

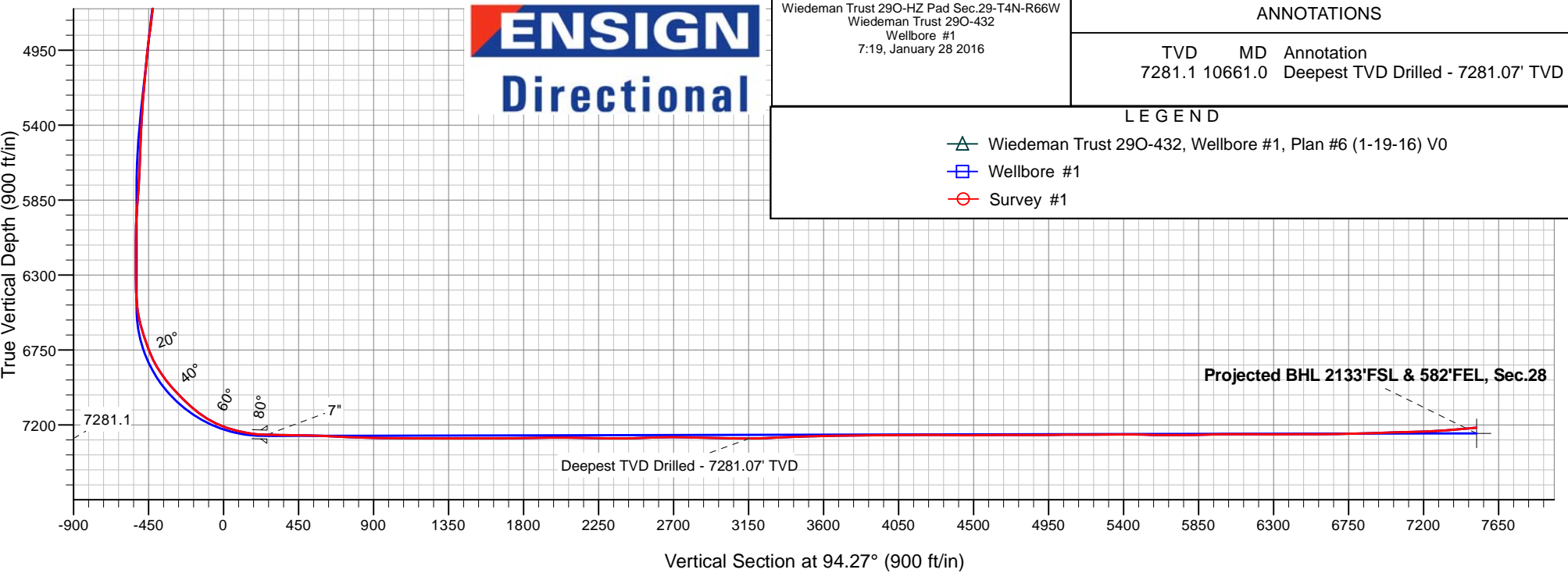
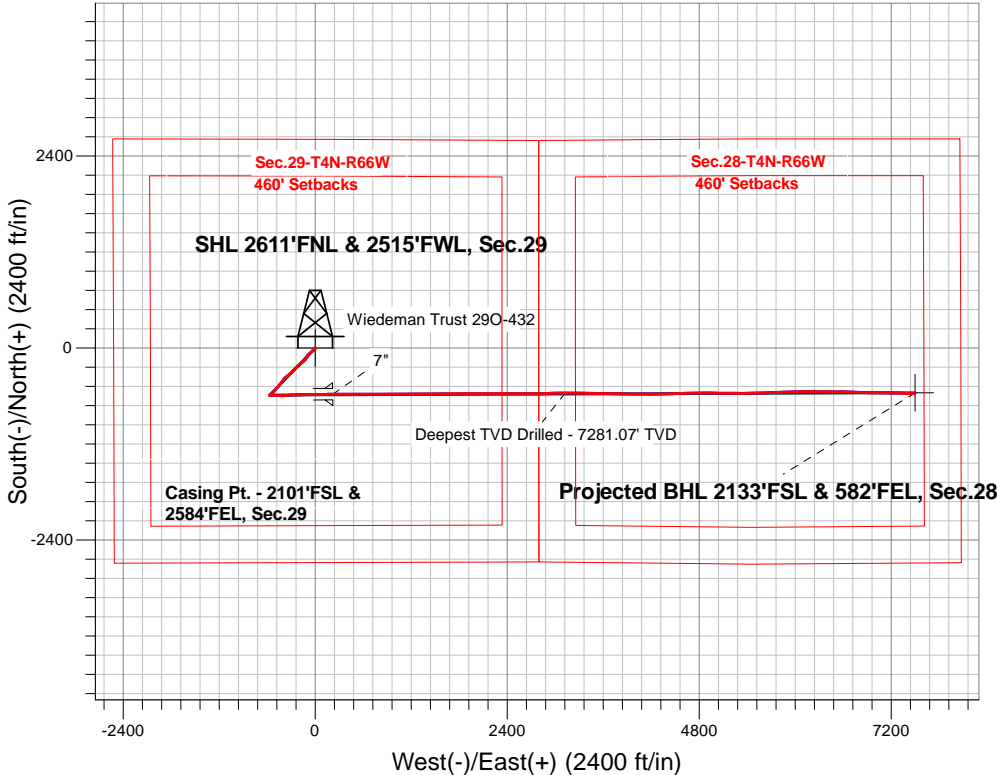
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Wiedeman Trust 29O-432**

Surface Location: Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4763.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0346599.04 3194748.50 40.282710 -104.801950
Ensign Rig #121 - RKB -13.5'WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')

FINAL SURVEY

Projected Bottom Hole Location
15036'MD 7216'TVD 569'S & 7495'E of SHL
96.1 degree Incl @ 91.4 degree AZM



Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W
Wiedeman Trust 29O-432
Wellbore #1
7:19, January 28 2016

ANNOTATIONS

TVD	MD	Annotation
7281.1	10661.0	Deepest TVD Drilled - 7281.07' TVD

LEGEND

- Wiedeman Trust 29O-432, Wellbore #1, Plan #6 (1-19-16) V0
- Wellbore #1
- Survey #1



PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.29-T4N-R66W

Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W

Wiedeman Trust 29O-432

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 January, 2016

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.29-T4N-R66W		
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	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W				
Site Position:		Northing:	1,346,577.36 usft	Latitude:	40.282650
From:	Lat/Long	Easting:	3,194,768.20 usft	Longitude:	-104.801880
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well	Wiedeman Trust 29O-432					
Well Position	+N/-S	0.0 ft	Northing:	1,346,599.04 usft	Latitude:	40.282710
	+E/-W	0.0 ft	Easting:	3,194,748.50 usft	Longitude:	-104.801950
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,763.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/15/2016	8.26	66.79	52,584

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	94.27	

Survey Program	Date	1/28/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
72.0	15,036.0	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	0.01	127.40	1.0	0.0	0.0	0.0	0.97	0.97	0.00	
SHL 2611'FNL & 2515'FWL, Sec.29										
72.0	0.70	127.40	72.0	-0.3	0.3	0.4	0.97	0.97	0.00	
165.0	1.00	110.00	165.0	-0.9	1.6	1.6	0.42	0.32	-18.71	
259.0	1.10	121.30	259.0	-1.6	3.1	3.2	0.24	0.11	12.02	
353.0	1.00	117.80	353.0	-2.5	4.6	4.8	0.13	-0.11	-3.72	
447.0	0.00	306.70	447.0	-2.9	5.3	5.5	1.06	-1.06	0.00	
540.0	1.20	243.50	539.9	-3.3	4.5	4.7	1.29	1.29	0.00	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	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)	
653.0	3.10	230.10	652.9	-5.8	1.1	1.5	1.73	1.68	-11.86	
726.0	4.50	231.20	725.7	-8.9	-2.7	-2.0	1.92	1.92	1.51	
820.0	5.60	229.00	819.3	-14.2	-9.0	-7.9	1.19	1.17	-2.34	
906.0	6.50	225.90	904.9	-20.3	-15.7	-14.1	1.11	1.05	-3.60	
1,004.0	6.50	226.90	1,002.2	-28.0	-23.7	-21.6	0.12	0.00	1.02	
1,097.0	7.70	235.40	1,094.5	-35.1	-32.7	-30.0	1.71	1.29	9.14	
1,191.0	9.10	228.70	1,187.5	-43.6	-43.5	-40.1	1.81	1.49	-7.13	
1,285.0	10.90	228.50	1,280.1	-54.4	-55.7	-51.5	1.92	1.91	-0.21	
1,378.0	10.00	227.30	1,371.5	-65.7	-68.2	-63.1	1.00	-0.97	-1.29	
1,471.0	8.40	223.10	1,463.3	-76.1	-78.8	-72.9	1.86	-1.72	-4.52	
1,565.0	9.40	217.80	1,556.2	-87.2	-88.2	-81.5	1.37	1.06	-5.64	
1,657.0	9.90	214.80	1,646.9	-99.6	-97.3	-89.6	0.77	0.54	-3.26	
1,751.0	9.00	204.60	1,739.6	-113.0	-105.0	-96.3	2.02	-0.96	-10.85	
1,844.0	9.40	208.10	1,831.4	-126.3	-111.6	-101.9	0.74	0.43	3.76	
1,936.0	8.40	219.00	1,922.3	-138.1	-119.4	-108.7	2.13	-1.09	11.85	
2,034.0	9.00	220.30	2,019.2	-149.5	-128.8	-117.3	0.64	0.61	1.33	
2,129.0	8.80	233.10	2,113.1	-159.6	-139.4	-127.2	2.09	-0.21	13.47	
2,222.0	9.40	231.20	2,204.9	-168.6	-151.1	-138.1	0.72	0.65	-2.04	
2,318.0	10.00	230.10	2,299.5	-178.8	-163.6	-149.8	0.65	0.63	-1.15	
2,413.0	10.30	229.60	2,393.0	-189.6	-176.4	-161.7	0.33	0.32	-0.53	
2,508.0	11.20	225.70	2,486.4	-201.6	-189.4	-173.9	1.22	0.95	-4.11	
2,604.0	12.00	229.70	2,580.4	-214.6	-203.7	-187.2	1.18	0.83	4.17	
2,699.0	12.40	227.50	2,673.3	-227.8	-218.8	-201.2	0.65	0.42	-2.32	
2,794.0	12.10	226.60	2,766.1	-241.6	-233.5	-214.9	0.37	-0.32	-0.95	
2,890.0	10.40	224.10	2,860.3	-254.7	-246.9	-227.2	1.84	-1.77	-2.60	
2,985.0	9.80	223.40	2,953.8	-266.7	-258.4	-237.8	0.64	-0.63	-0.74	
3,080.0	10.60	226.10	3,047.3	-278.7	-270.2	-248.7	0.98	0.84	2.84	
3,175.0	9.50	224.80	3,140.8	-290.3	-282.1	-259.7	1.18	-1.16	-1.37	
3,271.0	9.50	229.90	3,235.5	-301.0	-293.7	-270.5	0.88	0.00	5.31	
3,366.0	8.00	226.80	3,329.4	-310.6	-304.5	-280.5	1.65	-1.58	-3.26	
3,462.0	8.60	225.20	3,424.4	-320.2	-314.5	-289.8	0.67	0.63	-1.67	
3,557.0	9.10	224.80	3,518.3	-330.6	-324.8	-299.3	0.53	0.53	-0.42	
3,652.0	9.30	232.20	3,612.0	-340.6	-336.2	-309.9	1.26	0.21	7.79	
3,748.0	7.70	230.60	3,707.0	-349.4	-347.3	-320.3	1.68	-1.67	-1.67	
3,843.0	9.40	236.80	3,800.9	-357.7	-358.7	-331.0	2.03	1.79	6.53	
3,939.0	9.90	229.40	3,895.6	-367.4	-371.5	-343.1	1.39	0.52	-7.71	
4,034.0	11.30	223.90	3,988.9	-379.4	-384.2	-354.8	1.82	1.47	-5.79	
4,129.0	9.70	213.00	4,082.4	-392.8	-395.0	-364.6	2.68	-1.68	-11.47	
4,224.0	9.60	213.40	4,176.0	-406.2	-403.7	-372.3	0.13	-0.11	0.42	
4,320.0	9.80	219.40	4,270.7	-419.1	-413.3	-380.9	1.07	0.21	6.25	
4,415.0	10.50	219.40	4,364.2	-432.1	-423.9	-390.6	0.74	0.74	0.00	
4,510.0	9.80	218.30	4,457.7	-445.1	-434.4	-400.1	0.76	-0.74	-1.16	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	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)	
4,606.0	11.70	213.60	4,552.0	-459.6	-444.9	-409.4	2.18	1.98	-4.90	
4,701.0	10.60	222.20	4,645.2	-474.1	-456.1	-419.5	2.10	-1.16	9.05	
4,796.0	9.40	222.70	4,738.8	-486.3	-467.2	-429.7	1.27	-1.26	0.53	
4,892.0	11.30	228.00	4,833.2	-498.4	-479.5	-441.1	2.21	1.98	5.52	
4,987.0	10.20	226.40	4,926.5	-510.4	-492.5	-453.1	1.20	-1.16	-1.68	
5,082.0	10.00	218.00	5,020.1	-522.7	-503.7	-463.4	1.56	-0.21	-8.84	
5,178.0	8.50	215.20	5,114.8	-535.1	-512.9	-471.6	1.63	-1.56	-2.92	
5,273.0	8.10	224.30	5,208.8	-545.6	-521.6	-479.6	1.44	-0.42	9.58	
5,368.0	6.80	221.30	5,303.0	-554.6	-530.0	-487.2	1.43	-1.37	-3.16	
5,464.0	5.20	219.20	5,398.5	-562.2	-536.5	-493.2	1.68	-1.67	-2.19	
5,559.0	4.50	215.50	5,493.1	-568.6	-541.4	-497.6	0.81	-0.74	-3.89	
5,655.0	3.90	210.40	5,588.9	-574.5	-545.2	-500.9	0.74	-0.63	-5.31	
5,750.0	5.10	221.50	5,683.6	-580.5	-549.7	-504.9	1.56	1.26	11.68	
5,845.0	4.80	229.40	5,778.2	-586.2	-555.5	-510.3	0.78	-0.32	8.32	
5,940.0	4.50	260.00	5,872.9	-589.4	-562.2	-516.7	2.60	-0.32	32.21	
6,035.0	3.20	272.30	5,967.7	-590.0	-568.5	-523.0	1.61	-1.37	12.95	
6,130.0	0.40	237.50	6,062.7	-590.0	-571.4	-525.9	3.03	-2.95	-36.63	
6,226.0	0.20	238.70	6,158.7	-590.3	-571.9	-526.3	0.21	-0.21	1.25	
6,321.0	0.20	214.30	6,253.7	-590.5	-572.1	-526.5	0.09	0.00	-25.68	
6,417.0	1.60	103.90	6,349.7	-591.0	-570.9	-525.3	1.75	1.46	-115.00	
6,464.0	1.90	93.20	6,396.6	-591.2	-569.5	-523.9	0.94	0.64	-22.77	
6,512.0	3.30	86.70	6,444.6	-591.2	-567.3	-521.7	2.98	2.92	-13.54	
6,559.0	6.90	80.70	6,491.4	-590.6	-563.2	-517.6	7.73	7.66	-12.77	
6,607.0	10.80	80.90	6,538.8	-589.5	-555.9	-510.4	8.13	8.13	0.42	
6,654.0	13.10	92.80	6,584.8	-589.0	-546.2	-500.8	7.15	4.89	25.32	
6,703.0	16.70	95.40	6,632.1	-589.9	-533.6	-488.2	7.47	7.35	5.31	
6,750.0	18.50	92.60	6,676.9	-590.9	-519.5	-474.0	4.23	3.83	-5.96	
6,798.0	20.10	91.60	6,722.2	-591.5	-503.6	-458.2	3.40	3.33	-2.08	
6,845.0	22.70	93.00	6,766.0	-592.2	-486.5	-441.0	5.64	5.53	2.98	
6,893.0	26.00	92.50	6,809.7	-593.1	-466.7	-421.2	6.89	6.88	-1.04	
6,940.0	30.30	92.80	6,851.1	-594.2	-444.6	-399.1	9.15	9.15	0.64	
6,989.0	35.00	89.50	6,892.4	-594.7	-418.2	-372.7	10.25	9.59	-6.73	
7,036.0	37.40	90.00	6,930.3	-594.5	-390.4	-345.0	5.14	5.11	1.06	
7,084.0	40.10	87.20	6,967.8	-593.8	-360.4	-315.2	6.70	5.63	-5.83	
7,131.0	43.30	85.60	7,002.8	-591.8	-329.2	-284.2	7.17	6.81	-3.40	
7,179.0	45.60	86.00	7,037.1	-589.3	-295.7	-250.9	4.83	4.79	0.83	
7,226.0	47.80	87.70	7,069.3	-587.5	-261.5	-217.0	5.37	4.68	3.62	
7,275.0	50.10	88.90	7,101.5	-586.4	-224.6	-180.3	5.04	4.69	2.45	
7,322.0	52.90	87.40	7,130.8	-585.2	-187.8	-143.7	6.46	5.96	-3.19	
7,370.0	57.40	86.70	7,158.2	-583.2	-148.5	-104.6	9.45	9.38	-1.46	
7,417.0	62.70	87.70	7,181.7	-581.2	-107.8	-64.2	11.43	11.28	2.13	
7,465.0	68.10	89.60	7,201.6	-580.2	-64.2	-20.8	11.81	11.25	3.96	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	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)	
7,512.0	72.00	90.70	7,217.7	-580.3	-20.0	23.2	8.58	8.30	2.34	
7,561.0	75.30	91.10	7,231.5	-581.0	27.0	70.2	6.78	6.73	0.82	
7,608.0	78.00	90.00	7,242.3	-581.5	72.7	115.8	6.18	5.74	-2.34	
7,656.0	81.30	88.20	7,250.9	-580.7	119.9	162.8	7.80	6.88	-3.75	
7,703.0	86.10	88.90	7,256.1	-579.5	166.6	209.3	10.32	10.21	1.49	
7,720.0	87.70	89.50	7,257.0	-579.3	183.5	226.2	10.05	9.41	3.53	
7,755.0	88.18	89.50	7,258.3	-579.0	218.5	261.0	1.38	1.38	0.00	
7"										
7,865.0	89.70	89.50	7,260.3	-578.0	328.5	370.6	1.38	1.38	0.00	
7,961.0	88.40	90.50	7,261.9	-578.0	424.5	466.4	1.71	-1.35	1.04	
8,056.0	88.70	90.30	7,264.3	-578.7	519.4	561.1	0.38	0.32	-0.21	
8,152.0	86.90	89.50	7,268.0	-578.5	615.4	656.7	2.05	-1.88	-0.83	
8,247.0	87.30	89.50	7,272.8	-577.7	710.2	751.3	0.42	0.42	0.00	
8,342.0	89.00	90.00	7,275.8	-577.3	805.2	845.9	1.87	1.79	0.53	
8,438.0	88.90	89.60	7,277.6	-577.0	901.2	941.6	0.43	-0.10	-0.42	
8,533.0	89.30	89.60	7,279.1	-576.3	996.2	1,036.3	0.42	0.42	0.00	
8,629.0	89.90	91.40	7,279.8	-577.1	1,092.2	1,132.1	1.98	0.63	1.88	
8,724.0	89.60	90.50	7,280.2	-578.7	1,187.1	1,226.9	1.00	-0.32	-0.95	
8,816.0	89.80	89.80	7,280.7	-578.9	1,279.1	1,318.7	0.79	0.22	-0.76	
8,909.0	90.20	89.30	7,280.7	-578.2	1,372.1	1,411.4	0.69	0.43	-0.54	
9,001.0	91.10	88.20	7,279.6	-576.2	1,464.1	1,502.9	1.54	0.98	-1.20	
9,093.0	89.30	86.50	7,279.3	-572.0	1,556.0	1,594.3	2.69	-1.96	-1.85	
9,185.0	90.10	90.30	7,279.8	-569.4	1,647.9	1,685.8	4.22	0.87	4.13	
9,277.0	90.80	90.20	7,279.1	-569.8	1,739.9	1,777.5	0.77	0.76	-0.11	
9,370.0	91.10	90.50	7,277.5	-570.4	1,832.9	1,870.3	0.46	0.32	0.32	
9,462.0	90.60	90.90	7,276.2	-571.5	1,924.9	1,962.1	0.70	-0.54	0.43	
9,554.0	89.80	90.50	7,275.8	-572.6	2,016.9	2,053.9	0.97	-0.87	-0.43	
9,646.0	88.50	89.10	7,277.2	-572.3	2,108.9	2,145.6	2.08	-1.41	-1.52	
9,739.0	89.00	89.30	7,279.2	-571.0	2,201.8	2,238.3	0.58	0.54	0.22	
9,831.0	89.10	89.80	7,280.8	-570.3	2,293.8	2,329.9	0.55	0.11	0.54	
9,923.0	91.90	90.30	7,279.9	-570.3	2,385.8	2,421.7	3.09	3.04	0.54	
10,015.0	92.00	90.30	7,276.8	-570.8	2,477.8	2,513.4	0.11	0.11	0.00	
10,108.0	91.30	90.00	7,274.1	-571.1	2,570.7	2,606.1	0.82	-0.75	-0.32	
10,200.0	90.00	90.70	7,273.1	-571.6	2,662.7	2,697.9	1.60	-1.41	0.76	
10,292.0	88.50	90.00	7,274.3	-572.2	2,754.7	2,789.7	1.80	-1.63	-0.76	
10,384.0	88.60	88.10	7,276.6	-570.7	2,846.7	2,881.3	2.07	0.11	-2.07	
10,476.0	88.90	88.20	7,278.6	-567.7	2,938.6	2,972.7	0.34	0.33	0.11	
10,569.0	88.80	88.60	7,280.5	-565.1	3,031.5	3,065.2	0.44	-0.11	0.43	
10,661.0	90.50	90.00	7,281.1	-564.0	3,123.5	3,156.8	2.39	1.85	1.52	
Deepest TVD Drilled - 7281.07' TVD										
10,753.0	92.40	90.50	7,278.7	-564.4	3,215.5	3,248.6	2.14	2.07	0.54	
10,845.0	93.20	90.70	7,274.2	-565.3	3,307.4	3,340.3	0.90	0.87	0.22	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	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)	
10,938.0	91.50	90.50	7,270.4	-566.3	3,400.3	3,433.0	1.84	-1.83	-0.22	
11,030.0	92.10	90.50	7,267.5	-567.1	3,492.2	3,524.8	0.65	0.65	0.00	
11,122.0	90.70	91.20	7,265.3	-568.5	3,584.2	3,616.6	1.70	-1.52	0.76	
11,217.0	90.30	91.20	7,264.5	-570.5	3,679.2	3,711.4	0.42	-0.42	0.00	
11,313.0	91.50	90.90	7,263.0	-572.2	3,775.1	3,807.3	1.29	1.25	-0.31	
11,408.0	90.50	90.90	7,261.3	-573.7	3,870.1	3,902.1	1.05	-1.05	0.00	
11,503.0	90.40	91.10	7,260.6	-575.4	3,965.1	3,996.9	0.24	-0.11	0.21	
11,599.0	89.90	90.20	7,260.3	-576.5	4,061.1	4,092.7	1.07	-0.52	-0.94	
11,695.0	91.00	90.20	7,259.5	-576.8	4,157.1	4,188.5	1.15	1.15	0.00	
11,790.0	89.30	89.10	7,259.3	-576.2	4,252.1	4,283.2	2.13	-1.79	-1.16	
11,885.0	88.80	87.70	7,260.9	-573.6	4,347.0	4,377.7	1.56	-0.53	-1.47	
11,980.0	90.30	88.40	7,261.6	-570.3	4,442.0	4,472.1	1.74	1.58	0.74	
12,076.0	91.10	88.90	7,260.4	-568.1	4,537.9	4,567.6	0.98	0.83	0.52	
12,171.0	90.40	88.80	7,259.2	-566.2	4,632.9	4,662.2	0.74	-0.74	-0.11	
12,267.0	89.00	87.70	7,259.7	-563.2	4,728.8	4,757.7	1.85	-1.46	-1.15	
12,362.0	90.60	90.00	7,260.0	-561.3	4,823.8	4,852.2	2.95	1.68	2.42	
12,458.0	90.00	91.80	7,259.5	-562.8	4,919.8	4,948.1	1.98	-0.63	1.88	
12,553.0	91.10	91.10	7,258.6	-565.2	5,014.8	5,042.9	1.37	1.16	-0.74	
12,648.0	89.30	90.00	7,258.3	-566.2	5,109.8	5,137.7	2.22	-1.89	-1.16	
12,743.0	90.30	90.30	7,258.6	-566.4	5,204.7	5,232.5	1.10	1.05	0.32	
12,839.0	90.90	90.20	7,257.6	-566.8	5,300.7	5,328.2	0.63	0.63	-0.10	
12,934.0	90.20	89.10	7,256.7	-566.2	5,395.7	5,422.9	1.37	-0.74	-1.16	
13,030.0	88.20	88.60	7,258.0	-564.3	5,491.7	5,518.5	2.15	-2.08	-0.52	
13,125.0	89.30	89.60	7,260.1	-562.8	5,586.7	5,613.1	1.56	1.16	1.05	
13,220.0	90.30	89.10	7,260.4	-561.7	5,681.7	5,707.7	1.18	1.05	-0.53	
13,316.0	90.10	84.40	7,260.1	-556.3	5,777.5	5,802.9	4.90	-0.21	-4.90	
13,411.0	91.70	86.80	7,258.6	-549.0	5,872.2	5,896.8	3.04	1.68	2.53	
13,506.0	92.00	89.30	7,255.6	-545.8	5,967.1	5,991.1	2.65	0.32	2.63	
13,602.0	89.60	88.80	7,254.2	-544.2	6,063.0	6,086.7	2.55	-2.50	-0.52	
13,697.0	88.60	90.90	7,255.7	-543.9	6,158.0	6,181.4	2.45	-1.05	2.21	
13,792.0	90.50	91.20	7,256.5	-545.7	6,253.0	6,276.3	2.02	2.00	0.32	
13,887.0	91.00	90.70	7,255.2	-547.3	6,348.0	6,371.1	0.74	0.53	-0.53	
13,983.0	90.10	89.80	7,254.3	-547.7	6,444.0	6,466.9	1.33	-0.94	-0.94	
14,078.0	89.00	90.00	7,255.0	-547.5	6,539.0	6,561.6	1.18	-1.16	0.21	
14,173.0	91.00	91.60	7,255.0	-548.8	6,633.9	6,656.4	2.70	2.11	1.68	
14,269.0	91.40	92.30	7,253.0	-552.1	6,729.9	6,752.3	0.84	0.42	0.73	
14,364.0	92.30	92.30	7,250.0	-555.9	6,824.7	6,847.2	0.95	0.95	0.00	
14,459.0	91.90	88.90	7,246.5	-556.9	6,919.6	6,941.9	3.60	-0.42	-3.58	
14,554.0	91.80	90.50	7,243.4	-556.4	7,014.6	7,036.6	1.69	-0.11	1.68	
14,650.0	90.90	92.10	7,241.1	-558.6	7,110.5	7,132.4	1.91	-0.94	1.67	
14,745.0	92.60	91.60	7,238.2	-561.7	7,205.4	7,227.3	1.87	1.79	-0.53	
14,841.0	93.50	91.60	7,233.1	-564.3	7,301.3	7,323.0	0.94	0.94	0.00	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Wiedeman Trust 29O-432
Project:	SEC.29-T4N-R66W	TVD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Wiedeman Trust 29O-HZ Pad Sec.29-T4N-R66W	MD Reference:	WELL @ 4776.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Wiedeman Trust 29O-432	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)	
14,981.0	96.10	91.40	7,221.4	-568.0	7,440.7	7,462.4	1.86	1.86	-0.14	
15,033.7	96.10	91.40	7,215.8	-569.3	7,493.1	7,514.7	0.00	0.00	0.00	
BHL 2124'FSL & 580'FEL, Sec.28										
15,036.0	96.10	91.40	7,215.6	-569.3	7,495.4	7,517.0	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 2611'FNL & 2515'F1 - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,346,599.06	3,194,748.50	40.282710	-104.801950	
BHL 2124'FSL & 580'FE - survey misses target center by 35.7ft at 15033.7ft MD (7215.8 TVD, -569.3 N, 7493.1 E) - Point	0.00	0.00	7,250.0	-559.9	7,497.0	1,346,098.23	3,202,249.34	40.281170	-104.775080	

Casing Points									
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (")	Hole Diameter (")			
7,755.0	7,258.3	7"			7	8-3/4			

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
10,661.0	7,281.1	-564.0	3,123.5	Deepest TVD Drilled - 7281.07' TVD	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------