

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Dalton 24L-201**

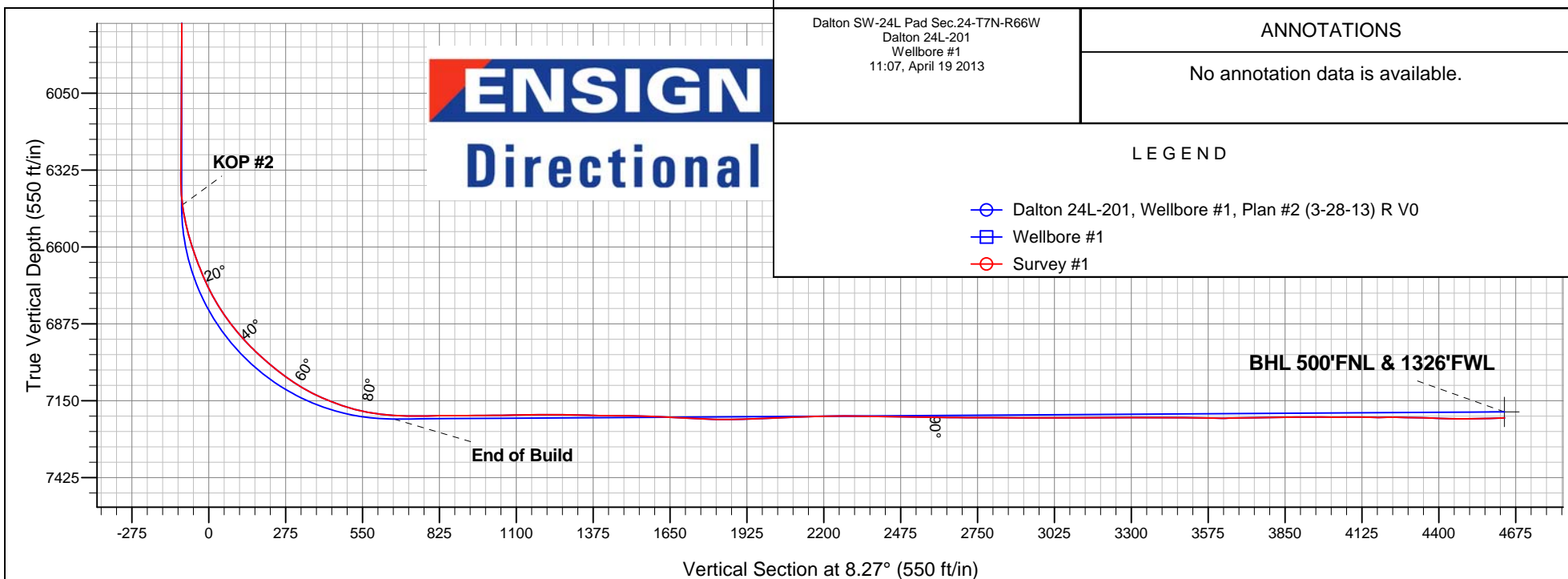
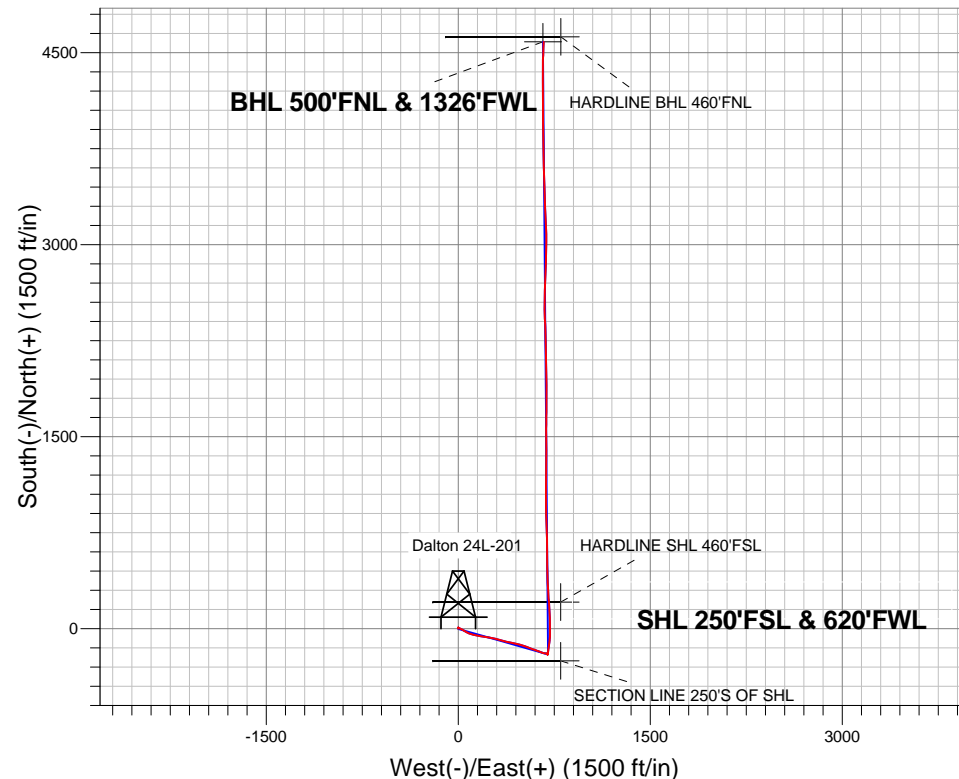
Surface Location: Dalton SW-24L Pad Sec.24-T7N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4880.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1445686.99	3213142.53	40.554280	-104.732950	

RKB Ensign 32 - 15' WELL @ 4895.0ft (RKB Ensign 32 - 15')

FINAL SURVEY

Projected Bottom Hole Location
11689' MD 7212' TVD 4587' N & 667' E of SHL
91.7 degree Incl @ 2.1 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.24-T7N-R66W

Dalton SW-24L Pad Sec.24-T7N-R66W

Dalton 24L-201

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 April, 2013

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Dalton 24L-201
Project:	SEC.24-T7N-R66W	TVD Reference:	WELL @ 4895.0ft (RKB Ensign 32 - 15')
Site:	Dalton SW-24L Pad Sec.24-T7N-R66W	MD Reference:	WELL @ 4895.0ft (RKB Ensign 32 - 15')
Well:	Dalton 24L-201	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
588.0	1.00	131.10	587.9	9.4	-0.4	9.2	2.27	-0.21	171.35
683.0	3.30	123.10	682.8	7.3	2.5	7.6	2.44	2.42	-8.42
777.0	5.10	115.90	776.6	4.0	8.6	5.2	1.99	1.91	-7.66
873.0	6.40	113.70	872.1	0.0	17.3	2.5	1.37	1.35	-2.29
969.0	6.90	117.40	967.4	-4.8	27.3	-0.8	0.69	0.52	3.85
1,031.0	6.90	118.10	1,029.0	-8.2	33.9	-3.3	0.14	0.00	1.13
1,157.0	6.90	121.40	1,154.1	-15.8	47.1	-8.8	0.31	0.00	2.62
1,283.0	8.40	122.50	1,279.0	-24.6	61.3	-15.6	1.20	1.19	0.87
1,406.0	9.10	115.10	1,400.5	-33.6	77.7	-22.1	1.08	0.57	-6.02
1,528.0	9.90	105.10	1,520.9	-40.4	96.5	-26.1	1.50	0.66	-8.20
1,650.0	9.30	105.40	1,641.1	-45.8	116.2	-28.6	0.49	-0.49	0.25
1,772.0	7.10	102.80	1,761.9	-50.1	133.0	-30.4	1.83	-1.80	-2.13
1,895.0	7.00	98.60	1,884.0	-52.9	147.8	-31.0	0.43	-0.08	-3.41
2,024.0	7.30	97.70	2,012.0	-55.1	163.7	-31.0	0.25	0.23	-0.70
2,151.0	7.20	101.40	2,137.9	-57.8	179.5	-31.4	0.38	-0.08	2.91
2,278.0	7.40	100.10	2,263.9	-60.8	195.4	-32.1	0.20	0.16	-1.02
2,405.0	9.00	100.90	2,389.6	-64.1	213.2	-32.8	1.26	1.26	0.63
2,532.0	8.80	96.60	2,515.1	-67.1	232.6	-32.9	0.55	-0.16	-3.39
2,658.0	9.40	101.00	2,639.5	-70.2	252.3	-33.2	0.73	0.48	3.49
2,784.0	10.20	103.20	2,763.7	-74.7	273.2	-34.6	0.70	0.63	1.75
2,911.0	10.40	104.00	2,888.6	-80.0	295.3	-36.7	0.19	0.16	0.63
3,038.0	9.70	101.90	3,013.7	-85.0	316.9	-38.5	0.62	-0.55	-1.65
3,165.0	10.30	107.90	3,138.7	-90.7	338.2	-41.1	0.95	0.47	4.72
3,292.0	9.80	106.70	3,263.8	-97.3	359.3	-44.6	0.43	-0.39	-0.94
3,419.0	10.90	102.60	3,388.7	-103.0	381.4	-47.1	1.04	0.87	-3.23
3,545.0	9.70	98.60	3,512.7	-107.2	403.5	-48.0	1.11	-0.95	-3.17
3,672.0	10.00	100.70	3,637.8	-110.9	424.9	-48.6	0.37	0.24	1.65
3,799.0	9.10	103.00	3,763.1	-115.2	445.6	-49.9	0.77	-0.71	1.81
3,926.0	8.40	101.20	3,888.6	-119.2	464.4	-51.2	0.59	-0.55	-1.42
4,053.0	10.30	109.80	4,013.9	-124.9	484.2	-53.9	1.85	1.50	6.77
4,180.0	10.60	108.80	4,138.8	-132.5	506.0	-58.3	0.28	0.24	-0.79
4,307.0	10.00	109.10	4,263.7	-139.9	527.4	-62.5	0.47	-0.47	0.24
4,434.0	9.10	109.60	4,389.0	-146.8	547.3	-66.6	0.71	-0.71	0.39
4,562.0	8.30	109.50	4,515.5	-153.3	565.6	-70.4	0.63	-0.63	-0.08
4,689.0	7.10	109.80	4,641.4	-159.0	581.6	-73.7	0.95	-0.94	0.24
4,816.0	8.00	110.90	4,767.3	-164.8	597.2	-77.2	0.72	0.71	0.87
4,943.0	8.60	110.50	4,892.9	-171.3	614.4	-81.2	0.47	0.47	-0.31
5,069.0	8.90	110.20	5,017.5	-178.0	632.4	-85.2	0.24	0.24	-0.24
5,196.0	8.30	113.00	5,143.0	-185.0	650.0	-89.5	0.58	-0.47	2.20
5,323.0	7.50	99.30	5,268.8	-189.9	666.6	-92.0	1.61	-0.63	-10.79
5,450.0	5.00	98.00	5,395.1	-192.0	680.3	-92.1	1.97	-1.97	-1.02
5,577.0	4.40	112.10	5,521.6	-194.6	690.3	-93.3	1.02	-0.47	11.10
5,704.0	2.20	124.60	5,648.4	-197.8	696.8	-95.5	1.81	-1.73	9.84
5,831.0	0.50	278.00	5,775.4	-199.1	698.3	-96.6	2.09	-1.34	120.79
5,958.0	0.30	233.00	5,902.4	-199.2	697.5	-96.8	0.28	-0.16	-35.43
6,084.0	0.40	187.70	6,028.4	-199.9	697.1	-97.5	0.23	0.08	-35.95
6,211.0	0.40	178.50	6,155.4	-200.8	697.1	-98.4	0.05	0.00	-7.24
6,339.0	0.40	185.60	6,283.4	-201.7	697.1	-99.3	0.04	0.00	5.55
6,370.0	0.40	184.30	6,314.4	-201.9	697.0	-99.5	0.03	0.00	-4.19
6,402.0	0.40	182.20	6,346.4	-202.1	697.0	-99.7	0.05	0.00	-6.56
6,434.0	1.30	355.70	6,378.4	-201.8	697.0	-99.5	5.31	2.81	542.19
6,466.0	4.00	2.90	6,410.4	-200.4	697.0	-98.0	8.48	8.44	22.50
6,497.0	6.60	6.10	6,441.2	-197.5	697.3	-95.1	8.44	8.39	10.32

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,529.0	9.40	8.40	6,472.9	-193.1	697.8	-90.7	8.81	8.75	7.19
6,561.0	11.70	11.20	6,504.4	-187.3	698.9	-84.8	7.36	7.19	8.75
6,592.0	13.50	9.30	6,534.6	-180.7	700.0	-78.1	5.96	5.81	-6.13
6,624.0	16.00	9.10	6,565.6	-172.6	701.3	-69.9	7.81	7.81	-0.63
6,656.0	17.90	8.70	6,596.2	-163.4	702.8	-60.6	5.95	5.94	-1.25
6,687.0	19.30	7.30	6,625.5	-153.6	704.2	-50.7	4.74	4.52	-4.52
6,719.0	20.80	7.90	6,655.6	-142.8	705.6	-39.8	4.73	4.69	1.88
6,751.0	22.80	7.70	6,685.3	-131.0	707.2	-27.9	6.25	6.25	-0.63
6,783.0	23.30	10.00	6,714.8	-118.6	709.2	-15.3	3.22	1.56	7.19
6,814.0	25.60	8.90	6,743.0	-105.9	711.3	-2.5	7.56	7.42	-3.55
6,846.0	27.80	5.80	6,771.6	-91.7	713.1	11.9	8.14	6.88	-9.69
6,878.0	31.00	3.10	6,799.4	-76.0	714.3	27.5	10.82	10.00	-8.44
6,910.0	33.60	1.70	6,826.5	-59.0	715.0	44.5	8.45	8.13	-4.38
6,942.0	35.40	1.20	6,852.9	-40.8	715.4	62.5	5.69	5.63	-1.56
6,974.0	37.60	0.70	6,878.6	-21.8	715.8	81.4	6.94	6.88	-1.56
7,005.0	40.10	0.00	6,902.7	-2.4	715.9	100.7	8.19	8.06	-2.26
7,037.0	42.80	359.40	6,926.7	18.8	715.8	121.6	8.53	8.44	-1.88
7,069.0	44.30	359.20	6,949.9	40.9	715.5	143.4	4.71	4.69	-0.63
7,100.0	46.30	358.70	6,971.7	62.9	715.1	165.1	6.55	6.45	-1.61
7,132.0	48.30	357.50	6,993.4	86.4	714.3	188.3	6.83	6.25	-3.75
7,164.0	50.10	357.30	7,014.3	110.6	713.2	212.1	5.64	5.63	-0.63
7,196.0	51.50	356.80	7,034.5	135.4	711.9	236.4	4.54	4.38	-1.56
7,227.0	53.20	356.80	7,053.5	159.9	710.6	260.4	5.48	5.48	0.00
7,259.0	55.70	355.90	7,072.1	185.8	708.9	285.9	8.14	7.81	-2.81
7,291.0	58.00	356.30	7,089.6	212.6	707.1	312.1	7.26	7.19	1.25
7,323.0	60.20	356.10	7,106.0	240.0	705.3	338.9	6.90	6.88	-0.63
7,354.0	63.20	356.40	7,120.7	267.2	703.5	365.6	9.71	9.68	0.97
7,386.0	66.00	357.10	7,134.4	296.1	701.8	394.0	8.97	8.75	2.19
7,418.0	68.40	357.70	7,146.8	325.5	700.5	422.9	7.70	7.50	1.88
7,450.0	69.80	357.80	7,158.2	355.4	699.3	452.3	4.38	4.38	0.31
7,481.0	71.70	357.30	7,168.5	384.6	698.1	481.1	6.32	6.13	-1.61
7,513.0	74.00	357.30	7,177.9	415.2	696.6	511.1	7.19	7.19	0.00
7,545.0	77.20	357.30	7,185.9	446.1	695.2	541.5	10.00	10.00	0.00
7,577.0	80.50	357.70	7,192.0	477.5	693.8	572.3	10.39	10.31	1.25
7,608.0	82.00	358.90	7,196.8	508.1	692.9	602.5	6.17	4.84	3.87
7,640.0	84.70	359.40	7,200.5	539.9	692.4	633.9	8.58	8.44	1.56
7,712.0	88.90	0.80	7,204.5	611.8	692.6	705.0	6.15	5.83	1.94
7,744.0	90.00	0.00	7,204.8	643.8	692.8	736.7	4.25	3.44	-2.50
7,776.0	90.80	359.80	7,204.6	675.8	692.7	768.4	2.58	2.50	-0.63
7,807.0	91.20	359.10	7,204.0	706.8	692.4	799.0	2.60	1.29	-2.26
7,839.0	90.60	358.40	7,203.5	738.7	691.7	830.6	2.88	-1.88	-2.19
7,870.0	90.40	358.00	7,203.2	769.7	690.7	861.1	1.44	-0.65	-1.29
7,902.0	90.10	357.30	7,203.1	801.7	689.4	892.5	2.38	-0.94	-2.19
7,934.0	90.10	357.10	7,203.1	833.7	687.9	924.0	0.63	0.00	-0.63
7,966.0	90.40	357.70	7,202.9	865.6	686.4	955.4	2.10	0.94	1.88
7,997.0	90.40	358.40	7,202.7	896.6	685.4	985.9	2.26	0.00	2.26
8,029.0	90.60	359.10	7,202.4	928.6	684.7	1,017.4	2.27	0.63	2.19
8,061.0	90.70	359.40	7,202.1	960.6	684.3	1,049.0	0.99	0.31	0.94
8,093.0	90.80	359.80	7,201.6	992.6	684.0	1,080.7	1.29	0.31	1.25
8,125.0	91.00	0.30	7,201.1	1,024.6	684.1	1,112.3	1.68	0.63	1.56
8,156.0	90.70	0.30	7,200.7	1,055.6	684.2	1,143.0	0.97	-0.97	0.00
8,188.0	90.70	1.20	7,200.3	1,087.6	684.6	1,174.8	2.81	0.00	2.81
8,220.0	90.60	0.80	7,199.9	1,119.6	685.2	1,206.5	1.29	-0.31	-1.25

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,252.0	90.10	0.80	7,199.7	1,151.6	685.6	1,238.2	1.56	-1.56	0.00
8,283.0	89.20	1.00	7,199.9	1,182.6	686.1	1,269.0	2.97	-2.90	0.65
8,315.0	88.30	1.00	7,200.6	1,214.6	686.7	1,300.7	2.81	-2.81	0.00
8,347.0	88.10	0.50	7,201.6	1,246.5	687.1	1,332.4	1.68	-0.63	-1.56
8,378.0	88.70	0.00	7,202.5	1,277.5	687.2	1,363.1	2.52	1.94	-1.61
8,410.0	89.10	359.60	7,203.1	1,309.5	687.1	1,394.7	1.77	1.25	-1.25
8,442.0	89.50	359.20	7,203.5	1,341.5	686.8	1,426.4	1.77	1.25	-1.25
8,474.0	89.30	359.10	7,203.8	1,373.5	686.3	1,458.0	0.70	-0.63	-0.31
8,505.0	89.70	358.90	7,204.1	1,404.5	685.8	1,488.5	1.44	1.29	-0.65
8,537.0	89.30	359.40	7,204.4	1,436.5	685.3	1,520.1	2.00	-1.25	1.56
8,569.0	88.70	0.00	7,204.9	1,468.5	685.1	1,551.8	2.65	-1.88	1.88
8,601.0	88.10	0.10	7,205.8	1,500.5	685.2	1,583.4	1.90	-1.88	0.31
8,632.0	87.30	0.50	7,207.1	1,531.5	685.3	1,614.1	2.88	-2.58	1.29
8,664.0	86.60	1.00	7,208.8	1,563.4	685.7	1,645.8	2.69	-2.19	1.56
8,696.0	86.60	0.80	7,210.7	1,595.3	686.2	1,677.5	0.62	0.00	-0.63
8,727.0	87.00	1.00	7,212.4	1,626.3	686.7	1,708.2	1.44	1.29	0.65
8,759.0	87.20	0.70	7,214.0	1,658.2	687.2	1,739.9	1.13	0.63	-0.94
8,791.0	87.60	0.50	7,215.5	1,690.2	687.5	1,771.5	1.40	1.25	-0.63
8,823.0	88.60	0.70	7,216.5	1,722.2	687.9	1,803.2	3.19	3.13	0.63
8,854.0	89.60	0.50	7,217.0	1,753.2	688.2	1,834.0	3.29	3.23	-0.65
8,886.0	90.70	0.70	7,216.9	1,785.2	688.5	1,865.7	3.49	3.44	0.63
8,918.0	91.60	0.30	7,216.3	1,817.2	688.8	1,897.4	3.08	2.81	-1.25
8,950.0	91.90	0.00	7,215.3	1,849.2	688.9	1,929.0	1.33	0.94	-0.94
8,981.0	91.60	359.80	7,214.4	1,880.1	688.8	1,959.7	1.16	-0.97	-0.65
9,013.0	92.20	359.60	7,213.3	1,912.1	688.7	1,991.3	1.98	1.88	-0.63
9,045.0	92.90	359.40	7,211.9	1,944.1	688.4	2,022.9	2.27	2.19	-0.63
9,076.0	92.50	358.90	7,210.4	1,975.1	687.9	2,053.5	2.06	-1.29	-1.61
9,108.0	92.20	359.20	7,209.1	2,007.0	687.4	2,085.0	1.33	-0.94	0.94
9,140.0	91.90	359.10	7,208.0	2,039.0	686.9	2,116.6	0.99	-0.94	-0.31
9,172.0	91.60	358.40	7,207.0	2,071.0	686.2	2,148.2	2.38	-0.94	-2.19
9,203.0	91.60	358.20	7,206.1	2,102.0	685.3	2,178.7	0.64	0.00	-0.65
9,235.0	91.20	358.70	7,205.3	2,133.9	684.5	2,210.2	2.00	-1.25	1.56
9,267.0	90.90	359.20	7,204.8	2,165.9	683.9	2,241.8	1.82	-0.94	1.56
9,299.0	90.20	358.90	7,204.4	2,197.9	683.3	2,273.4	2.38	-2.19	-0.94
9,330.0	89.30	359.10	7,204.6	2,228.9	682.8	2,304.0	2.97	-2.90	0.65
9,362.0	88.80	359.20	7,205.1	2,260.9	682.3	2,335.5	1.59	-1.56	0.31
9,394.0	88.70	358.40	7,205.8	2,292.9	681.6	2,367.1	2.52	-0.31	-2.50
9,426.0	89.20	358.40	7,206.4	2,324.9	680.8	2,398.6	1.56	1.56	0.00
9,457.0	88.80	356.30	7,206.9	2,355.8	679.3	2,429.1	6.89	-1.29	-6.77
9,489.0	89.50	356.60	7,207.4	2,387.8	677.3	2,460.4	2.38	2.19	0.94
9,521.0	89.30	357.10	7,207.7	2,419.7	675.6	2,491.7	1.68	-0.63	1.56
9,553.0	89.10	358.40	7,208.2	2,451.7	674.3	2,523.2	4.11	-0.63	4.06
9,584.0	89.40	359.10	7,208.6	2,482.7	673.7	2,553.8	2.46	0.97	2.26
9,616.0	89.40	0.10	7,208.9	2,514.7	673.4	2,585.4	3.12	0.00	3.13
9,647.0	89.10	0.70	7,209.3	2,545.7	673.6	2,616.1	2.16	-0.97	1.94
9,679.0	89.20	1.20	7,209.8	2,577.7	674.2	2,647.8	1.59	0.31	1.56
9,710.0	89.60	2.10	7,210.1	2,608.6	675.1	2,678.6	3.18	1.29	2.90
9,742.0	90.00	1.90	7,210.3	2,640.6	676.2	2,710.4	1.40	1.25	-0.63
9,774.0	89.90	1.90	7,210.3	2,672.6	677.2	2,742.2	0.31	-0.31	0.00
9,806.0	89.90	2.20	7,210.3	2,704.6	678.4	2,774.0	0.94	0.00	0.94
9,837.0	89.60	2.20	7,210.5	2,735.6	679.6	2,804.9	0.97	-0.97	0.00
9,869.0	88.90	2.10	7,210.9	2,767.5	680.8	2,836.7	2.21	-2.19	-0.31
9,901.0	89.30	2.10	7,211.4	2,799.5	682.0	2,868.5	1.25	1.25	0.00
9,933.0	89.50	1.50	7,211.7	2,831.5	683.0	2,900.3	1.98	0.63	-1.88

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Dalton 24L-201
Project:	SEC.24-T7N-R66W	TVD Reference:	WELL @ 4895.0ft (RKB Ensign 32 - 15')
Site:	Dalton SW-24L Pad Sec.24-T7N-R66W	MD Reference:	WELL @ 4895.0ft (RKB Ensign 32 - 15')
Well:	Dalton 24L-201	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,964.0	90.00	1.50	7,211.9	2,862.5	683.8	2,931.1	1.61	1.61	0.00
9,996.0	90.20	1.00	7,211.8	2,894.5	684.5	2,962.8	1.68	0.63	-1.56
10,028.0	90.20	1.00	7,211.7	2,926.5	685.0	2,994.6	0.00	0.00	0.00
10,060.0	90.70	1.20	7,211.4	2,958.5	685.6	3,026.3	1.68	1.56	0.63
10,092.0	91.20	1.50	7,210.9	2,990.4	686.4	3,058.1	1.82	1.56	0.94
10,124.0	90.30	0.10	7,210.5	3,022.4	686.8	3,089.8	5.20	-2.81	-4.38
10,155.0	90.20	359.40	7,210.4	3,053.4	686.7	3,120.5	2.28	-0.32	-2.26
10,187.0	90.50	358.70	7,210.2	3,085.4	686.2	3,152.1	2.38	0.94	-2.19
10,219.0	89.80	357.70	7,210.1	3,117.4	685.2	3,183.6	3.81	-2.19	-3.13
10,250.0	89.40	357.00	7,210.3	3,148.4	683.7	3,214.0	2.60	-1.29	-2.26
10,282.0	89.20	357.10	7,210.7	3,180.3	682.1	3,245.4	0.70	-0.63	0.31
10,314.0	89.50	356.80	7,211.1	3,212.3	680.4	3,276.8	1.33	0.94	-0.94
10,346.0	90.80	357.00	7,211.0	3,244.2	678.7	3,308.1	4.11	4.06	0.63
10,377.0	90.90	357.30	7,210.5	3,275.2	677.1	3,338.5	1.02	0.32	0.97
10,409.0	90.80	358.50	7,210.0	3,307.2	675.9	3,370.0	3.76	-0.31	3.75
10,441.0	89.90	358.20	7,209.8	3,339.2	675.0	3,401.5	2.96	-2.81	-0.94
10,472.0	88.80	357.70	7,210.2	3,370.1	673.9	3,432.0	3.90	-3.55	-1.61
10,504.0	89.10	357.50	7,210.8	3,402.1	672.6	3,463.5	1.13	0.94	-0.63
10,536.0	89.30	358.20	7,211.2	3,434.1	671.4	3,494.9	2.27	0.63	2.19
10,568.0	89.30	358.90	7,211.6	3,466.1	670.6	3,526.5	2.19	0.00	2.19
10,600.0	89.30	359.10	7,212.0	3,498.1	670.0	3,558.1	0.62	0.00	0.63
10,631.0	89.60	359.10	7,212.3	3,529.1	669.5	3,588.7	0.97	0.97	0.00
10,664.0	89.80	359.10	7,212.5	3,562.1	669.0	3,621.2	0.61	0.61	0.00
10,695.0	90.90	359.20	7,212.3	3,593.0	668.5	3,651.9	3.56	3.55	0.32
10,727.0	91.50	358.90	7,211.6	3,625.0	668.0	3,683.4	2.10	1.88	-0.94
10,760.0	91.00	358.70	7,210.9	3,658.0	667.3	3,716.0	1.63	-1.52	-0.61
10,791.0	90.60	358.70	7,210.5	3,689.0	666.6	3,746.5	1.29	-1.29	0.00
10,823.0	90.20	358.50	7,210.2	3,721.0	665.8	3,778.1	1.40	-1.25	-0.63
10,855.0	90.90	359.10	7,209.9	3,753.0	665.2	3,809.6	2.88	2.19	1.88
10,886.0	91.00	359.60	7,209.4	3,784.0	664.8	3,840.3	1.64	0.32	1.61
10,918.0	90.70	359.60	7,208.9	3,816.0	664.6	3,871.9	0.94	-0.94	0.00
10,950.0	90.40	0.00	7,208.6	3,848.0	664.5	3,903.5	1.56	-0.94	1.25
10,981.0	90.00	359.80	7,208.5	3,879.0	664.4	3,934.2	1.44	-1.29	-0.65
11,012.0	89.50	359.10	7,208.7	3,910.0	664.1	3,964.8	2.77	-1.61	-2.26
11,044.0	89.40	358.50	7,209.0	3,942.0	663.5	3,996.4	1.90	-0.31	-1.88
11,076.0	89.90	358.90	7,209.2	3,974.0	662.7	4,028.0	2.00	1.56	1.25
11,108.0	90.70	359.80	7,209.0	4,006.0	662.4	4,059.6	3.76	2.50	2.81
11,140.0	89.90	359.20	7,208.8	4,038.0	662.1	4,091.2	3.12	-2.50	-1.88
11,172.0	89.30	359.20	7,209.1	4,069.9	661.6	4,122.8	1.88	-1.88	0.00
11,203.0	89.20	358.70	7,209.5	4,100.9	661.1	4,153.4	1.64	-0.32	-1.61
11,235.0	89.90	359.10	7,209.7	4,132.9	660.5	4,185.0	2.52	2.19	1.25
11,267.0	90.70	0.10	7,209.5	4,164.9	660.2	4,216.6	4.00	2.50	3.13
11,299.0	89.80	358.50	7,209.4	4,196.9	659.8	4,248.2	5.74	-2.81	-5.00
11,330.0	89.10	358.40	7,209.7	4,227.9	659.0	4,278.7	2.28	-2.26	-0.32
11,362.0	88.50	358.90	7,210.4	4,259.9	658.3	4,310.3	2.44	-1.88	1.56
11,394.0	88.20	359.20	7,211.3	4,291.9	657.7	4,341.9	1.33	-0.94	0.94
11,425.0	88.00	0.00	7,212.3	4,322.9	657.5	4,372.5	2.66	-0.65	2.58
11,457.0	88.10	0.80	7,213.4	4,354.8	657.7	4,404.2	2.52	0.31	2.50
11,489.0	89.00	2.20	7,214.2	4,386.8	658.6	4,435.9	5.20	2.81	4.38
11,520.0	89.20	2.20	7,214.7	4,417.8	659.8	4,466.8	0.65	0.65	0.00
11,552.0	90.20	2.90	7,214.9	4,449.8	661.2	4,498.6	3.81	3.13	2.19
11,584.0	90.90	2.60	7,214.6	4,481.7	662.7	4,530.4	2.38	2.19	-0.94
11,638.0	91.70	2.10	7,213.3	4,535.7	664.9	4,584.1	1.75	1.48	-0.93

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Dalton 24L-201
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Site:	Dalton SW-24L Pad Sec.24-T7N-R66W	MD Reference:	WELL @ 4895.0ft (RKB Ensign 32 - 15')
Well:	Dalton 24L-201	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,689.0	91.70	2.10	7,211.8	4,586.6	666.8	4,634.8	0.00	0.00	0.00
BHL 500'FNL & 1320'FWL									

Checked By: _____ Approved By: _____ Date: _____