

# PETROLEUM DEVELOPMENT CORP Weld County CO

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

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

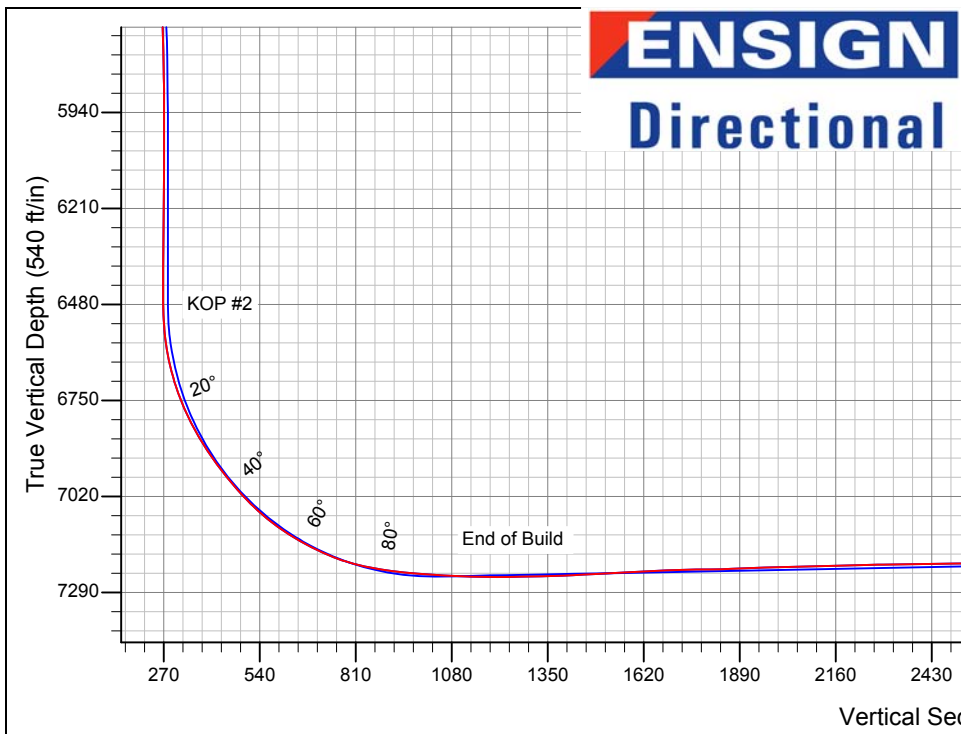
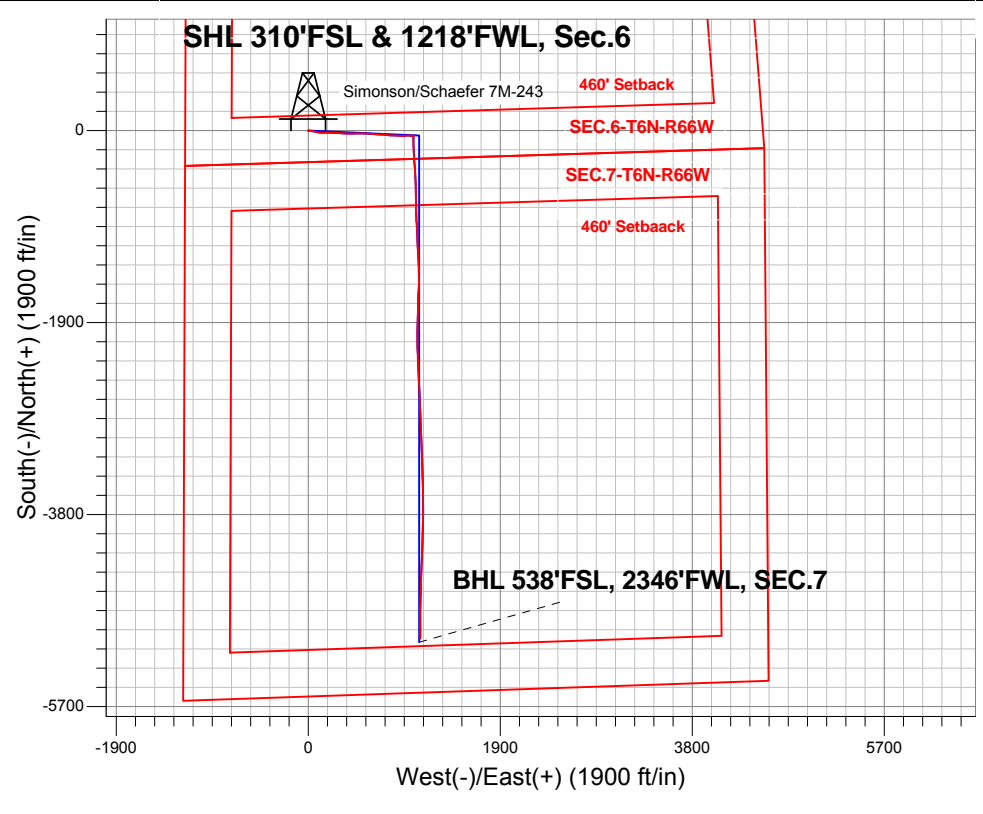
Ground Elevation: 4891.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1429290.75	3186878.90	40.509860	-104.827910	

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

## FINAL SURVEY

Projected Bottom Hole Location  
 11994'MD 7177'TVD 5026'S &  
 1110'E of SHL 90.20 degree Incl  
 @ 180.00 degree AZM



Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W  
 Simonson/Schaefer 7M-243  
 Wellbore #1  
 10:59, July 11 2013

### ANNOTATIONS

No annotation data is available.

### LEGEND

- Simonson/Schaefer 7M-243, Wellbore #1, Plan #4 (6-25-13)R 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 7M-243

Wellbore #1

Survey: Survey #1

## Standard Survey Report

11 July, 2013



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7M-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 7M-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

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

<b>Well</b>	Simonson/Schaefer 7M-243					
<b>Well Position</b>	<b>+N-S</b>	0.0 ft	<b>Northing:</b>	1,429,290.75 ft	<b>Latitude:</b>	40.509860
	<b>+E-W</b>	0.0 ft	<b>Easting:</b>	3,186,878.90 ft	<b>Longitude:</b>	-104.827910
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	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	6/25/2013	8.63	67.06	52,968

<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>	
	7,166.0	0.0	0.0	167.76	

<b>Survey Program</b>	Date 7/11/2013				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
144.0	11,994.0	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	
144.0	0.80	189.90	144.0	-1.0	-0.2	0.9	0.56	0.56	0.00	
234.0	0.90	168.10	234.0	-2.3	-0.1	2.2	0.37	0.11	-24.22	
325.0	1.60	79.40	325.0	-2.8	1.3	3.0	2.00	0.77	-97.47	
417.0	4.40	90.30	416.8	-2.5	6.1	3.8	3.09	3.04	11.85	
508.0	7.40	93.70	507.3	-2.9	15.4	6.1	3.32	3.30	3.74	
600.0	8.90	97.10	598.4	-4.2	28.4	10.1	1.71	1.63	3.70	
690.0	9.00	101.40	687.3	-6.5	42.2	15.3	0.75	0.11	4.78	
781.0	9.50	103.40	777.1	-9.6	56.5	21.4	0.65	0.55	2.20	
872.0	10.50	101.30	866.8	-13.0	71.9	27.9	1.17	1.10	-2.31	
968.0	10.80	101.30	961.1	-16.4	89.3	35.0	0.31	0.31	0.00	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7M-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 7M-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)	
1,060.0	11.90	98.40	1,051.3	-19.5	107.1	41.8	1.35	1.20	-3.15	
1,151.0	12.40	96.10	1,140.3	-21.9	126.1	48.2	0.76	0.55	-2.53	
1,247.0	12.00	87.50	1,234.1	-22.6	146.4	53.1	1.94	-0.42	-8.96	
1,343.0	12.20	85.60	1,328.0	-21.4	166.4	56.2	0.46	0.21	-1.98	
1,438.0	13.10	92.70	1,420.7	-21.1	187.2	60.3	1.89	0.95	7.47	
1,534.0	12.60	91.90	1,514.3	-22.0	208.5	65.7	0.55	-0.52	-0.83	
1,629.0	11.70	92.10	1,607.1	-22.7	228.5	70.6	0.95	-0.95	0.21	
1,724.0	12.30	90.40	1,700.1	-23.1	248.3	75.2	0.73	0.63	-1.79	
1,819.0	11.60	90.00	1,793.0	-23.2	267.9	79.4	0.74	-0.74	-0.42	
1,914.0	11.80	93.40	1,886.0	-23.7	287.2	84.1	0.76	0.21	3.58	
2,009.0	13.10	95.40	1,978.8	-25.3	307.6	90.0	1.44	1.37	2.11	
2,104.0	12.00	94.60	2,071.5	-27.1	328.2	96.1	1.17	-1.16	-0.84	
2,200.0	11.10	91.90	2,165.6	-28.2	347.3	101.2	1.09	-0.94	-2.81	
2,295.0	11.40	94.40	2,258.7	-29.3	365.8	106.2	0.60	0.32	2.63	
2,390.0	11.90	92.40	2,351.8	-30.4	385.0	111.3	0.68	0.53	-2.11	
2,484.0	11.10	90.40	2,443.9	-30.9	403.7	115.8	0.95	-0.85	-2.13	
2,579.0	12.00	86.70	2,537.0	-30.4	422.7	119.3	1.23	0.95	-3.89	
2,674.0	11.30	88.20	2,630.0	-29.5	441.9	122.5	0.80	-0.74	1.58	
2,769.0	11.30	85.60	2,723.2	-28.5	460.5	125.5	0.54	0.00	-2.74	
2,863.0	12.20	91.20	2,815.2	-28.0	479.6	129.0	1.54	0.96	5.96	
2,959.0	11.00	88.70	2,909.3	-28.0	498.9	133.1	1.35	-1.25	-2.60	
3,054.0	10.60	93.80	3,002.6	-28.4	516.7	137.3	1.09	-0.42	5.37	
3,149.0	11.40	92.80	3,095.8	-29.4	534.8	142.1	0.87	0.84	-1.05	
3,244.0	11.30	90.80	3,189.0	-30.0	553.4	146.7	0.43	-0.11	-2.11	
3,339.0	11.60	93.30	3,282.1	-30.7	572.3	151.3	0.61	0.32	2.63	
3,435.0	10.80	90.80	3,376.2	-31.4	590.9	155.9	0.97	-0.83	-2.60	
3,530.0	10.30	92.40	3,469.6	-31.8	608.3	160.1	0.61	-0.53	1.68	
3,625.0	10.20	91.00	3,563.1	-32.3	625.2	164.2	0.28	-0.11	-1.47	
3,721.0	9.20	97.60	3,657.8	-33.5	641.3	168.7	1.56	-1.04	6.88	
3,816.0	11.00	95.00	3,751.3	-35.3	657.9	174.0	1.95	1.89	-2.74	
3,912.0	11.40	96.10	3,845.5	-37.1	676.4	179.7	0.47	0.42	1.15	
4,007.0	12.40	95.10	3,938.4	-39.0	695.9	185.7	1.07	1.05	-1.05	
4,102.0	13.50	92.80	4,031.0	-40.5	717.1	191.6	1.28	1.16	-2.42	
4,197.0	13.20	93.80	4,123.4	-41.7	739.0	197.5	0.40	-0.32	1.05	
4,292.0	11.20	93.40	4,216.3	-43.0	759.1	202.9	2.11	-2.11	-0.42	
4,387.0	11.80	94.70	4,309.4	-44.3	778.0	208.3	0.69	0.63	1.37	
4,483.0	12.40	95.30	4,403.2	-46.1	798.0	214.2	0.64	0.63	0.63	
4,578.0	13.20	92.40	4,495.9	-47.5	819.0	220.0	1.08	0.84	-3.05	
4,673.0	13.00	93.00	4,588.4	-48.5	840.5	225.6	0.25	-0.21	0.63	
4,768.0	11.60	93.90	4,681.2	-49.7	860.7	231.1	1.49	-1.47	0.95	
4,862.0	10.90	95.40	4,773.4	-51.2	879.0	236.4	0.81	-0.74	1.60	
4,958.0	10.70	90.30	4,867.7	-52.1	896.9	241.1	1.02	-0.21	-5.31	
5,054.0	9.90	92.50	4,962.2	-52.5	914.1	245.1	0.93	-0.83	2.29	
5,149.0	10.20	88.70	5,055.7	-52.7	930.7	248.8	0.77	0.32	-4.00	
5,244.0	8.10	89.80	5,149.5	-52.4	945.8	251.8	2.22	-2.21	1.16	
5,340.0	7.80	85.30	5,244.6	-51.9	959.0	254.0	0.72	-0.31	-4.69	
5,435.0	7.60	84.10	5,338.7	-50.7	971.7	255.6	0.27	-0.21	-1.26	
5,530.0	6.90	90.30	5,433.0	-50.1	983.7	257.5	1.10	-0.74	6.53	
5,625.0	7.50	92.50	5,527.2	-50.4	995.6	260.3	0.69	0.63	2.32	
5,721.0	7.80	98.20	5,622.4	-51.6	1,008.3	264.2	0.85	0.31	5.94	
5,816.0	6.60	90.70	5,716.6	-52.6	1,020.1	267.7	1.60	-1.26	-7.89	
5,910.0	4.90	89.80	5,810.1	-52.6	1,029.5	269.7	1.81	-1.81	-0.96	
6,005.0	3.00	79.00	5,904.9	-52.1	1,036.0	270.6	2.14	-2.00	-11.37	

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Survey										
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6,101.0	1.80	81.10	6,000.8	-51.4	1,040.0	270.8	1.25	-1.25	2.19	
6,196.0	1.20	69.70	6,095.8	-50.9	1,042.4	270.7	0.70	-0.63	-12.00	
6,291.0	0.60	40.40	6,190.8	-50.1	1,043.6	270.3	0.78	-0.63	-30.84	
6,386.0	0.90	348.60	6,285.8	-49.0	1,043.8	269.2	0.75	0.32	-54.53	
6,482.0	0.70	324.20	6,381.8	-47.8	1,043.3	267.9	0.41	-0.21	-25.42	
6,577.0	1.10	209.40	6,476.7	-48.1	1,042.5	268.1	1.61	0.42	-120.84	
6,610.0	2.90	191.90	6,509.7	-49.2	1,042.2	269.1	5.70	5.45	-53.03	
6,642.0	4.70	191.70	6,541.7	-51.3	1,041.8	271.0	5.63	5.63	-0.63	
6,673.0	7.00	187.20	6,572.5	-54.4	1,041.3	273.9	7.56	7.42	-14.52	
6,705.0	9.50	183.70	6,604.2	-59.0	1,040.9	278.3	7.97	7.81	-10.94	
6,737.0	12.10	182.50	6,635.6	-65.0	1,040.6	284.1	8.15	8.13	-3.75	
6,768.0	14.50	180.90	6,665.8	-72.1	1,040.4	291.0	7.83	7.74	-5.16	
6,801.0	17.50	179.80	6,697.5	-81.2	1,040.3	299.9	9.14	9.09	-3.33	
6,832.0	20.10	178.40	6,726.8	-91.2	1,040.5	309.7	8.51	8.39	-4.52	
6,864.0	22.70	178.60	6,756.6	-102.9	1,040.8	321.2	8.13	8.13	0.63	
6,896.0	24.80	178.30	6,785.9	-115.7	1,041.1	333.8	6.57	6.56	-0.94	
6,927.0	27.30	177.70	6,813.7	-129.3	1,041.6	347.2	8.11	8.06	-1.94	
6,959.0	30.10	178.50	6,841.8	-144.7	1,042.1	362.4	8.83	8.75	2.50	
6,990.0	32.30	178.20	6,868.3	-160.8	1,042.6	378.1	7.11	7.10	-0.97	
7,022.0	34.10	177.60	6,895.1	-178.3	1,043.2	395.4	5.72	5.63	-1.88	
7,054.0	36.00	176.70	6,921.3	-196.6	1,044.1	413.5	6.15	5.94	-2.81	
7,085.0	37.90	177.30	6,946.1	-215.2	1,045.1	431.9	6.24	6.13	1.94	
7,117.0	39.80	177.40	6,971.0	-235.3	1,046.0	451.7	5.94	5.94	0.31	
7,149.0	41.50	177.70	6,995.3	-256.1	1,046.9	472.2	5.35	5.31	0.94	
7,180.0	43.30	176.80	7,018.2	-277.0	1,047.9	492.9	6.13	5.81	-2.90	
7,212.0	45.40	175.90	7,041.0	-299.3	1,049.4	515.0	6.85	6.56	-2.81	
7,243.0	48.10	175.60	7,062.3	-321.8	1,051.0	537.3	8.74	8.71	-0.97	
7,275.0	51.00	175.10	7,083.0	-346.1	1,053.0	561.5	9.14	9.06	-1.56	
7,307.0	54.10	175.40	7,102.5	-371.4	1,055.1	586.7	9.72	9.69	0.94	
7,338.0	57.00	175.60	7,120.0	-396.9	1,057.1	612.0	9.37	9.35	0.65	
7,370.0	59.70	176.70	7,136.8	-424.1	1,058.9	638.9	8.93	8.44	3.44	
7,402.0	61.60	177.00	7,152.5	-451.9	1,060.5	666.5	5.99	5.94	0.94	
7,434.0	63.70	177.80	7,167.2	-480.3	1,061.8	694.5	6.93	6.56	2.50	
7,465.0	66.50	178.30	7,180.3	-508.4	1,062.7	722.1	9.15	9.03	1.61	
7,497.0	69.50	178.70	7,192.2	-538.1	1,063.5	751.3	9.45	9.38	1.25	
7,529.0	72.60	178.40	7,202.6	-568.3	1,064.3	781.0	9.73	9.69	-0.94	
7,560.0	75.90	178.10	7,211.0	-598.1	1,065.2	810.4	10.69	10.65	-0.97	
7,592.0	78.70	179.20	7,218.1	-629.3	1,065.9	841.0	9.37	8.75	3.44	
7,624.0	80.80	179.80	7,223.8	-660.8	1,066.2	871.8	6.82	6.56	1.88	
7,655.0	82.00	180.30	7,228.4	-691.5	1,066.1	901.8	4.19	3.87	1.61	
7,681.0	83.10	179.50	7,231.8	-717.2	1,066.2	927.0	5.22	4.23	-3.08	
7,758.0	86.60	178.80	7,238.7	-793.9	1,067.3	1,002.2	4.63	4.55	-0.91	
7,788.0	86.70	178.30	7,240.4	-823.9	1,068.1	1,031.6	1.70	0.33	-1.67	
7,819.0	86.80	177.30	7,242.2	-854.8	1,069.3	1,062.0	3.24	0.32	-3.23	
7,850.0	87.00	177.40	7,243.9	-885.7	1,070.7	1,092.6	0.72	0.65	0.32	
7,880.0	87.70	175.90	7,245.3	-915.6	1,072.5	1,122.2	5.51	2.33	-5.00	
7,911.0	89.30	177.40	7,246.1	-946.6	1,074.3	1,152.8	7.07	5.16	4.84	
7,942.0	90.00	177.40	7,246.3	-977.5	1,075.7	1,183.4	2.26	2.26	0.00	
7,973.0	90.20	177.10	7,246.2	-1,008.5	1,077.2	1,213.9	1.16	0.65	-0.97	
8,003.0	90.20	176.70	7,246.1	-1,038.4	1,078.8	1,243.5	1.33	0.00	-1.33	
8,034.0	90.70	177.40	7,245.9	-1,069.4	1,080.4	1,274.1	2.77	1.61	2.26	
8,062.0	91.40	177.40	7,245.4	-1,097.4	1,081.6	1,301.7	2.50	2.50	0.00	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7M-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 7M-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)	
8,093.0	91.40	177.40	7,244.6	-1,128.3	1,083.1	1,332.3	0.00	0.00	0.00	
8,123.0	91.50	177.20	7,243.8	-1,158.3	1,084.5	1,361.9	0.75	0.33	-0.67	
8,154.0	92.10	177.30	7,242.9	-1,189.2	1,086.0	1,392.4	1.96	1.94	0.32	
8,184.0	92.70	176.90	7,241.6	-1,219.2	1,087.5	1,422.0	2.40	2.00	-1.33	
8,214.0	93.50	175.90	7,240.0	-1,249.1	1,089.4	1,451.6	4.26	2.67	-3.33	
8,245.0	93.80	177.10	7,238.0	-1,279.9	1,091.2	1,482.2	3.98	0.97	3.87	
8,275.0	92.70	177.50	7,236.3	-1,309.9	1,092.7	1,511.7	3.90	-3.67	1.33	
8,306.0	92.10	178.60	7,235.0	-1,340.8	1,093.7	1,542.2	4.04	-1.94	3.55	
8,336.0	92.40	178.30	7,233.8	-1,370.8	1,094.5	1,571.7	1.41	1.00	-1.00	
8,367.0	93.30	178.50	7,232.3	-1,401.7	1,095.4	1,602.1	2.97	2.90	0.65	
8,397.0	93.30	179.40	7,230.6	-1,431.7	1,095.9	1,631.5	3.00	0.00	3.00	
8,428.0	92.90	180.80	7,228.9	-1,462.6	1,095.9	1,661.7	4.69	-1.29	4.52	
8,458.0	92.20	181.40	7,227.6	-1,492.6	1,095.3	1,690.9	3.07	-2.33	2.00	
8,489.0	91.40	181.50	7,226.6	-1,523.6	1,094.5	1,721.0	2.60	-2.58	0.32	
8,519.0	91.00	182.80	7,225.9	-1,553.5	1,093.4	1,750.0	4.53	-1.33	4.33	
8,549.0	90.60	182.80	7,225.5	-1,583.5	1,091.9	1,779.0	1.33	-1.33	0.00	
8,579.0	90.90	182.50	7,225.1	-1,613.5	1,090.5	1,808.0	1.41	1.00	-1.00	
8,610.0	91.20	181.10	7,224.6	-1,644.4	1,089.6	1,838.1	4.62	0.97	-4.52	
8,640.0	91.90	181.80	7,223.8	-1,674.4	1,088.8	1,867.2	3.30	2.33	2.33	
8,671.0	92.00	180.80	7,222.7	-1,705.4	1,088.1	1,897.3	3.24	0.32	-3.23	
8,701.0	92.00	180.70	7,221.7	-1,735.4	1,087.7	1,926.5	0.33	0.00	-0.33	
8,732.0	92.00	180.80	7,220.6	-1,766.3	1,087.3	1,956.7	0.32	0.00	0.32	
8,762.0	92.00	181.90	7,219.5	-1,796.3	1,086.6	1,985.9	3.66	0.00	3.67	
8,792.0	91.40	183.10	7,218.6	-1,826.3	1,085.3	2,014.9	4.47	-2.00	4.00	
8,824.0	91.70	183.10	7,217.8	-1,858.2	1,083.6	2,045.7	0.94	0.94	0.00	
8,856.0	91.60	182.10	7,216.9	-1,890.2	1,082.1	2,076.6	3.14	-0.31	-3.13	
8,888.0	91.20	179.80	7,216.1	-1,922.2	1,081.6	2,107.8	7.29	-1.25	-7.19	
8,919.0	90.30	180.10	7,215.7	-1,953.2	1,081.6	2,138.1	3.06	-2.90	0.97	
8,951.0	90.90	180.60	7,215.3	-1,985.2	1,081.4	2,169.3	2.44	1.88	1.56	
8,983.0	91.80	180.90	7,214.6	-2,017.1	1,081.0	2,200.5	2.96	2.81	0.94	
9,015.0	92.40	180.50	7,213.4	-2,049.1	1,080.6	2,231.6	2.25	1.88	-1.25	
9,047.0	91.60	179.80	7,212.3	-2,081.1	1,080.5	2,262.9	3.32	-2.50	-2.19	
9,078.0	90.60	179.10	7,211.7	-2,112.1	1,080.8	2,293.2	3.94	-3.23	-2.26	
9,110.0	90.90	178.90	7,211.3	-2,144.1	1,081.4	2,324.6	1.13	0.94	-0.63	
9,142.0	90.50	178.00	7,210.9	-2,176.1	1,082.2	2,356.0	3.08	-1.25	-2.81	
9,174.0	90.30	178.40	7,210.7	-2,208.1	1,083.2	2,387.5	1.40	-0.63	1.25	
9,206.0	90.50	176.90	7,210.4	-2,240.0	1,084.6	2,419.0	4.73	0.63	-4.69	
9,237.0	91.20	178.40	7,210.0	-2,271.0	1,085.8	2,449.6	5.34	2.26	4.84	
9,269.0	91.90	178.50	7,209.1	-2,303.0	1,086.7	2,481.0	2.21	2.19	0.31	
9,301.0	90.90	177.50	7,208.3	-2,334.9	1,087.8	2,512.5	4.42	-3.13	-3.13	
9,332.0	89.90	177.90	7,208.1	-2,365.9	1,089.1	2,543.0	3.47	-3.23	1.29	
9,365.0	90.00	177.90	7,208.1	-2,398.9	1,090.3	2,575.5	0.30	0.30	0.00	
9,396.0	90.80	176.90	7,207.9	-2,429.9	1,091.7	2,606.1	4.13	2.58	-3.23	
9,428.0	90.80	176.70	7,207.5	-2,461.8	1,093.5	2,637.7	0.62	0.00	-0.63	
9,460.0	91.60	176.70	7,206.8	-2,493.7	1,095.3	2,669.3	2.50	2.50	0.00	
9,492.0	92.00	177.40	7,205.8	-2,525.7	1,096.9	2,700.8	2.52	1.25	2.19	
9,524.0	91.80	176.60	7,204.7	-2,557.6	1,098.6	2,732.4	2.58	-0.63	-2.50	
9,555.0	90.20	176.80	7,204.2	-2,588.6	1,100.4	2,763.0	5.20	-5.16	0.65	
9,587.0	89.60	177.20	7,204.3	-2,620.5	1,102.1	2,794.6	2.25	-1.88	1.25	
9,619.0	89.70	176.70	7,204.4	-2,652.5	1,103.8	2,826.2	1.59	0.31	-1.56	
9,650.0	90.10	177.50	7,204.5	-2,683.4	1,105.3	2,856.8	2.89	1.29	2.58	
9,682.0	91.50	176.20	7,204.1	-2,715.4	1,107.1	2,888.4	5.97	4.38	-4.06	
9,714.0	91.90	177.80	7,203.1	-2,747.3	1,108.8	2,919.9	5.15	1.25	5.00	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7M-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 7M-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)	
9,745.0	91.60	178.70	7,202.2	-2,778.3	1,109.7	2,950.4	3.06	-0.97	2.90	
9,778.0	90.70	177.60	7,201.5	-2,811.3	1,110.8	2,982.9	4.31	-2.73	-3.33	
9,809.0	90.30	178.90	7,201.2	-2,842.3	1,111.7	3,013.3	4.39	-1.29	4.19	
9,841.0	90.00	178.90	7,201.1	-2,874.2	1,112.4	3,044.7	0.94	-0.94	0.00	
9,873.0	89.00	178.90	7,201.4	-2,906.2	1,113.0	3,076.1	3.13	-3.13	0.00	
9,904.0	88.70	176.80	7,202.0	-2,937.2	1,114.1	3,106.6	6.84	-0.97	-6.77	
9,936.0	88.80	178.10	7,202.7	-2,969.2	1,115.6	3,138.2	4.07	0.31	4.06	
9,968.0	89.10	178.10	7,203.3	-3,001.1	1,116.6	3,169.7	0.94	0.94	0.00	
9,999.0	89.30	176.50	7,203.8	-3,032.1	1,118.1	3,200.2	5.20	0.65	-5.16	
10,031.0	89.40	178.20	7,204.1	-3,064.1	1,119.6	3,231.8	5.32	0.31	5.31	
10,062.0	89.80	176.90	7,204.3	-3,095.0	1,120.9	3,262.3	4.39	1.29	-4.19	
10,094.0	90.20	178.40	7,204.3	-3,127.0	1,122.2	3,293.8	4.85	1.25	4.69	
10,126.0	90.70	178.10	7,204.1	-3,159.0	1,123.2	3,325.3	1.82	1.56	-0.94	
10,157.0	91.50	177.70	7,203.5	-3,190.0	1,124.3	3,355.8	2.89	2.58	-1.29	
10,189.0	92.00	177.60	7,202.5	-3,221.9	1,125.6	3,387.3	1.59	1.56	-0.31	
10,220.0	91.40	178.30	7,201.6	-3,252.9	1,126.7	3,417.8	2.97	-1.94	2.26	
10,252.0	90.70	178.70	7,201.0	-3,284.9	1,127.6	3,449.3	2.52	-2.19	1.25	
10,283.0	91.10	177.60	7,200.5	-3,315.9	1,128.6	3,479.7	3.78	1.29	-3.55	
10,315.0	91.30	178.20	7,199.9	-3,347.8	1,129.7	3,511.2	1.98	0.63	1.88	
10,347.0	90.50	178.40	7,199.4	-3,379.8	1,130.7	3,542.7	2.58	-2.50	0.63	
10,378.0	89.80	178.90	7,199.3	-3,410.8	1,131.4	3,573.1	2.77	-2.26	1.61	
10,410.0	89.80	178.70	7,199.4	-3,442.8	1,132.1	3,604.5	0.62	0.00	-0.63	
10,441.0	90.30	178.70	7,199.4	-3,473.8	1,132.8	3,635.0	1.61	1.61	0.00	
10,473.0	91.10	178.60	7,199.0	-3,505.8	1,133.5	3,666.4	2.52	2.50	-0.31	
10,505.0	91.40	177.50	7,198.3	-3,537.7	1,134.6	3,697.9	3.56	0.94	-3.44	
10,536.0	91.20	178.80	7,197.6	-3,568.7	1,135.6	3,728.4	4.24	-0.65	4.19	
10,568.0	91.20	178.70	7,196.9	-3,600.7	1,136.3	3,759.8	0.31	0.00	-0.31	
10,600.0	90.50	180.00	7,196.4	-3,632.7	1,136.7	3,791.1	4.61	-2.19	4.06	
10,632.0	90.20	180.00	7,196.2	-3,664.7	1,136.7	3,822.4	0.94	-0.94	0.00	
10,663.0	90.30	178.80	7,196.1	-3,695.7	1,137.0	3,852.7	3.88	0.32	-3.87	
10,695.0	90.50	180.20	7,195.9	-3,727.7	1,137.3	3,884.1	4.42	0.63	4.38	
10,727.0	91.00	179.70	7,195.4	-3,759.7	1,137.3	3,915.3	2.21	1.56	-1.56	
10,758.0	90.00	180.10	7,195.2	-3,790.7	1,137.4	3,945.7	3.47	-3.23	1.29	
10,790.0	90.20	179.20	7,195.1	-3,822.7	1,137.6	3,977.0	2.88	0.63	-2.81	
10,822.0	91.00	181.20	7,194.8	-3,854.7	1,137.5	4,008.2	6.73	2.50	6.25	
10,853.0	91.60	182.00	7,194.1	-3,885.7	1,136.6	4,038.3	3.23	1.94	2.58	
10,885.0	92.00	181.90	7,193.1	-3,917.6	1,135.5	4,069.3	1.29	1.25	-0.31	
10,916.0	92.00	181.10	7,192.0	-3,948.6	1,134.7	4,099.4	2.58	0.00	-2.58	
10,948.0	91.00	182.10	7,191.2	-3,980.6	1,133.8	4,130.5	4.42	-3.13	3.13	
10,980.0	90.50	182.10	7,190.7	-4,012.6	1,132.6	4,161.5	1.56	-1.56	0.00	
11,011.0	90.80	182.80	7,190.4	-4,043.5	1,131.3	4,191.5	2.46	0.97	2.26	
11,043.0	90.60	181.30	7,190.0	-4,075.5	1,130.2	4,222.5	4.73	-0.63	-4.69	
11,075.0	90.40	182.30	7,189.7	-4,107.5	1,129.2	4,253.5	3.19	-0.63	3.13	
11,107.0	91.10	182.90	7,189.3	-4,139.4	1,127.7	4,284.4	2.88	2.19	1.88	
11,138.0	91.00	181.50	7,188.7	-4,170.4	1,126.5	4,314.4	4.53	-0.32	-4.52	
11,170.0	91.10	182.50	7,188.1	-4,202.4	1,125.4	4,345.5	3.14	0.31	3.13	
11,201.0	92.00	182.50	7,187.3	-4,233.4	1,124.0	4,375.4	2.90	2.90	0.00	
11,233.0	92.30	182.80	7,186.1	-4,265.3	1,122.6	4,406.3	1.33	0.94	0.94	
11,265.0	92.40	182.80	7,184.8	-4,297.2	1,121.0	4,437.2	0.31	0.31	0.00	
11,296.0	92.50	182.40	7,183.5	-4,328.2	1,119.6	4,467.1	1.33	0.32	-1.29	
11,328.0	92.50	181.10	7,182.1	-4,360.1	1,118.6	4,498.2	4.06	0.00	-4.06	
11,360.0	92.70	181.60	7,180.6	-4,392.1	1,117.9	4,529.2	1.68	0.63	1.56	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Simonson/Schaefer 7M-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 7M-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)
11,393.0	92.90	181.00	7,179.0	-4,425.0	1,117.1	4,561.3	1.91	0.61	-1.82
11,425.0	92.70	180.80	7,177.4	-4,457.0	1,116.6	4,592.4	0.88	-0.63	-0.63
11,456.0	92.40	182.70	7,176.1	-4,487.9	1,115.7	4,622.5	6.20	-0.97	6.13
11,488.0	92.10	182.30	7,174.8	-4,519.9	1,114.3	4,653.4	1.56	-0.94	-1.25
11,520.0	90.70	181.90	7,174.0	-4,551.9	1,113.1	4,684.4	4.55	-4.38	-1.25
11,551.0	89.60	181.00	7,173.9	-4,582.8	1,112.3	4,714.5	4.58	-3.55	-2.90
11,583.0	88.80	180.80	7,174.4	-4,614.8	1,111.8	4,745.6	2.58	-2.50	-0.63
11,615.0	89.10	181.30	7,175.0	-4,646.8	1,111.2	4,776.8	1.82	0.94	1.56
11,647.0	88.90	181.60	7,175.5	-4,678.8	1,110.4	4,807.9	1.13	-0.63	0.94
11,679.0	88.90	180.70	7,176.2	-4,710.8	1,109.8	4,839.0	2.81	0.00	-2.81
11,710.0	89.20	180.60	7,176.7	-4,741.8	1,109.4	4,869.2	1.02	0.97	-0.32
11,743.0	89.40	180.50	7,177.1	-4,774.8	1,109.1	4,901.4	0.68	0.61	-0.30
11,774.0	89.50	179.90	7,177.4	-4,805.8	1,109.0	4,931.7	1.96	0.32	-1.94
11,806.0	89.90	180.50	7,177.5	-4,837.8	1,108.9	4,962.9	2.25	1.25	1.88
11,838.0	89.90	179.40	7,177.6	-4,869.8	1,108.9	4,994.2	3.44	0.00	-3.44
11,870.0	90.50	179.00	7,177.5	-4,901.8	1,109.4	5,025.5	2.25	1.88	-1.25
11,902.0	90.20	180.00	7,177.3	-4,933.8	1,109.6	5,056.9	3.26	-0.94	3.13
11,933.0	90.20	180.00	7,177.2	-4,964.8	1,109.6	5,087.2	0.00	0.00	0.00
11,994.0	90.20	180.00	7,177.0	-5,025.8	1,109.6	5,146.8	0.00	0.00	0.00
<b>BHL 500'FSL &amp; 2335'FWL</b>									

Checked By: _____	Approved By: _____	Date: _____
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