

PETROLEUM DEVELOPMENT CORP Weld County CO

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

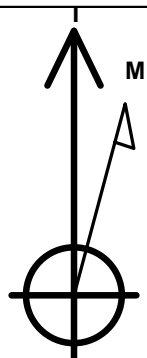
Surface Location: Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

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')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500'FSL & 1047'FWL	7126.0	-5104.1	-130.7	Point



Azimuths to True North
Magnetic North: 8.75°

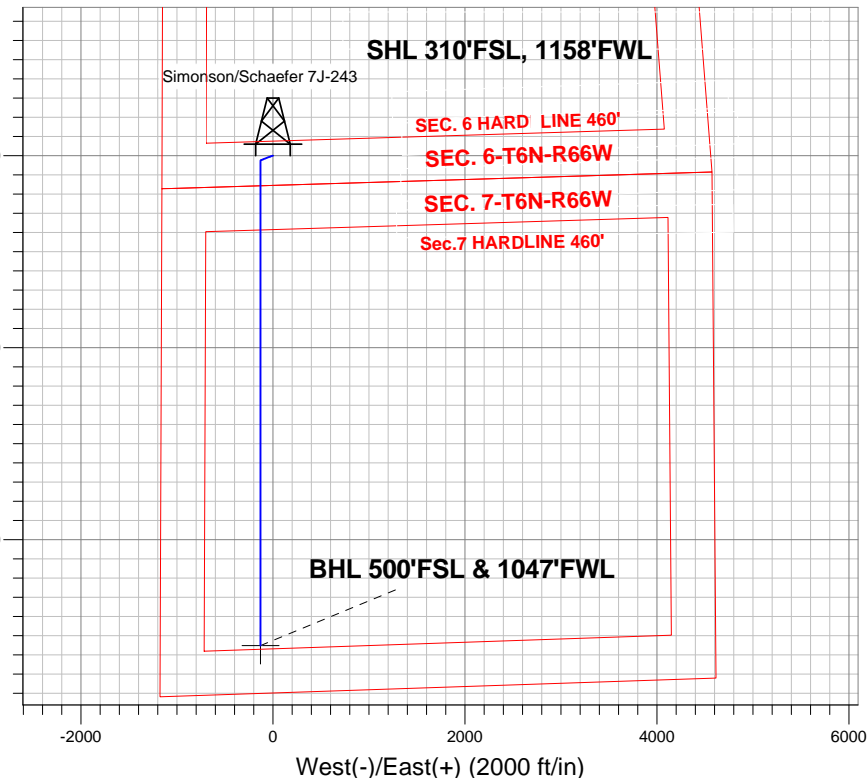
Magnetic Field
Strength: 53059.0snT
Dip Angle: 67.09°
Date: 8/13/2012
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
3000.0	3000.0	KOP #1
6391.2	6399.7	KOP #2
7155.2	7604.9	End of Build

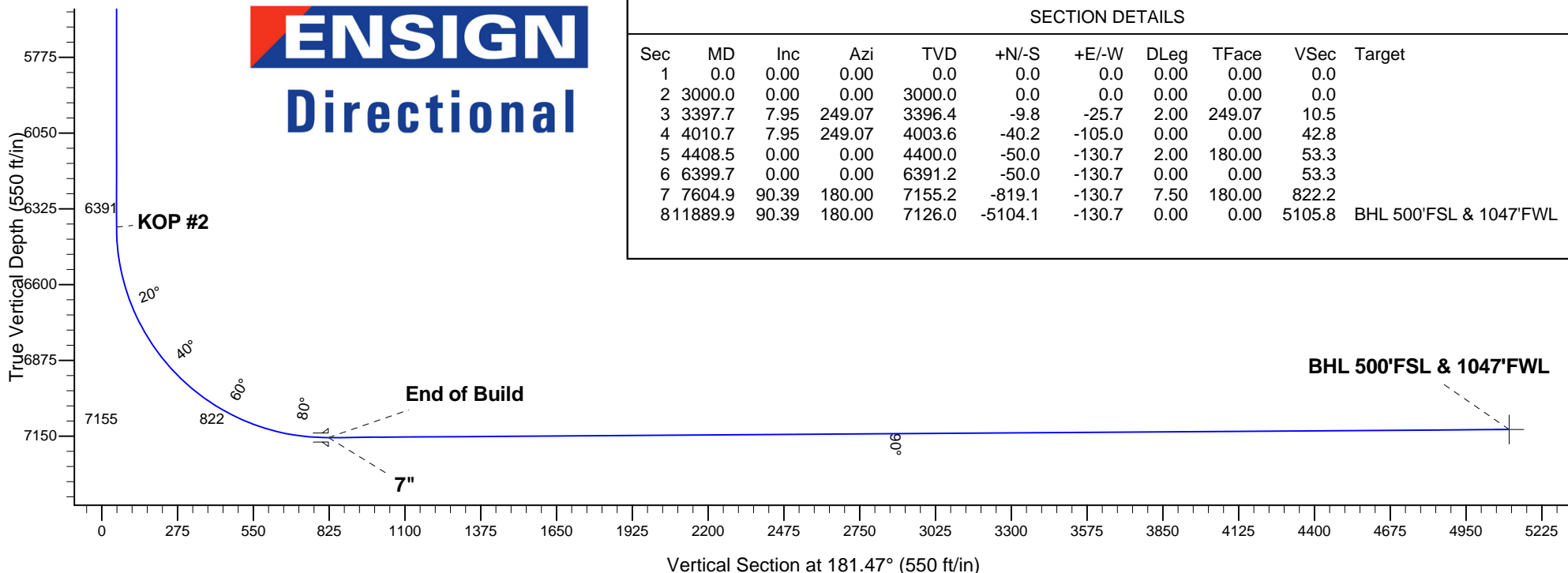
Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W
Simonson/Schaefer 7J-243
Plan #1 (8-9-12)
15:29, August 13 2012

South(-)/North(+) (2000 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3397.7	7.95	249.07	3396.4	-9.8	-25.7	2.00	249.07	10.5	
4	4010.7	7.95	249.07	4003.6	-40.2	-105.0	0.00	0.00	42.8	
5	4408.5	0.00	0.00	4400.0	-50.0	-130.7	2.00	180.00	53.3	
6	6399.7	0.00	0.00	6391.2	-50.0	-130.7	0.00	0.00	53.3	
7	7604.9	90.39	180.00	7155.2	-819.1	-130.7	7.50	180.00	822.2	
8	11889.9	90.39	180.00	7126.0	-5104.1	-130.7	0.00	0.00	5105.8	BHL 500'FSL & 1047'FWL





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

Plan: Plan #1 (8-9-12)

Standard Planning Report

13 August, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Project	SEC.6-T6N-R66W, 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						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	30.6 ft	Easting:	3,186,820.53 ft	Longitude:	-104.828120
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,891.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/13/2012	8.75	67.09	53,059

Design	Plan #1 (8-9-12)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	181.47

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,397.7	7.95	249.07	3,396.4	-9.8	-25.7	2.00	2.00	0.00	249.07	
4,010.7	7.95	249.07	4,003.6	-40.2	-105.0	0.00	0.00	0.00	0.00	
4,408.5	0.00	0.00	4,400.0	-50.0	-130.7	2.00	-2.00	0.00	180.00	
6,399.7	0.00	0.00	6,391.2	-50.0	-130.7	0.00	0.00	0.00	0.00	
7,604.9	90.39	180.00	7,155.2	-819.1	-130.7	7.50	7.50	0.00	180.00	
11,889.9	90.39	180.00	7,126.0	-5,104.1	-130.7	0.00	0.00	0.00	0.00	BHL 500'FSL & 104

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Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00

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Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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)
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
3,040.0	0.80	249.07	3,040.0	-0.1	-0.3	0.1	2.00	2.00	0.00
3,080.0	1.60	249.07	3,080.0	-0.4	-1.0	0.4	2.00	2.00	0.00
3,120.0	2.40	249.07	3,120.0	-0.9	-2.3	1.0	2.00	2.00	0.00
3,160.0	3.20	249.07	3,159.9	-1.6	-4.2	1.7	2.00	2.00	0.00
3,200.0	4.00	249.07	3,199.8	-2.5	-6.5	2.7	2.00	2.00	0.00
3,240.0	4.80	249.07	3,239.7	-3.6	-9.4	3.8	2.00	2.00	0.00
3,280.0	5.60	249.07	3,279.6	-4.9	-12.8	5.2	2.00	2.00	0.00
3,320.0	6.40	249.07	3,319.3	-6.4	-16.7	6.8	2.00	2.00	0.00
3,360.0	7.20	249.07	3,359.1	-8.1	-21.1	8.6	2.00	2.00	0.00
3,397.7	7.95	249.07	3,396.4	-9.8	-25.7	10.5	2.00	2.00	0.00
3,400.0	7.95	249.07	3,398.7	-10.0	-26.0	10.6	0.00	0.00	0.00
3,440.0	7.95	249.07	3,438.3	-11.9	-31.2	12.7	0.00	0.00	0.00
3,480.0	7.95	249.07	3,477.9	-13.9	-36.4	14.8	0.00	0.00	0.00
3,520.0	7.95	249.07	3,517.5	-15.9	-41.5	17.0	0.00	0.00	0.00
3,560.0	7.95	249.07	3,557.2	-17.9	-46.7	19.1	0.00	0.00	0.00
3,600.0	7.95	249.07	3,596.8	-19.8	-51.9	21.2	0.00	0.00	0.00
3,640.0	7.95	249.07	3,636.4	-21.8	-57.1	23.3	0.00	0.00	0.00
3,680.0	7.95	249.07	3,676.0	-23.8	-62.2	25.4	0.00	0.00	0.00
3,720.0	7.95	249.07	3,715.6	-25.8	-67.4	27.5	0.00	0.00	0.00
3,760.0	7.95	249.07	3,755.2	-27.8	-72.6	29.6	0.00	0.00	0.00
3,800.0	7.95	249.07	3,794.9	-29.7	-77.7	31.7	0.00	0.00	0.00
3,840.0	7.95	249.07	3,834.5	-31.7	-82.9	33.8	0.00	0.00	0.00
3,880.0	7.95	249.07	3,874.1	-33.7	-88.1	35.9	0.00	0.00	0.00
3,920.0	7.95	249.07	3,913.7	-35.7	-93.2	38.0	0.00	0.00	0.00
3,960.0	7.95	249.07	3,953.3	-37.6	-98.4	40.2	0.00	0.00	0.00
4,000.0	7.95	249.07	3,992.9	-39.6	-103.6	42.3	0.00	0.00	0.00
4,010.7	7.95	249.07	4,003.6	-40.2	-105.0	42.8	0.00	0.00	0.00

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Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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)
4,040.0	7.37	249.07	4,032.6	-41.5	-108.6	44.3	2.00	-2.00	0.00
4,080.0	6.57	249.07	4,072.3	-43.3	-113.2	46.2	2.00	-2.00	0.00
4,120.0	5.77	249.07	4,112.0	-44.8	-117.2	47.8	2.00	-2.00	0.00
4,160.0	4.97	249.07	4,151.9	-46.2	-120.7	49.2	2.00	-2.00	0.00
4,200.0	4.17	249.07	4,191.7	-47.3	-123.6	50.4	2.00	-2.00	0.00
4,240.0	3.37	249.07	4,231.6	-48.2	-126.1	51.4	2.00	-2.00	0.00
4,280.0	2.57	249.07	4,271.6	-49.0	-128.0	52.2	2.00	-2.00	0.00
4,320.0	1.77	249.07	4,311.6	-49.5	-129.4	52.8	2.00	-2.00	0.00
4,360.0	0.97	249.07	4,351.6	-49.9	-130.3	53.2	2.00	-2.00	0.00
4,400.0	0.17	249.07	4,391.5	-50.0	-130.7	53.3	2.00	-2.00	0.00
4,408.5	0.00	0.00	4,400.0	-50.0	-130.7	53.3	2.00	-2.00	0.00
4,440.0	0.00	0.00	4,431.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,480.0	0.00	0.00	4,471.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,520.0	0.00	0.00	4,511.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,560.0	0.00	0.00	4,551.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,600.0	0.00	0.00	4,591.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,640.0	0.00	0.00	4,631.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,680.0	0.00	0.00	4,671.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,720.0	0.00	0.00	4,711.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,760.0	0.00	0.00	4,751.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,800.0	0.00	0.00	4,791.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,840.0	0.00	0.00	4,831.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,880.0	0.00	0.00	4,871.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,920.0	0.00	0.00	4,911.5	-50.0	-130.7	53.3	0.00	0.00	0.00
4,960.0	0.00	0.00	4,951.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,991.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,040.0	0.00	0.00	5,031.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,080.0	0.00	0.00	5,071.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,120.0	0.00	0.00	5,111.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,160.0	0.00	0.00	5,151.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,191.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,240.0	0.00	0.00	5,231.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,280.0	0.00	0.00	5,271.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,320.0	0.00	0.00	5,311.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,360.0	0.00	0.00	5,351.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,391.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,440.0	0.00	0.00	5,431.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,480.0	0.00	0.00	5,471.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,520.0	0.00	0.00	5,511.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,560.0	0.00	0.00	5,551.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,591.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,640.0	0.00	0.00	5,631.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,680.0	0.00	0.00	5,671.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,720.0	0.00	0.00	5,711.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,760.0	0.00	0.00	5,751.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,791.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,840.0	0.00	0.00	5,831.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,880.0	0.00	0.00	5,871.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,920.0	0.00	0.00	5,911.5	-50.0	-130.7	53.3	0.00	0.00	0.00
5,960.0	0.00	0.00	5,951.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,991.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,040.0	0.00	0.00	6,031.5	-50.0	-130.7	53.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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)
6,080.0	0.00	0.00	6,071.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,120.0	0.00	0.00	6,111.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,160.0	0.00	0.00	6,151.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,200.0	0.00	0.00	6,191.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,240.0	0.00	0.00	6,231.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,280.0	0.00	0.00	6,271.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,320.0	0.00	0.00	6,311.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,360.0	0.00	0.00	6,351.5	-50.0	-130.7	53.3	0.00	0.00	0.00
6,399.7	0.00	0.00	6,391.2	-50.0	-130.7	53.3	0.00	0.00	0.00
KOP #2									
6,400.0	0.02	180.00	6,391.5	-50.0	-130.7	53.3	7.75	7.75	0.00
6,440.0	3.02	180.00	6,431.5	-51.1	-130.7	54.4	7.50	7.50	0.00
6,480.0	6.02	180.00	6,471.4	-54.2	-130.7	57.5	7.50	7.50	0.00
6,520.0	9.02	180.00	6,511.1	-59.5	-130.7	62.8	7.50	7.50	0.00
6,560.0	12.02	180.00	6,550.4	-66.8	-130.7	70.1	7.50	7.50	0.00
6,600.0	15.02	180.00	6,589.3	-76.1	-130.7	79.4	7.50	7.50	0.00
6,640.0	18.02	180.00	6,627.6	-87.5	-130.7	90.8	7.50	7.50	0.00
6,680.0	21.02	180.00	6,665.3	-100.9	-130.7	104.2	7.50	7.50	0.00
6,720.0	24.02	180.00	6,702.2	-116.2	-130.7	119.5	7.50	7.50	0.00
6,760.0	27.02	180.00	6,738.3	-133.4	-130.7	136.7	7.50	7.50	0.00
6,800.0	30.02	180.00	6,773.5	-152.5	-130.7	155.8	7.50	7.50	0.00
6,840.0	33.02	180.00	6,807.6	-173.4	-130.7	176.7	7.50	7.50	0.00
6,880.0	36.02	180.00	6,840.5	-196.1	-130.7	199.4	7.50	7.50	0.00
6,920.0	39.02	180.00	6,872.2	-220.4	-130.7	223.7	7.50	7.50	0.00
6,960.0	42.02	180.00	6,902.6	-246.4	-130.7	249.7	7.50	7.50	0.00
7,000.0	45.02	180.00	6,931.6	-274.0	-130.7	277.2	7.50	7.50	0.00
7,040.0	48.02	180.00	6,959.2	-303.0	-130.7	306.2	7.50	7.50	0.00
7,080.0	51.02	180.00	6,985.1	-333.4	-130.7	336.7	7.50	7.50	0.00
7,120.0	54.02	180.00	7,009.5	-365.2	-130.7	368.4	7.50	7.50	0.00
7,160.0	57.02	180.00	7,032.1	-398.1	-130.7	401.3	7.50	7.50	0.00
7,200.0	60.02	180.00	7,053.0	-432.2	-130.7	435.4	7.50	7.50	0.00
7,240.0	63.02	180.00	7,072.1	-467.4	-130.7	470.6	7.50	7.50	0.00
7,280.0	66.02	180.00	7,089.3	-503.5	-130.7	506.7	7.50	7.50	0.00
7,320.0	69.02	180.00	7,104.6	-540.5	-130.7	543.6	7.50	7.50	0.00
7,360.0	72.02	180.00	7,117.9	-578.2	-130.7	581.3	7.50	7.50	0.00
7,400.0	75.02	180.00	7,129.2	-616.5	-130.7	619.7	7.50	7.50	0.00
7,440.0	78.02	180.00	7,138.6	-655.4	-130.7	658.5	7.50	7.50	0.00
7,480.0	81.02	180.00	7,145.8	-694.7	-130.7	697.9	7.50	7.50	0.00
7,520.0	84.02	180.00	7,151.0	-734.4	-130.7	737.5	7.50	7.50	0.00
7,560.0	87.02	180.00	7,154.2	-774.3	-130.7	777.4	7.50	7.50	0.00
7,600.0	90.02	180.00	7,155.2	-814.3	-130.7	817.3	7.50	7.50	0.00
7,604.9	90.39	180.00	7,155.2	-819.2	-130.7	822.2	7.49	7.49	0.00
End of Build - 7"									
7,640.0	90.39	180.00	7,154.9	-854.3	-130.7	857.3	0.00	0.00	0.00
7,680.0	90.39	180.00	7,154.7	-894.3	-130.7	897.3	0.00	0.00	0.00
7,720.0	90.39	180.00	7,154.4	-934.3	-130.7	937.3	0.00	0.00	0.00
7,760.0	90.39	180.00	7,154.1	-974.2	-130.7	977.3	0.00	0.00	0.00
7,800.0	90.39	180.00	7,153.8	-1,014.2	-130.7	1,017.3	0.00	0.00	0.00
7,840.0	90.39	180.00	7,153.6	-1,054.2	-130.7	1,057.2	0.00	0.00	0.00
7,880.0	90.39	180.00	7,153.3	-1,094.2	-130.7	1,097.2	0.00	0.00	0.00
7,920.0	90.39	180.00	7,153.0	-1,134.2	-130.7	1,137.2	0.00	0.00	0.00
7,960.0	90.39	180.00	7,152.8	-1,174.2	-130.7	1,177.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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)
8,000.0	90.39	180.00	7,152.5	-1,214.2	-130.7	1,217.2	0.00	0.00	0.00
8,040.0	90.39	180.00	7,152.2	-1,254.2	-130.7	1,257.2	0.00	0.00	0.00
8,080.0	90.39	180.00	7,151.9	-1,294.2	-130.7	1,297.2	0.00	0.00	0.00
8,120.0	90.39	180.00	7,151.7	-1,334.2	-130.7	1,337.2	0.00	0.00	0.00
8,160.0	90.39	180.00	7,151.4	-1,374.2	-130.7	1,377.1	0.00	0.00	0.00
8,200.0	90.39	180.00	7,151.1	-1,414.2	-130.7	1,417.1	0.00	0.00	0.00
8,240.0	90.39	180.00	7,150.8	-1,454.2	-130.7	1,457.1	0.00	0.00	0.00
8,280.0	90.39	180.00	7,150.6	-1,494.2	-130.7	1,497.1	0.00	0.00	0.00
8,320.0	90.39	180.00	7,150.3	-1,534.2	-130.7	1,537.1	0.00	0.00	0.00
8,360.0	90.39	180.00	7,150.0	-1,574.2	-130.7	1,577.1	0.00	0.00	0.00
8,400.0	90.39	180.00	7,149.8	-1,614.2	-130.7	1,617.1	0.00	0.00	0.00
8,440.0	90.39	180.00	7,149.5	-1,654.2	-130.7	1,657.0	0.00	0.00	0.00
8,480.0	90.39	180.00	7,149.2	-1,694.2	-130.7	1,697.0	0.00	0.00	0.00
8,520.0	90.39	180.00	7,148.9	-1,734.2	-130.7	1,737.0	0.00	0.00	0.00
8,560.0	90.39	180.00	7,148.7	-1,774.2	-130.7	1,777.0	0.00	0.00	0.00
8,600.0	90.39	180.00	7,148.4	-1,814.2	-130.7	1,817.0	0.00	0.00	0.00
8,640.0	90.39	180.00	7,148.1	-1,854.2	-130.7	1,857.0	0.00	0.00	0.00
8,680.0	90.39	180.00	7,147.8	-1,894.2	-130.7	1,897.0	0.00	0.00	0.00
8,720.0	90.39	180.00	7,147.6	-1,934.2	-130.7	1,936.9	0.00	0.00	0.00
8,760.0	90.39	180.00	7,147.3	-1,974.2	-130.7	1,976.9	0.00	0.00	0.00
8,800.0	90.39	180.00	7,147.0	-2,014.2	-130.7	2,016.9	0.00	0.00	0.00
8,840.0	90.39	180.00	7,146.8	-2,054.2	-130.7	2,056.9	0.00	0.00	0.00
8,880.0	90.39	180.00	7,146.5	-2,094.2	-130.7	2,096.9	0.00	0.00	0.00
8,920.0	90.39	180.00	7,146.2	-2,134.2	-130.7	2,136.9	0.00	0.00	0.00
8,960.0	90.39	180.00	7,145.9	-2,174.2	-130.7	2,176.9	0.00	0.00	0.00
9,000.0	90.39	180.00	7,145.7	-2,214.2	-130.7	2,216.8	0.00	0.00	0.00
9,040.0	90.39	180.00	7,145.4	-2,254.2	-130.7	2,256.8	0.00	0.00	0.00
9,080.0	90.39	180.00	7,145.1	-2,294.2	-130.7	2,296.8	0.00	0.00	0.00
9,120.0	90.39	180.00	7,144.9	-2,334.2	-130.7	2,336.8	0.00	0.00	0.00
9,160.0	90.39	180.00	7,144.6	-2,374.2	-130.7	2,376.8	0.00	0.00	0.00
9,200.0	90.39	180.00	7,144.3	-2,414.2	-130.7	2,416.8	0.00	0.00	0.00
9,240.0	90.39	180.00	7,144.0	-2,454.2	-130.7	2,456.8	0.00	0.00	0.00
9,280.0	90.39	180.00	7,143.8	-2,494.2	-130.7	2,496.7	0.00	0.00	0.00
9,320.0	90.39	180.00	7,143.5	-2,534.2	-130.7	2,536.7	0.00	0.00	0.00
9,360.0	90.39	180.00	7,143.2	-2,574.2	-130.7	2,576.7	0.00	0.00	0.00
9,400.0	90.39	180.00	7,142.9	-2,614.2	-130.7	2,616.7	0.00	0.00	0.00
9,440.0	90.39	180.00	7,142.7	-2,654.2	-130.7	2,656.7	0.00	0.00	0.00
9,480.0	90.39	180.00	7,142.4	-2,694.2	-130.7	2,696.7	0.00	0.00	0.00
9,520.0	90.39	180.00	7,142.1	-2,734.2	-130.7	2,736.7	0.00	0.00	0.00
9,560.0	90.39	180.00	7,141.9	-2,774.2	-130.7	2,776.6	0.00	0.00	0.00
9,600.0	90.39	180.00	7,141.6	-2,814.2	-130.7	2,816.6	0.00	0.00	0.00
9,640.0	90.39	180.00	7,141.3	-2,854.2	-130.7	2,856.6	0.00	0.00	0.00
9,680.0	90.39	180.00	7,141.0	-2,894.2	-130.7	2,896.6	0.00	0.00	0.00
9,720.0	90.39	180.00	7,140.8	-2,934.2	-130.7	2,936.6	0.00	0.00	0.00
9,760.0	90.39	180.00	7,140.5	-2,974.2	-130.7	2,976.6	0.00	0.00	0.00
9,800.0	90.39	180.00	7,140.2	-3,014.2	-130.7	3,016.6	0.00	0.00	0.00
9,840.0	90.39	180.00	7,140.0	-3,054.2	-130.7	3,056.5	0.00	0.00	0.00
9,880.0	90.39	180.00	7,139.7	-3,094.2	-130.7	3,096.5	0.00	0.00	0.00
9,920.0	90.39	180.00	7,139.4	-3,134.2	-130.7	3,136.5	0.00	0.00	0.00
9,960.0	90.39	180.00	7,139.1	-3,174.2	-130.7	3,176.5	0.00	0.00	0.00
10,000.0	90.39	180.00	7,138.9	-3,214.2	-130.7	3,216.5	0.00	0.00	0.00
10,040.0	90.39	180.00	7,138.6	-3,254.2	-130.7	3,256.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Planned 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)
10,080.0	90.39	180.00	7,138.3	-3,294.2	-130.7	3,296.5	0.00	0.00	0.00
10,120.0	90.39	180.00	7,138.0	-3,334.2	-130.7	3,336.4	0.00	0.00	0.00
10,160.0	90.39	180.00	7,137.8	-3,374.2	-130.7	3,376.4	0.00	0.00	0.00
10,200.0	90.39	180.00	7,137.5	-3,414.2	-130.7	3,416.4	0.00	0.00	0.00
10,240.0	90.39	180.00	7,137.2	-3,454.2	-130.7	3,456.4	0.00	0.00	0.00
10,280.0	90.39	180.00	7,137.0	-3,494.2	-130.7	3,496.4	0.00	0.00	0.00
10,320.0	90.39	180.00	7,136.7	-3,534.2	-130.7	3,536.4	0.00	0.00	0.00
10,360.0	90.39	180.00	7,136.4	-3,574.2	-130.7	3,576.4	0.00	0.00	0.00
10,400.0	90.39	180.00	7,136.1	-3,614.2	-130.7	3,616.4	0.00	0.00	0.00
10,440.0	90.39	180.00	7,135.9	-3,654.2	-130.7	3,656.3	0.00	0.00	0.00
10,480.0	90.39	180.00	7,135.6	-3,694.2	-130.7	3,696.3	0.00	0.00	0.00
10,520.0	90.39	180.00	7,135.3	-3,734.2	-130.7	3,736.3	0.00	0.00	0.00
10,560.0	90.39	180.00	7,135.1	-3,774.2	-130.7	3,776.3	0.00	0.00	0.00
10,600.0	90.39	180.00	7,134.8	-3,814.2	-130.7	3,816.3	0.00	0.00	0.00
10,640.0	90.39	180.00	7,134.5	-3,854.2	-130.7	3,856.3	0.00	0.00	0.00
10,680.0	90.39	180.00	7,134.2	-3,894.2	-130.7	3,896.3	0.00	0.00	0.00
10,720.0	90.39	180.00	7,134.0	-3,934.2	-130.7	3,936.2	0.00	0.00	0.00
10,760.0	90.39	180.00	7,133.7	-3,974.2	-130.7	3,976.2	0.00	0.00	0.00
10,800.0	90.39	180.00	7,133.4	-4,014.2	-130.7	4,016.2	0.00	0.00	0.00
10,840.0	90.39	180.00	7,133.1	-4,054.2	-130.7	4,056.2	0.00	0.00	0.00
10,880.0	90.39	180.00	7,132.9	-4,094.2	-130.7	4,096.2	0.00	0.00	0.00
10,920.0	90.39	180.00	7,132.6	-4,134.2	-130.7	4,136.2	0.00	0.00	0.00
10,960.0	90.39	180.00	7,132.3	-4,174.2	-130.7	4,176.2	0.00	0.00	0.00
11,000.0	90.39	180.00	7,132.1	-4,214.2	-130.7	4,216.1	0.00	0.00	0.00
11,040.0	90.39	180.00	7,131.8	-4,254.2	-130.7	4,256.1	0.00	0.00	0.00
11,080.0	90.39	180.00	7,131.5	-4,294.2	-130.7	4,296.1	0.00	0.00	0.00
11,120.0	90.39	180.00	7,131.2	-4,334.2	-130.7	4,336.1	0.00	0.00	0.00
11,160.0	90.39	180.00	7,131.0	-4,374.2	-130.7	4,376.1	0.00	0.00	0.00
11,200.0	90.39	180.00	7,130.7	-4,414.2	-130.7	4,416.1	0.00	0.00	0.00
11,240.0	90.39	180.00	7,130.4	-4,454.2	-130.7	4,456.1	0.00	0.00	0.00
11,280.0	90.39	180.00	7,130.2	-4,494.2	-130.7	4,496.0	0.00	0.00	0.00
11,320.0	90.39	180.00	7,129.9	-4,534.2	-130.7	4,536.0	0.00	0.00	0.00
11,360.0	90.39	180.00	7,129.6	-4,574.2	-130.7	4,576.0	0.00	0.00	0.00
11,400.0	90.39	180.00	7,129.3	-4,614.2	-130.7	4,616.0	0.00	0.00	0.00
11,440.0	90.39	180.00	7,129.1	-4,654.2	-130.7	4,656.0	0.00	0.00	0.00
11,480.0	90.39	180.00	7,128.8	-4,694.2	-130.7	4,696.0	0.00	0.00	0.00
11,520.0	90.39	180.00	7,128.5	-4,734.2	-130.7	4,736.0	0.00	0.00	0.00
11,560.0	90.39	180.00	7,128.2	-4,774.2	-130.7	4,775.9	0.00	0.00	0.00
11,600.0	90.39	180.00	7,128.0	-4,814.2	-130.7	4,815.9	0.00	0.00	0.00
11,640.0	90.39	180.00	7,127.7	-4,854.2	-130.7	4,855.9	0.00	0.00	0.00
11,680.0	90.39	180.00	7,127.4	-4,894.2	-130.7	4,895.9	0.00	0.00	0.00
11,720.0	90.39	180.00	7,127.2	-4,934.2	-130.7	4,935.9	0.00	0.00	0.00
11,760.0	90.39	180.00	7,126.9	-4,974.2	-130.7	4,975.9	0.00	0.00	0.00
11,800.0	90.39	180.00	7,126.6	-5,014.2	-130.7	5,015.9	0.00	0.00	0.00
11,840.0	90.39	180.00	7,126.3	-5,054.2	-130.7	5,055.8	0.00	0.00	0.00
11,880.0	90.39	180.00	7,126.1	-5,094.2	-130.7	5,095.8	0.00	0.00	0.00
11,889.9	90.39	180.00	7,126.0	-5,104.1	-130.7	5,105.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-9-12)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,604.9	7,155.2	7"	7	7-1/2	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,000.0	3,000.0	0.0	0.0	KOP #1	
6,399.7	6,391.2	-50.0	-130.7	KOP #2	
7,604.9	7,155.2	-819.2	-130.7	End of Build	



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

Plan #1 (8-9-12)

Anticollision Report

13 August, 2012



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (8-9-12)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/13/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,889.1	Plan #1 (8-9-12) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W						
Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1 (8-9-	166.3	167.3	61.2	60.6	116.482	CC
Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1 (8-9-	200.0	200.0	61.2	60.5	90.736	ES
Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1 (8-9-	11,889.9	11,951.3	845.7	647.9	4.276	SF
Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1 (8-9-	1,000.0	1,000.0	30.6	26.3	7.162	CC, ES
Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1 (8-9-	11,889.9	11,967.5	454.2	269.2	2.455	SF
Simonson/Schaefer 7J-403 - Wellbore #1 - Plan #1 (8-9-	1,000.0	1,000.0	27.8	23.5	6.511	CC, ES
Simonson/Schaefer 7J-403 - Wellbore #1 - Plan #1 (8-9-	11,889.9	11,938.2	450.5	263.9	2.415	SF

Offset Design Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-90.00	0.0	-61.2	61.2	61.2	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-90.00	0.0	-61.2	61.2	60.9	0.23	269.478	
166.3	166.3	167.3	167.3	0.3	0.3	-90.00	0.0	-61.2	61.2	60.6	0.53	116.482	CC
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-61.2	61.2	60.5	0.67	90.736	ES
300.0	300.0	298.9	298.8	0.6	0.5	-90.08	-0.1	-62.9	62.9	61.8	1.11	56.636	
400.0	400.0	396.5	396.3	0.8	0.8	-90.31	-0.4	-67.9	68.1	66.5	1.55	43.843	
500.0	500.0	493.7	493.2	1.0	1.0	-90.61	-0.8	-76.2	76.6	74.6	2.02	37.976	
600.0	600.0	590.2	589.0	1.2	1.3	-90.94	-1.4	-87.7	88.5	86.0	2.51	35.250	
700.0	700.0	685.8	683.5	1.5	1.6	-91.25	-2.2	-102.2	103.7	100.7	3.04	34.130	
800.0	800.0	780.7	776.8	1.7	2.0	-91.53	-3.2	-119.7	122.2	118.6	3.60	33.902	
900.0	900.0	878.7	872.8	1.9	2.4	-91.75	-4.3	-139.2	142.0	137.8	4.21	33.729	
1,000.0	1,000.0	976.7	968.9	2.1	2.8	-91.92	-5.3	-158.6	161.9	157.1	4.83	33.537	
1,100.0	1,100.0	1,074.8	1,064.9	2.4	3.2	-92.05	-6.4	-178.0	181.7	176.3	5.45	33.346	
1,200.0	1,200.0	1,172.8	1,161.0	2.6	3.6	-92.16	-7.4	-197.4	201.6	195.5	6.08	33.169	
1,300.0	1,300.0	1,270.8	1,257.1	2.8	4.1	-92.25	-8.5	-216.8	221.4	214.7	6.71	33.010	
1,400.0	1,400.0	1,368.8	1,353.1	3.0	4.5	-92.32	-9.6	-236.3	241.3	233.9	7.34	32.868	
1,500.0	1,500.0	1,466.8	1,449.2	3.3	4.9	-92.38	-10.6	-255.7	261.1	253.1	7.97	32.742	
1,600.0	1,600.0	1,564.8	1,545.3	3.5	5.4	-92.43	-11.7	-275.1	280.9	272.3	8.61	32.629	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design										Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1				Offset Site Error:		0.0 ft
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
1,700.0	1,700.0	1,662.8	1,641.3	3.7	5.8	-92.48	-12.7	-294.5	300.8	291.5	9.25	32.529				
1,800.0	1,800.0	1,760.8	1,737.4	3.9	6.2	-92.52	-13.8	-313.9	320.6	310.7	9.88	32.439				
1,900.0	1,900.0	1,858.8	1,833.4	4.2	6.7	-92.55	-14.9	-333.4	340.5	329.9	10.52	32.357				
2,000.0	2,000.0	1,956.9	1,929.5	4.4	7.1	-92.59	-15.9	-352.8	360.3	349.2	11.16	32.284				
2,100.0	2,100.0	2,054.9	2,025.6	4.6	7.5	-92.61	-17.0	-372.2	380.2	368.4	11.80	32.217				
2,200.0	2,200.0	2,152.9	2,121.6	4.8	8.0	-92.64	-18.1	-391.6	400.0	387.6	12.44	32.157				
2,300.0	2,300.0	2,250.9	2,217.7	5.1	8.4	-92.66	-19.1	-411.1	419.8	406.8	13.08	32.101				
2,400.0	2,400.0	2,348.9	2,313.7	5.3	8.8	-92.68	-20.2	-430.5	439.7	426.0	13.72	32.050				
2,500.0	2,500.0	2,446.9	2,409.8	5.5	9.3	-92.70	-21.2	-449.9	459.5	445.2	14.36	32.003				
2,600.0	2,600.0	2,544.9	2,505.9	5.7	9.7	-92.72	-22.3	-469.3	479.4	464.4	15.00	31.960				
2,700.0	2,700.0	2,642.9	2,601.9	6.0	10.2	-92.74	-23.4	-488.7	499.2	483.6	15.64	31.920				
2,800.0	2,800.0	2,740.9	2,698.0	6.2	10.6	-92.75	-24.4	-508.2	519.1	502.8	16.28	31.883				
2,900.0	2,900.0	2,839.0	2,794.1	6.4	11.0	-92.77	-25.5	-527.6	538.9	522.0	16.92	31.848				
3,000.0	3,000.0	2,937.0	2,890.1	6.6	11.5	-92.78	-26.5	-547.0	558.8	541.2	17.56	31.816				
3,100.0	3,100.0	3,035.3	2,986.5	6.8	11.9	18.08	-27.6	-566.5	577.0	562.7	14.32	40.303				
3,200.0	3,199.8	3,134.1	3,083.4	7.0	12.3	18.13	-28.7	-586.1	591.9	577.1	14.78	40.052				
3,300.0	3,299.5	3,233.4	3,180.7	7.2	12.8	18.31	-29.8	-605.7	603.6	588.4	15.23	39.621				
3,397.7	3,396.4	3,330.7	3,276.0	7.4	13.2	18.58	-30.8	-625.0	611.8	596.1	15.67	39.038				
3,400.0	3,398.7	3,333.0	3,278.3	7.4	13.2	18.59	-30.8	-625.5	612.0	596.3	15.68	39.022				
3,500.0	3,497.7	3,432.7	3,376.0	7.7	13.7	18.97	-31.9	-645.2	618.8	602.7	16.15	38.325				
3,600.0	3,596.8	3,532.4	3,473.7	7.9	14.1	19.34	-33.0	-665.0	625.7	609.1	16.62	37.657				
3,700.0	3,695.8	3,632.1	3,571.4	8.1	14.6	19.71	-34.1	-684.7	632.6	615.5	17.09	37.017				
3,800.0	3,794.9	3,731.7	3,669.1	8.4	15.0	20.06	-35.1	-704.5	639.5	621.9	17.57	36.403				
3,900.0	3,893.9	3,831.4	3,766.8	8.6	15.5	20.41	-36.2	-724.2	646.4	628.4	18.05	35.815				
4,000.0	3,992.9	3,931.1	3,864.5	8.9	15.9	20.75	-37.3	-744.0	653.4	634.8	18.53	35.251				
4,010.7	4,003.6	3,941.8	3,875.0	8.9	16.0	20.79	-37.4	-746.1	654.1	635.5	18.59	35.192				
4,100.0	4,092.1	4,030.7	3,962.1	9.1	16.4	21.10	-38.4	-763.7	661.6	642.6	19.02	34.779				
4,200.0	4,191.7	4,130.0	4,059.4	9.4	16.8	21.36	-39.5	-783.4	673.1	653.7	19.49	34.536				
4,300.0	4,291.6	4,228.9	4,156.4	9.6	17.2	21.53	-40.5	-803.0	687.9	667.9	19.93	34.509				
4,408.5	4,400.0	4,335.6	4,260.9	9.8	17.7	-89.31	-41.7	-824.1	707.5	687.1	20.37	34.730				
4,500.0	4,491.5	4,425.3	4,348.8	10.0	18.1	-89.41	-42.7	-841.9	725.6	704.8	20.79	34.906				
4,600.0	4,591.5	4,523.3	4,444.9	10.2	18.6	-89.51	-43.7	-861.3	745.4	724.2	21.26	35.060				
4,700.0	4,691.5	4,621.3	4,541.0	10.4	19.0	-89.60	-44.8	-880.8	765.2	743.5	21.74	35.206				
4,800.0	4,791.5	4,719.3	4,637.0	10.6	19.4	-89.69	-45.8	-900.2	785.0	762.8	22.21	35.346				
4,900.0	4,891.5	4,818.0	4,733.7	10.8	19.9	-89.78	-46.9	-919.7	804.8	782.2	22.69	35.478				
5,000.0	4,991.5	4,955.4	4,869.1	11.0	20.3	-89.87	-48.2	-943.6	822.2	799.0	23.20	35.437				
5,100.0	5,091.5	5,094.9	5,007.4	11.3	20.7	-89.94	-49.2	-961.2	834.9	811.2	23.69	35.244				
5,200.0	5,191.5	5,235.8	5,147.9	11.5	20.9	-89.98	-49.8	-972.1	842.6	818.5	24.15	34.885				
5,300.0	5,291.5	5,377.5	5,289.4	11.7	21.1	-90.00	-50.0	-976.2	845.4	820.8	24.61	34.353				
5,400.0	5,391.5	5,480.6	5,392.5	11.9	21.2	-90.00	-50.0	-976.2	845.5	820.4	25.01	33.807				
5,500.0	5,491.5	5,580.6	5,492.5	12.1	21.4	-90.00	-50.0	-976.2	845.5	820.1	25.40	33.281				
5,600.0	5,591.5	5,680.6	5,592.5	12.3	21.5	-90.00	-50.0	-976.2	845.5	819.7	25.80	32.770				
5,700.0	5,691.5	5,780.6	5,692.5	12.6	21.6	-90.00	-50.0	-976.2	845.5	819.3	26.20	32.273				
5,800.0	5,791.5	5,880.6	5,792.5	12.8	21.7	-90.00	-50.0	-976.2	845.5	818.9	26.60	31.788				
5,900.0	5,891.5	5,980.6	5,892.5	13.0	21.8	-90.00	-50.0	-976.2	845.5	818.5	27.00	31.316				
6,000.0	5,991.5	6,080.6	5,992.5	13.2	22.0	-90.00	-50.0	-976.2	845.5	818.1	27.40	30.857				
6,100.0	6,091.5	6,180.6	6,092.5	13.4	22.1	-90.00	-50.0	-976.2	845.5	817.7	27.80	30.409				
6,200.0	6,191.5	6,280.6	6,192.5	13.7	22.2	-90.00	-50.0	-976.2	845.5	817.2	28.21	29.973				
6,300.0	6,291.5	6,380.6	6,292.5	13.9	22.3	-90.00	-50.0	-976.2	845.5	816.8	28.61	29.547				
6,362.9	6,354.5	6,443.5	6,355.5	14.0	22.4	-90.00	-50.0	-976.2	845.5	816.6	28.87	29.285				
6,399.7	6,391.2	6,480.3	6,392.2	14.1	22.5	-90.02	-50.2	-976.2	845.5	816.4	29.02	29.135				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,450.0	6,441.5	6,530.5	6,442.4	14.2	22.5	89.90	-53.1	-976.2	845.5	816.2	29.21	28.943		
6,500.0	6,491.3	6,580.3	6,491.8	14.3	22.6	89.82	-59.3	-976.2	845.5	816.1	29.40	28.761		
6,550.0	6,540.6	6,630.1	6,540.7	14.4	22.7	89.73	-68.6	-976.2	845.5	815.9	29.59	28.575		
6,600.0	6,589.3	6,679.8	6,588.8	14.5	22.7	89.65	-81.1	-976.2	845.5	815.7	29.79	28.381		
6,650.0	6,637.1	6,729.4	6,635.9	14.6	22.8	89.57	-96.6	-976.2	845.5	815.5	30.01	28.176		
6,700.0	6,683.9	6,778.9	6,681.8	14.7	22.9	89.49	-115.1	-976.2	845.5	815.2	30.24	27.956		
6,750.0	6,729.4	6,828.4	6,726.4	14.8	23.0	89.42	-136.6	-976.2	845.5	815.0	30.51	27.715		
6,800.0	6,773.5	6,877.8	6,769.4	15.0	23.1	89.34	-160.8	-976.2	845.5	814.7	30.80	27.450		
6,850.0	6,815.9	6,927.1	6,810.8	15.1	23.2	89.27	-187.7	-976.2	845.5	814.4	31.14	27.154		
6,900.0	6,856.5	6,976.4	6,850.2	15.3	23.3	89.20	-217.2	-976.2	845.5	814.0	31.52	26.825		
6,950.0	6,895.2	7,025.6	6,887.6	15.5	23.5	89.14	-249.2	-976.2	845.6	813.6	31.96	26.457		
7,000.0	6,931.6	7,074.7	6,922.9	15.8	23.6	89.08	-283.4	-976.2	845.6	813.1	32.46	26.051		
7,050.0	6,965.8	7,123.8	6,955.8	16.0	23.8	89.02	-319.8	-976.2	845.6	812.6	33.03	25.604		
7,100.0	6,997.5	7,172.9	6,986.3	16.3	24.0	88.97	-358.2	-976.2	845.6	811.9	33.67	25.118		
7,150.0	7,026.6	7,221.9	7,014.3	16.7	24.2	88.92	-398.4	-976.2	845.6	811.2	34.38	24.595		
7,200.0	7,053.0	7,270.8	7,039.5	17.1	24.4	88.88	-440.3	-976.2	845.6	810.4	35.17	24.041		
7,250.0	7,076.5	7,319.8	7,062.1	17.5	24.7	88.84	-483.7	-976.2	845.6	809.6	36.05	23.460		
7,300.0	7,097.2	7,368.6	7,081.8	18.0	25.0	88.81	-528.5	-976.2	845.6	808.6	36.99	22.858		
7,350.0	7,114.7	7,417.5	7,098.6	18.5	25.3	88.78	-574.3	-976.2	845.7	807.6	38.02	22.243		
7,400.0	7,129.2	7,466.3	7,112.4	19.1	25.6	88.75	-621.2	-976.2	845.7	806.5	39.11	21.621		
7,450.0	7,140.6	7,515.1	7,123.2	19.7	26.0	88.73	-668.8	-976.2	845.7	805.4	40.27	20.999		
7,500.0	7,148.7	7,563.9	7,131.0	20.3	26.4	88.72	-716.9	-976.2	845.7	804.2	41.49	20.382		
7,550.0	7,153.6	7,612.7	7,135.6	20.9	26.9	88.71	-765.5	-976.2	845.7	802.9	42.76	19.777		
7,604.9	7,155.2	7,666.3	7,137.1	21.7	27.4	88.71	-819.0	-976.2	845.7	801.5	44.20	19.132		
7,700.0	7,154.5	7,761.4	7,136.5	23.0	28.4	88.71	-914.1	-976.2	845.7	798.8	46.83	18.059		
7,800.0	7,153.8	7,861.4	7,135.8	24.4	29.6	88.71	-1,014.1	-976.2	845.7	796.0	49.72	17.008		
7,900.0	7,153.2	7,961.4	7,135.1	26.0	30.8	88.71	-1,114.1	-976.2	845.7	792.9	52.74	16.036		
8,000.0	7,152.5	8,061.4	7,134.4	27.5	32.1	88.70	-1,214.1	-976.2	845.7	789.8	55.85	15.141		
8,100.0	7,151.8	8,161.4	7,133.7	29.1	33.5	88.70	-1,314.1	-976.2	845.7	786.6	59.06	14.319		
8,200.0	7,151.1	8,261.4	7,133.0	30.8	35.0	88.70	-1,414.1	-976.2	845.7	783.3	62.33	13.567		
8,300.0	7,150.4	8,361.4	7,132.3	32.5	36.4	88.70	-1,514.1	-976.2	845.7	780.0	65.67	12.877		
8,400.0	7,149.8	8,461.4	7,131.6	34.2	38.0	88.70	-1,614.1	-976.2	845.7	776.6	69.06	12.245		
8,500.0	7,149.1	8,561.4	7,130.9	35.9	39.5	88.70	-1,714.1	-976.2	845.7	773.2	72.50	11.665		
8,600.0	7,148.4	8,661.4	7,130.2	37.7	41.1	88.70	-1,814.1	-976.2	845.7	769.7	75.98	11.131		
8,700.0	7,147.7	8,761.4	7,129.5	39.4	42.8	88.70	-1,914.1	-976.2	845.7	766.2	79.49	10.639		
8,800.0	7,147.0	8,861.4	7,128.8	41.2	44.4	88.70	-2,014.1	-976.2	845.7	762.7	83.03	10.186		
8,900.0	7,146.4	8,961.4	7,128.1	43.0	46.1	88.69	-2,114.1	-976.2	845.7	759.1	86.59	9.766		
9,000.0	7,145.7	9,061.4	7,127.4	44.8	47.8	88.69	-2,214.1	-976.2	845.7	755.5	90.18	9.378		
9,100.0	7,145.0	9,161.4	7,126.7	46.6	49.5	88.69	-2,314.1	-976.2	845.7	751.9	93.79	9.017		
9,200.0	7,144.3	9,261.4	7,126.0	48.4	51.2	88.69	-2,414.1	-976.2	845.7	748.3	97.42	8.681		
9,300.0	7,143.6	9,361.4	7,125.3	50.2	52.9	88.69	-2,514.1	-976.2	845.7	744.6	101.06	8.368		
9,400.0	7,142.9	9,461.4	7,124.6	52.1	54.7	88.69	-2,614.1	-976.2	845.7	741.0	104.72	8.076		
9,500.0	7,142.3	9,561.4	7,123.9	53.9	56.4	88.69	-2,714.1	-976.2	845.7	737.3	108.39	7.802		
9,600.0	7,141.6	9,661.4	7,123.2	55.8	58.2	88.69	-2,814.1	-976.2	845.7	733.6	112.08	7.546		
9,700.0	7,140.9	9,761.4	7,122.5	57.6	60.0	88.68	-2,914.1	-976.2	845.7	729.9	115.77	7.305		
9,800.0	7,140.2	9,861.4	7,121.8	59.5	61.8	88.68	-3,014.1	-976.2	845.7	726.2	119.47	7.079		
9,900.0	7,139.5	9,961.4	7,121.1	61.3	63.6	88.68	-3,114.1	-976.2	845.7	722.5	123.18	6.865		
10,000.0	7,138.9	10,061.4	7,120.4	63.2	65.4	88.68	-3,214.1	-976.2	845.7	718.8	126.91	6.664		
10,100.0	7,138.2	10,161.4	7,119.7	65.1	67.2	88.68	-3,314.1	-976.2	845.7	715.1	130.63	6.474		
10,200.0	7,137.5	10,261.4	7,119.0	66.9	69.0	88.68	-3,414.1	-976.2	845.7	711.3	134.37	6.294		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-203 - Wellbore #1 - Plan #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,300.0	7,136.8	10,361.4	7,118.3	68.8	70.9	88.68	-3,514.0	-976.2	845.7	707.6	138.11	6.124		
10,400.0	7,136.1	10,461.4	7,117.6	70.7	72.7	88.68	-3,614.0	-976.2	845.7	703.9	141.85	5.962		
10,500.0	7,135.5	10,561.4	7,116.9	72.6	74.5	88.68	-3,714.0	-976.2	845.7	700.1	145.61	5.808		
10,600.0	7,134.8	10,661.4	7,116.2	74.4	76.4	88.67	-3,814.0	-976.2	845.7	696.3	149.36	5.662		
10,700.0	7,134.1	10,761.4	7,115.5	76.3	78.2	88.67	-3,914.0	-976.2	845.7	692.6	153.12	5.523		
10,800.0	7,133.4	10,861.4	7,114.8	78.2	80.0	88.67	-4,014.0	-976.2	845.7	688.8	156.89	5.391		
10,900.0	7,132.7	10,961.4	7,114.1	80.1	81.9	88.67	-4,114.0	-976.2	845.7	685.1	160.66	5.264		
11,000.0	7,132.1	11,061.4	7,113.4	82.0	83.8	88.67	-4,214.0	-976.2	845.7	681.3	164.43	5.143		
11,100.0	7,131.4	11,161.4	7,112.7	83.9	85.6	88.67	-4,314.0	-976.2	845.7	677.5	168.20	5.028		
11,200.0	7,130.7	11,261.4	7,112.0	85.8	87.5	88.67	-4,414.0	-976.2	845.7	673.7	171.98	4.917		
11,300.0	7,130.0	11,361.4	7,111.3	87.7	89.3	88.67	-4,514.0	-976.2	845.7	670.0	175.76	4.812		
11,400.0	7,129.3	11,461.4	7,110.6	89.6	91.2	88.66	-4,614.0	-976.2	845.7	666.2	179.55	4.710		
11,500.0	7,128.7	11,561.4	7,109.9	91.5	93.1	88.66	-4,714.0	-976.2	845.7	662.4	183.34	4.613		
11,600.0	7,128.0	11,661.4	7,109.2	93.4	94.9	88.66	-4,814.0	-976.2	845.7	658.6	187.13	4.520		
11,700.0	7,127.3	11,761.4	7,108.5	95.2	96.8	88.66	-4,914.0	-976.2	845.7	654.8	190.92	4.430		
11,800.0	7,126.6	11,861.4	7,107.8	97.1	98.7	88.66	-5,014.0	-976.2	845.7	651.0	194.71	4.343		
11,889.9	7,126.0	11,951.3	7,107.2	98.5	100.4	88.66	-5,103.9	-976.2	845.7	647.9	197.81	4.276 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-30.6	30.6					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-30.6	30.6	30.4	0.22	136.086		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-30.6	30.6	29.9	0.67	45.362		
300.0	300.0	300.0	300.0	0.6	0.6	-90.00	0.0	-30.6	30.6	29.5	1.12	27.217		
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-30.6	30.6	29.0	1.57	19.441		
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-30.6	30.6	28.6	2.02	15.121		
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-30.6	30.6	28.1	2.47	12.371		
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	0.0	-30.6	30.6	27.7	2.92	10.468		
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-30.6	30.6	27.2	3.37	9.072		
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-30.6	30.6	26.8	3.82	8.005		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-30.6	30.6	26.3	4.27	7.162 CC, ES		
1,100.0	1,100.0	1,098.9	1,098.9	2.4	2.3	-90.79	-0.4	-32.2	32.3	27.6	4.70	6.862		
1,200.0	1,200.0	1,197.6	1,197.5	2.6	2.5	-92.71	-1.8	-37.2	37.3	32.2	5.12	7.281		
1,300.0	1,300.0	1,295.9	1,295.4	2.8	2.7	-94.98	-3.9	-45.3	45.7	40.2	5.56	8.233		
1,400.0	1,400.0	1,393.4	1,392.2	3.0	3.0	-97.02	-7.0	-56.6	57.6	51.6	6.01	9.589		
1,500.0	1,500.0	1,491.5	1,489.2	3.3	3.2	-98.63	-10.7	-70.6	72.2	65.8	6.48	11.144		
1,600.0	1,600.0	1,590.4	1,587.0	3.5	3.5	-99.72	-14.6	-84.9	87.2	80.2	6.98	12.496		
1,700.0	1,700.0	1,689.3	1,684.7	3.7	3.8	-100.49	-18.4	-99.3	102.1	94.6	7.48	13.649		
1,800.0	1,800.0	1,788.1	1,782.5	3.9	4.1	-101.07	-22.2	-113.6	117.1	109.1	8.00	14.638		
1,900.0	1,900.0	1,887.0	1,880.2	4.2	4.4	-101.51	-26.1	-127.9	132.0	123.5	8.52	15.493		
2,000.0	2,000.0	1,985.9	1,978.0	4.4	4.8	-101.87	-29.9	-142.3	147.0	138.0	9.05	16.237		
2,100.0	2,100.0	2,084.7	2,075.7	4.6	5.1	-102.16	-33.7	-156.6	162.0	152.4	9.59	16.889		
2,200.0	2,200.0	2,183.6	2,173.5	4.8	5.4	-102.40	-37.6	-170.9	177.0	166.8	10.13	17.465		
2,300.0	2,300.0	2,282.5	2,271.2	5.1	5.8	-102.60	-41.4	-185.2	192.0	181.3	10.68	17.976		
2,400.0	2,400.0	2,381.4	2,369.0	5.3	6.1	-102.77	-45.2	-199.6	207.0	195.7	11.23	18.432		
2,500.0	2,500.0	2,480.2	2,466.7	5.5	6.4	-102.92	-49.1	-213.9	221.9	210.2	11.78	18.842		
2,600.0	2,600.0	2,579.1	2,564.5	5.7	6.8	-103.05	-52.9	-228.2	236.9	224.6	12.33	19.212		
2,700.0	2,700.0	2,678.0	2,662.2	6.0	7.1	-103.17	-56.7	-242.5	251.9	239.0	12.89	19.547		
2,800.0	2,800.0	2,776.8	2,760.0	6.2	7.5	-103.27	-60.6	-256.9	266.9	253.5	13.45	19.851		
2,900.0	2,900.0	2,875.7	2,857.7	6.4	7.8	-103.36	-64.4	-271.2	281.9	267.9	14.01	20.130		
3,000.0	3,000.0	2,974.6	2,955.5	6.6	8.2	-103.44	-68.3	-285.5	296.9	282.3	14.57	20.385		
3,100.0	3,100.0	3,073.7	3,053.5	6.8	8.5	7.42	-72.1	-299.9	310.2	296.6	13.64	22.747		
3,200.0	3,199.8	3,173.2	3,151.8	7.0	8.9	7.45	-76.0	-314.3	320.0	306.0	14.06	22.762		
3,300.0	3,299.5	3,273.0	3,250.5	7.2	9.2	7.56	-79.8	-328.8	326.4	312.0	14.47	22.552		
3,397.7	3,396.4	3,370.6	3,347.1	7.4	9.6	7.75	-83.6	-342.9	329.3	314.5	14.87	22.149		
3,400.0	3,398.7	3,372.9	3,349.3	7.4	9.6	7.75	-83.7	-343.2	329.4	314.5	14.88	22.136		
3,500.0	3,497.7	3,472.9	3,448.2	7.7	10.0	8.00	-87.6	-357.7	330.7	315.4	15.32	21.586		
3,600.0	3,596.8	3,572.9	3,547.0	7.9	10.3	8.23	-91.5	-372.2	332.0	316.2	15.76	21.062		
3,700.0	3,695.8	3,672.9	3,645.9	8.1	10.7	8.47	-95.3	-386.7	333.3	317.1	16.21	20.562		
3,800.0	3,794.9	3,772.8	3,744.7	8.4	11.0	8.71	-99.2	-401.2	334.6	317.9	16.66	20.086		
3,900.0	3,893.9	3,872.8	3,843.6	8.6	11.4	8.94	-103.1	-415.7	335.9	318.8	17.11	19.631		
4,000.0	3,992.9	3,972.8	3,942.4	8.9	11.8	9.17	-107.0	-430.2	337.2	319.7	17.57	19.197		
4,010.7	4,003.6	3,983.5	3,953.0	8.9	11.8	9.20	-107.4	-431.7	337.4	319.8	17.62	19.152		
4,100.0	4,092.1	4,072.8	4,041.2	9.1	12.1	9.37	-110.9	-444.6	340.0	321.9	18.05	18.833		
4,200.0	4,191.7	4,172.6	4,139.9	9.4	12.5	9.49	-114.7	-459.1	346.1	327.6	18.52	18.689		
4,300.0	4,291.6	4,272.1	4,238.3	9.6	12.8	9.51	-118.6	-473.5	355.6	336.7	18.96	18.756		
4,408.5	4,400.0	4,379.6	4,344.6	9.8	13.2	-101.48	-122.8	-489.1	369.9	350.5	19.40	19.062		
4,500.0	4,491.5	4,470.1	4,434.1	10.0	13.6	-101.60	-126.3	-502.2	383.6	363.8	19.81	19.365		
4,600.0	4,591.5	4,569.0	4,531.9	10.2	13.9	-101.73	-130.1	-516.5	398.6	378.3	20.27	19.664		
4,700.0	4,691.5	4,678.0	4,639.7	10.4	14.3	-101.85	-134.1	-531.5	412.8	392.1	20.74	19.907		
4,800.0	4,791.5	4,794.4	4,755.5	10.6	14.6	-101.94	-137.3	-543.4	423.3	402.2	21.19	19.982		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,891.5	4,911.6	4,872.4	10.8	14.8	-102.00	-139.3	-550.7	429.8	408.2	21.62	19.878		
5,000.0	4,991.5	5,029.2	4,990.1	11.0	15.0	-102.02	-140.0	-553.5	432.2	410.2	22.06	19.597		
5,100.0	5,091.5	5,130.7	5,091.5	11.3	15.1	-102.02	-140.0	-553.5	432.2	409.8	22.47	19.236		
5,200.0	5,191.5	5,230.7	5,191.5	11.5	15.3	-102.02	-140.0	-553.5	432.2	409.4	22.88	18.889		
5,300.0	5,291.5	5,330.7	5,291.5	11.7	15.4	-102.02	-140.0	-553.5	432.2	408.9	23.30	18.553		
5,400.0	5,391.5	5,430.7	5,391.5	11.9	15.6	-102.02	-140.0	-553.5	432.2	408.5	23.71	18.227		
5,500.0	5,491.5	5,530.7	5,491.5	12.1	15.7	-102.02	-140.0	-553.5	432.2	408.1	24.13	17.912		
5,600.0	5,591.5	5,630.7	5,591.5	12.3	15.9	-102.02	-140.0	-553.5	432.2	407.7	24.55	17.607		
5,700.0	5,691.5	5,730.7	5,691.5	12.6	16.0	-102.02	-140.0	-553.5	432.2	407.3	24.97	17.311		
5,800.0	5,791.5	5,830.7	5,791.5	12.8	16.2	-102.02	-140.0	-553.5	432.2	406.9	25.39	17.024		
5,900.0	5,891.5	5,930.7	5,891.5	13.0	16.4	-102.02	-140.0	-553.5	432.2	406.4	25.81	16.747		
6,000.0	5,991.5	6,030.7	5,991.5	13.2	16.5	-102.02	-140.0	-553.5	432.2	406.0	26.23	16.477		
6,100.0	6,091.5	6,130.7	6,091.5	13.4	16.7	-102.02	-140.0	-553.5	432.2	405.6	26.66	16.215		
6,200.0	6,191.5	6,230.7	6,191.5	13.7	16.9	-102.02	-140.0	-553.5	432.2	405.2	27.08	15.962		
6,300.0	6,291.5	6,330.7	6,291.5	13.9	17.0	-102.02	-140.0	-553.5	432.2	404.7	27.50	15.715		
6,399.7	6,391.2	6,430.4	6,391.2	14.1	17.2	-102.02	-140.0	-553.5	432.2	404.3	27.93	15.477		
6,450.0	6,441.5	6,480.7	6,441.5	14.2	17.3	78.22	-140.0	-553.5	431.9	403.8	28.15	15.343		
6,500.0	6,491.3	6,530.5	6,491.3	14.3	17.4	78.93	-140.0	-553.5	430.9	402.6	28.36	15.195		
6,550.0	6,540.6	6,578.6	6,539.4	14.4	17.5	80.05	-140.1	-553.5	429.4	400.9	28.57	15.032		
6,600.0	6,589.3	6,623.6	6,584.3	14.5	17.5	81.25	-142.1	-553.5	427.9	399.1	28.78	14.870		
6,650.0	6,637.1	6,669.0	6,629.5	14.6	17.6	82.50	-146.9	-553.5	426.6	397.6	29.00	14.708		
6,700.0	6,683.9	6,714.9	6,674.8	14.7	17.7	83.78	-154.4	-553.5	425.4	396.1	29.25	14.544		
6,750.0	6,729.4	6,761.4	6,720.1	14.8	17.8	85.10	-164.7	-553.5	424.4	394.9	29.52	14.375		
6,800.0	6,773.5	6,808.4	6,765.1	15.0	17.9	86.45	-178.0	-553.5	423.6	393.8	29.83	14.201		
6,850.0	6,815.9	6,855.9	6,809.8	15.1	18.1	87.82	-194.2	-553.5	423.1	392.9	30.18	14.019		
6,900.0	6,856.5	6,904.1	6,854.0	15.3	18.2	89.22	-213.4	-553.5	422.8	392.2	30.57	13.830		
6,927.9	6,878.4	6,931.3	6,878.4	15.4	18.3	90.00	-225.5	-553.5	422.8	392.0	30.82	13.718		
6,950.0	6,895.2	6,952.9	6,897.4	15.5	18.3	90.62	-235.7	-553.5	422.8	391.8	31.01	13.633		
7,000.0	6,931.6	7,002.4	6,939.9	15.8	18.5	92.03	-261.1	-553.5	423.0	391.5	31.50	13.429		
7,050.0	6,965.8	7,052.6	6,981.3	16.0	18.7	93.44	-289.5	-553.5	423.6	391.5	32.04	13.219		
7,100.0	6,997.5	7,103.6	7,021.2	16.3	18.9	94.84	-321.2	-553.5	424.4	391.7	32.63	13.004		
7,150.0	7,026.6	7,155.3	7,059.5	16.7	19.2	96.23	-355.9	-553.5	425.4	392.1	33.28	12.784		
7,200.0	7,053.0	7,207.8	7,095.9	17.1	19.5	97.60	-393.8	-553.5	426.7	392.7	33.97	12.561		
7,250.0	7,076.5	7,261.1	7,130.1	17.5	19.8	98.93	-434.7	-553.5	428.2	393.5	34.71	12.336		
7,300.0	7,097.2	7,315.3	7,161.8	18.0	20.1	100.23	-478.5	-553.5	429.9	394.4	35.50	12.110		
7,350.0	7,114.7	7,370.3	7,190.8	18.5	20.6	101.49	-525.3	-553.5	431.7	395.4	36.33	11.884		
7,400.0	7,129.2	7,426.2	7,216.7	19.1	21.0	102.70	-574.8	-553.5	433.7	396.5	37.21	11.658		
7,450.0	7,140.6	7,482.9	7,239.2	19.7	21.5	103.85	-626.8	-553.5	435.8	397.7	38.12	11.432		
7,500.0	7,148.7	7,540.5	7,258.0	20.3	22.1	104.93	-681.2	-553.5	437.9	398.9	39.08	11.206		
7,550.0	7,153.6	7,598.9	7,272.9	20.9	22.8	105.95	-737.7	-553.5	440.1	400.0	40.08	10.981		
7,604.9	7,155.2	7,663.9	7,284.3	21.7	23.5	106.97	-801.7	-553.5	442.4	401.2	41.22	10.733		
7,700.0	7,154.5	7,762.5	7,295.0	23.0	24.7	108.37	-899.7	-553.5	445.7	402.3	43.44	10.260		
7,800.0	7,153.8	7,876.8	7,301.0	24.4	26.3	109.20	-1,013.8	-553.5	447.7	401.5	46.18	9.694		
7,900.0	7,153.2	7,977.6	7,300.8	26.0	27.7	109.25	-1,114.6	-553.5	447.8	398.8	49.04	9.131		
8,000.0	7,152.5	8,077.6	7,300.6	27.5	29.2	109.31	-1,214.6	-553.5	448.0	396.0	51.99	8.616		
8,100.0	7,151.8	8,177.6	7,300.4	29.1	30.7	109.37	-1,314.6	-553.5	448.1	393.1	55.02	8.145		
8,200.0	7,151.1	8,277.6	7,300.2	30.8	32.3	109.42	-1,414.6	-553.5	448.3	390.2	58.12	7.713		
8,300.0	7,150.4	8,377.6	7,299.9	32.5	33.9	109.48	-1,514.6	-553.5	448.4	387.1	61.28	7.318		
8,400.0	7,149.8	8,477.6	7,299.7	34.2	35.5	109.53	-1,614.6	-553.5	448.6	384.1	64.49	6.956		
8,500.0	7,149.1	8,577.6	7,299.5	35.9	37.2	109.59	-1,714.6	-553.5	448.7	381.0	67.74	6.625		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8,600.0	7,148.4	8,677.6	7,299.3	37.7	38.9	109.64	-1,814.6	-553.5	448.9	377.9	71.02	6.320			
8,700.0	7,147.7	8,777.6	7,299.1	39.4	40.6	109.70	-1,914.6	-553.5	449.0	374.7	74.34	6.040			
8,800.0	7,147.0	8,877.6	7,298.8	41.2	42.3	109.75	-2,014.6	-553.5	449.2	371.5	77.68	5.782			
8,900.0	7,146.4	8,977.6	7,298.6	43.0	44.0	109.81	-2,114.6	-553.5	449.3	368.3	81.05	5.544			
9,000.0	7,145.7	9,077.6	7,298.4	44.8	45.8	109.86	-2,214.6	-553.5	449.5	365.1	84.44	5.324			
9,100.0	7,145.0	9,177.6	7,298.2	46.6	47.6	109.92	-2,314.6	-553.5	449.7	361.8	87.84	5.119			
9,200.0	7,144.3	9,277.6	7,298.0	48.4	49.4	109.97	-2,414.6	-553.5	449.8	358.6	91.26	4.929			
9,300.0	7,143.6	9,377.6	7,297.7	50.2	51.2	110.03	-2,514.6	-553.5	450.0	355.3	94.69	4.752			
9,400.0	7,142.9	9,477.6	7,297.5	52.1	53.0	110.08	-2,614.6	-553.5	450.1	352.0	98.13	4.587			
9,500.0	7,142.3	9,577.6	7,297.3	53.9	54.8	110.14	-2,714.6	-553.5	450.3	348.7	101.59	4.433			
9,600.0	7,141.6	9,677.6	7,297.1	55.8	56.6	110.19	-2,814.6	-553.5	450.4	345.4	105.05	4.288			
9,700.0	7,140.9	9,777.6	7,296.9	57.6	58.4	110.25	-2,914.6	-553.5	450.6	342.1	108.52	4.152			
9,800.0	7,140.2	9,877.6	7,296.6	59.5	60.2	110.30	-3,014.5	-553.5	450.8	338.8	112.00	4.025			
9,900.0	7,139.5	9,977.6	7,296.4	61.3	62.1	110.36	-3,114.5	-553.5	450.9	335.4	115.48	3.905			
10,000.0	7,138.9	10,077.6	7,296.2	63.2	63.9	110.41	-3,214.5	-553.5	451.1	332.1	118.97	3.792			
10,100.0	7,138.2	10,177.6	7,296.0	65.1	65.8	110.47	-3,314.5	-553.5	451.2	328.8	122.46	3.685			
10,200.0	7,137.5	10,277.6	7,295.8	66.9	67.6	110.52	-3,414.5	-553.5	451.4	325.4	125.96	3.584			
10,300.0	7,136.8	10,377.5	7,295.5	68.8	69.5	110.58	-3,514.5	-553.5	451.6	322.1	129.46	3.488			
10,400.0	7,136.1	10,477.5	7,295.3	70.7	71.3	110.63	-3,614.5	-553.5	451.7	318.8	132.97	3.397			
10,500.0	7,135.5	10,577.5	7,295.1	72.6	73.2	110.69	-3,714.5	-553.5	451.9	315.4	136.48	3.311			
10,600.0	7,134.8	10,677.5	7,294.9	74.4	75.1	110.74	-3,814.5	-553.5	452.1	312.1	139.98	3.229			
10,700.0	7,134.1	10,777.5	7,294.7	76.3	76.9	110.80	-3,914.5	-553.5	452.2	308.7	143.50	3.151			
10,800.0	7,133.4	10,877.5	7,294.4	78.2	78.8	110.85	-4,014.5	-553.5	452.4	305.4	147.01	3.077			
10,900.0	7,132.7	10,977.5	7,294.2	80.1	80.7	110.90	-4,114.5	-553.5	452.5	302.0	150.52	3.006			
11,000.0	7,132.1	11,077.5	7,294.0	82.0	82.5	110.96	-4,214.5	-553.5	452.7	298.7	154.04	2.939			
11,100.0	7,131.4	11,177.5	7,293.8	83.9	84.4	111.01	-4,314.5	-553.5	452.9	295.3	157.56	2.874			
11,200.0	7,130.7	11,277.5	7,293.6	85.8	86.3	111.07	-4,414.5	-553.5	453.0	292.0	161.07	2.813			
11,300.0	7,130.0	11,377.5	7,293.3	87.7	88.2	111.12	-4,514.5	-553.5	453.2	288.6	164.59	2.753			
11,400.0	7,129.3	11,477.5	7,293.1	89.6	90.1	111.18	-4,614.5	-553.5	453.4	285.3	168.11	2.697			
11,500.0	7,128.7	11,577.5	7,292.9	91.5	92.0	111.23	-4,714.5	-553.5	453.5	281.9	171.63	2.643			
11,600.0	7,128.0	11,677.5	7,292.7	93.4	93.8	111.29	-4,814.5	-553.5	453.7	278.6	175.14	2.590			
11,700.0	7,127.3	11,777.5	7,292.5	95.2	95.7	111.34	-4,914.5	-553.5	453.9	275.2	178.66	2.540			
11,800.0	7,126.6	11,877.5	7,292.2	97.1	97.6	111.39	-5,014.5	-553.5	454.0	271.9	182.18	2.492			
11,889.9	7,126.0	11,967.5	7,292.0	98.5	99.3	111.44	-5,104.5	-553.5	454.2	269.2	185.03	2.455 SF			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	27.8	27.8					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	27.8	27.8	27.6	0.22	123.715		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	27.8	27.8	27.1	0.67	41.238		
300.0	300.0	300.0	300.0	0.6	0.6	90.00	0.0	27.8	27.8	26.7	1.12	24.743		
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	27.8	27.8	26.2	1.57	17.674		
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	27.8	27.8	25.8	2.02	13.746		
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	27.8	27.8	25.3	2.47	11.247		
700.0	700.0	700.0	700.0	1.5	1.5	90.00	0.0	27.8	27.8	24.9	2.92	9.517		
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	27.8	27.8	24.4	3.37	8.248		
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	27.8	27.8	24.0	3.82	7.277		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.00	0.0	27.8	27.8	23.5	4.27	6.511 CC, ES		
1,100.0	1,100.0	1,099.1	1,099.1	2.4	2.3	91.57	-0.8	29.3	29.3	24.6	4.70	6.246		
1,200.0	1,200.0	1,198.0	1,197.8	2.6	2.5	95.40	-3.2	33.8	34.1	29.0	5.11	6.661		
1,300.0	1,300.0	1,296.4	1,295.9	2.8	2.7	99.84	-7.2	41.3	42.2	36.6	5.55	7.604		
1,400.0	1,400.0	1,394.1	1,392.9	3.0	3.0	103.77	-12.7	51.7	53.7	47.7	6.00	8.959		
1,500.0	1,500.0	1,492.9	1,490.6	3.3	3.2	106.69	-19.2	64.0	67.5	61.0	6.47	10.429		
1,600.0	1,600.0	1,591.9	1,588.6	3.5	3.5	108.63	-25.8	76.4	81.4	74.5	6.97	11.690		
1,700.0	1,700.0	1,690.9	1,686.6	3.7	3.8	110.00	-32.3	88.8	95.4	88.0	7.47	12.772		
1,800.0	1,800.0	1,789.8	1,784.6	3.9	4.1	111.02	-38.9	101.2	109.5	101.5	7.99	13.706		
1,900.0	1,900.0	1,888.8	1,882.6	4.2	4.4	111.81	-45.4	113.5	123.5	115.0	8.51	14.517		
2,000.0	2,000.0	1,987.8	1,980.6	4.4	4.7	112.43	-52.0	125.9	137.6	128.5	9.04	15.226		
2,100.0	2,100.0	2,086.8	2,078.6	4.6	5.0	112.94	-58.5	138.3	151.7	142.1	9.57	15.850		
2,200.0	2,200.0	2,185.8	2,176.6	4.8	5.3	113.37	-65.1	150.6	165.8	155.7	10.11	16.403		
2,300.0	2,300.0	2,284.8	2,274.6	5.1	5.6	113.73	-71.6	163.0	179.9	169.2	10.65	16.895		
2,400.0	2,400.0	2,383.8	2,372.6	5.3	6.0	114.03	-78.2	175.4	194.0	182.8	11.19	17.335		
2,500.0	2,500.0	2,482.8	2,470.6	5.5	6.3	114.30	-84.8	187.8	208.1	196.4	11.74	17.732		
2,600.0	2,600.0	2,581.8	2,568.6	5.7	6.6	114.53	-91.3	200.1	222.2	209.9	12.28	18.091		
2,700.0	2,700.0	2,680.8	2,666.6	6.0	7.0	114.73	-97.9	212.5	236.3	223.5	12.83	18.417		
2,800.0	2,800.0	2,779.8	2,764.6	6.2	7.3	114.91	-104.4	224.9	250.5	237.1	13.38	18.714		
2,900.0	2,900.0	2,878.8	2,862.6	6.4	7.6	115.07	-111.0	237.2	264.6	250.6	13.94	18.986		
3,000.0	3,000.0	2,977.8	2,960.6	6.6	8.0	115.21	-117.5	249.6	278.7	264.2	14.49	19.236		
3,100.0	3,100.0	3,076.6	3,058.4	6.8	8.3	-133.75	-124.1	262.0	294.0	280.5	13.56	21.686		
3,200.0	3,199.8	3,182.5	3,163.4	7.0	8.6	-134.13	-130.7	274.5	311.0	297.0	13.96	22.276		
3,300.0	3,299.5	3,293.4	3,273.7	7.2	8.9	-135.03	-135.8	284.1	326.9	312.6	14.34	22.790		
3,397.7	3,396.4	3,402.4	3,382.5	7.4	9.1	-136.33	-138.9	289.9	341.3	326.5	14.71	23.201		
3,400.0	3,398.7	3,404.9	3,385.1	7.4	9.1	-136.37	-138.9	290.0	341.6	326.9	14.72	23.208		
3,500.0	3,497.7	3,517.3	3,497.4	7.7	9.3	-138.08	-140.0	292.0	353.8	338.7	15.14	23.375		
3,600.0	3,596.8	3,616.7	3,596.8	7.9	9.5	-139.54	-140.0	292.0	364.3	348.7	15.55	23.429		
3,700.0	3,695.8	3,715.7	3,695.8	8.1	9.6	-140.90	-140.0	292.0	375.0	359.0	15.97	23.484		
3,800.0	3,794.9	3,814.7	3,794.9	8.4	9.8	-142.19	-140.0	292.0	385.8	369.4	16.39	23.542		
3,900.0	3,893.9	3,913.8	3,893.9	8.6	10.0	-143.42	-140.0	292.0	396.9	380.1	16.82	23.601		
4,000.0	3,992.9	4,012.8	3,992.9	8.9	10.2	-144.57	-140.0	292.0	408.1	390.9	17.25	23.662		
4,010.7	4,003.6	4,023.5	4,003.6	8.9	10.2	-144.69	-140.0	292.0	409.3	392.1	17.29	23.669		
4,100.0	4,092.1	4,112.0	4,092.1	9.1	10.3	-145.66	-140.0	292.0	418.4	400.6	17.73	23.600		
4,200.0	4,191.7	4,211.6	4,191.7	9.4	10.5	-146.42	-140.0	292.0	425.9	407.7	18.20	23.405		
4,300.0	4,291.6	4,311.5	4,291.6	9.6	10.7	-146.88	-140.0	292.0	430.5	411.8	18.65	23.088		
4,408.5	4,400.0	4,419.9	4,400.0	9.8	10.9	102.02	-140.0	292.0	432.2	413.1	19.10	22.629		
4,500.0	4,491.5	4,511.4	4,491.5	10.0	11.1	102.02	-140.0	292.0	432.2	412.7	19.47	22.197		
4,600.0	4,591.5	4,611.4	4,591.5	10.2	11.2	102.02	-140.0	292.0	432.2	412.3	19.90	21.723		
4,700.0	4,691.5	4,711.4	4,691.5	10.4	11.4	102.02	-140.0	292.0	432.2	411.9	20.32	21.268		
4,800.0	4,791.5	4,811.4	4,791.5	10.6	11.6	102.02	-140.0	292.0	432.2	411.5	20.75	20.831		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7J-403 - Wellbore #1 - Plan #1										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,891.5	4,911.4	4,891.5	10.8	11.8	102.02	-140.0	292.0	432.2	411.0	21.18	20.410		
5,000.0	4,991.5	5,011.4	4,991.5	11.0	12.0	102.02	-140.0	292.0	432.2	410.6	21.60	20.005		
5,100.0	5,091.5	5,111.4	5,091.5	11.3	12.2	102.02	-140.0	292.0	432.2	410.2	22.03	19.615		
5,200.0	5,191.5	5,211.4	5,191.5	11.5	12.4	102.02	-140.0	292.0	432.2	409.7	22.46	19.239		
5,300.0	5,291.5	5,311.4	5,291.5	11.7	12.6	102.02	-140.0	292.0	432.2	409.3	22.90	18.877		
5,400.0	5,391.5	5,411.4	5,391.5	11.9	12.8	102.02	-140.0	292.0	432.2	408.9	23.33	18.528		
5,500.0	5,491.5	5,511.4	5,491.5	12.1	13.0	102.02	-140.0	292.0	432.2	408.4	23.76	18.191		
5,600.0	5,591.5	5,611.4	5,591.5	12.3	13.2	102.02	-140.0	292.0	432.2	408.0	24.19	17.865		
5,700.0	5,691.5	5,711.4	5,691.5	12.6	13.4	102.02	-140.0	292.0	432.2	407.6	24.63	17.551		
5,800.0	5,791.5	5,811.4	5,791.5	12.8	13.6	102.02	-140.0	292.0	432.2	407.1	25.06	17.247		
5,900.0	5,891.5	5,911.4	5,891.5	13.0	13.8	102.02	-140.0	292.0	432.2	406.7	25.49	16.953		
6,000.0	5,991.5	6,011.4	5,991.5	13.2	14.0	102.02	-140.0	292.0	432.2	406.3	25.93	16.668		
6,100.0	6,091.5	6,111.4	6,091.5	13.4	14.2	102.02	-140.0	292.0	432.2	405.8	26.37	16.393		
6,200.0	6,191.5	6,211.4	6,191.5	13.7	14.4	102.02	-140.0	292.0	432.2	405.4	26.80	16.126		
6,300.0	6,291.5	6,311.4	6,291.5	13.9	14.6	102.02	-140.0	292.0	432.2	405.0	27.24	15.867		
6,399.7	6,391.2	6,411.1	6,391.2	14.1	14.8	102.02	-140.0	292.0	432.2	404.5	27.67	15.618		
6,450.0	6,441.5	6,461.4	6,441.5	14.2	14.9	-78.22	-140.0	292.0	431.9	404.0	27.89	15.485		
6,500.0	6,491.3	6,511.1	6,491.3	14.3	15.0	-78.93	-140.0	292.0	430.9	402.8	28.09	15.337		
6,550.0	6,540.6	6,559.7	6,539.8	14.4	15.1	-80.07	-140.0	292.0	429.4	401.1	28.30	15.171		
6,600.0	6,589.3	6,604.7	6,584.7	14.5	15.2	-81.31	-141.8	292.0	427.8	399.3	28.51	15.008		
6,650.0	6,637.1	6,650.0	6,629.8	14.6	15.3	-82.59	-146.3	292.0	426.4	397.7	28.72	14.847		
6,700.0	6,683.9	6,696.0	6,675.3	14.7	15.4	-83.91	-153.5	292.0	425.2	396.3	28.96	14.684		
6,750.0	6,729.4	6,742.4	6,720.6	14.8	15.5	-85.27	-163.6	292.0	424.2	395.0	29.22	14.518		
6,800.0	6,773.5	6,789.4	6,765.8	15.0	15.6	-86.66	-176.6	292.0	423.5	394.0	29.52	14.348		
6,850.0	6,815.9	6,837.0	6,810.6	15.1	15.7	-88.07	-192.5	292.0	423.0	393.1	29.85	14.172		
6,900.0	6,856.5	6,885.3	6,854.9	15.3	15.9	-89.50	-211.5	292.0	422.7	392.5	30.22	13.990		
6,917.5	6,870.3	6,902.4	6,870.3	15.4	16.0	-90.00	-218.9	292.0	422.7	392.4	30.36	13.924		
6,950.0	6,895.2	6,934.2	6,898.6	15.5	16.1	-90.94	-233.6	292.0	422.8	392.2	30.63	13.802		
7,000.0	6,931.6	6,983.8	6,941.3	15.8	16.3	-92.38	-258.8	292.0	423.1	392.0	31.10	13.606		
7,050.0	6,965.8	7,034.1	6,982.9	16.0	16.5	-93.82	-287.1	292.0	423.7	392.1	31.61	13.404		
7,100.0	6,997.5	7,085.2	7,023.1	16.3	16.8	-95.26	-318.6	292.0	424.6	392.4	32.18	13.193		
7,150.0	7,026.6	7,137.1	7,061.7	16.7	17.1	-96.67	-353.3	292.0	425.7	392.9	32.81	12.976		
7,200.0	7,053.0	7,189.8	7,098.4	17.1	17.4	-98.07	-391.1	292.0	427.1	393.7	33.50	12.752		
7,250.0	7,076.5	7,243.4	7,133.0	17.5	17.8	-99.43	-432.0	292.0	428.8	394.5	34.24	12.522		
7,300.0	7,097.2	7,297.8	7,165.0	18.0	18.2	-100.75	-476.0	292.0	430.6	395.5	35.05	12.286		
7,350.0	7,114.7	7,353.1	7,194.3	18.5	18.7	-102.03	-522.9	292.0	432.6	396.7	35.92	12.044		
7,400.0	7,129.2	7,409.3	7,220.5	19.1	19.2	-103.25	-572.6	292.0	434.7	397.9	36.85	11.797		
7,450.0	7,140.6	7,466.4	7,243.4	19.7	19.8	-104.42	-624.9	292.0	436.9	399.1	37.84	11.545		
7,500.0	7,148.7	7,524.4	7,262.5	20.3	20.5	-105.52	-679.6	292.0	439.2	400.3	38.90	11.291		
7,550.0	7,153.6	7,583.2	7,277.6	20.9	21.2	-106.54	-736.4	292.0	441.4	401.4	40.00	11.034		
7,604.9	7,155.2	7,648.7	7,289.2	21.7	22.0	-107.57	-800.9	292.0	443.8	402.6	41.28	10.751		
7,700.0	7,154.5	7,747.6	7,299.9	23.0	23.3	-108.96	-899.2	292.0	447.3	403.7	43.55	10.270		
7,800.0	7,153.8	7,862.4	7,306.0	24.4	25.0	-109.79	-1,013.8	292.0	449.3	403.0	46.32	9.699		
7,900.0	7,153.2	7,963.8	7,305.4	26.0	26.5	-109.81	-1,115.2	292.0	449.3	400.1	49.22	9.129		
8,000.0	7,152.5	8,063.8	7,304.8	27.5	28.0	-109.82	-1,215.2	292.0	449.3	397.2	52.18	8.611		
8,100.0	7,151.8	8,163.8	7,304.2	29.1	29.6	-109.82	-1,315.2	292.0	449.4	394.1	55.23	8.136		
8,200.0	7,151.1	8,263.8	7,303.6	30.8	31.2	-109.83	-1,415.2	292.0	449.4	391.0	58.35	7.701		
8,300.0	7,150.4	8,363.8	7,303.0	32.5	32.9	-109.84	-1,515.2	292.0	449.4	387.9	61.53	7.304		
8,400.0	7,149.8	8,463.8	7,302.3	34.2	34.6	-109.85	-1,615.2	292.0	449.4	384.7	64.75	6.941		
8,500.0	7,149.1	8,563.8	7,301.7	35.9	36.3	-109.86	-1,715.2	292.0	449.4	381.4	68.02	6.607		

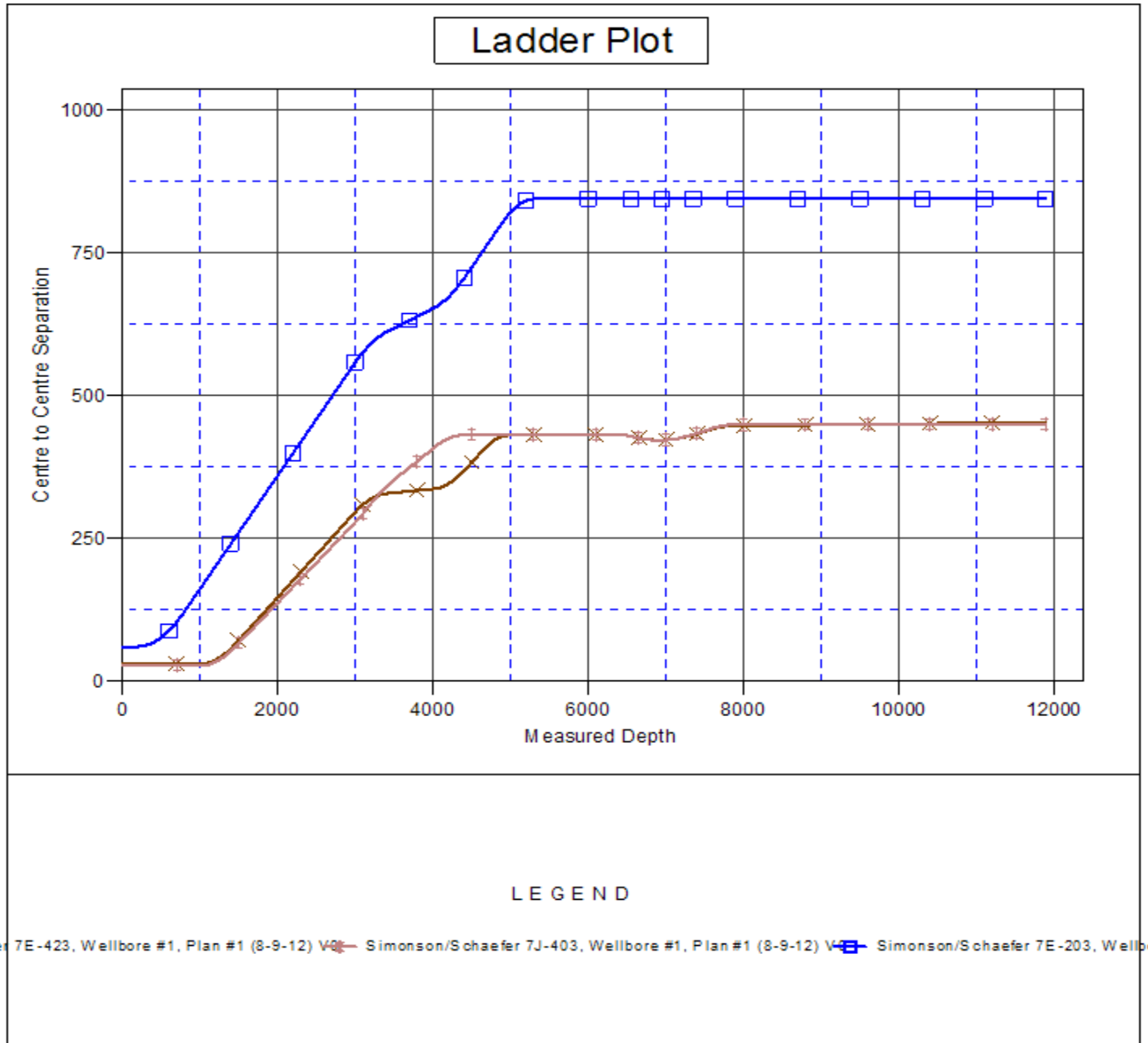
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Offset Design		Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Simonson/Schaefer 7J-403 - Wellbore #1 - Plan #1								Offset Site Error:		0.0 ft	
Survey Program: 0-MWD										Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,600.0	7,148.4	8,663.8	7,301.1	37.7	38.0	-109.86	-1,815.2	292.0	449.5	378.1	71.33	6.301	
8,700.0	7,147.7	8,763.8	7,300.5	39.4	39.8	-109.87	-1,915.2	292.0	449.5	374.8	74.67	6.020	
8,800.0	7,147.0	8,863.8	7,299.9	41.2	41.5	-109.88	-2,015.2	292.0	449.5	371.5	78.03	5.761	
8,900.0	7,146.4	8,963.8	7,299.3	43.0	43.3	-109.89	-2,115.2	292.0	449.5	368.1	81.42	5.521	
9,000.0	7,145.7	9,063.8	7,298.7	44.8	45.1	-109.90	-2,215.2	292.0	449.6	364.7	84.83	5.300	
9,100.0	7,145.0	9,163.8	7,298.0	46.6	46.9	-109.90	-2,315.2	292.0	449.6	361.3	88.26	5.094	
9,200.0	7,144.3	9,263.8	7,297.4	48.4	48.7	-109.91	-2,415.2	292.0	449.6	357.9	91.70	4.903	
9,300.0	7,143.6	9,363.8	7,296.8	50.2	50.5	-109.92	-2,515.2	292.0	449.6	354.5	95.17	4.725	
9,400.0	7,142.9	9,463.8	7,296.2	52.1	52.3	-109.93	-2,615.2	292.0	449.7	351.0	98.64	4.559	
9,500.0	7,142.3	9,563.8	7,295.6	53.9	54.2	-109.93	-2,715.1	292.0	449.7	347.6	102.12	4.403	
9,600.0	7,141.6	9,663.8	7,295.0	55.8	56.0	-109.94	-2,815.1	292.0	449.7	344.1	105.62	4.258	
9,700.0	7,140.9	9,763.8	7,294.4	57.6	57.9	-109.95	-2,915.1	292.0	449.7	340.6	109.13	4.121	
9,800.0	7,140.2	9,863.8	7,293.7	59.5	59.7	-109.96	-3,015.1	292.0	449.7	337.1	112.64	3.993	
9,900.0	7,139.5	9,963.8	7,293.1	61.3	61.6	-109.97	-3,115.1	292.0	449.8	333.6	116.16	3.872	
10,000.0	7,138.9	10,063.8	7,292.5	63.2	63.4	-109.97	-3,215.1	292.0	449.8	330.1	119.69	3.758	
10,100.0	7,138.2	10,163.8	7,291.9	65.1	65.3	-109.98	-3,315.1	292.0	449.8	326.6	123.23	3.650	
10,200.0	7,137.5	10,263.8	7,291.3	66.9	67.1	-109.99	-3,415.1	292.0	449.8	323.1	126.77	3.549	
10,300.0	7,136.8	10,363.8	7,290.7	68.8	69.0	-110.00	-3,515.1	292.0	449.9	319.6	130.31	3.452	
10,400.0	7,136.1	10,463.8	7,290.1	70.7	70.9	-110.01	-3,615.1	292.0	449.9	316.0	133.87	3.361	
10,500.0	7,135.5	10,563.8	7,289.4	72.6	72.8	-110.01	-3,715.1	292.0	449.9	312.5	137.42	3.274	
10,600.0	7,134.8	10,663.8	7,288.8	74.4	74.6	-110.02	-3,815.1	292.0	449.9	309.0	140.98	3.191	
10,700.0	7,134.1	10,763.8	7,288.2	76.3	76.5	-110.03	-3,915.1	292.0	450.0	305.4	144.55	3.113	
10,800.0	7,133.4	10,863.8	7,287.6	78.2	78.4	-110.04	-4,015.1	292.0	450.0	301.9	148.11	3.038	
10,900.0	7,132.7	10,963.8	7,287.0	80.1	80.3	-110.05	-4,115.1	292.0	450.0	298.3	151.69	2.967	
11,000.0	7,132.1	11,063.8	7,286.4	82.0	82.2	-110.05	-4,215.1	292.0	450.0	294.8	155.26	2.899	
11,100.0	7,131.4	11,163.8	7,285.8	83.9	84.0	-110.06	-4,315.1	292.0	450.1	291.2	158.84	2.833	
11,200.0	7,130.7	11,263.8	7,285.1	85.8	85.9	-110.07	-4,415.1	292.0	450.1	287.7	162.42	2.771	
11,300.0	7,130.0	11,363.8	7,284.5	87.7	87.8	-110.08	-4,515.1	292.0	450.1	284.1	166.00	2.711	
11,400.0	7,129.3	11,463.8	7,283.9	89.6	89.7	-110.09	-4,615.1	292.0	450.1	280.5	169.58	2.654	
11,500.0	7,128.7	11,563.8	7,283.3	91.5	91.6	-110.09	-4,715.1	292.0	450.1	277.0	173.17	2.599	
11,600.0	7,128.0	11,663.8	7,282.7	93.4	93.5	-110.10	-4,815.1	292.0	450.2	273.4	176.75	2.547	
11,700.0	7,127.3	11,763.8	7,282.1	95.2	95.4	-110.11	-4,915.1	292.0	450.2	269.8	180.34	2.496	
11,800.0	7,126.6	11,863.8	7,281.5	97.1	97.3	-110.12	-5,015.1	292.0	450.2	266.3	183.94	2.448	
11,847.7	7,126.3	11,911.6	7,281.2	97.9	98.2	-110.12	-5,062.8	292.0	450.2	264.7	185.48	2.427	
11,889.9	7,126.0	11,938.2	7,281.0	98.5	98.7	-110.12	-5,089.5	292.0	450.5	263.9	186.58	2.415 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4906.0ft (RKB Ensign 32 - 1 Coordinates are relative to: Simonson/Schaefer 7J-243
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.43°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7J-243
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4906.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7J-243	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-9-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4906.0ft (RKB Ensign 32 - 1 Coordinates are relative to: Simonson/Schaefer 7J-243
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