

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: Schaefer 10J-203

Surface Location: Schaefer Pad Sec.10-T6N-R63W
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4697.0

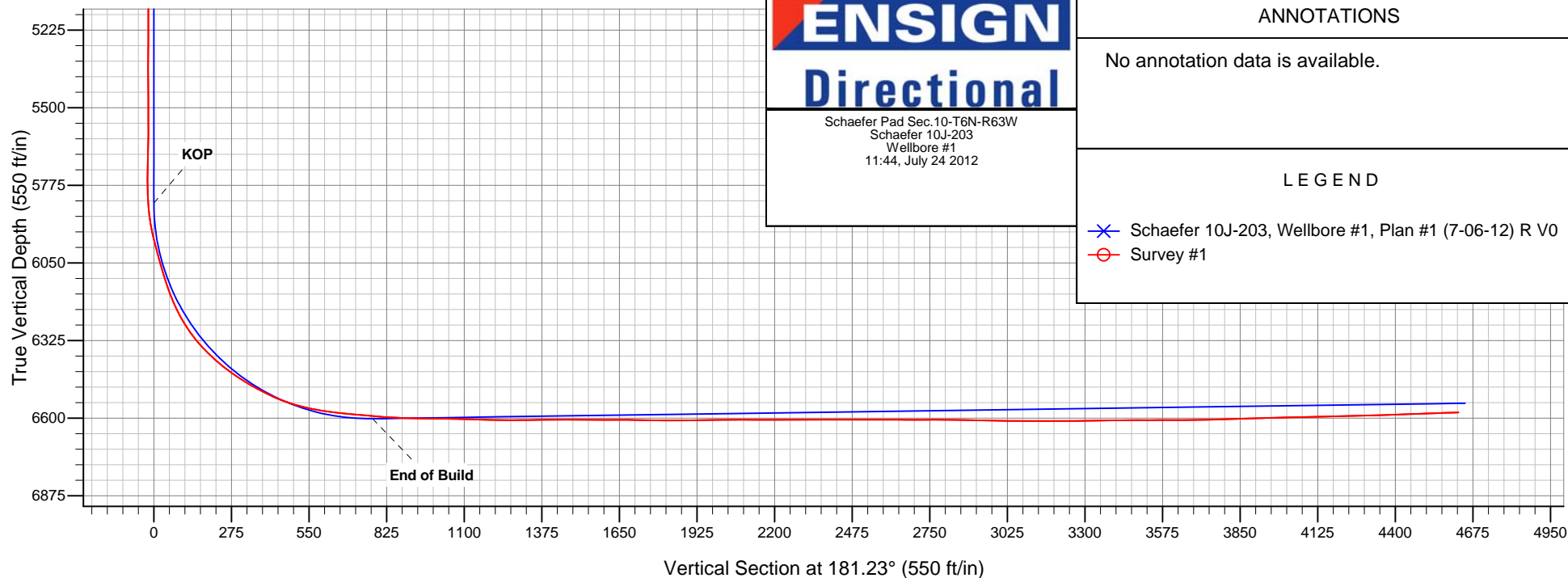
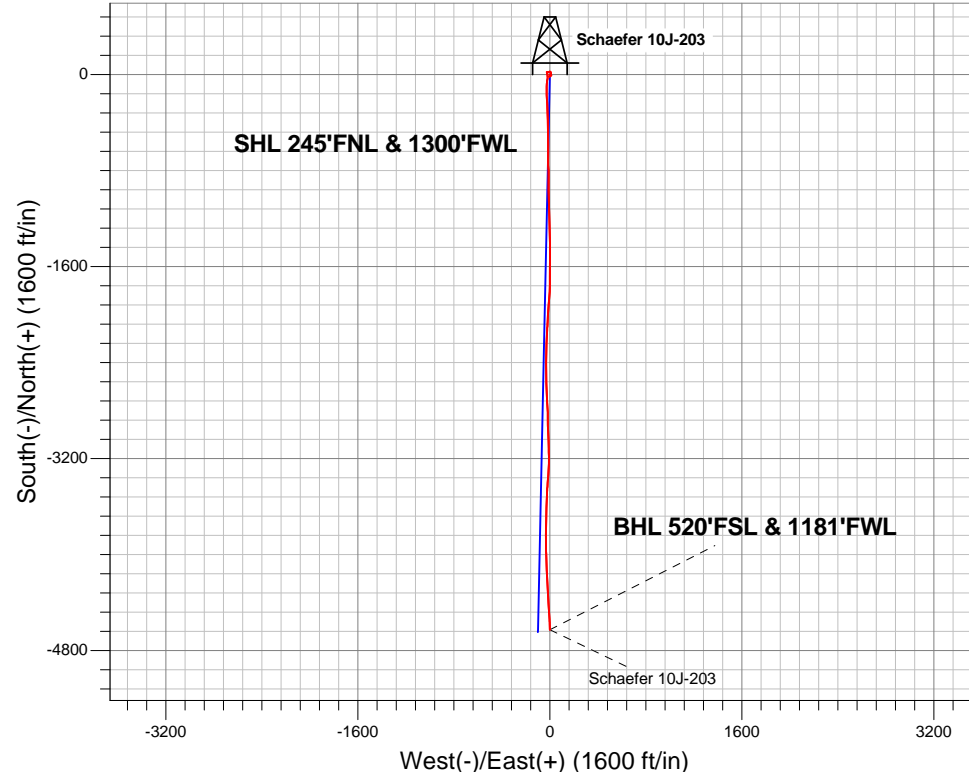
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1429711.98	3298213.62	40.508010	-104.427520	

RKB Ensign 32 - 15' WELL @ 4712.0ft (RKB Ensign 32 - 15')

FINAL SURVEY

Projected Bottom Hole Location
10917' MD 6579' TVD 4625' S & 1' E of SHL

92.20 degree Incl @ 177.70 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.10-T6N-R63W

Schaefer Pad Sec.10-T6N-R63W

Schaefer 10J-203

Wellbore #1

Survey: Survey #1

Standard Survey Report

24 July, 2012

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Schaefer 10J-203
Project:	SEC.10-T6N-R63W	TVD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Site:	Schaefer Pad Sec.10-T6N-R63W	MD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Well:	Schaefer 10J-203	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.10-T6N-R63W, 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		Schaefer Pad Sec.10-T6N-R63W			
Site Position:		Northing:	1,429,803.09ft	Latitude:	40.508260
From:	Lat/Long	Easting:	3,298,215.30ft	Longitude:	-104.427510
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.69 °

Well	Schaefer 10J-203					
Well Position	+N-S	0.0 ft	Northing:	1,429,711.98 ft	Latitude:	40.508010
	+E-W	0.0 ft	Easting:	3,298,213.62 ft	Longitude:	-104.427520
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,697.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/6/2012	8.55	67.16	53,113

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	181.23	

Survey Program	Date 7/24/2012				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
118.0	10,917.0	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	
SECTION LINE 245°N OF SHL										
1.0	0.01	141.00	1.0	0.0	0.0	0.0	0.51	0.51	0.00	
HARD LINE SHL 460°FNL										
19.1	0.10	141.00	19.1	0.0	0.0	0.0	0.51	0.51	0.00	
HARD LINE BHL 460°FSL										
118.0	0.60	141.00	118.0	-0.5	0.4	0.5	0.51	0.51	0.00	
210.0	0.30	120.50	210.0	-1.0	0.9	1.0	0.37	-0.33	-22.28	
302.0	0.10	122.80	302.0	-1.1	1.2	1.1	0.22	-0.22	2.50	
393.0	0.20	125.20	393.0	-1.3	1.4	1.2	0.11	0.11	2.64	
485.0	0.20	127.70	485.0	-1.5	1.6	1.4	0.01	0.00	2.72	
577.0	0.10	196.30	577.0	-1.6	1.7	1.6	0.20	-0.11	74.57	

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Site:	Schaefer Pad Sec.10-T6N-R63W	MD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Well:	Schaefer 10J-203	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)
669.0	0.40	218.00	669.0	-2.0	1.5	1.9	0.34	0.33	23.59
761.0	0.50	171.60	761.0	-2.6	1.4	2.6	0.40	0.11	-50.43
853.0	0.50	104.90	853.0	-3.1	1.8	3.1	0.60	0.00	-72.50
954.0	0.80	192.60	954.0	-3.9	2.1	3.9	0.92	0.30	86.83
1,050.0	0.90	197.60	1,050.0	-5.3	1.7	5.3	0.13	0.10	5.21
1,146.0	0.70	177.40	1,146.0	-6.6	1.5	6.6	0.36	-0.21	-21.04
1,242.0	1.00	181.60	1,242.0	-8.0	1.5	8.0	0.32	0.31	4.38
1,337.0	1.00	188.20	1,336.9	-9.7	1.4	9.6	0.12	0.00	6.95
1,433.0	1.10	206.10	1,432.9	-11.3	0.9	11.3	0.36	0.10	18.65
1,529.0	1.10	207.70	1,528.9	-13.0	0.0	13.0	0.03	0.00	1.67
1,625.0	0.70	214.80	1,624.9	-14.3	-0.7	14.3	0.43	-0.42	7.40
1,721.0	0.70	357.40	1,720.9	-14.2	-1.1	14.2	1.38	0.00	148.54
1,817.0	0.70	357.40	1,816.9	-13.0	-1.2	13.0	0.00	0.00	0.00
1,913.0	0.70	356.40	1,912.9	-11.8	-1.2	11.8	0.01	0.00	-1.04
2,008.0	0.60	84.90	2,007.9	-11.2	-0.8	11.2	0.96	-0.11	93.16
2,104.0	0.70	43.20	2,103.9	-10.7	0.1	10.7	0.49	0.10	-43.44
2,200.0	1.00	61.80	2,199.9	-9.9	1.3	9.9	0.42	0.31	19.38
2,296.0	1.20	64.20	2,295.8	-9.1	2.9	9.0	0.21	0.21	2.50
2,392.0	1.50	79.00	2,391.8	-8.4	5.1	8.3	0.48	0.31	15.42
2,487.0	1.50	81.30	2,486.8	-8.0	7.5	7.8	0.06	0.00	2.42
2,582.0	1.00	90.90	2,581.8	-7.8	9.6	7.6	0.57	-0.53	10.11
2,678.0	0.50	69.10	2,677.7	-7.7	10.8	7.4	0.59	-0.52	-22.71
2,774.0	1.10	346.20	2,773.7	-6.6	11.0	6.4	1.20	0.63	-86.35
2,869.0	1.30	348.10	2,868.7	-4.7	10.5	4.4	0.21	0.21	2.00
2,964.0	1.40	348.80	2,963.7	-2.5	10.1	2.3	0.11	0.11	0.74
3,060.0	1.50	357.00	3,059.7	-0.1	9.8	-0.1	0.24	0.10	8.54
3,155.0	1.40	8.20	3,154.6	2.3	9.9	-2.5	0.32	-0.11	11.79
3,251.0	1.30	10.50	3,250.6	4.5	10.3	-4.8	0.12	-0.10	2.40
3,347.0	1.10	11.80	3,346.6	6.5	10.6	-6.7	0.21	-0.21	1.35
3,443.0	1.50	349.00	3,442.6	8.7	10.6	-8.9	0.67	0.42	-23.75
3,539.0	1.30	336.80	3,538.5	10.9	9.9	-11.1	0.37	-0.21	-12.71
3,635.0	1.70	351.50	3,634.5	13.3	9.3	-13.5	0.57	0.42	15.31
3,731.0	1.90	351.10	3,730.5	16.3	8.8	-16.5	0.21	0.21	-0.42
3,827.0	2.10	338.80	3,826.4	19.5	7.9	-19.7	0.49	0.21	-12.81
3,923.0	1.50	322.80	3,922.3	22.1	6.5	-22.3	0.81	-0.63	-16.67
4,020.0	1.50	294.80	4,019.3	23.7	4.6	-23.8	0.75	0.00	-28.87
4,116.0	1.50	288.70	4,115.3	24.6	2.3	-24.6	0.17	0.00	-6.35
4,212.0	1.50	261.60	4,211.2	24.8	-0.1	-24.8	0.73	0.00	-28.23
4,307.0	1.60	250.10	4,306.2	24.2	-2.6	-24.1	0.34	0.11	-12.11
4,403.0	1.80	260.90	4,402.2	23.5	-5.4	-23.4	0.39	0.21	11.25
4,499.0	1.50	248.50	4,498.1	22.8	-8.0	-22.6	0.48	-0.31	-12.92
4,595.0	1.30	248.30	4,594.1	21.9	-10.2	-21.7	0.21	-0.21	-0.21
4,690.0	1.30	255.70	4,689.1	21.3	-12.2	-21.0	0.18	0.00	7.79
4,786.0	1.10	261.10	4,785.1	20.9	-14.2	-20.5	0.24	-0.21	5.63
4,882.0	1.00	262.60	4,881.0	20.6	-16.0	-20.3	0.11	-0.10	1.56
4,978.0	1.20	262.80	4,977.0	20.4	-17.8	-20.0	0.21	0.21	0.21
5,073.0	1.10	278.30	5,072.0	20.4	-19.7	-20.0	0.34	-0.11	16.32
5,169.0	0.90	265.10	5,168.0	20.4	-21.3	-20.0	0.32	-0.21	-13.75
5,265.0	0.60	267.50	5,264.0	20.4	-22.6	-19.9	0.31	-0.31	2.50
5,361.0	0.70	299.20	5,360.0	20.6	-23.6	-20.1	0.38	0.10	33.02
5,456.0	0.90	150.50	5,455.0	20.3	-23.7	-19.7	1.62	0.21	-156.53
5,551.0	0.80	318.90	5,550.0	20.1	-23.8	-19.6	1.78	-0.11	177.26
5,647.0	0.80	339.10	5,646.0	21.2	-24.5	-20.7	0.29	0.00	21.04

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5,743.0	0.90	321.20	5,741.9	22.5	-25.2	-21.9	0.29	0.10	-18.65
5,758.0	0.40	323.20	5,756.9	22.6	-25.3	-22.0	3.34	-3.33	13.33
5,790.0	0.60	204.10	5,788.9	22.5	-25.4	-22.0	2.71	0.63	-372.19
5,821.0	2.10	179.00	5,819.9	21.8	-25.5	-21.3	5.09	4.84	-80.97
5,853.0	4.90	168.60	5,851.9	19.9	-25.2	-19.3	8.94	8.75	-32.50
5,884.0	7.60	167.80	5,882.7	16.6	-24.5	-16.0	8.71	8.71	-2.58
5,916.0	10.20	167.40	5,914.3	11.7	-23.5	-11.2	8.13	8.13	-1.25
5,948.0	12.70	168.00	5,945.7	5.5	-22.1	-5.1	7.82	7.81	1.88
5,980.0	14.80	172.20	5,976.7	-2.0	-20.8	2.4	7.26	6.56	13.13
6,011.0	14.70	176.20	6,006.7	-9.8	-20.0	10.2	3.30	-0.32	12.90
6,044.0	15.90	175.90	6,038.6	-18.5	-19.4	18.9	3.64	3.64	-0.91
6,075.0	16.90	185.20	6,068.3	-27.2	-19.5	27.6	9.05	3.23	30.00
6,107.0	17.00	187.20	6,098.9	-36.5	-20.5	36.9	1.85	0.31	6.25
6,139.0	18.50	186.50	6,129.4	-46.2	-21.7	46.6	4.73	4.69	-2.19
6,170.0	20.70	187.40	6,158.6	-56.5	-23.0	57.0	7.16	7.10	2.90
6,202.0	23.40	186.50	6,188.2	-68.4	-24.4	68.9	8.50	8.44	-2.81
6,234.0	26.20	184.70	6,217.3	-81.8	-25.7	82.3	9.06	8.75	-5.63
6,266.0	29.20	183.20	6,245.6	-96.6	-26.7	97.2	9.62	9.38	-4.69
6,297.0	32.40	180.60	6,272.2	-112.5	-27.2	113.0	11.18	10.32	-8.39
6,329.0	35.80	179.30	6,298.7	-130.4	-27.2	131.0	10.87	10.63	-4.06
6,361.0	39.40	179.00	6,324.1	-149.9	-26.9	150.5	11.26	11.25	-0.94
6,393.0	43.00	178.70	6,348.2	-171.0	-26.5	171.5	11.27	11.25	-0.94
6,425.0	45.60	178.70	6,371.1	-193.3	-26.0	193.9	8.13	8.13	0.00
6,457.0	48.30	177.40	6,392.9	-216.7	-25.2	217.2	8.94	8.44	-4.06
6,489.0	50.80	176.40	6,413.7	-241.0	-23.9	241.5	8.17	7.81	-3.13
6,520.0	53.70	175.50	6,432.6	-265.5	-22.1	265.9	9.63	9.35	-2.90
6,552.0	56.00	177.50	6,451.1	-291.6	-20.5	292.0	8.82	7.19	6.25
6,584.0	58.60	178.50	6,468.3	-318.5	-19.6	318.8	8.54	8.13	3.13
6,616.0	60.10	177.70	6,484.7	-346.0	-18.7	346.3	5.16	4.69	-2.50
6,648.0	62.40	177.60	6,500.1	-374.0	-17.5	374.3	7.19	7.19	-0.31
6,681.0	63.90	178.50	6,515.0	-403.5	-16.5	403.7	5.16	4.55	2.73
6,712.0	67.00	177.70	6,527.8	-431.6	-15.6	431.9	10.27	10.00	-2.58
6,744.0	69.80	178.20	6,539.6	-461.4	-14.5	461.6	8.87	8.75	1.56
6,776.0	73.00	179.40	6,549.8	-491.7	-13.9	491.9	10.61	10.00	3.75
6,808.0	75.50	180.70	6,558.5	-522.5	-13.9	522.7	8.74	7.81	4.06
6,840.0	77.90	181.60	6,565.9	-553.6	-14.6	553.8	7.98	7.50	2.81
6,872.0	80.40	181.00	6,571.9	-585.0	-15.3	585.2	8.03	7.81	-1.88
6,903.0	82.90	180.20	6,576.4	-615.7	-15.6	615.9	8.46	8.06	-2.58
6,935.0	83.80	180.20	6,580.1	-647.5	-15.7	647.7	2.81	2.81	0.00
6,967.0	84.30	178.60	6,583.4	-679.3	-15.4	679.5	5.21	1.56	-5.00
7,014.0	84.30	178.60	6,588.1	-726.1	-14.2	726.2	0.00	0.00	0.00
7,043.0	85.20	178.10	6,590.7	-754.9	-13.4	755.0	3.55	3.10	-1.72
7,075.0	85.00	177.30	6,593.5	-786.8	-12.1	786.9	2.57	-0.63	-2.50
7,107.0	86.10	179.70	6,596.0	-818.7	-11.3	818.7	8.23	3.44	7.50
7,139.0	86.60	180.40	6,598.0	-850.6	-11.3	850.6	2.68	1.56	2.19
7,171.0	87.50	179.40	6,599.6	-882.6	-11.2	882.6	4.20	2.81	-3.13
7,203.0	88.80	180.00	6,600.7	-914.5	-11.1	914.6	4.47	4.06	1.88
7,235.0	89.40	180.20	6,601.2	-946.5	-11.1	946.6	1.98	1.88	0.63
7,266.0	89.30	177.60	6,601.5	-977.5	-10.5	977.5	8.39	-0.32	-8.39
7,299.0	89.30	177.80	6,601.9	-1,010.5	-9.2	1,010.5	0.61	0.00	0.61
7,331.0	89.10	179.00	6,602.4	-1,042.5	-8.3	1,042.4	3.80	-0.63	3.75
7,363.0	88.90	178.90	6,602.9	-1,074.5	-7.7	1,074.4	0.70	-0.63	-0.31
7,395.0	88.30	179.20	6,603.7	-1,106.5	-7.2	1,106.4	2.10	-1.88	0.94

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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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)
7,427.0	88.30	179.20	6,604.7	-1,138.4	-6.8	1,138.3	0.00	0.00	0.00
7,459.0	88.00	176.30	6,605.7	-1,170.4	-5.5	1,170.2	9.11	-0.94	-9.06
7,491.0	89.10	179.30	6,606.5	-1,202.4	-4.3	1,202.2	9.98	3.44	9.38
7,523.0	89.60	179.30	6,606.9	-1,234.4	-3.9	1,234.1	1.56	1.56	0.00
7,555.0	90.10	178.40	6,607.0	-1,266.3	-3.2	1,266.1	3.22	1.56	-2.81
7,587.0	90.50	177.80	6,606.8	-1,298.3	-2.2	1,298.1	2.25	1.25	-1.88
7,619.0	90.70	178.00	6,606.5	-1,330.3	-1.0	1,330.0	0.88	0.63	0.63
7,651.0	90.70	177.80	6,606.1	-1,362.3	0.2	1,362.0	0.62	0.00	-0.63
7,683.0	90.50	178.20	6,605.7	-1,394.3	1.3	1,393.9	1.40	-0.63	1.25
7,714.0	90.20	179.00	6,605.5	-1,425.2	2.0	1,424.9	2.76	-0.97	2.58
7,746.0	89.80	179.40	6,605.5	-1,457.2	2.5	1,456.9	1.77	-1.25	1.25
7,778.0	89.50	182.20	6,605.7	-1,489.2	2.0	1,488.8	8.80	-0.94	8.75
7,810.0	89.50	180.50	6,606.0	-1,521.2	1.3	1,520.8	5.31	0.00	-5.31
7,842.0	89.80	179.90	6,606.2	-1,553.2	1.2	1,552.8	2.10	0.94	-1.88
7,874.0	90.00	181.80	6,606.3	-1,585.2	0.7	1,584.8	5.97	0.63	5.94
7,906.0	90.10	179.60	6,606.2	-1,617.2	0.3	1,616.8	6.88	0.31	-6.88
7,938.0	90.20	179.00	6,606.2	-1,649.2	0.7	1,648.8	1.90	0.31	-1.88
7,970.0	89.40	181.30	6,606.3	-1,681.2	0.6	1,680.8	7.61	-2.50	7.19
8,002.0	88.90	180.30	6,606.7	-1,713.2	0.2	1,712.8	3.49	-1.56	-3.13
8,034.0	89.00	180.50	6,607.3	-1,745.2	-0.1	1,744.8	0.70	0.31	0.63
8,066.0	89.10	181.20	6,607.9	-1,777.2	-0.5	1,776.8	2.21	0.31	2.19
8,098.0	89.70	184.40	6,608.2	-1,809.1	-2.1	1,808.8	10.17	1.88	10.00
8,129.0	89.90	183.30	6,608.3	-1,840.1	-4.2	1,839.7	3.61	0.65	-3.55
8,162.0	90.60	184.20	6,608.2	-1,873.0	-6.3	1,872.7	3.46	2.12	2.73
8,194.0	90.90	184.50	6,607.7	-1,904.9	-8.8	1,904.7	1.33	0.94	0.94
8,226.0	91.20	184.50	6,607.1	-1,936.8	-11.3	1,936.6	0.94	0.94	0.00
8,258.0	91.30	184.40	6,606.4	-1,968.7	-13.8	1,968.5	0.44	0.31	-0.31
8,289.0	90.30	183.30	6,606.0	-1,999.6	-15.8	1,999.5	4.80	-3.23	-3.55
8,320.0	89.80	183.00	6,606.0	-2,030.6	-17.5	2,030.5	1.88	-1.61	-0.97
8,352.0	90.00	183.80	6,606.0	-2,062.5	-19.4	2,062.5	2.58	0.63	2.50
8,384.0	89.80	182.10	6,606.1	-2,094.5	-21.1	2,094.4	5.35	-0.63	-5.31
8,416.0	90.20	183.20	6,606.1	-2,126.4	-22.6	2,126.4	3.66	1.25	3.44
8,447.0	90.00	183.30	6,606.0	-2,157.4	-24.3	2,157.4	0.72	-0.65	0.32
8,479.0	90.30	183.60	6,606.0	-2,189.3	-26.2	2,189.4	1.33	0.94	0.94
8,511.0	90.20	182.30	6,605.8	-2,221.3	-27.9	2,221.4	4.07	-0.31	-4.06
8,544.0	90.30	182.10	6,605.7	-2,254.3	-29.2	2,254.4	0.68	0.30	-0.61
8,576.0	90.10	180.40	6,605.6	-2,286.3	-29.9	2,286.4	5.35	-0.63	-5.31
8,608.0	90.20	180.70	6,605.5	-2,318.3	-30.2	2,318.4	0.99	0.31	0.94
8,639.0	90.10	181.10	6,605.4	-2,349.3	-30.7	2,349.4	1.33	-0.32	1.29
8,672.0	89.90	179.70	6,605.4	-2,382.3	-30.9	2,382.4	4.29	-0.61	-4.24
8,704.0	90.00	180.20	6,605.4	-2,414.3	-30.9	2,414.4	1.59	0.31	1.56
8,736.0	89.90	179.00	6,605.5	-2,446.2	-30.6	2,446.3	3.76	-0.31	-3.75
8,768.0	89.90	179.20	6,605.5	-2,478.2	-30.1	2,478.3	0.63	0.00	0.63
8,800.0	90.00	179.30	6,605.5	-2,510.2	-29.7	2,510.3	0.44	0.31	0.31
8,832.0	89.90	179.10	6,605.6	-2,542.2	-29.3	2,542.3	0.70	-0.31	-0.63
8,864.0	89.90	179.70	6,605.6	-2,574.2	-28.9	2,574.3	1.88	0.00	1.88
8,896.0	89.80	180.10	6,605.7	-2,606.2	-28.9	2,606.3	1.29	-0.31	1.25
8,927.0	89.70	177.40	6,605.8	-2,637.2	-28.2	2,637.2	8.72	-0.32	-8.71
8,959.0	89.80	177.10	6,606.0	-2,669.2	-26.7	2,669.1	0.99	0.31	-0.94
8,991.0	89.90	177.30	6,606.1	-2,701.2	-25.1	2,701.1	0.70	0.31	0.63
9,022.0	90.20	175.90	6,606.0	-2,732.1	-23.3	2,732.0	4.62	0.97	-4.52
9,055.0	90.50	176.40	6,605.8	-2,765.0	-21.0	2,764.8	1.77	0.91	1.52
9,087.0	89.50	176.00	6,605.8	-2,796.9	-18.9	2,796.7	3.37	-3.13	-1.25
9,119.0	88.90	179.20	6,606.3	-2,828.9	-17.6	2,828.6	10.17	-1.88	10.00

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Schaefer 10J-203
Project:	SEC.10-T6N-R63W	TVD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Site:	Schaefer Pad Sec.10-T6N-R63W	MD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Well:	Schaefer 10J-203	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)
9,150.0	89.00	178.70	6,606.9	-2,859.9	-17.0	2,859.6	1.64	0.32	-1.61
9,182.0	89.20	179.90	6,607.4	-2,891.9	-16.6	2,891.6	3.80	0.63	3.75
9,214.0	89.10	178.80	6,607.8	-2,923.9	-16.3	2,923.6	3.45	-0.31	-3.44
9,246.0	88.90	178.00	6,608.4	-2,955.9	-15.4	2,955.5	2.58	-0.63	-2.50
9,277.0	88.90	177.90	6,609.0	-2,986.8	-14.3	2,986.5	0.32	0.00	-0.32
9,309.0	89.40	176.60	6,609.5	-3,018.8	-12.7	3,018.4	4.35	1.56	-4.06
9,340.0	89.60	178.70	6,609.7	-3,049.8	-11.5	3,049.3	6.80	0.65	6.77
9,372.0	89.80	178.30	6,609.9	-3,081.8	-10.6	3,081.3	1.40	0.63	-1.25
9,404.0	89.90	177.60	6,610.0	-3,113.7	-9.5	3,113.2	2.21	0.31	-2.19
9,436.0	90.20	179.40	6,610.0	-3,145.7	-8.6	3,145.2	5.70	0.94	5.63
9,468.0	89.70	178.60	6,610.0	-3,177.7	-8.1	3,177.2	2.95	-1.56	-2.50
9,500.0	90.10	180.00	6,610.0	-3,209.7	-7.7	3,209.1	4.55	1.25	4.38
9,532.0	90.30	180.90	6,609.9	-3,241.7	-7.9	3,241.1	2.88	0.63	2.81
9,564.0	90.70	183.90	6,609.6	-3,273.7	-9.3	3,273.1	9.46	1.25	9.38
9,596.0	90.50	183.10	6,609.3	-3,305.6	-11.2	3,305.1	2.58	-0.63	-2.50
9,628.0	90.90	184.90	6,608.9	-3,337.5	-13.5	3,337.1	5.76	1.25	5.63
9,660.0	91.00	185.10	6,608.4	-3,369.4	-16.2	3,369.0	0.70	0.31	0.63
9,691.0	91.00	184.20	6,607.9	-3,400.3	-18.8	3,399.9	2.90	0.00	-2.90
9,723.0	90.30	183.50	6,607.5	-3,432.2	-20.9	3,431.9	3.09	-2.19	-2.19
9,755.0	90.00	181.70	6,607.4	-3,464.2	-22.4	3,463.9	5.70	-0.94	-5.63
9,787.0	90.40	183.40	6,607.3	-3,496.2	-23.8	3,495.9	5.46	1.25	5.31
9,819.0	90.60	183.60	6,607.0	-3,528.1	-25.7	3,527.8	0.88	0.63	0.63
9,851.0	90.50	181.00	6,606.7	-3,560.1	-27.0	3,559.8	8.13	-0.31	-8.13
9,883.0	90.40	182.10	6,606.5	-3,592.1	-27.9	3,591.8	3.45	-0.31	3.44
9,914.0	89.80	180.80	6,606.4	-3,623.1	-28.7	3,622.8	4.62	-1.94	-4.19
9,946.0	89.80	182.60	6,606.5	-3,655.0	-29.6	3,654.8	5.62	0.00	5.63
9,977.0	90.40	179.40	6,606.5	-3,686.0	-30.2	3,685.8	10.50	1.94	-10.32
10,009.0	91.20	182.20	6,606.0	-3,718.0	-30.6	3,717.8	9.10	2.50	8.75
10,041.0	91.70	180.40	6,605.2	-3,750.0	-31.3	3,749.8	5.84	1.56	-5.63
10,073.0	91.60	180.80	6,604.3	-3,782.0	-31.7	3,781.8	1.29	-0.31	1.25
10,105.0	91.80	181.60	6,603.3	-3,814.0	-32.3	3,813.8	2.58	0.63	2.50
10,137.0	91.60	180.10	6,602.4	-3,845.9	-32.8	3,845.8	4.73	-0.63	-4.69
10,169.0	91.80	178.90	6,601.4	-3,877.9	-32.5	3,877.7	3.80	0.63	-3.75
10,201.0	91.70	179.90	6,600.5	-3,909.9	-32.2	3,909.7	3.14	-0.31	3.13
10,232.0	91.50	178.80	6,599.6	-3,940.9	-31.8	3,940.7	3.61	-0.65	-3.55
10,264.0	91.60	178.60	6,598.7	-3,972.9	-31.1	3,972.6	0.70	0.31	-0.63
10,296.0	91.70	180.20	6,597.8	-4,004.9	-30.8	4,004.6	5.01	0.31	5.00
10,327.0	91.50	179.40	6,596.9	-4,035.9	-30.7	4,035.6	2.66	-0.65	-2.58
10,359.0	91.50	177.60	6,596.1	-4,067.8	-29.8	4,067.5	5.62	0.00	-5.63
10,391.0	91.20	176.10	6,595.3	-4,099.8	-28.1	4,099.4	4.78	-0.94	-4.69
10,423.0	91.00	176.60	6,594.7	-4,131.7	-26.0	4,131.3	1.68	-0.63	1.56
10,454.0	91.20	176.20	6,594.1	-4,162.6	-24.1	4,162.2	1.44	0.65	-1.29
10,486.0	91.30	176.30	6,593.4	-4,194.6	-22.0	4,194.1	0.44	0.31	0.31
10,518.0	91.30	178.50	6,592.7	-4,226.5	-20.6	4,226.0	6.87	0.00	6.88
10,549.0	91.60	178.30	6,591.9	-4,257.5	-19.7	4,256.9	1.16	0.97	-0.65
10,581.0	91.90	177.80	6,590.9	-4,289.5	-18.6	4,288.9	1.82	0.94	-1.56
10,613.0	91.80	175.80	6,589.9	-4,321.4	-16.8	4,320.7	6.25	-0.31	-6.25
10,644.0	91.90	174.80	6,588.9	-4,352.3	-14.3	4,351.6	3.24	0.32	-3.23
10,676.0	91.60	176.90	6,587.9	-4,384.2	-12.0	4,383.4	6.63	-0.94	6.56
10,708.0	91.80	178.00	6,587.0	-4,416.1	-10.5	4,415.3	3.49	0.63	3.44
10,740.0	91.90	178.50	6,586.0	-4,448.1	-9.6	4,447.3	1.59	0.31	1.56
10,771.0	91.90	175.90	6,584.9	-4,479.0	-8.1	4,478.2	8.38	0.00	-8.39
10,803.0	92.00	175.70	6,583.8	-4,510.9	-5.7	4,510.0	0.70	0.31	-0.63

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Schaefer 10J-203
Project:	SEC.10-T6N-R63W	TVD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Site:	Schaefer Pad Sec.10-T6N-R63W	MD Reference:	WELL @ 4712.0ft (RKB Ensign 32 - 15')
Well:	Schaefer 10J-203	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)
10,835.0	92.20	175.60	6,582.7	-4,542.8	-3.3	4,541.8	0.70	0.63	-0.31
10,867.0	92.20	177.70	6,581.4	-4,574.7	-1.4	4,573.7	6.56	0.00	6.56
10,917.0	92.20	177.70	6,579.5	-4,624.7	0.6	4,623.6	0.00	0.00	0.00
BHL 500'FSL & 1280'FWL									

Checked By: _____	Approved By: _____	Date: _____
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