43	-0.42	-10.84	
626.0	1.30	21.20	626.0	4.9	2.7	-4.8	0.95	0.95	5.47	
722.0	1.80	10.50	721.9	7.4	3.4	-7.3	0.60	0.52	-11.15	
818.0	1.70	21.80	817.9	10.2	4.2	-10.0	0.37	-0.10	11.77	
914.0	1.60	24.70	913.8	12.7	5.3	-12.5	0.14	-0.10	3.02	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-303
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Site:	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Well:	Jacobucci 32O-303	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)	
1,009.0	1.20	46.90	1,008.8	14.6	6.5	-14.4	0.70	-0.42	23.37	
1,106.0	1.30	44.30	1,105.8	16.1	8.1	-15.8	0.12	0.10	-2.68	
1,201.0	1.30	44.30	1,200.8	17.7	9.6	-17.3	0.00	0.00	0.00	
1,297.0	1.10	43.90	1,296.8	19.1	11.0	-18.7	0.21	-0.21	-0.42	
1,393.0	1.00	46.20	1,392.7	20.3	12.2	-19.9	0.11	-0.10	2.40	
1,489.0	0.80	55.30	1,488.7	21.3	13.4	-20.8	0.26	-0.21	9.48	
1,584.0	0.90	48.80	1,583.7	22.2	14.5	-21.6	0.15	0.11	-6.84	
1,680.0	1.10	39.70	1,679.7	23.4	15.6	-22.8	0.27	0.21	-9.48	
1,776.0	1.20	37.90	1,775.7	24.9	16.8	-24.2	0.11	0.10	-1.88	
1,872.0	1.40	57.30	1,871.7	26.3	18.4	-25.6	0.50	0.21	20.21	
1,990.0	1.80	47.90	1,989.6	28.3	21.0	-27.5	0.40	0.34	-7.97	
2,063.0	1.80	46.20	2,062.6	29.9	22.7	-29.0	0.07	0.00	-2.33	
2,159.0	3.80	54.30	2,158.5	32.8	26.4	-31.8	2.12	2.08	8.44	
2,255.0	4.90	49.00	2,254.2	37.3	32.1	-36.1	1.22	1.15	-5.52	
2,351.0	6.20	73.60	2,349.7	41.5	40.1	-40.0	2.79	1.35	25.63	
2,447.0	7.90	70.80	2,445.0	45.1	51.3	-43.2	1.81	1.77	-2.92	
2,543.0	7.40	70.10	2,540.2	49.4	63.4	-47.0	0.53	-0.52	-0.73	
2,638.0	7.40	63.10	2,634.4	54.3	74.6	-51.5	0.95	0.00	-7.37	
2,734.0	7.50	61.50	2,729.6	60.0	85.6	-56.8	0.24	0.10	-1.67	
2,830.0	7.00	61.60	2,824.8	65.8	96.2	-62.2	0.52	-0.52	0.10	
2,926.0	8.60	58.10	2,919.9	72.4	107.5	-68.4	1.74	1.67	-3.65	
3,022.0	8.20	57.80	3,014.9	79.8	119.4	-75.4	0.42	-0.42	-0.31	
3,118.0	7.60	56.40	3,110.0	87.0	130.5	-82.1	0.66	-0.63	-1.46	
3,213.0	7.20	55.30	3,204.2	93.9	140.6	-88.6	0.45	-0.42	-1.16	
3,309.0	6.50	58.00	3,299.5	100.2	150.1	-94.6	0.80	-0.73	2.81	
3,405.0	8.90	49.20	3,394.6	107.9	160.4	-101.9	2.78	2.50	-9.17	
3,501.0	8.30	46.40	3,489.5	117.5	171.0	-111.2	0.76	-0.63	-2.92	
3,597.0	8.40	42.70	3,584.5	127.5	180.8	-120.7	0.57	0.10	-3.85	
3,693.0	8.40	51.10	3,679.5	137.0	191.0	-129.9	1.28	0.00	8.75	
3,789.0	8.30	48.50	3,774.5	146.0	201.6	-138.5	0.41	-0.10	-2.71	
3,884.0	8.20	48.10	3,868.5	155.1	211.8	-147.2	0.12	-0.11	-0.42	
3,980.0	8.30	44.90	3,963.5	164.6	221.8	-156.3	0.49	0.10	-3.33	
4,076.0	8.00	44.90	4,058.5	174.2	231.4	-165.6	0.31	-0.31	0.00	
4,171.0	6.90	54.80	4,152.7	182.2	240.7	-173.2	1.78	-1.16	10.42	
4,267.0	5.90	66.90	4,248.1	187.4	250.0	-178.1	1.74	-1.04	12.60	
4,363.0	3.30	65.50	4,343.8	190.5	257.0	-180.9	2.71	-2.71	-1.46	
4,459.0	1.60	77.80	4,439.7	191.9	260.9	-182.2	1.84	-1.77	12.81	
4,555.0	1.70	66.60	4,535.7	192.8	263.5	-183.0	0.35	0.10	-11.67	
4,651.0	0.40	214.90	4,631.7	193.1	264.6	-183.2	2.14	-1.35	154.48	
4,746.0	0.30	323.90	4,726.7	193.0	264.3	-183.2	0.60	-0.11	114.74	
4,843.0	0.40	50.60	4,823.7	193.4	264.4	-183.6	0.50	0.10	89.38	
4,938.0	0.10	293.50	4,918.7	193.7	264.6	-183.8	0.48	-0.32	-123.26	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-303
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Site:	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Well:	Jacobucci 32O-303	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)	
5,034.0	0.30	33.90	5,014.7	193.9	264.6	-184.0	0.35	0.21	104.58	
5,130.0	0.40	7.50	5,110.7	194.5	264.8	-184.6	0.19	0.10	-27.50	
5,226.0	0.40	60.80	5,206.7	194.9	265.1	-185.1	0.37	0.00	55.52	
5,322.0	0.40	11.40	5,302.7	195.4	265.5	-185.5	0.35	0.00	-51.46	
5,418.0	0.30	313.50	5,398.7	195.9	265.4	-186.0	0.36	-0.10	-60.31	
5,513.0	0.30	303.20	5,493.7	196.2	265.0	-186.4	0.06	0.00	-10.84	
5,610.0	0.40	45.80	5,590.7	196.6	265.0	-186.7	0.57	0.10	105.77	
5,706.0	0.40	38.10	5,686.7	197.1	265.5	-187.2	0.06	0.00	-8.02	
5,801.0	0.40	34.60	5,781.6	197.7	265.9	-187.7	0.03	0.00	-3.68	
5,897.0	0.40	5.70	5,877.6	198.3	266.1	-188.3	0.21	0.00	-30.10	
5,993.0	0.50	336.70	5,973.6	199.0	266.0	-189.1	0.26	0.10	-30.21	
6,089.0	0.70	212.30	6,069.6	198.9	265.5	-189.0	1.11	0.21	-129.58	
6,185.0	0.70	232.70	6,165.6	198.0	264.7	-188.1	0.26	0.00	21.25	
6,280.0	0.50	227.60	6,260.6	197.4	263.9	-187.5	0.22	-0.21	-5.37	
6,376.0	0.50	227.90	6,356.6	196.8	263.3	-187.0	0.00	0.00	0.31	
6,473.0	0.40	240.60	6,453.6	196.4	262.7	-186.6	0.15	-0.10	13.09	
6,568.0	0.30	284.90	6,548.6	196.3	262.2	-186.5	0.29	-0.11	46.63	
6,664.0	0.90	285.40	6,644.6	196.5	261.2	-186.8	0.63	0.63	0.52	
6,760.0	1.00	280.50	6,740.6	196.9	259.7	-187.2	0.13	0.10	-5.10	
6,855.0	1.00	268.70	6,835.6	197.0	258.0	-187.4	0.22	0.00	-12.42	
6,951.0	4.10	182.20	6,931.5	193.6	257.0	-184.0	4.33	3.23	-90.10	
7,047.0	10.10	159.60	7,026.7	182.2	259.8	-172.6	6.78	6.25	-23.54	
7,172.0	15.30	164.10	7,148.6	156.1	268.2	-146.1	4.23	4.16	3.60	
7,268.0	18.50	171.20	7,240.5	128.9	274.0	-118.7	3.96	3.33	7.40	
7,364.0	25.70	178.00	7,329.4	92.9	277.1	-82.7	7.95	7.50	7.08	
7,460.0	33.80	182.80	7,412.7	45.4	276.5	-35.2	8.79	8.44	5.00	
7,556.0	41.20	183.60	7,488.8	-12.9	273.2	23.0	7.72	7.71	0.83	
7,651.0	49.00	185.20	7,555.8	-80.0	268.0	89.8	8.30	8.21	1.68	
7,747.0	57.70	185.40	7,613.0	-156.6	260.8	166.1	9.06	9.06	0.21	
7,828.0	63.94	184.38	7,652.5	-227.0	254.8	236.2	7.79	7.71	-1.26	
Cross 460' Setback 2180'FSL & 2542'FWL, Sec.32										
7,843.0	65.10	184.20	7,659.0	-240.5	253.8	249.7	7.79	7.71	-1.18	
7,939.0	73.50	182.90	7,692.9	-330.1	248.3	339.0	8.84	8.75	-1.35	
8,034.0	82.40	181.20	7,712.7	-422.8	245.0	431.5	9.53	9.37	-1.79	
8,130.0	86.30	181.50	7,722.1	-518.3	242.8	526.9	4.07	4.06	0.31	
8,226.0	89.60	179.90	7,725.6	-614.2	241.6	622.7	3.82	3.44	-1.67	
8,321.0	88.90	179.10	7,726.8	-709.2	242.4	717.6	1.12	-0.74	-0.84	
8,417.0	88.80	179.40	7,728.7	-805.2	243.7	813.6	0.33	-0.10	0.31	
8,513.0	90.00	179.80	7,729.8	-901.2	244.3	909.5	1.32	1.25	0.42	
8,608.0	89.90	179.60	7,729.8	-996.2	244.8	1,004.5	0.24	-0.11	-0.21	
8,704.0	89.30	179.60	7,730.5	-1,092.2	245.5	1,100.4	0.63	-0.63	0.00	
8,799.0	90.40	179.40	7,730.8	-1,187.1	246.3	1,195.4	1.18	1.16	-0.21	

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Site:	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Well:	Jacobucci 32O-303	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)
8,799.4	90.40	179.40	7,730.7	-1,187.5	246.3	1,195.8	0.00	0.00	0.00
Deepest TVD 7730.8'									
8,895.0	90.10	179.40	7,730.3	-1,283.1	247.3	1,291.4	0.31	-0.31	0.00
8,991.0	89.60	178.40	7,730.6	-1,379.1	249.2	1,387.4	1.16	-0.52	-1.04
9,087.0	90.70	178.00	7,730.3	-1,475.1	252.2	1,483.4	1.22	1.15	-0.42
9,183.0	90.70	177.30	7,729.2	-1,571.0	256.1	1,579.3	0.73	0.00	-0.73
9,279.0	90.50	179.10	7,728.2	-1,666.9	259.1	1,675.3	1.89	-0.21	1.88
9,375.0	90.30	178.90	7,727.5	-1,762.9	260.8	1,771.3	0.29	-0.21	-0.21
9,471.0	91.00	180.10	7,726.4	-1,858.9	261.7	1,867.3	1.45	0.73	1.25
9,566.0	90.90	179.80	7,724.8	-1,953.9	261.7	1,962.2	0.33	-0.11	-0.32
9,662.0	90.70	179.40	7,723.5	-2,049.9	262.4	2,058.1	0.47	-0.21	-0.42
9,758.0	90.70	179.20	7,722.3	-2,145.9	263.6	2,154.1	0.21	0.00	-0.21
9,854.0	89.60	177.70	7,722.1	-2,241.8	266.2	2,250.1	1.94	-1.15	-1.56
9,950.0	89.00	178.20	7,723.2	-2,337.7	269.6	2,346.1	0.81	-0.63	0.52
10,045.0	89.40	179.90	7,724.6	-2,432.7	271.2	2,441.1	1.84	0.42	1.79
10,141.0	90.00	181.90	7,725.1	-2,528.7	269.7	2,536.9	2.18	0.63	2.08
10,237.0	89.70	181.50	7,725.3	-2,624.7	266.8	2,632.7	0.52	-0.31	-0.42
10,333.0	90.30	181.90	7,725.3	-2,720.6	264.0	2,728.5	0.75	0.63	0.42
10,429.0	90.00	181.40	7,725.1	-2,816.6	261.2	2,824.3	0.61	-0.31	-0.52
10,525.0	89.50	181.00	7,725.5	-2,912.6	259.2	2,920.1	0.67	-0.52	-0.42
10,620.0	89.30	180.70	7,726.5	-3,007.5	257.8	3,015.0	0.38	-0.21	-0.32
10,716.0	89.70	179.80	7,727.3	-3,103.5	257.4	3,110.9	1.03	0.42	-0.94
10,812.0	91.30	179.80	7,726.5	-3,199.5	257.7	3,206.8	1.67	1.67	0.00
10,908.0	90.90	179.80	7,724.6	-3,295.5	258.1	3,302.8	0.42	-0.42	0.00
11,003.0	91.00	179.90	7,723.1	-3,390.5	258.3	3,397.7	0.15	0.11	0.11
11,099.0	90.70	179.60	7,721.6	-3,486.5	258.7	3,493.6	0.44	-0.31	-0.31
11,195.0	90.70	181.00	7,720.5	-3,582.5	258.2	3,589.5	1.46	0.00	1.46
11,290.0	90.60	180.80	7,719.4	-3,677.5	256.7	3,684.4	0.24	-0.11	-0.21
11,386.0	89.10	178.40	7,719.6	-3,773.4	257.4	3,780.4	2.95	-1.56	-2.50
11,482.0	89.60	178.70	7,720.7	-3,869.4	259.8	3,876.3	0.61	0.52	0.31
11,578.0	89.50	179.60	7,721.5	-3,965.4	261.3	3,972.3	0.94	-0.10	0.94
11,673.0	89.30	180.10	7,722.5	-4,060.4	261.5	4,067.3	0.57	-0.21	0.53
11,769.0	89.50	180.50	7,723.5	-4,156.4	261.0	4,163.2	0.47	0.21	0.42
11,865.0	90.20	181.20	7,723.7	-4,252.4	259.6	4,259.0	1.03	0.73	0.73
11,961.0	90.60	181.70	7,723.1	-4,348.3	257.1	4,354.8	0.67	0.42	0.52
12,057.0	90.40	181.90	7,722.2	-4,444.3	254.1	4,450.6	0.29	-0.21	0.21
12,153.0	89.70	180.70	7,722.1	-4,540.3	252.0	4,546.4	1.45	-0.73	-1.25
12,249.0	89.70	180.80	7,722.6	-4,636.2	250.7	4,642.3	0.10	0.00	0.10
12,345.0	89.90	180.10	7,723.0	-4,732.2	249.9	4,738.2	0.76	0.21	-0.73
12,440.0	89.50	179.60	7,723.5	-4,827.2	250.2	4,833.2	0.67	-0.42	-0.53
12,536.0	89.50	178.90	7,724.3	-4,923.2	251.4	4,929.1	0.73	0.00	-0.73
12,632.0	90.00	178.90	7,724.7	-5,019.2	253.3	5,025.1	0.52	0.52	0.00

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-303
Project:	SEC.32-T1N-R67W	TVD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Site:	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	MD Reference:	WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')
Well:	Jacobucci 32O-303	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)	
12,728.0	89.70	177.10	7,725.0	-5,115.1	256.6	5,121.1	1.90	-0.31	-1.88	
12,824.0	90.00	177.00	7,725.2	-5,211.0	261.6	5,217.1	0.33	0.31	-0.10	
12,920.0	91.10	177.80	7,724.3	-5,306.9	265.9	5,313.1	1.42	1.15	0.83	
13,016.0	91.50	178.20	7,722.1	-5,402.8	269.3	5,409.1	0.59	0.42	0.42	
13,112.0	91.60	180.30	7,719.5	-5,498.8	270.5	5,505.0	2.19	0.10	2.19	
13,207.0	91.50	182.10	7,717.0	-5,593.7	268.6	5,599.8	1.90	-0.11	1.89	
13,303.0	92.20	181.70	7,713.9	-5,689.6	265.4	5,695.5	0.84	0.73	-0.42	
13,399.0	91.70	182.20	7,710.6	-5,785.5	262.1	5,791.2	0.74	-0.52	0.52	
13,495.0	90.90	182.40	7,708.4	-5,881.4	258.3	5,886.9	0.86	-0.83	0.21	
13,591.0	90.50	182.20	7,707.2	-5,977.3	254.4	5,982.6	0.47	-0.42	-0.21	
13,687.0	89.80	182.20	7,707.0	-6,073.2	250.7	6,078.4	0.73	-0.73	0.00	
13,782.0	89.00	181.20	7,708.0	-6,168.2	247.9	6,173.1	1.35	-0.84	-1.05	
13,878.0	89.90	181.40	7,708.9	-6,264.2	245.7	6,269.0	0.96	0.94	0.21	
13,975.0	89.60	180.70	7,709.3	-6,361.1	243.9	6,365.8	0.79	-0.31	-0.72	
14,071.0	90.30	180.50	7,709.4	-6,457.1	242.9	6,461.7	0.76	0.73	-0.21	
14,165.0	89.70	180.50	7,709.4	-6,551.1	242.1	6,555.6	0.64	-0.64	0.00	
14,261.0	90.60	180.50	7,709.2	-6,647.1	241.3	6,651.5	0.94	0.94	0.00	
14,357.0	89.90	179.90	7,708.7	-6,743.1	240.9	6,747.4	0.96	-0.73	-0.63	
14,452.0	90.70	179.90	7,708.2	-6,838.1	241.1	6,842.4	0.84	0.84	0.00	
14,560.0	91.50	180.50	7,706.2	-6,946.1	240.7	6,950.3	0.93	0.74	0.56	
14,615.0	91.50	180.50	7,704.7	-7,001.1	240.3	7,005.2	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	
- hit/miss target										
- Shape										
SHL 2407'FSL & 2287'F ¹	0.00	0.00	1.0	0.0	0.0	1,245,914.40	3,163,715.12	40.006940	-104.915560	
- survey hits target center										
- Point										
BHL 500'FSL & 2077'F ^W	0.00	0.00	7,714.0	-7,001.6	257.8	1,238,914.91	3,164,019.04	39.987720	-104.914640	
- survey misses target center by 19.8ft at 14615.0ft MD (7704.7 TVD, -7001.1 N, 240.3 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,828.0	7,652.5	-227.0	254.8	Cross 460' Setback 2180'FSL & 2542'FWL, Sec.32	
8,799.4	7,730.7	-1,187.5	246.3	Deepest TVD 7730.8'	

Checked By: _____	Approved By: _____	Date: _____
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