

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Stonebraker 28U-234**

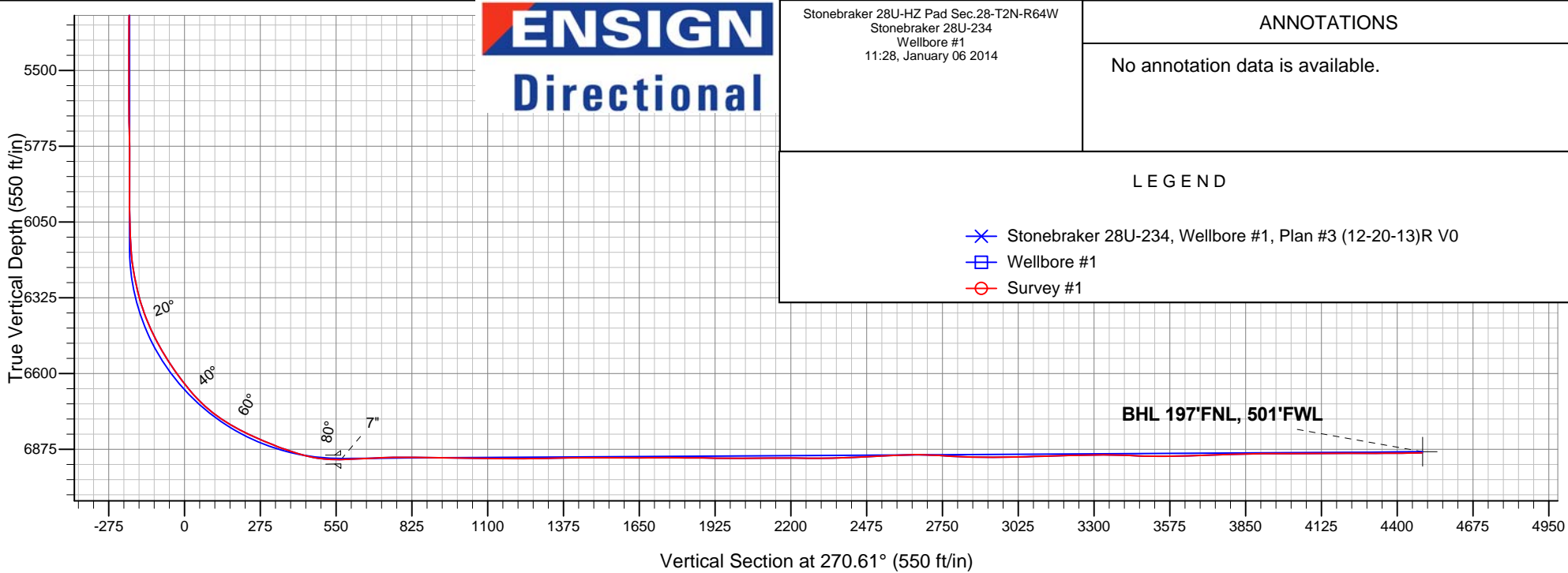
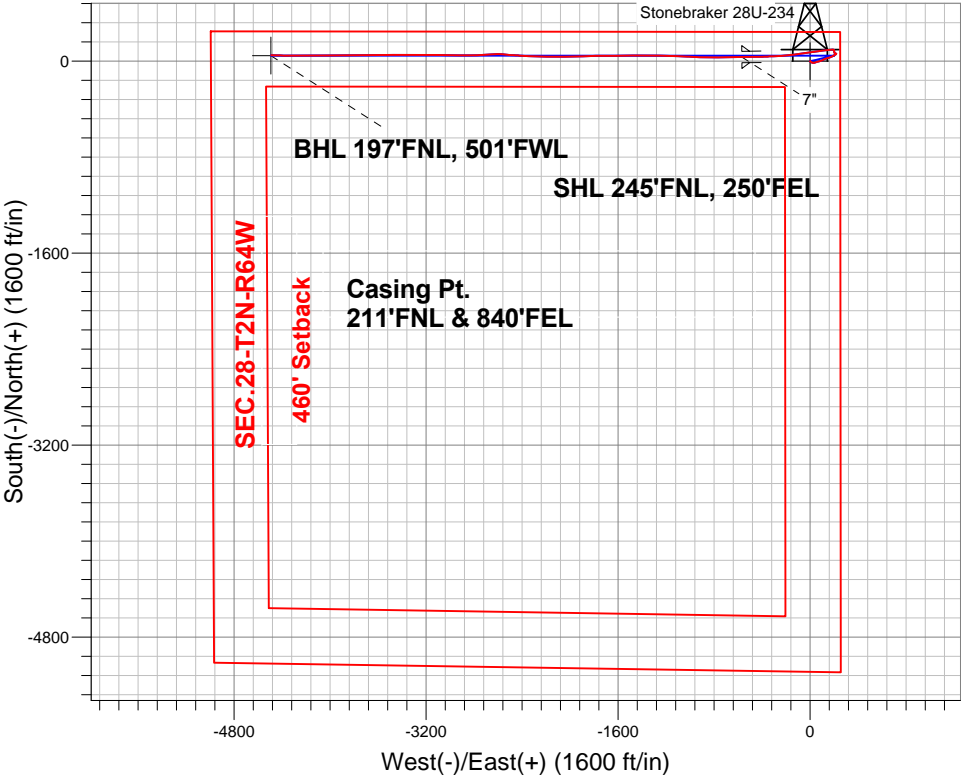
Surface Location: Stonebraker 28U-HZ Pad Sec.28-T2N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4963.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1286547.56	3266333.99	40.116040	-104.547690	
Ensign Rig #136 - RKB 12.5' WELL @ 4976ft (Ensign Rig #136 - RKB 13')						

FINAL SURVEY

Projected Bottom Hole Location
11275'MD 6888'TVD 51'N & 4491'W of SHL
91.1 degree Incl @ 272.2 degree AZM



Stonebraker 28U-HZ Pad Sec.28-T2N-R64W Stonebraker 28U-234 Wellbore #1 11:28, January 06 2014	ANNOTATIONS
	No annotation data is available.
LEGEND	
Stonebraker 28U-234, Wellbore #1, Plan #3 (12-20-13)R V0	
Wellbore #1	
Survey #1	



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.28-T2N-R64W

Stonebraker 28U-HZ Pad Sec.28-T2N-R64W

Stonebraker 28U-234

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 January, 2014

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Stonebraker 28U-234
Project:	SEC.28-T2N-R64W	TVD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Site:	Stonebraker 28U-HZ Pad Sec.28-T2N-R64W	MD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Well:	Stonebraker 28U-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.28-T2N-R64W, Weld County, Colorado		
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	Stonebraker 28U-HZ Pad Sec.28-T2N-R64W				
Site Position:		Northing:	1,286,551.22 ft	Latitude:	40.116050
From:	Lat/Long	Easting:	3,266,333.95 ft	Longitude:	-104.547690
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.62 °

Well	Stonebraker 28U-234					
Well Position	+N/-S	0.0 ft	Northing:	1,286,547.56 ft	Latitude:	40.116040
	+E/-W	0.0 ft	Easting:	3,266,333.99 ft	Longitude:	-104.547690
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,963.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/3/2013	8.39	66.77	52,744

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	270.61	

Survey Program	Date	1/6/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
45.0	11,275.0	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.01	147.40	1.0	0.0	0.0	0.0	0.67	0.67	0.00	
SHL 245°FNL, 250°FEL										
45.0	0.30	147.40	45.0	-0.1	0.1	-0.1	0.67	0.67	0.00	
135.0	0.40	96.80	135.0	-0.3	0.5	-0.5	0.35	0.11	-56.22	
225.0	0.70	131.30	225.0	-0.7	1.2	-1.2	0.48	0.33	38.33	
316.0	0.70	130.60	316.0	-1.5	2.1	-2.1	0.01	0.00	-0.77	
406.0	0.70	113.30	406.0	-2.0	3.0	-3.0	0.23	0.00	-19.22	
497.0	1.00	112.10	497.0	-2.6	4.2	-4.3	0.33	0.33	-1.32	
623.0	1.00	114.40	623.0	-3.4	6.3	-6.3	0.03	0.00	1.83	
718.0	1.80	130.40	717.9	-4.7	8.1	-8.2	0.93	0.84	16.84	
813.0	1.80	122.60	812.9	-6.5	10.5	-10.6	0.26	0.00	-8.21	

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Site:	Stonebraker 28U-HZ Pad Sec.28-T2N-R64W	MD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Well:	Stonebraker 28U-234	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)
909.0	1.50	139.00	908.8	-8.3	12.6	-12.7	0.58	-0.31	17.08
1,087.0	1.10	114.70	1,086.8	-10.7	15.7	-15.8	0.38	-0.22	-13.65
1,178.0	1.20	115.80	1,177.8	-11.5	17.4	-17.5	0.11	0.11	1.21
1,269.0	1.30	116.80	1,268.8	-12.4	19.1	-19.3	0.11	0.11	1.10
1,360.0	1.30	106.10	1,359.7	-13.2	21.1	-21.2	0.27	0.00	-11.76
1,450.0	1.10	116.70	1,449.7	-13.8	22.8	-23.0	0.33	-0.22	11.78
1,541.0	2.80	86.30	1,540.7	-14.1	25.8	-26.0	2.12	1.87	-33.41
1,632.0	4.00	77.50	1,631.5	-13.2	31.1	-31.3	1.43	1.32	-9.67
1,723.0	4.00	75.40	1,722.3	-11.8	37.3	-37.4	0.16	0.00	-2.31
1,814.0	4.70	72.20	1,813.0	-9.8	43.9	-44.0	0.81	0.77	-3.52
1,905.0	6.20	70.80	1,903.6	-7.1	52.1	-52.2	1.65	1.65	-1.54
1,995.0	7.40	75.50	1,993.0	-4.0	62.3	-62.4	1.47	1.33	5.22
2,086.0	7.20	74.50	2,083.2	-1.0	73.5	-73.5	0.26	-0.22	-1.10
2,177.0	7.80	75.20	2,173.4	2.1	84.9	-84.9	0.67	0.66	0.77
2,272.0	7.40	67.80	2,267.6	6.0	96.8	-96.8	1.11	-0.42	-7.79
2,367.0	6.10	60.80	2,362.0	10.8	106.9	-106.8	1.62	-1.37	-7.37
2,463.0	5.50	60.60	2,457.5	15.6	115.4	-115.2	0.63	-0.63	-0.21
2,558.0	6.20	68.50	2,552.0	19.7	124.1	-123.9	1.12	0.74	8.32
2,653.0	6.20	74.80	2,646.4	22.9	133.8	-133.6	0.72	0.00	6.63
2,748.0	7.30	74.70	2,740.8	25.8	144.6	-144.3	1.16	1.16	-0.11
2,843.0	8.60	74.10	2,834.8	29.4	157.3	-156.9	1.37	1.37	-0.63
2,939.0	9.30	66.90	2,929.7	34.4	171.3	-170.9	1.37	0.73	-7.50
3,034.0	8.00	65.50	3,023.6	40.1	184.4	-183.9	1.39	-1.37	-1.47
3,129.0	7.50	61.50	3,117.7	45.8	195.8	-195.3	0.77	-0.53	-4.21
3,224.0	6.20	59.90	3,212.0	51.4	205.7	-205.2	1.38	-1.37	-1.68
3,320.0	3.90	50.20	3,307.7	56.1	212.7	-212.1	2.55	-2.40	-10.10
3,415.0	1.90	33.90	3,402.5	59.4	216.1	-215.4	2.26	-2.11	-17.16
3,510.0	1.10	15.80	3,497.5	61.6	217.2	-216.5	0.97	-0.84	-19.05
3,605.0	0.60	14.20	3,592.5	63.0	217.6	-216.9	0.53	-0.53	-1.68
3,700.0	0.40	92.40	3,687.5	63.5	218.0	-217.3	0.68	-0.21	82.32
3,796.0	0.40	123.90	3,783.5	63.3	218.6	-218.0	0.23	0.00	32.81
3,891.0	0.40	152.00	3,878.5	62.8	219.1	-218.4	0.20	0.00	29.58
3,986.0	0.30	211.20	3,973.5	62.3	219.1	-218.4	0.38	-0.11	62.32
4,081.0	0.50	234.80	4,068.5	61.8	218.6	-218.0	0.27	0.21	24.84
4,176.0	0.40	233.40	4,163.5	61.4	218.0	-217.4	0.11	-0.11	-1.47
4,272.0	0.90	302.30	4,259.5	61.6	217.1	-216.5	0.88	0.52	71.77
4,367.0	1.20	302.30	4,354.5	62.5	215.7	-215.0	0.32	0.32	0.00
4,462.0	1.50	301.90	4,449.4	63.7	213.8	-213.1	0.32	0.32	-0.42
4,557.0	1.50	291.70	4,544.4	64.8	211.5	-210.8	0.28	0.00	-10.74
4,652.0	1.80	298.40	4,639.4	66.0	209.1	-208.4	0.37	0.32	7.05
4,748.0	1.10	306.90	4,735.3	67.3	207.0	-206.3	0.76	-0.73	8.85
4,843.0	1.50	305.10	4,830.3	68.5	205.3	-204.5	0.42	0.42	-1.89
4,938.0	2.00	334.80	4,925.3	70.7	203.5	-202.8	1.07	0.53	31.26
5,033.0	2.60	339.70	5,020.2	74.3	202.1	-201.3	0.66	0.63	5.16
5,129.0	1.50	340.30	5,116.1	77.5	200.9	-200.1	1.15	-1.15	0.63
5,224.0	1.00	38.10	5,211.1	79.3	201.0	-200.2	1.35	-0.53	60.84
5,319.0	1.10	28.80	5,306.1	80.8	202.0	-201.1	0.21	0.11	-9.79
5,414.0	1.10	12.40	5,401.1	82.4	202.6	-201.7	0.33	0.00	-17.26
5,510.0	1.00	353.40	5,497.1	84.2	202.7	-201.8	0.38	-0.10	-19.79
5,605.0	0.90	348.00	5,592.0	85.7	202.4	-201.5	0.14	-0.11	-5.68
5,700.0	1.10	335.70	5,687.0	87.3	201.9	-201.0	0.31	0.21	-12.95
5,795.0	1.10	343.30	5,782.0	89.0	201.3	-200.3	0.15	0.00	8.00
5,891.0	1.10	336.60	5,878.0	90.7	200.6	-199.7	0.13	0.00	-6.98
5,986.0	1.10	338.00	5,973.0	92.4	199.9	-198.9	0.03	0.00	1.47

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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)
6,049.0	1.20	329.00	6,036.0	93.5	199.4	-198.4	0.33	0.16	-14.29
6,081.0	1.20	325.30	6,068.0	94.1	199.0	-198.0	0.24	0.00	-11.56
6,113.0	2.10	299.70	6,099.9	94.7	198.3	-197.3	3.57	2.81	-80.00
6,144.0	3.60	287.20	6,130.9	95.2	196.9	-195.9	5.21	4.84	-40.32
6,176.0	5.50	282.10	6,162.8	95.9	194.4	-193.4	6.06	5.94	-15.94
6,208.0	7.20	279.40	6,194.6	96.5	191.0	-189.9	5.39	5.31	-8.44
6,240.0	9.10	274.20	6,226.3	97.0	186.5	-185.4	6.36	5.94	-16.25
6,271.0	11.30	270.70	6,256.8	97.2	181.0	-179.9	7.37	7.10	-11.29
6,303.0	13.00	265.60	6,288.1	97.0	174.2	-173.2	6.28	5.31	-15.94
6,335.0	15.20	264.00	6,319.1	96.3	166.5	-165.4	6.98	6.88	-5.00
6,367.0	17.70	263.30	6,349.8	95.3	157.5	-156.5	7.84	7.81	-2.19
6,398.0	20.00	262.70	6,379.1	94.0	147.5	-146.5	7.45	7.42	-1.94
6,430.0	22.20	262.40	6,409.0	92.6	136.1	-135.1	6.88	6.88	-0.94
6,462.0	24.50	262.20	6,438.4	90.9	123.5	-122.6	7.19	7.19	-0.63
6,494.0	26.90	261.00	6,467.2	88.8	109.8	-108.9	7.67	7.50	-3.75
6,525.0	29.20	262.60	6,494.5	86.7	95.4	-94.5	7.81	7.42	5.16
6,557.0	30.90	263.40	6,522.2	84.8	79.5	-78.6	5.46	5.31	2.50
6,589.0	32.40	264.30	6,549.5	83.0	62.8	-61.9	4.91	4.69	2.81
6,621.0	34.40	262.90	6,576.2	81.0	45.3	-44.4	6.70	6.25	-4.38
6,652.0	36.10	262.60	6,601.5	78.8	27.5	-26.7	5.51	5.48	-0.97
6,684.0	37.50	261.20	6,627.1	76.1	8.6	-7.8	5.10	4.38	-4.38
6,716.0	39.70	260.60	6,652.1	72.9	-11.1	11.9	6.97	6.88	-1.88
6,748.0	42.40	259.90	6,676.3	69.3	-31.8	32.6	8.56	8.44	-2.19
6,779.0	45.30	260.80	6,698.6	65.8	-53.0	53.7	9.57	9.35	2.90
6,811.0	48.50	261.20	6,720.5	62.1	-76.1	76.8	10.04	10.00	1.25
6,843.0	51.80	262.40	6,741.0	58.6	-100.4	101.0	10.71	10.31	3.75
6,875.0	54.90	264.70	6,760.1	55.7	-125.9	126.5	11.27	9.69	7.19
6,906.0	58.40	265.40	6,777.1	53.5	-151.7	152.3	11.45	11.29	2.26
6,938.0	61.60	265.60	6,793.1	51.3	-179.3	179.9	10.01	10.00	0.63
6,970.0	63.10	266.10	6,808.0	49.3	-207.6	208.1	4.89	4.69	1.56
7,002.0	63.90	265.60	6,822.3	47.2	-236.2	236.7	2.86	2.50	-1.56
7,033.0	66.10	265.40	6,835.4	45.0	-264.2	264.6	7.12	7.10	-0.65
7,065.0	67.70	265.90	6,847.9	42.8	-293.5	294.0	5.20	5.00	1.56
7,097.0	68.80	266.60	6,859.8	40.8	-323.2	323.6	3.99	3.44	2.19
7,129.0	70.00	267.80	6,871.0	39.4	-353.1	353.5	5.14	3.75	3.75
7,160.0	71.50	267.80	6,881.3	38.2	-382.3	382.7	4.84	4.84	0.00
7,192.0	73.40	268.90	6,890.9	37.4	-412.8	413.2	6.78	5.94	3.44
7,224.0	76.20	268.20	6,899.3	36.6	-443.7	444.1	9.00	8.75	-2.19
7,256.0	80.00	268.70	6,905.9	35.7	-475.0	475.4	11.97	11.88	1.56
7,307.0	87.50	269.20	6,911.4	34.8	-525.6	526.0	14.74	14.71	0.98
7,348.0	90.51	269.33	6,912.1	34.3	-566.6	567.0	7.35	7.34	0.31
7"									
7,371.0	92.20	269.40	6,911.6	34.0	-589.6	590.0	7.35	7.34	0.31
7,402.0	92.90	269.60	6,910.2	33.8	-620.6	620.9	2.35	2.26	0.65
7,432.0	93.00	270.10	6,908.7	33.7	-650.6	650.9	1.70	0.33	1.67
7,462.0	92.80	270.30	6,907.2	33.8	-680.5	680.8	0.94	-0.67	0.67
7,493.0	92.40	269.20	6,905.8	33.6	-711.5	711.8	3.77	-1.29	-3.55
7,523.0	91.70	269.60	6,904.7	33.3	-741.5	741.8	2.69	-2.33	1.33
7,553.0	90.70	268.90	6,904.1	32.9	-771.5	771.8	4.07	-3.33	-2.33
7,583.0	89.90	268.50	6,903.9	32.3	-801.4	801.7	2.98	-2.67	-1.33
7,615.0	89.30	269.20	6,904.1	31.6	-833.4	833.7	2.88	-1.88	2.19
7,647.0	88.80	271.00	6,904.7	31.7	-865.4	865.7	5.84	-1.56	5.63
7,679.0	89.20	272.60	6,905.2	32.7	-897.4	897.7	5.15	1.25	5.00

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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)
7,710.0	89.80	273.50	6,905.5	34.3	-928.4	928.7	3.49	1.94	2.90
7,742.0	89.60	273.50	6,905.6	36.3	-960.3	960.6	0.63	-0.63	0.00
7,774.0	88.80	272.80	6,906.1	38.0	-992.3	992.6	3.32	-2.50	-2.19
7,805.0	88.30	271.70	6,906.9	39.3	-1,023.2	1,023.6	3.90	-1.61	-3.55
7,837.0	88.30	271.50	6,907.8	40.1	-1,055.2	1,055.6	0.62	0.00	-0.63
7,869.0	89.10	271.70	6,908.6	41.0	-1,087.2	1,087.5	2.58	2.50	0.63
7,901.0	89.90	271.70	6,908.8	42.0	-1,119.2	1,119.5	2.50	2.50	0.00
7,932.0	90.20	272.20	6,908.8	43.0	-1,150.1	1,150.5	1.88	0.97	1.61
7,964.0	90.30	271.70	6,908.7	44.1	-1,182.1	1,182.5	1.59	0.31	-1.56
7,996.0	89.90	271.20	6,908.6	44.9	-1,214.1	1,214.5	2.00	-1.25	-1.56
8,028.0	90.30	271.20	6,908.6	45.6	-1,246.1	1,246.5	1.25	1.25	0.00
8,059.0	90.70	271.70	6,908.3	46.4	-1,277.1	1,277.5	2.07	1.29	1.61
8,091.0	91.20	271.70	6,907.8	47.3	-1,309.1	1,309.5	1.56	1.56	0.00
8,123.0	92.00	271.50	6,906.9	48.2	-1,341.0	1,341.5	2.58	2.50	-0.63
8,155.0	91.10	270.50	6,906.0	48.8	-1,373.0	1,373.5	4.20	-2.81	-3.13
8,186.0	90.50	269.40	6,905.6	48.8	-1,404.0	1,404.5	4.04	-1.94	-3.55
8,218.0	90.00	268.20	6,905.4	48.1	-1,436.0	1,436.4	4.06	-1.56	-3.75
8,250.0	89.30	267.80	6,905.6	47.0	-1,468.0	1,468.4	2.52	-2.19	-1.25
8,282.0	89.60	269.10	6,905.9	46.1	-1,500.0	1,500.4	4.17	0.94	4.06
8,313.0	90.10	270.70	6,906.0	46.1	-1,531.0	1,531.4	5.41	1.61	5.16
8,345.0	89.80	269.80	6,906.0	46.2	-1,563.0	1,563.4	2.96	-0.94	-2.81
8,377.0	90.00	269.60	6,906.1	46.0	-1,595.0	1,595.4	0.88	0.63	-0.63
8,409.0	90.60	270.00	6,905.9	45.9	-1,627.0	1,627.4	2.25	1.88	1.25
8,439.0	90.80	270.50	6,905.6	46.1	-1,657.0	1,657.4	1.79	0.67	1.67
8,472.0	90.40	269.60	6,905.2	46.1	-1,690.0	1,690.4	2.98	-1.21	-2.73
8,504.0	90.10	269.60	6,905.1	45.9	-1,722.0	1,722.4	0.94	-0.94	0.00
8,536.0	89.30	269.20	6,905.2	45.5	-1,754.0	1,754.4	2.80	-2.50	-1.25
8,567.0	89.00	268.50	6,905.7	44.9	-1,785.0	1,785.3	2.46	-0.97	-2.26
8,599.0	89.50	268.50	6,906.1	44.1	-1,816.9	1,817.3	1.56	1.56	0.00
8,631.0	89.60	268.40	6,906.4	43.2	-1,848.9	1,849.3	0.44	0.31	-0.31
8,663.0	89.80	267.80	6,906.5	42.1	-1,880.9	1,881.3	1.98	0.63	-1.88
8,694.0	89.30	268.20	6,906.8	41.1	-1,911.9	1,912.2	2.07	-1.61	1.29
8,726.0	89.40	268.00	6,907.1	40.0	-1,943.9	1,944.2	0.70	0.31	-0.63
8,758.0	90.00	268.20	6,907.3	38.9	-1,975.9	1,976.2	1.98	1.88	0.63
8,790.0	89.80	268.70	6,907.4	38.1	-2,007.8	2,008.1	1.68	-0.63	1.56
8,821.0	90.00	269.40	6,907.4	37.6	-2,038.8	2,039.1	2.35	0.65	2.26
8,853.0	90.30	270.10	6,907.3	37.4	-2,070.8	2,071.1	2.38	0.94	2.19
8,885.0	90.70	271.40	6,907.1	37.8	-2,102.8	2,103.1	4.25	1.25	4.06
8,917.0	90.60	271.00	6,906.7	38.5	-2,134.8	2,135.1	1.29	-0.31	-1.25
8,948.0	90.00	270.70	6,906.5	39.0	-2,165.8	2,166.1	2.16	-1.94	-0.97
8,980.0	89.40	270.10	6,906.7	39.2	-2,197.8	2,198.1	2.65	-1.88	-1.88
9,012.0	89.30	270.30	6,907.1	39.3	-2,229.8	2,230.1	0.70	-0.31	0.63
9,044.0	89.50	271.20	6,907.4	39.7	-2,261.8	2,262.1	2.88	0.63	2.81
9,075.0	90.00	272.10	6,907.5	40.6	-2,292.8	2,293.1	3.32	1.61	2.90
9,107.0	91.00	273.80	6,907.3	42.3	-2,324.8	2,325.1	6.16	3.13	5.31
9,139.0	91.50	273.80	6,906.6	44.4	-2,356.7	2,357.0	1.56	1.56	0.00
9,170.0	92.00	272.20	6,905.6	46.0	-2,387.6	2,388.0	5.41	1.61	-5.16
9,202.0	92.60	272.10	6,904.3	47.2	-2,419.6	2,419.9	1.90	1.88	-0.31
9,233.0	92.40	273.30	6,903.0	48.7	-2,450.5	2,450.9	3.92	-0.65	3.87
9,265.0	92.40	274.50	6,901.6	50.8	-2,482.4	2,482.8	3.75	0.00	3.75
9,297.0	92.50	275.20	6,900.3	53.5	-2,514.3	2,514.7	2.21	0.31	2.19
9,329.0	92.90	275.40	6,898.8	56.5	-2,546.1	2,546.5	1.40	1.25	0.63
9,360.0	93.30	273.30	6,897.1	58.8	-2,576.9	2,577.4	6.89	1.29	-6.77

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Stonebraker 28U-234
Project:	SEC.28-T2N-R64W	TVD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Site:	Stonebraker 28U-HZ Pad Sec.28-T2N-R64W	MD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Well:	Stonebraker 28U-234	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)
9,392.0	92.60	268.20	6,895.4	59.3	-2,608.9	2,609.4	16.07	-2.19	-15.94
9,424.0	90.90	267.00	6,894.5	57.9	-2,640.8	2,641.3	6.50	-5.31	-3.75
9,456.0	88.70	266.30	6,894.6	56.0	-2,672.8	2,673.2	7.21	-6.88	-2.19
9,487.0	87.40	266.80	6,895.6	54.2	-2,703.7	2,704.1	4.49	-4.19	1.61
9,519.0	87.00	267.00	6,897.2	52.5	-2,735.6	2,736.0	1.40	-1.25	0.63
9,551.0	87.00	267.50	6,898.9	50.9	-2,767.6	2,767.9	1.56	0.00	1.56
9,583.0	86.90	268.40	6,900.6	49.8	-2,799.5	2,799.9	2.83	-0.31	2.81
9,615.0	87.30	268.40	6,902.2	48.9	-2,831.4	2,831.8	1.25	1.25	0.00
9,646.0	88.50	269.20	6,903.3	48.2	-2,862.4	2,862.8	4.65	3.87	2.58
9,678.0	89.60	270.00	6,903.8	48.0	-2,894.4	2,894.7	4.25	3.44	2.50
9,710.0	90.40	271.50	6,903.8	48.4	-2,926.4	2,926.7	5.31	2.50	4.69
9,741.0	90.90	271.20	6,903.5	49.2	-2,957.4	2,957.7	1.88	1.61	-0.97
9,773.0	91.30	271.70	6,902.9	50.0	-2,989.4	2,989.7	2.00	1.25	1.56
9,805.0	91.00	271.40	6,902.2	50.8	-3,021.3	3,021.7	1.33	-0.94	-0.94
9,837.0	91.00	271.00	6,901.7	51.5	-3,053.3	3,053.7	1.25	0.00	-1.25
9,869.0	91.40	271.20	6,901.0	52.1	-3,085.3	3,085.7	1.40	1.25	0.63
9,900.0	91.50	271.20	6,900.2	52.8	-3,116.3	3,116.7	0.32	0.32	0.00
9,932.0	91.40	270.50	6,899.4	53.2	-3,148.3	3,148.7	2.21	-0.31	-2.19
9,964.0	91.60	270.00	6,898.6	53.4	-3,180.3	3,180.7	1.68	0.63	-1.56
9,995.0	91.90	270.30	6,897.6	53.5	-3,211.3	3,211.7	1.37	0.97	0.97
10,027.0	92.00	270.70	6,896.5	53.7	-3,243.2	3,243.6	1.29	0.31	1.25
10,059.0	91.80	270.10	6,895.5	54.0	-3,275.2	3,275.6	1.98	-0.63	-1.88
10,091.0	90.00	269.40	6,895.0	53.8	-3,307.2	3,307.6	6.04	-5.63	-2.19
10,122.0	89.30	269.10	6,895.2	53.4	-3,338.2	3,338.6	2.46	-2.26	-0.97
10,154.0	88.00	268.40	6,895.9	52.7	-3,370.2	3,370.6	4.61	-4.06	-2.19
10,186.0	88.00	268.70	6,897.0	51.9	-3,402.2	3,402.5	0.94	0.00	0.94
10,218.0	87.80	268.50	6,898.2	51.1	-3,434.1	3,434.5	0.88	-0.63	-0.63
10,249.0	88.30	269.60	6,899.3	50.6	-3,465.1	3,465.5	3.90	1.61	3.55
10,281.0	89.30	270.10	6,899.9	50.5	-3,497.1	3,497.4	3.49	3.13	1.56
10,313.0	89.60	270.30	6,900.2	50.6	-3,529.1	3,529.4	1.13	0.94	0.63
10,345.0	90.10	270.70	6,900.3	50.9	-3,561.1	3,561.4	2.00	1.56	1.25
10,376.0	91.10	271.40	6,900.0	51.5	-3,592.1	3,592.4	3.94	3.23	2.26
10,408.0	91.60	271.40	6,899.3	52.3	-3,624.1	3,624.4	1.56	1.56	0.00
10,440.0	92.00	271.00	6,898.2	52.9	-3,656.1	3,656.4	1.77	1.25	-1.25
10,472.0	92.20	270.30	6,897.1	53.3	-3,688.0	3,688.4	2.27	0.63	-2.19
10,503.0	92.50	269.80	6,895.8	53.3	-3,719.0	3,719.4	1.88	0.97	-1.61
10,535.0	92.00	269.20	6,894.5	53.1	-3,751.0	3,751.3	2.44	-1.56	-1.88
10,567.0	90.70	268.70	6,893.8	52.5	-3,783.0	3,783.3	4.35	-4.06	-1.56
10,599.0	91.50	268.90	6,893.2	51.8	-3,815.0	3,815.3	2.58	2.50	0.63
10,630.0	91.90	267.80	6,892.3	50.9	-3,845.9	3,846.3	3.77	1.29	-3.55
10,662.0	91.70	269.40	6,891.3	50.1	-3,877.9	3,878.2	5.04	-0.63	5.00
10,694.0	90.70	269.10	6,890.6	49.7	-3,909.9	3,910.2	3.26	-3.13	-0.94
10,726.0	90.30	269.10	6,890.3	49.2	-3,941.9	3,942.2	1.25	-1.25	0.00
10,757.0	90.10	268.90	6,890.2	48.7	-3,972.9	3,973.2	0.91	-0.65	-0.65
10,789.0	90.00	268.90	6,890.2	48.1	-4,004.9	4,005.2	0.31	-0.31	0.00
10,821.0	90.10	269.20	6,890.1	47.5	-4,036.9	4,037.1	0.99	0.31	0.94
10,853.0	90.20	269.20	6,890.1	47.1	-4,068.9	4,069.1	0.31	0.31	0.00
10,884.0	90.40	269.40	6,889.9	46.7	-4,099.9	4,100.1	0.91	0.65	0.65
10,916.0	90.10	269.20	6,889.8	46.3	-4,131.9	4,132.1	1.13	-0.94	-0.63
10,948.0	90.00	269.20	6,889.7	45.9	-4,163.9	4,164.1	0.31	-0.31	0.00
10,980.0	89.90	269.10	6,889.8	45.4	-4,195.9	4,196.1	0.44	-0.31	-0.31
11,011.0	90.00	269.60	6,889.8	45.0	-4,226.9	4,227.1	1.64	0.32	1.61
11,043.0	89.70	269.80	6,889.9	44.9	-4,258.9	4,259.1	1.13	-0.94	0.63
11,078.0	90.20	270.30	6,889.9	44.9	-4,293.9	4,294.1	2.02	1.43	1.43

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Stonebraker 28U-234
Project:	SEC.28-T2N-R64W	TVD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Site:	Stonebraker 28U-HZ Pad Sec.28-T2N-R64W	MD Reference:	WELL @ 4975.5ft (Ensign Rig #136 - RKB 12.5')
Well:	Stonebraker 28U-234	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)
11,107.0	90.80	271.20	6,889.6	45.3	-4,322.8	4,323.1	3.73	2.07	3.10
11,138.0	90.50	271.90	6,889.3	46.1	-4,353.8	4,354.1	2.46	-0.97	2.26
11,170.0	90.10	271.70	6,889.1	47.1	-4,385.8	4,386.1	1.40	-1.25	-0.63
11,202.0	90.50	271.90	6,889.0	48.1	-4,417.8	4,418.1	1.40	1.25	0.63
11,220.0	91.10	272.20	6,888.7	48.8	-4,435.8	4,436.1	3.73	3.33	1.67
11,275.0	91.10	272.20	6,887.6	50.9	-4,490.7	4,491.0	0.00	0.00	0.00
BHL 200'FNL, 500'FWL									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,348.0	6,912.1	7"	7	7-1/2

Checked By: _____ Approved By: _____ Date: _____