

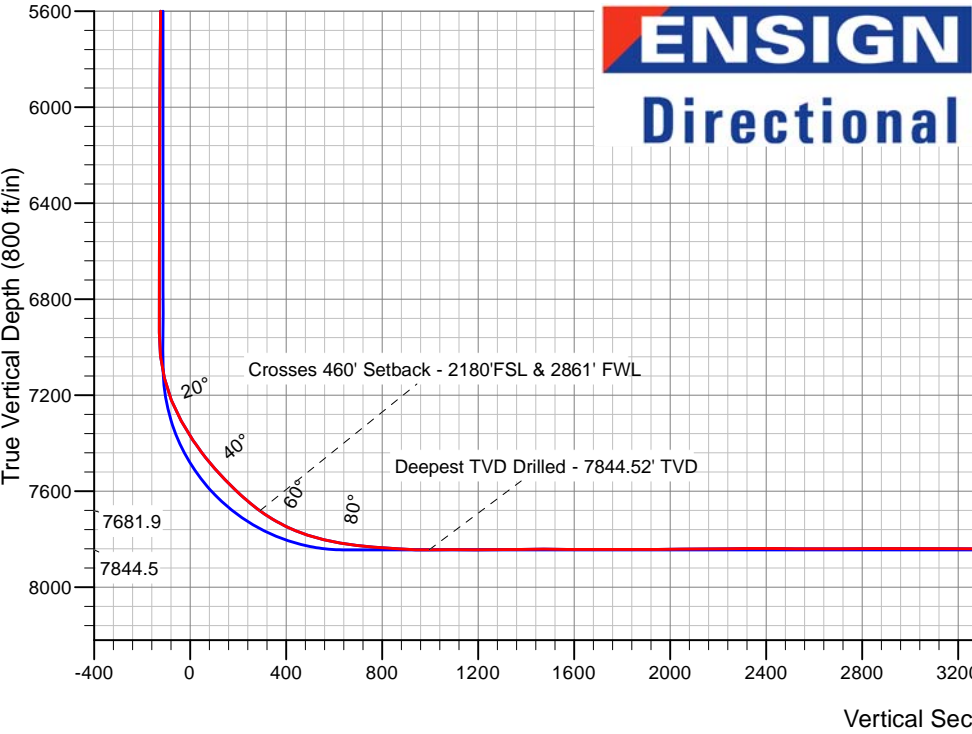
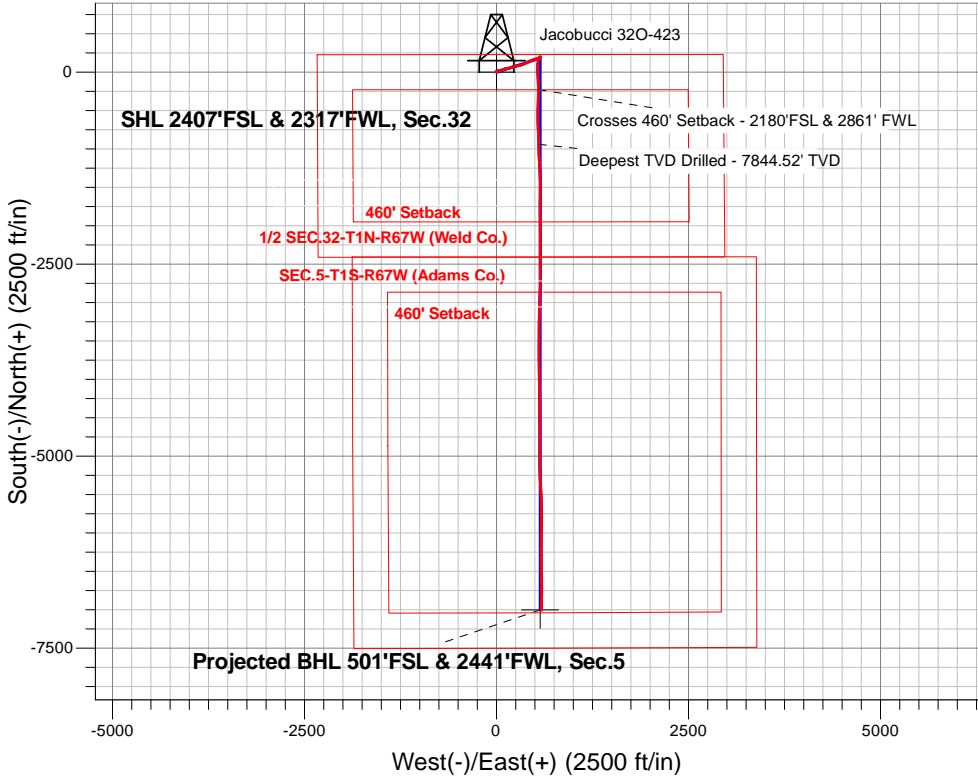
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Jacobucci 32O-423**

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 1245914.598163748.73 40.006940 -104.915440
Ensign Rig #121 - RKB - 13.5'WELL @ 5071.5ft (Ensign Rig #121 - RKB - 13.5')

FINAL SURVEY

Projected Bottom Hole Location
14676'MD 7819'TVD 7001'S & 583'E of SHL
94.4 degree Incl @ 180.7 degree AZM



Jacobucci 1N67W32O Pad Sec.32-T1N-R67W
Jacobucci 32O-423
Wellbore #1
9:30, September 22 2016

ANNOTATIONS

TVD	MD	Annotation
7681.9	7869.4	Crosses 460' Setback - 2180'FSL & 2861' FWL
7844.5	8611.0	Deepest TVD Drilled - 7844.52' TVD

LEGEND

- Jacobucci 32O-423, Wellbore #1, Plan #3 (9-8-16) R V0
- Wellbore #1
- Survey #1

Projected BHL 501'FSL & 2441'FWL, Sec.5



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.32-T1N-R67W

Jacobucci 1N67W32O Pad Sec.32-T1N-R67W

Jacobucci 32O-423

Wellbore #1

Survey: Survey #1

Standard Survey Report

22 September, 2016

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-423
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-423	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-423					
Well Position	+N/-S	0.0 ft	Northing:	1,245,914.58 usft	Latitude:	40.006940
	+E/-W	0.0 ft	Easting:	3,163,748.73 usft	Longitude:	-104.915440
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	9/2/2016	8.21	66.53	52,358

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	173.13	

Survey Program	Date	9/22/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
252.0	14,676.0	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	
252.0	0.50	358.20	252.0	1.1	0.0	-1.1	0.20	0.20	0.00	
347.0	0.70	354.70	347.0	2.1	-0.1	-2.1	0.21	0.21	-3.68	
443.0	0.60	331.30	443.0	3.1	-0.4	-3.1	0.29	-0.10	-24.38	
539.0	0.80	332.20	539.0	4.1	-1.0	-4.2	0.21	0.21	0.94	
634.0	1.50	324.80	634.0	5.8	-2.0	-5.9	0.75	0.74	-7.79	
730.0	2.20	323.60	729.9	8.3	-3.8	-8.7	0.73	0.73	-1.25	
826.0	1.20	340.60	825.9	10.7	-5.2	-11.2	1.16	-1.04	17.71	
921.0	0.60	4.00	920.9	12.1	-5.5	-12.7	0.73	-0.63	24.63	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-423
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-423	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)	
1,017.0	1.80	61.80	1,016.8	13.3	-4.2	-13.7	1.63	1.25	60.21	
1,113.0	2.10	86.30	1,112.8	14.2	-1.1	-14.2	0.91	0.31	25.52	
1,209.0	3.50	86.10	1,208.7	14.5	3.6	-13.9	1.46	1.46	-0.21	
1,305.0	4.80	80.60	1,304.4	15.3	10.5	-14.0	1.41	1.35	-5.73	
1,400.0	5.80	79.40	1,399.0	16.9	19.1	-14.5	1.06	1.05	-1.26	
1,496.0	6.90	77.30	1,494.4	19.0	29.5	-15.4	1.17	1.15	-2.19	
1,592.0	8.20	76.90	1,589.6	21.8	41.8	-16.7	1.36	1.35	-0.42	
1,688.0	8.50	75.50	1,684.6	25.2	55.4	-18.4	0.38	0.31	-1.46	
1,784.0	7.70	72.70	1,779.6	28.9	68.4	-20.5	0.93	-0.83	-2.92	
1,879.0	7.70	71.00	1,873.7	32.8	80.5	-23.0	0.24	0.00	-1.79	
1,975.0	7.30	69.60	1,968.9	37.0	92.3	-25.7	0.46	-0.42	-1.46	
2,069.0	6.30	63.60	2,062.3	41.4	102.5	-28.9	1.30	-1.06	-6.38	
2,165.0	8.70	83.30	2,157.4	44.6	114.4	-30.6	3.63	2.50	20.52	
2,261.0	8.40	81.50	2,252.4	46.5	128.6	-30.8	0.42	-0.31	-1.88	
2,357.0	9.10	78.30	2,347.3	49.1	142.9	-31.6	0.89	0.73	-3.33	
2,452.0	8.40	76.90	2,441.2	52.2	157.0	-33.0	0.77	-0.74	-1.47	
2,548.0	9.40	75.40	2,536.0	55.7	171.5	-34.8	1.07	1.04	-1.56	
2,644.0	9.00	72.50	2,630.8	60.0	186.2	-37.3	0.64	-0.42	-3.02	
2,740.0	8.40	71.10	2,725.7	64.5	200.0	-40.1	0.66	-0.63	-1.46	
2,835.0	9.50	77.30	2,819.5	68.5	214.2	-42.3	1.54	1.16	6.53	
2,931.0	9.00	74.00	2,914.3	72.3	229.2	-44.3	0.76	-0.52	-3.44	
3,027.0	8.40	69.60	3,009.2	76.8	243.0	-47.2	0.93	-0.63	-4.58	
3,123.0	8.30	78.50	3,104.1	80.6	256.3	-49.4	1.35	-0.10	9.27	
3,219.0	9.50	79.60	3,199.0	83.4	270.9	-50.4	1.26	1.25	1.15	
3,315.0	9.10	79.20	3,293.7	86.3	286.1	-51.4	0.42	-0.42	-0.42	
3,411.0	8.60	79.00	3,388.6	89.1	300.6	-52.5	0.52	-0.52	-0.21	
3,506.0	7.90	73.10	3,482.6	92.3	313.9	-54.1	1.16	-0.74	-6.21	
3,602.0	7.10	72.40	3,577.8	96.0	325.8	-56.4	0.84	-0.83	-0.73	
3,698.0	8.10	66.20	3,672.9	100.6	337.7	-59.4	1.35	1.04	-6.46	
3,794.0	9.50	66.90	3,767.8	106.4	351.2	-63.6	1.46	1.46	0.73	
3,890.0	8.90	64.30	3,862.6	112.7	365.1	-68.2	0.76	-0.63	-2.71	
3,986.0	8.40	63.60	3,957.5	119.1	378.1	-73.0	0.53	-0.52	-0.73	
4,081.0	9.70	65.30	4,051.3	125.5	391.6	-77.7	1.40	1.37	1.79	
4,176.0	9.30	64.80	4,145.0	132.1	405.8	-82.6	0.43	-0.42	-0.53	
4,272.0	8.80	65.30	4,239.8	138.5	419.5	-87.3	0.53	-0.52	0.52	
4,368.0	8.30	66.90	4,334.7	144.3	432.5	-91.5	0.58	-0.52	1.67	
4,464.0	8.10	71.80	4,429.7	149.1	445.3	-94.7	0.76	-0.21	5.10	
4,560.0	8.10	69.70	4,524.8	153.6	458.1	-97.6	0.31	0.00	-2.19	
4,656.0	7.80	69.40	4,619.9	158.2	470.6	-100.7	0.32	-0.31	-0.31	
4,752.0	7.30	71.70	4,715.0	162.4	482.4	-103.5	0.61	-0.52	2.40	
4,848.0	8.60	72.90	4,810.1	166.4	495.1	-106.0	1.37	1.35	1.25	
4,944.0	8.20	73.20	4,905.1	170.5	508.5	-108.4	0.42	-0.42	0.31	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 32O-423
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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-423	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)
5,040.0	7.90	72.40	5,000.1	174.5	521.4	-110.8	0.33	-0.31	-0.83
5,136.0	7.80	72.90	5,095.2	178.4	533.9	-113.2	0.13	-0.10	0.52
5,231.0	6.60	78.90	5,189.5	181.4	545.4	-114.8	1.49	-1.26	6.32
5,327.0	5.40	73.20	5,285.0	183.7	555.1	-116.0	1.39	-1.25	-5.94
5,423.0	4.50	52.00	5,380.6	187.3	562.4	-118.7	2.11	-0.94	-22.08
5,519.0	2.70	62.50	5,476.4	190.7	567.4	-121.4	1.99	-1.88	10.94
5,615.0	1.00	54.80	5,572.4	192.2	570.1	-122.6	1.79	-1.77	-8.02
5,711.0	0.90	50.70	5,668.3	193.2	571.3	-123.4	0.13	-0.10	-4.27
5,807.0	0.80	47.20	5,764.3	194.1	572.4	-124.2	0.12	-0.10	-3.65
5,902.0	0.70	56.20	5,859.3	194.9	573.4	-124.9	0.16	-0.11	9.47
5,998.0	0.70	64.80	5,955.3	195.5	574.4	-125.3	0.11	0.00	8.96
6,094.0	0.90	14.50	6,051.3	196.5	575.1	-126.2	0.73	0.21	-52.40
6,190.0	0.60	299.70	6,147.3	197.4	574.9	-127.2	0.98	-0.31	-77.92
6,286.0	0.50	318.30	6,243.3	198.0	574.2	-127.9	0.21	-0.10	19.38
6,382.0	1.10	243.10	6,339.3	197.9	573.1	-127.9	1.13	0.63	-78.33
6,478.0	1.20	243.10	6,435.3	197.0	571.3	-127.2	0.10	0.10	0.00
6,574.0	1.80	267.80	6,531.2	196.5	568.9	-127.0	0.91	0.63	25.73
6,669.0	1.90	274.20	6,626.2	196.6	565.9	-127.4	0.24	0.11	6.74
6,765.0	1.90	274.50	6,722.1	196.8	562.7	-128.0	0.01	0.00	0.31
6,860.0	2.00	272.10	6,817.1	197.0	559.5	-128.6	0.14	0.11	-2.53
6,983.0	1.60	257.30	6,940.0	196.7	555.7	-128.8	0.50	-0.33	-12.03
7,079.0	6.70	195.60	7,035.8	191.0	552.8	-123.5	6.36	5.31	-64.27
7,175.0	14.90	192.30	7,130.0	173.5	548.7	-106.6	8.56	8.54	-3.44
7,271.0	22.10	191.20	7,221.0	143.7	542.6	-77.7	7.51	7.50	-1.15
7,367.0	29.20	184.30	7,307.5	102.6	537.3	-37.5	8.01	7.40	-7.19
7,463.0	34.50	180.70	7,389.0	52.0	535.2	12.4	5.86	5.52	-3.75
7,559.0	38.80	177.80	7,466.0	-5.3	536.0	69.4	4.83	4.48	-3.02
7,654.0	43.30	177.50	7,537.6	-67.6	538.6	131.6	4.74	4.74	-0.32
7,750.0	46.80	176.60	7,605.4	-135.4	542.1	199.3	3.71	3.65	-0.94
7,846.0	52.10	180.10	7,667.8	-208.3	544.1	271.9	6.18	5.52	3.65
7,869.4	54.10	180.52	7,681.9	-227.0	544.0	290.5	8.65	8.53	1.79
Crosses 460' Setback - 2180'FSL & 2861' FWL									
7,942.0	60.30	181.70	7,721.2	-288.0	542.8	350.9	8.65	8.54	1.63
8,037.0	67.40	180.50	7,763.0	-373.2	541.2	435.3	7.56	7.47	-1.26
8,133.0	74.50	181.20	7,794.4	-463.9	539.8	525.1	7.43	7.40	0.73
8,228.0	80.40	180.50	7,815.0	-556.5	538.5	617.0	6.25	6.21	-0.74
8,324.0	84.70	178.40	7,827.4	-651.7	539.4	711.6	4.98	4.48	-2.19
8,420.0	84.70	178.00	7,836.3	-747.2	542.4	806.8	0.41	0.00	-0.42
8,515.0	87.10	178.00	7,843.1	-841.9	545.7	901.2	2.53	2.53	0.00
8,611.0	91.20	178.50	7,844.5	-937.9	548.6	996.8	4.30	4.27	0.52
Deepest TVD Drilled - 7844.52' TVD									
8,707.0	89.70	177.80	7,843.8	-1,033.8	551.7	1,092.4	1.72	-1.56	-0.73

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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)	
8,802.0	90.00	177.50	7,844.0	-1,128.7	555.6	1,187.1	0.45	0.32	-0.32	
8,898.0	90.30	177.30	7,843.8	-1,224.6	560.0	1,282.8	0.38	0.31	-0.21	
8,994.0	90.70	176.40	7,842.9	-1,320.5	565.3	1,378.6	1.03	0.42	-0.94	
9,090.0	90.10	178.70	7,842.3	-1,416.4	569.4	1,474.3	2.48	-0.63	2.40	
9,186.0	89.50	181.20	7,842.6	-1,512.4	569.4	1,569.7	2.68	-0.63	2.60	
9,281.0	90.00	180.70	7,843.0	-1,607.4	567.9	1,663.8	0.74	0.53	-0.53	
9,377.0	90.70	180.30	7,842.4	-1,703.3	567.0	1,759.0	0.84	0.73	-0.42	
9,473.0	89.30	179.80	7,842.4	-1,799.3	566.9	1,854.3	1.55	-1.46	-0.52	
9,569.0	90.00	179.60	7,843.0	-1,895.3	567.4	1,949.6	0.76	0.73	-0.21	
9,665.0	91.00	179.20	7,842.2	-1,991.3	568.5	2,045.1	1.12	1.04	-0.42	
9,761.0	90.00	179.90	7,841.3	-2,087.3	569.2	2,140.4	1.27	-1.04	0.73	
9,857.0	91.20	179.80	7,840.3	-2,183.3	569.5	2,235.8	1.25	1.25	-0.10	
9,953.0	90.70	179.90	7,838.7	-2,279.3	569.7	2,331.1	0.53	-0.52	0.10	
10,048.0	89.10	180.50	7,838.9	-2,374.3	569.4	2,425.4	1.80	-1.68	0.63	
10,144.0	89.30	180.10	7,840.2	-2,470.3	568.9	2,520.6	0.47	0.21	-0.42	
10,240.0	90.20	179.90	7,840.7	-2,566.3	568.9	2,615.9	0.96	0.94	-0.21	
10,336.0	90.10	180.10	7,840.4	-2,662.3	568.9	2,711.2	0.23	-0.10	0.21	
10,432.0	90.00	181.20	7,840.3	-2,758.3	567.8	2,806.4	1.15	-0.10	1.15	
10,528.0	91.10	180.80	7,839.4	-2,854.3	566.1	2,901.5	1.22	1.15	-0.42	
10,623.0	89.60	181.50	7,838.8	-2,949.2	564.2	2,995.6	1.74	-1.58	0.74	
10,719.0	90.00	181.20	7,839.2	-3,045.2	561.9	3,090.6	0.52	0.42	-0.31	
10,815.0	88.90	181.20	7,840.1	-3,141.2	559.9	3,185.6	1.15	-1.15	0.00	
10,911.0	89.70	180.80	7,841.2	-3,237.2	558.3	3,280.7	0.93	0.83	-0.42	
11,006.0	90.70	181.00	7,840.9	-3,332.1	556.8	3,374.8	1.07	1.05	0.21	
11,102.0	89.40	181.40	7,840.8	-3,428.1	554.8	3,469.9	1.42	-1.35	0.42	
11,198.0	89.10	180.80	7,842.1	-3,524.1	552.9	3,564.9	0.70	-0.31	-0.63	
11,293.0	90.00	180.70	7,842.8	-3,619.1	551.7	3,659.1	0.95	0.95	-0.11	
11,389.0	90.80	180.50	7,842.2	-3,715.1	550.7	3,754.3	0.86	0.83	-0.21	
11,484.0	89.30	178.70	7,842.1	-3,810.1	551.3	3,848.7	2.47	-1.58	-1.89	
11,580.0	90.10	178.50	7,842.6	-3,906.0	553.7	3,944.2	0.86	0.83	-0.21	
11,676.0	89.70	178.40	7,842.8	-4,002.0	556.3	4,039.8	0.43	-0.42	-0.10	
11,772.0	90.40	178.40	7,842.7	-4,098.0	559.0	4,135.4	0.73	0.73	0.00	
11,868.0	89.80	179.80	7,842.5	-4,193.9	560.5	4,230.9	1.59	-0.63	1.46	
11,964.0	90.10	179.60	7,842.6	-4,289.9	561.0	4,326.2	0.38	0.31	-0.21	
12,060.0	90.40	179.20	7,842.2	-4,385.9	562.0	4,421.7	0.52	0.31	-0.42	
12,156.0	90.10	179.80	7,841.7	-4,481.9	562.8	4,517.1	0.70	-0.31	0.63	
12,251.0	91.20	179.90	7,840.7	-4,576.9	563.1	4,611.4	1.16	1.16	0.11	
12,348.0	90.40	179.60	7,839.3	-4,673.9	563.5	4,707.8	0.88	-0.82	-0.31	
12,443.0	91.30	179.60	7,837.9	-4,768.9	564.1	4,802.1	0.95	0.95	0.00	
12,539.0	90.40	180.70	7,836.5	-4,864.9	563.9	4,897.4	1.48	-0.94	1.15	
12,635.0	88.20	179.90	7,837.7	-4,960.9	563.4	4,992.6	2.44	-2.29	-0.83	
12,731.0	89.00	179.80	7,840.0	-5,056.8	563.6	5,087.9	0.84	0.83	-0.10	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Jacobucci 320-423
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 320-423	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)	
12,827.0	89.60	179.10	7,841.2	-5,152.8	564.6	5,183.4	0.96	0.63	-0.73	
12,923.0	90.00	178.40	7,841.5	-5,248.8	566.7	5,278.9	0.84	0.42	-0.73	
13,019.0	90.50	177.70	7,841.1	-5,344.7	569.9	5,374.5	0.90	0.52	-0.73	
13,115.0	91.30	177.30	7,839.6	-5,440.6	574.1	5,470.2	0.93	0.83	-0.42	
13,210.0	89.20	177.30	7,839.2	-5,535.5	578.6	5,565.0	2.21	-2.21	0.00	
13,306.0	89.60	178.50	7,840.2	-5,631.5	582.1	5,660.6	1.32	0.42	1.25	
13,402.0	89.80	179.40	7,840.7	-5,727.4	583.9	5,756.1	0.96	0.21	0.94	
13,498.0	90.40	179.90	7,840.5	-5,823.4	584.4	5,851.5	0.81	0.63	0.52	
13,594.0	90.70	181.20	7,839.6	-5,919.4	583.5	5,946.7	1.39	0.31	1.35	
13,690.0	89.90	181.00	7,839.1	-6,015.4	581.7	6,041.8	0.86	-0.83	-0.21	
13,785.0	91.00	180.80	7,838.3	-6,110.4	580.2	6,135.9	1.18	1.16	-0.21	
13,881.0	89.70	180.50	7,837.8	-6,206.4	579.1	6,231.1	1.39	-1.35	-0.31	
13,977.0	89.40	179.60	7,838.5	-6,302.4	579.0	6,326.4	0.99	-0.31	-0.94	
14,074.0	90.00	179.40	7,839.0	-6,399.4	579.9	6,422.8	0.65	0.62	-0.21	
14,168.0	89.30	178.40	7,839.6	-6,493.3	581.7	6,516.3	1.30	-0.74	-1.06	
14,264.0	90.90	178.50	7,839.4	-6,589.3	584.3	6,611.9	1.67	1.67	0.10	
14,360.0	92.10	179.90	7,836.9	-6,685.3	585.6	6,707.3	1.92	1.25	1.46	
14,455.0	92.30	180.50	7,833.3	-6,780.2	585.3	6,801.5	0.67	0.21	0.63	
14,551.0	93.50	180.70	7,828.4	-6,876.1	584.3	6,896.6	1.27	1.25	0.21	
14,616.0	94.40	180.70	7,823.9	-6,940.9	583.5	6,960.8	1.38	1.38	0.00	
14,676.0	94.40	180.70	7,819.3	-7,000.7	582.7	7,020.1	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 & 2317'F ¹	0.00	0.00	1.0	0.0	0.0	1,245,914.62	3,163,748.73	40.006940	-104.915440	
- survey hits target center										
- Point										
BHL 500'FSL & 2424'F ^W	0.00	0.00	7,845.0	-7,001.6	566.0	1,238,917.17	3,164,360.89	39.987720	-104.913420	
- survey misses target center by 30.6ft at 14675.1ft MD (7819.4 TVD, -6999.8 N, 582.8 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
7,869.4	7,681.9	-227.0	544.0	Crosses 460' Setback - 2180'FSL & 2861' FWL	
8,611.0	7,844.5	-937.9	548.6	Deepest TVD Drilled - 7844.52' TVD	

Checked By: _____	Approved By: _____	Date: _____
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