

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Simonson/Schaefer 7J-243**

Surface Location: Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

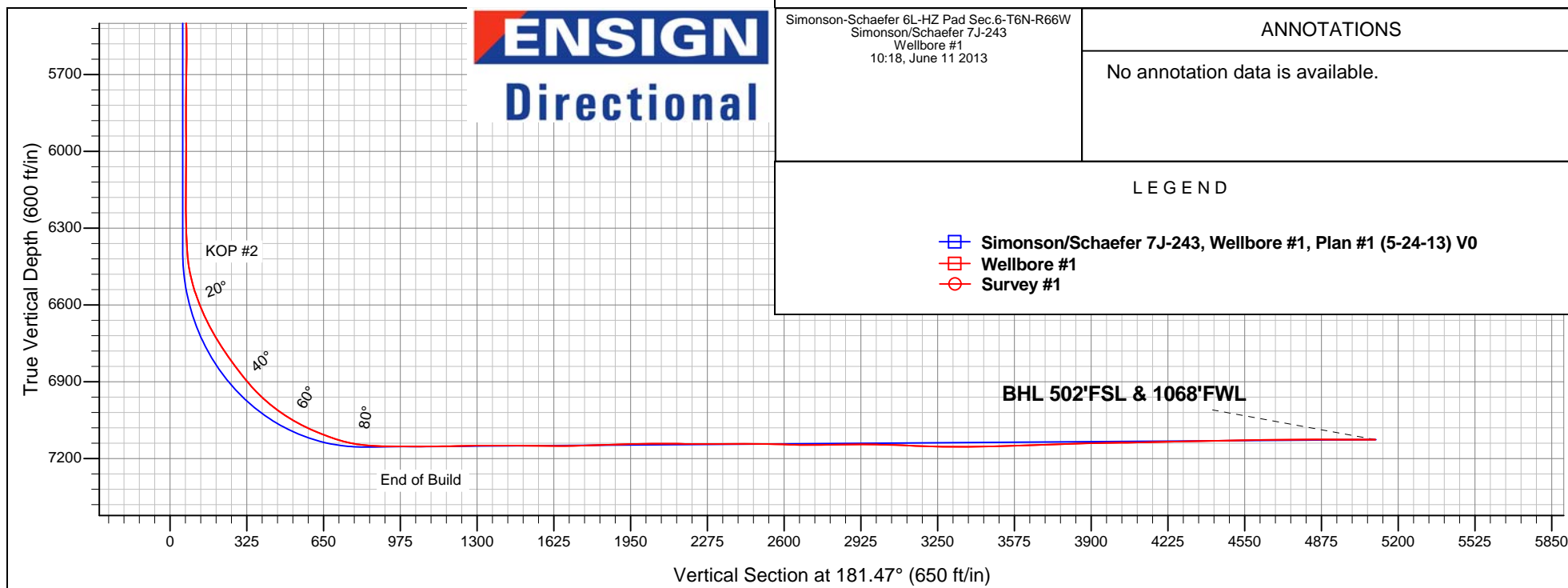
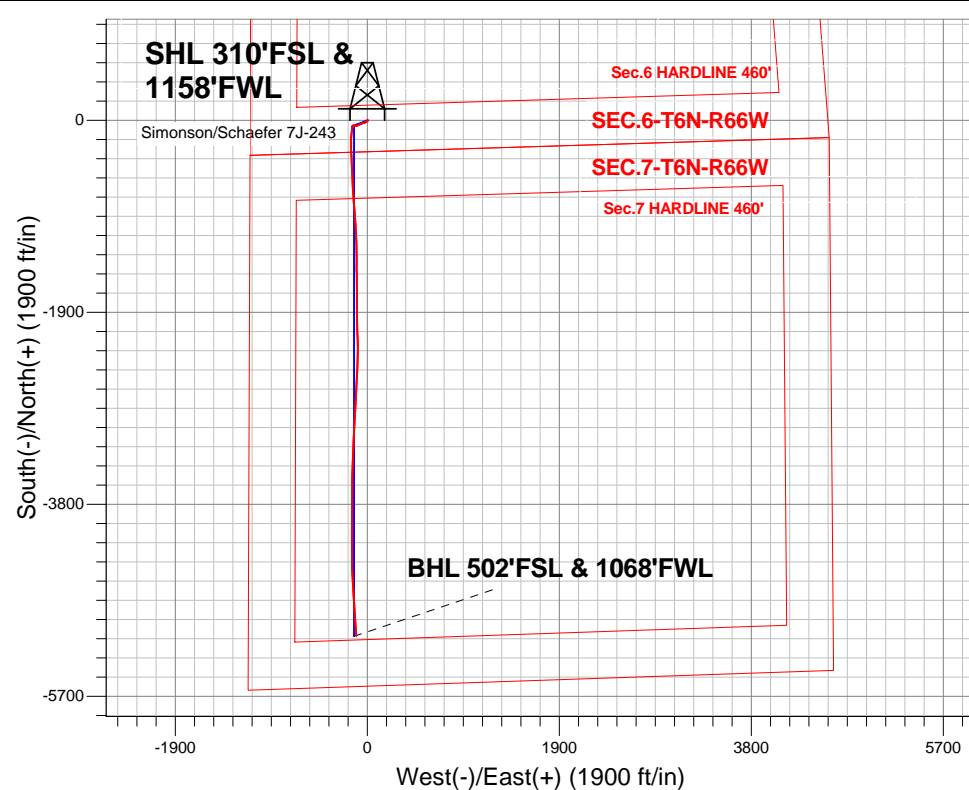
Ground Elevation: 4891.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1429286.67	3186820.53	40.509850	-104.828120	

RKB Ensign 32 - 15' WELL @ 4906.0ft (RKB Ensign 32 - 15')

## FINAL SURVEY

Projected Bottom Hole Location  
11830'MD 7126'TVD 5102'S &  
110'W of SHL 89.90 degree Incl  
@ 177.20 degree AZM



Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W  
Simonson/Schaefer 7J-243  
Wellbore #1  
10:18, June 11 2013

### ANNOTATIONS

No annotation data is available.

### LEGEND

- Simonson/Schaefer 7J-243, Wellbore #1, Plan #1 (5-24-13) V0
- Wellbore #1
- Survey #1



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.6-T6N-R66W**

**Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W**

**Simonson/Schaefer 7J-243**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**11 June, 2013**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7J-243
<b>Project:</b>	SEC.6-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Site:</b>	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	<b>MD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.6-T6N-R66W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W				
Site Position:		Northing:	1,429,286.44 ft	Latitude:	40.509850
From:	Lat/Long	Easting:	3,186,789.95 ft	Longitude:	-104.828230
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.43 °

Well	Simonson/Schaefer 7J-243					
Well Position	+N-S	0.0 ft	Northing:	1,429,286.67 ft	Latitude:	40.509850
	+E-W	0.0 ft	Easting:	3,186,820.53 ft	Longitude:	-104.828120
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,891.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/24/2013	8.65	67.06	52,977

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	181.47	

<b>Survey Program</b>	<b>Date</b> 6/11/2013				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
145.0	11,830.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
145.0	1.90	56.70	145.0	1.3	2.0	-1.4	1.31	1.31	0.00
235.0	1.10	85.50	234.9	2.2	4.1	-2.3	1.20	-0.89	32.00
327.0	0.70	149.60	326.9	1.8	5.3	-1.9	1.10	-0.43	69.67
418.0	0.60	155.00	417.9	0.9	5.8	-1.0	0.13	-0.11	5.93
510.0	0.70	174.10	509.9	-0.1	6.0	0.0	0.26	0.11	20.76
601.0	0.70	202.80	600.9	-1.2	5.9	1.0	0.38	0.00	31.54
692.0	1.00	205.00	691.9	-2.4	5.3	2.3	0.33	0.33	2.42
788.0	1.50	217.40	787.9	-4.2	4.2	4.1	0.59	0.52	12.92
878.0	1.60	232.50	877.8	-5.9	2.5	5.8	0.47	0.11	16.78
971.0	1.60	239.70	970.8	-7.3	0.3	7.3	0.22	0.00	7.74

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7J-243
<b>Project:</b>	SEC.6-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Site:</b>	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	<b>MD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,063.0	1.80	240.80	1,062.8	-8.7	-2.0	8.7	0.22	0.22	1.20
1,154.0	1.10	251.50	1,153.7	-9.6	-4.1	9.7	0.82	-0.77	11.76
1,248.0	1.10	244.20	1,247.7	-10.3	-5.8	10.5	0.15	0.00	-7.77
1,343.0	1.40	260.40	1,342.7	-10.9	-7.7	11.1	0.48	0.32	17.05
1,439.0	1.80	253.50	1,438.7	-11.5	-10.3	11.8	0.46	0.42	-7.19
1,534.0	1.20	252.30	1,533.6	-12.3	-12.7	12.6	0.63	-0.63	-1.26
1,630.0	1.80	246.10	1,629.6	-13.2	-15.1	13.6	0.65	0.63	-6.46
1,725.0	1.40	221.30	1,724.6	-14.7	-17.2	15.1	0.83	-0.42	-26.11
1,820.0	1.50	213.50	1,819.5	-16.6	-18.6	17.0	0.23	0.11	-8.21
1,915.0	1.50	223.20	1,914.5	-18.5	-20.2	19.0	0.27	0.00	10.21
2,009.0	2.40	242.50	2,008.4	-20.3	-22.8	20.9	1.17	0.96	20.53
2,106.0	2.60	238.70	2,105.4	-22.4	-26.4	23.1	0.27	0.21	-3.92
2,201.0	3.30	255.80	2,200.2	-24.2	-30.9	25.0	1.18	0.74	18.00
2,296.0	3.30	257.00	2,295.1	-25.5	-36.3	26.4	0.07	0.00	1.26
2,391.0	3.30	258.00	2,389.9	-26.7	-41.6	27.7	0.06	0.00	1.05
2,487.0	3.40	251.00	2,485.8	-28.2	-47.0	29.3	0.44	0.10	-7.29
2,582.0	3.10	244.50	2,580.6	-30.2	-52.0	31.5	0.50	-0.32	-6.84
2,678.0	3.30	247.40	2,676.4	-32.4	-56.9	33.8	0.27	0.21	3.02
2,773.0	3.50	243.60	2,771.3	-34.7	-62.0	36.3	0.32	0.21	-4.00
2,868.0	3.80	258.30	2,866.1	-36.6	-67.7	38.3	1.03	0.32	15.47
2,963.0	3.40	246.40	2,960.9	-38.4	-73.3	40.3	0.89	-0.42	-12.53
3,058.0	3.40	248.50	3,055.7	-40.6	-78.5	42.5	0.13	0.00	2.21
3,153.0	3.70	245.60	3,150.6	-42.9	-83.9	45.0	0.37	0.32	-3.05
3,248.0	3.30	244.30	3,245.4	-45.3	-89.2	47.6	0.43	-0.42	-1.37
3,343.0	3.70	237.40	3,340.2	-48.1	-94.2	50.5	0.61	0.42	-7.26
3,438.0	3.20	237.00	3,435.0	-51.2	-99.1	53.8	0.53	-0.53	-0.42
3,533.0	3.50	254.00	3,529.9	-53.5	-104.1	56.1	1.09	0.32	17.89
3,629.0	3.80	282.40	3,625.7	-53.6	-110.0	56.4	1.89	0.31	29.58
3,724.0	4.00	287.30	3,720.5	-51.9	-116.2	54.9	0.41	0.21	5.16
3,819.0	4.50	273.20	3,815.2	-50.7	-123.1	53.9	1.22	0.53	-14.84
3,915.0	5.10	266.10	3,910.9	-50.8	-131.1	54.2	0.88	0.63	-7.40
4,010.0	3.10	273.40	4,005.6	-51.0	-137.9	54.5	2.17	-2.11	7.68
4,105.0	1.20	291.40	4,100.5	-50.4	-141.4	54.1	2.10	-2.00	18.95
4,200.0	0.60	198.30	4,195.5	-50.6	-142.5	54.2	1.44	-0.63	-98.00
4,295.0	0.70	205.20	4,290.5	-51.6	-142.9	55.2	0.13	0.11	7.26
4,389.0	0.50	249.70	4,384.5	-52.2	-143.5	55.9	0.52	-0.21	47.34
4,484.0	0.40	259.60	4,479.5	-52.4	-144.2	56.1	0.13	-0.11	10.42
4,579.0	0.50	229.00	4,574.5	-52.8	-144.9	56.4	0.27	0.11	-32.21
4,675.0	1.10	149.80	4,670.5	-53.8	-144.7	57.5	1.17	0.63	-82.50
4,769.0	1.80	164.00	4,764.5	-56.0	-143.9	59.7	0.83	0.74	15.11
4,863.0	1.40	171.80	4,858.4	-58.6	-143.3	62.2	0.48	-0.43	8.30
4,959.0	1.60	163.40	4,954.4	-61.0	-142.7	64.7	0.31	0.21	-8.75
5,054.0	1.00	146.50	5,049.4	-63.0	-141.9	66.6	0.74	-0.63	-17.79
5,150.0	0.40	93.80	5,145.4	-63.7	-141.1	67.3	0.86	-0.63	-54.90
5,246.0	0.20	225.20	5,241.4	-63.8	-140.9	67.4	0.58	-0.21	136.88
5,341.0	0.50	259.30	5,336.4	-64.0	-141.4	67.6	0.37	0.32	35.89
5,436.0	0.90	242.40	5,431.4	-64.5	-142.5	68.1	0.47	0.42	-17.79
5,532.0	1.60	208.00	5,527.4	-66.0	-143.8	69.7	1.04	0.73	-35.83
5,628.0	0.90	350.50	5,623.3	-66.4	-144.5	70.1	2.48	-0.73	148.44
5,723.0	0.80	347.90	5,718.3	-65.1	-144.8	68.7	0.11	-0.11	-2.74
5,818.0	0.40	313.00	5,813.3	-64.2	-145.2	67.9	0.55	-0.42	-36.74
5,914.0	0.40	276.30	5,909.3	-63.9	-145.8	67.6	0.26	0.00	-38.23
6,009.0	0.40	255.60	6,004.3	-64.0	-146.4	67.7	0.15	0.00	-21.79

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<b>Project:</b>	SEC.6-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Site:</b>	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	<b>MD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
6,102.0	0.40	270.30	6,097.3	-64.0	-147.0	67.8	0.11	0.00	15.81
6,198.0	0.50	271.10	6,193.3	-64.0	-147.8	67.8	0.10	0.10	0.83
6,294.0	1.00	209.50	6,289.3	-64.7	-148.6	68.5	0.92	0.52	-64.17
6,327.0	1.50	201.50	6,322.3	-65.4	-148.9	69.2	1.60	1.52	-24.24
6,358.0	2.50	190.90	6,353.3	-66.4	-149.2	70.2	3.43	3.23	-34.19
6,390.0	4.00	189.30	6,385.2	-68.2	-149.5	72.0	4.70	4.69	-5.00
6,421.0	6.20	187.80	6,416.1	-71.0	-149.9	74.8	7.11	7.10	-4.84
6,453.0	9.10	185.90	6,447.8	-75.2	-150.4	79.0	9.10	9.06	-5.94
6,482.0	12.70	182.60	6,476.3	-80.7	-150.8	84.5	12.59	12.41	-11.38
6,514.0	15.70	183.00	6,507.3	-88.5	-151.2	92.3	9.38	9.38	1.25
6,545.0	18.60	183.20	6,536.9	-97.6	-151.7	101.5	9.36	9.35	0.65
6,577.0	20.90	186.90	6,567.0	-108.4	-152.6	112.3	8.18	7.19	11.56
6,609.0	23.20	188.30	6,596.7	-120.3	-154.2	124.2	7.37	7.19	4.38
6,641.0	25.50	186.40	6,625.9	-133.4	-155.9	137.3	7.59	7.19	-5.94
6,672.0	27.60	186.20	6,653.6	-147.1	-157.4	151.1	6.78	6.77	-0.65
6,704.0	29.20	184.00	6,681.7	-162.3	-158.8	166.3	5.97	5.00	-6.88
6,736.0	31.20	181.80	6,709.4	-178.4	-159.6	182.4	7.14	6.25	-6.88
6,768.0	33.00	179.90	6,736.5	-195.4	-159.8	199.4	6.45	5.63	-5.94
6,800.0	35.10	178.90	6,763.0	-213.3	-159.6	217.3	6.79	6.56	-3.13
6,832.0	37.00	180.70	6,788.9	-232.1	-159.6	236.1	6.80	5.94	5.63
6,863.0	38.80	180.20	6,813.3	-251.2	-159.7	255.2	5.89	5.81	-1.61
6,895.0	38.70	179.40	6,838.3	-271.2	-159.7	275.2	1.60	-0.31	-2.50
6,926.0	39.60	178.60	6,862.3	-290.8	-159.3	294.7	3.33	2.90	-2.58
6,958.0	40.80	177.50	6,886.8	-311.4	-158.6	315.4	4.36	3.75	-3.44
6,990.0	43.10	178.10	6,910.6	-332.8	-157.8	336.7	7.30	7.19	1.88
7,022.0	45.90	177.50	6,933.4	-355.2	-156.9	359.1	8.85	8.75	-1.88
7,053.0	48.80	177.10	6,954.4	-378.0	-155.9	381.8	9.40	9.35	-1.29
7,085.0	51.10	176.90	6,975.0	-402.4	-154.6	406.2	7.20	7.19	-0.63
7,116.0	53.70	176.90	6,993.9	-426.9	-153.2	430.7	8.39	8.39	0.00
7,149.0	56.20	178.10	7,012.9	-453.9	-152.1	457.7	8.14	7.58	3.64
7,180.0	58.50	177.70	7,029.6	-480.0	-151.1	483.7	7.50	7.42	-1.29
7,212.0	60.90	177.40	7,045.7	-507.6	-149.9	511.3	7.54	7.50	-0.94
7,244.0	63.20	177.50	7,060.7	-535.8	-148.7	539.5	7.19	7.19	0.31
7,275.0	65.60	177.80	7,074.1	-563.8	-147.5	567.4	7.79	7.74	0.97
7,307.0	67.60	177.20	7,086.8	-593.1	-146.2	596.7	6.48	6.25	-1.88
7,340.0	69.20	177.80	7,099.0	-623.8	-144.9	627.3	5.13	4.85	1.82
7,371.0	70.70	177.70	7,109.6	-652.9	-143.8	656.3	4.85	4.84	-0.32
7,403.0	72.20	176.80	7,119.8	-683.2	-142.3	686.6	5.39	4.69	-2.81
7,435.0	74.70	176.70	7,128.9	-713.8	-140.6	717.2	7.82	7.81	-0.31
7,467.0	77.70	176.60	7,136.5	-744.8	-138.8	748.1	9.38	9.38	-0.31
7,499.0	80.90	176.50	7,142.5	-776.2	-136.9	779.4	10.00	10.00	-0.31
7,531.0	83.40	175.80	7,146.8	-807.8	-134.7	811.0	8.11	7.81	-2.19
7,561.0	86.60	175.00	7,149.4	-837.6	-132.3	840.7	10.99	10.67	-2.67
7,632.0	89.10	175.50	7,152.1	-908.3	-126.5	911.2	3.59	3.52	0.70
7,663.0	89.10	174.60	7,152.6	-939.2	-123.8	942.0	2.90	0.00	-2.90
7,693.0	89.40	176.00	7,153.0	-969.1	-121.3	971.9	4.77	1.00	4.67
7,724.0	89.50	175.80	7,153.3	-1,000.0	-119.1	1,002.7	0.72	0.32	-0.65
7,754.0	90.30	175.90	7,153.3	-1,029.9	-116.9	1,032.6	2.69	2.67	0.33
7,785.0	90.50	175.10	7,153.1	-1,060.8	-114.5	1,063.4	2.66	0.65	-2.58
7,815.0	90.60	175.90	7,152.8	-1,090.7	-112.2	1,093.2	2.69	0.33	2.67
7,845.0	90.60	176.90	7,152.5	-1,120.7	-110.3	1,123.1	3.33	0.00	3.33
7,876.0	90.60	177.60	7,152.2	-1,151.6	-108.8	1,154.0	2.26	0.00	2.26

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<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
7,906.0	90.80	178.90	7,151.8	-1,181.6	-107.9	1,184.0	4.38	0.67	4.33
7,938.0	90.90	179.20	7,151.4	-1,213.6	-107.3	1,216.0	0.99	0.31	0.94
7,968.0	91.20	180.00	7,150.8	-1,243.6	-107.1	1,245.9	2.85	1.00	2.67
7,999.0	91.40	179.20	7,150.1	-1,274.6	-106.9	1,276.9	2.66	0.65	-2.58
8,029.0	90.30	179.90	7,149.7	-1,304.6	-106.7	1,306.9	4.35	-3.67	2.33
8,060.0	89.90	178.90	7,149.6	-1,335.6	-106.4	1,337.9	3.47	-1.29	-3.23
8,090.0	90.10	180.10	7,149.6	-1,365.6	-106.1	1,367.9	4.06	0.67	4.00
8,121.0	90.00	180.00	7,149.6	-1,396.6	-106.1	1,398.8	0.46	-0.32	-0.32
8,151.0	89.80	180.00	7,149.6	-1,426.6	-106.1	1,428.8	0.67	-0.67	0.00
8,182.0	89.50	178.60	7,149.8	-1,457.6	-105.7	1,459.8	4.62	-0.97	-4.52
8,212.0	89.50	178.00	7,150.1	-1,487.6	-104.9	1,489.8	2.00	0.00	-2.00
8,243.0	89.70	179.20	7,150.3	-1,518.6	-104.1	1,520.7	3.92	0.65	3.87
8,273.0	89.20	178.80	7,150.6	-1,548.5	-103.6	1,550.7	2.13	-1.67	-1.33
8,303.0	89.60	178.20	7,150.9	-1,578.5	-102.8	1,580.6	2.40	1.33	-2.00
8,334.0	89.80	179.20	7,151.1	-1,609.5	-102.1	1,611.6	3.29	0.65	3.23
8,364.0	89.60	179.30	7,151.2	-1,639.5	-101.7	1,641.6	0.75	-0.67	0.33
8,396.0	90.10	180.00	7,151.3	-1,671.5	-101.5	1,673.6	2.69	1.56	2.19
8,428.0	90.80	180.20	7,151.0	-1,703.5	-101.6	1,705.6	2.28	2.19	0.63
8,459.0	92.00	180.60	7,150.3	-1,734.5	-101.8	1,736.5	4.08	3.87	1.29
8,491.0	92.10	180.80	7,149.1	-1,766.5	-102.2	1,768.5	0.70	0.31	0.63
8,524.0	91.80	180.40	7,148.0	-1,799.5	-102.5	1,801.5	1.51	-0.91	-1.21
8,557.0	91.80	180.00	7,147.0	-1,832.5	-102.6	1,834.5	1.21	0.00	-1.21
8,586.0	92.00	180.20	7,146.0	-1,861.4	-102.7	1,863.5	0.98	0.69	0.69
8,618.0	91.80	179.10	7,145.0	-1,893.4	-102.5	1,895.4	3.49	-0.63	-3.44
8,650.0	90.90	178.20	7,144.2	-1,925.4	-101.7	1,927.4	3.98	-2.81	-2.81
8,682.0	90.90	179.70	7,143.7	-1,957.4	-101.1	1,959.3	4.69	0.00	4.69
8,714.0	91.00	179.80	7,143.2	-1,989.4	-101.0	1,991.3	0.44	0.31	0.31
8,745.0	90.90	179.40	7,142.7	-2,020.4	-100.8	2,022.3	1.33	-0.32	-1.29
8,777.0	90.40	178.30	7,142.3	-2,052.4	-100.1	2,054.3	3.78	-1.56	-3.44
8,809.0	89.90	177.30	7,142.2	-2,084.3	-98.9	2,086.2	3.49	-1.56	-3.13
8,841.0	89.90	177.70	7,142.3	-2,116.3	-97.5	2,118.1	1.25	0.00	1.25
8,873.0	89.30	177.10	7,142.5	-2,148.3	-96.1	2,150.0	2.65	-1.88	-1.88
8,904.0	89.40	177.20	7,142.8	-2,179.2	-94.5	2,180.9	0.46	0.32	0.32
8,936.0	89.20	178.80	7,143.2	-2,211.2	-93.4	2,212.9	5.04	-0.63	5.00
8,968.0	89.70	178.90	7,143.5	-2,243.2	-92.8	2,244.8	1.59	1.56	0.31
8,999.0	90.20	180.10	7,143.6	-2,274.2	-92.5	2,275.8	4.19	1.61	3.87
9,031.0	90.80	179.50	7,143.3	-2,306.2	-92.4	2,307.8	2.65	1.88	-1.88
9,063.0	90.70	181.80	7,142.9	-2,338.2	-92.7	2,339.8	7.19	-0.31	7.19
9,094.0	90.10	181.70	7,142.7	-2,369.2	-93.7	2,370.8	1.96	-1.94	-0.32
9,126.0	89.90	182.20	7,142.7	-2,401.2	-94.8	2,402.8	1.68	-0.63	1.56
9,158.0	89.50	182.50	7,142.8	-2,433.1	-96.1	2,434.8	1.56	-1.25	0.94
9,190.0	89.70	182.80	7,143.0	-2,465.1	-97.6	2,466.8	1.13	0.63	0.94
9,221.0	89.90	183.20	7,143.2	-2,496.1	-99.2	2,497.8	1.44	0.65	1.29
9,253.0	88.90	183.70	7,143.5	-2,528.0	-101.1	2,529.8	3.49	-3.13	1.56
9,285.0	88.60	182.90	7,144.2	-2,559.9	-103.0	2,561.7	2.67	-0.94	-2.50
9,317.0	88.50	183.70	7,145.0	-2,591.9	-104.8	2,593.7	2.52	-0.31	2.50
9,349.0	88.50	183.80	7,145.8	-2,623.8	-106.9	2,625.7	0.31	0.00	0.31
9,380.0	88.50	182.90	7,146.6	-2,654.7	-108.7	2,656.6	2.90	0.00	-2.90
9,412.0	89.00	183.20	7,147.3	-2,686.7	-110.4	2,688.6	1.82	1.56	0.94
9,444.0	90.50	182.10	7,147.5	-2,718.6	-111.9	2,720.6	5.81	4.69	-3.44
9,475.0	91.00	182.30	7,147.1	-2,749.6	-113.1	2,751.6	1.74	1.61	0.65
9,507.0	90.70	183.30	7,146.6	-2,781.6	-114.6	2,783.6	3.26	-0.94	3.13
9,539.0	91.00	181.80	7,146.1	-2,813.5	-116.1	2,815.6	4.78	0.94	-4.69

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7J-243
<b>Project:</b>	SEC.6-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Site:</b>	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	<b>MD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
9,571.0	90.80	183.20	7,145.6	-2,845.5	-117.5	2,847.6	4.42	-0.63	4.38
9,604.0	89.80	183.00	7,145.5	-2,878.5	-119.2	2,880.6	3.09	-3.03	-0.61
9,635.0	89.60	183.00	7,145.6	-2,909.4	-120.9	2,911.6	0.65	-0.65	0.00
9,668.0	90.00	183.20	7,145.7	-2,942.4	-122.6	2,944.5	1.36	1.21	0.61
9,699.0	90.10	183.60	7,145.7	-2,973.3	-124.5	2,975.5	1.33	0.32	1.29
9,731.0	89.00	183.10	7,146.0	-3,005.3	-126.4	3,007.5	3.78	-3.44	-1.56
9,763.0	88.70	183.10	7,146.6	-3,037.2	-128.1	3,039.5	0.94	-0.94	0.00
9,794.0	88.20	183.80	7,147.4	-3,068.1	-129.9	3,070.5	2.77	-1.61	2.26
9,826.0	88.00	183.90	7,148.5	-3,100.0	-132.1	3,102.4	0.70	-0.63	0.31
9,858.0	87.90	183.60	7,149.6	-3,132.0	-134.2	3,134.4	0.99	-0.31	-0.94
9,889.0	87.80	183.90	7,150.8	-3,162.9	-136.2	3,165.3	1.02	-0.32	0.97
9,921.0	87.90	182.20	7,152.0	-3,194.8	-137.9	3,197.3	5.32	0.31	-5.31
9,953.0	88.80	182.40	7,152.9	-3,226.8	-139.2	3,229.3	2.88	2.81	0.63
9,985.0	89.20	182.40	7,153.5	-3,258.7	-140.5	3,261.3	1.25	1.25	0.00
10,016.0	89.50	180.80	7,153.8	-3,289.7	-141.4	3,292.2	5.25	0.97	-5.16
10,048.0	89.70	181.00	7,154.1	-3,321.7	-141.9	3,324.2	0.88	0.63	0.63
10,080.0	89.90	182.30	7,154.2	-3,353.7	-142.8	3,356.2	4.11	0.63	4.06
10,111.0	89.80	181.50	7,154.3	-3,384.7	-143.9	3,387.2	2.60	-0.32	-2.58
10,143.0	90.20	181.10	7,154.3	-3,416.7	-144.6	3,419.2	1.77	1.25	-1.25
10,175.0	91.10	182.00	7,153.9	-3,448.6	-145.4	3,451.2	3.98	2.81	2.81
10,206.0	91.30	180.60	7,153.2	-3,479.6	-146.2	3,482.2	4.56	0.65	-4.52
10,238.0	91.40	181.70	7,152.5	-3,511.6	-146.8	3,514.2	3.45	0.31	3.44
10,270.0	91.70	181.40	7,151.6	-3,543.6	-147.7	3,546.2	1.33	0.94	-0.94
10,302.0	92.10	180.80	7,150.6	-3,575.6	-148.3	3,578.2	2.25	1.25	-1.88
10,333.0	92.30	180.20	7,149.4	-3,606.5	-148.5	3,609.2	2.04	0.65	-1.94
10,365.0	91.90	180.80	7,148.2	-3,638.5	-148.8	3,641.1	2.25	-1.25	1.88
10,397.0	91.50	181.10	7,147.3	-3,670.5	-149.4	3,673.1	1.56	-1.25	0.94
10,428.0	91.80	180.60	7,146.4	-3,701.5	-149.8	3,704.1	1.88	0.97	-1.61
10,460.0	92.40	180.30	7,145.2	-3,733.5	-150.1	3,736.1	2.10	1.88	-0.94
10,492.0	91.90	178.90	7,144.0	-3,765.4	-149.8	3,768.0	4.64	-1.56	-4.38
10,523.0	92.20	178.90	7,142.9	-3,796.4	-149.2	3,799.0	0.97	0.97	0.00
10,555.0	91.80	180.10	7,141.8	-3,828.4	-149.0	3,831.0	3.95	-1.25	3.75
10,587.0	90.80	181.20	7,141.0	-3,860.4	-149.3	3,862.9	4.64	-3.13	3.44
10,619.0	91.10	181.60	7,140.5	-3,892.4	-150.1	3,894.9	1.56	0.94	1.25
10,650.0	91.60	180.40	7,139.8	-3,923.4	-150.7	3,925.9	4.19	1.61	-3.87
10,682.0	91.00	181.50	7,139.0	-3,955.3	-151.2	3,957.9	3.91	-1.88	3.44
10,714.0	90.20	180.70	7,138.7	-3,987.3	-151.8	3,989.9	3.54	-2.50	-2.50
10,745.0	90.50	180.20	7,138.5	-4,018.3	-152.0	4,020.9	1.88	0.97	-1.61
10,777.0	91.10	179.70	7,138.1	-4,050.3	-152.0	4,052.9	2.44	1.88	-1.56
10,809.0	91.70	179.20	7,137.3	-4,082.3	-151.7	4,084.9	2.44	1.88	-1.56
10,840.0	91.40	178.60	7,136.5	-4,113.3	-151.1	4,115.8	2.16	-0.97	-1.94
10,872.0	90.50	181.10	7,135.9	-4,145.3	-151.0	4,147.8	8.30	-2.81	7.81
10,904.0	90.60	180.90	7,135.6	-4,177.3	-151.6	4,179.8	0.70	0.31	-0.63
10,936.0	90.90	180.80	7,135.2	-4,209.3	-152.1	4,211.8	0.99	0.94	-0.31
10,967.0	91.20	180.40	7,134.6	-4,240.3	-152.4	4,242.8	1.61	0.97	-1.29
10,999.0	91.70	180.20	7,133.8	-4,272.3	-152.6	4,274.8	1.68	1.56	-0.63
11,031.0	91.10	179.60	7,133.0	-4,304.3	-152.5	4,306.7	2.65	-1.88	-1.88
11,062.0	91.10	178.90	7,132.4	-4,335.2	-152.1	4,337.7	2.26	0.00	-2.26
11,094.0	90.50	178.90	7,132.0	-4,367.2	-151.5	4,369.7	1.88	-1.88	0.00
11,126.0	90.50	178.70	7,131.7	-4,399.2	-150.8	4,401.6	0.62	0.00	-0.63
11,158.0	91.10	177.00	7,131.3	-4,431.2	-149.6	4,433.6	5.63	1.88	-5.31
11,188.0	91.30	177.90	7,130.6	-4,461.2	-148.3	4,463.5	3.07	0.67	3.00



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7J-243
<b>Project:</b>	SEC.6-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Site:</b>	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	<b>MD Reference:</b>	WELL @ 4906.0ft (RKB Ensign 32 - 15')
<b>Well:</b>	Simonson/Schaefer 7J-243	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
11,220.0	91.60	177.90	7,129.8	-4,493.1	-147.1	4,495.4	0.94	0.94	0.00
11,252.0	92.00	176.30	7,128.8	-4,525.1	-145.5	4,527.3	5.15	1.25	-5.00
11,283.0	90.90	176.60	7,128.0	-4,556.0	-143.6	4,558.2	3.68	-3.55	0.97
11,315.0	90.80	175.90	7,127.6	-4,587.9	-141.5	4,590.0	2.21	-0.31	-2.19
11,347.0	90.80	177.20	7,127.1	-4,619.9	-139.5	4,621.9	4.06	0.00	4.06
11,378.0	89.90	177.00	7,126.9	-4,650.8	-138.0	4,652.8	2.97	-2.90	-0.65
11,410.0	89.90	177.70	7,127.0	-4,682.8	-136.5	4,684.8	2.19	0.00	2.19
11,442.0	90.00	176.00	7,127.0	-4,714.7	-134.7	4,716.6	5.32	0.31	-5.31
11,473.0	90.20	176.80	7,127.0	-4,745.7	-132.8	4,747.5	2.66	0.65	2.58
11,505.0	90.50	175.60	7,126.8	-4,777.6	-130.7	4,779.4	3.87	0.94	-3.75
11,537.0	90.50	176.50	7,126.5	-4,809.5	-128.5	4,811.2	2.81	0.00	2.81
11,569.0	90.50	176.50	7,126.2	-4,841.5	-126.5	4,843.1	0.00	0.00	0.00
11,600.0	90.60	174.90	7,125.9	-4,872.4	-124.2	4,874.0	5.17	0.32	-5.16
11,632.0	89.90	175.40	7,125.8	-4,904.3	-121.5	4,905.8	2.69	-2.19	1.56
11,664.0	89.60	176.70	7,125.9	-4,936.2	-119.3	4,937.6	4.17	-0.94	4.06
11,695.0	89.80	176.80	7,126.1	-4,967.1	-117.5	4,968.5	0.72	0.65	0.32
11,727.0	90.00	176.90	7,126.1	-4,999.1	-115.8	5,000.4	0.70	0.63	0.31
11,759.0	89.90	175.60	7,126.2	-5,031.0	-113.7	5,032.3	4.07	-0.31	-4.06
11,774.0	89.90	177.20	7,126.2	-5,046.0	-112.7	5,047.2	10.67	0.00	10.67
11,830.0	89.90	177.20	7,126.3	-5,101.9	-110.0	5,103.1	0.00	0.00	0.00
BHL 500'FSL & 1047'FWL									

Checked By: _____	Approved By: _____	Date: _____
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