

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Simonson/Schaefer 7E-203**

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

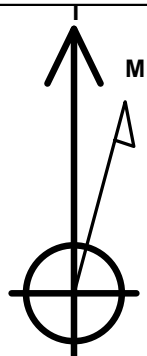
Ground Elevation: 4892.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1429286.21	3186759.36	40.509850	-104.828340	

RKB Ensign 32 - 15' WELL @ 4907.0ft (RKB Ensign 32 - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500'FSL & 200'FEL	7107.0	-5133.2	-915.0	Point



Azimuths to True North
Magnetic North: 8.75°

Magnetic Field
Strength: 53058.9snT
Dip Angle: 67.09°
Date: 8/13/2012
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
6373.2	6461.2	KOP #2
7137.1	7666.5	End of Build

Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W
Simonson/Schaefer 7E-203
Plan #1 (8-9-12)
13:38, August 13 2012

SHL 310'FSL, 1098'FWL

Simonson/Schaefer 7E-203

SEC. 6 HARD LINE 460'

SEC. 6-T6N-R66W

SEC. 7-T6N-R66W

Sec.7 HARDLINE 460'

BHL 500'FSL & 200'FEL

Hergert 1 (P&A)

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

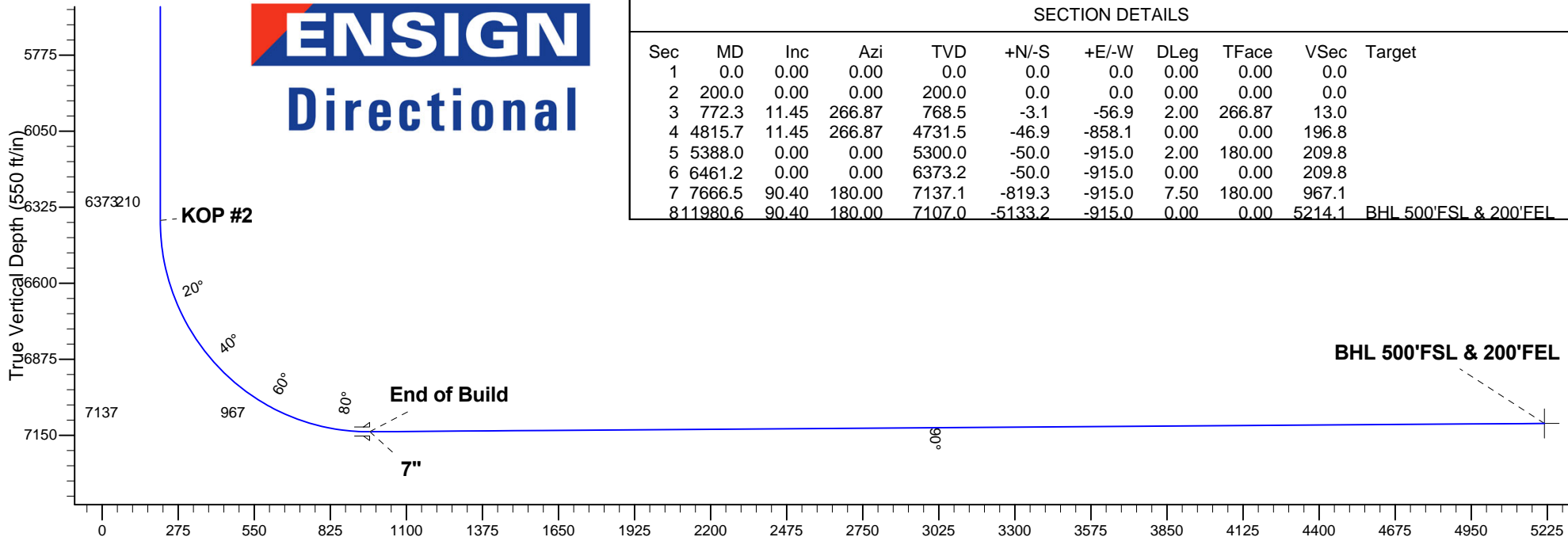
West(-)/East(+) (2000 ft/in)

West(-)/East(+) (2000 ft/in)

ENSIGN
Directional

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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	772.3	11.45	266.87	768.5	-3.1	-56.9	2.00	266.87	13.0	
4	4815.7	11.45	266.87	4731.5	-46.9	-858.1	0.00	0.00	196.8	
5	5388.0	0.00	0.00	5300.0	-50.0	-915.0	2.00	180.00	209.8	
6	6461.2	0.00	0.00	6373.2	-50.0	-915.0	0.00	0.00	209.8	
7	7666.5	90.40	180.00	7137.1	-819.3	-915.0	7.50	180.00	967.1	
8	11980.6	90.40	180.00	7107.0	-5133.2	-915.0	0.00	0.00	5214.1	BHL 500'FSL & 200'FEL



Vertical Section at 190.11° (550 ft/in)



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.6-T6N-R66W

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

Simonson/Schaefer 7E-203

Wellbore #1

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

Standard Planning Report

13 August, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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 7E-203					
Well Position	+N/-S	0.0 ft	Northing:	1,429,286.21 ft	Latitude:	40.509850
	+E/-W	-30.6 ft	Easting:	3,186,759.36 ft	Longitude:	-104.828340
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,892.0 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	190.11	

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
772.3	11.45	266.87	768.5	-3.1	-56.9	2.00	2.00	0.00	266.87	
4,815.7	11.45	266.87	4,731.5	-46.9	-858.1	0.00	0.00	0.00	0.00	
5,388.0	0.00	0.00	5,300.0	-50.0	-915.0	2.00	-2.00	0.00	180.00	
6,461.2	0.00	0.00	6,373.2	-50.0	-915.0	0.00	0.00	0.00	0.00	
7,666.5	90.40	180.00	7,137.1	-819.3	-915.0	7.50	7.50	0.00	180.00	
11,980.6	90.40	180.00	7,107.0	-5,133.2	-915.0	0.00	0.00	0.00	0.00	BHL 500'FSL & 20C

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Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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
KOP #1									
240.0	0.80	266.87	240.0	0.0	-0.3	0.1	2.00	2.00	0.00
280.0	1.60	266.87	280.0	-0.1	-1.1	0.3	2.00	2.00	0.00
320.0	2.40	266.87	320.0	-0.1	-2.5	0.6	2.00	2.00	0.00
360.0	3.20	266.87	359.9	-0.2	-4.5	1.0	2.00	2.00	0.00
400.0	4.00	266.87	399.8	-0.4	-7.0	1.6	2.00	2.00	0.00
440.0	4.80	266.87	439.7	-0.5	-10.0	2.3	2.00	2.00	0.00
480.0	5.60	266.87	479.6	-0.7	-13.7	3.1	2.00	2.00	0.00
520.0	6.40	266.87	519.3	-1.0	-17.8	4.1	2.00	2.00	0.00
560.0	7.20	266.87	559.1	-1.2	-22.6	5.2	2.00	2.00	0.00
600.0	8.00	266.87	598.7	-1.5	-27.8	6.4	2.00	2.00	0.00
640.0	8.80	266.87	638.3	-1.8	-33.7	7.7	2.00	2.00	0.00
680.0	9.60	266.87	677.8	-2.2	-40.1	9.2	2.00	2.00	0.00
720.0	10.40	266.87	717.1	-2.6	-47.0	10.8	2.00	2.00	0.00
760.0	11.20	266.87	756.4	-3.0	-54.5	12.5	2.00	2.00	0.00
772.3	11.45	266.87	768.5	-3.1	-56.9	13.0	2.00	2.00	0.00
800.0	11.45	266.87	795.7	-3.4	-62.4	14.3	0.00	0.00	0.00
840.0	11.45	266.87	834.9	-3.8	-70.3	16.1	0.00	0.00	0.00
880.0	11.45	266.87	874.1	-4.3	-78.2	17.9	0.00	0.00	0.00
920.0	11.45	266.87	913.3	-4.7	-86.2	19.8	0.00	0.00	0.00
960.0	11.45	266.87	952.5	-5.1	-94.1	21.6	0.00	0.00	0.00
1,000.0	11.45	266.87	991.7	-5.6	-102.0	23.4	0.00	0.00	0.00
1,040.0	11.45	266.87	1,030.9	-6.0	-109.9	25.2	0.00	0.00	0.00
1,080.0	11.45	266.87	1,070.1	-6.4	-117.9	27.0	0.00	0.00	0.00
1,120.0	11.45	266.87	1,109.3	-6.9	-125.8	28.8	0.00	0.00	0.00
1,160.0	11.45	266.87	1,148.5	-7.3	-133.7	30.7	0.00	0.00	0.00
1,200.0	11.45	266.87	1,187.7	-7.7	-141.6	32.5	0.00	0.00	0.00
1,240.0	11.45	266.87	1,226.9	-8.2	-149.6	34.3	0.00	0.00	0.00
1,280.0	11.45	266.87	1,266.1	-8.6	-157.5	36.1	0.00	0.00	0.00
1,320.0	11.45	266.87	1,305.3	-9.0	-165.4	37.9	0.00	0.00	0.00
1,360.0	11.45	266.87	1,344.5	-9.5	-173.3	39.7	0.00	0.00	0.00
1,400.0	11.45	266.87	1,383.7	-9.9	-181.3	41.6	0.00	0.00	0.00
1,440.0	11.45	266.87	1,422.9	-10.3	-189.2	43.4	0.00	0.00	0.00
1,480.0	11.45	266.87	1,462.1	-10.8	-197.1	45.2	0.00	0.00	0.00
1,520.0	11.45	266.87	1,501.3	-11.2	-205.0	47.0	0.00	0.00	0.00
1,560.0	11.45	266.87	1,540.5	-11.6	-213.0	48.8	0.00	0.00	0.00
1,600.0	11.45	266.87	1,579.7	-12.1	-220.9	50.7	0.00	0.00	0.00
1,640.0	11.45	266.87	1,618.9	-12.5	-228.8	52.5	0.00	0.00	0.00
1,680.0	11.45	266.87	1,658.1	-12.9	-236.8	54.3	0.00	0.00	0.00
1,720.0	11.45	266.87	1,697.4	-13.4	-244.7	56.1	0.00	0.00	0.00
1,760.0	11.45	266.87	1,736.6	-13.8	-252.6	57.9	0.00	0.00	0.00
1,800.0	11.45	266.87	1,775.8	-14.2	-260.5	59.7	0.00	0.00	0.00
1,840.0	11.45	266.87	1,815.0	-14.7	-268.5	61.6	0.00	0.00	0.00
1,880.0	11.45	266.87	1,854.2	-15.1	-276.4	63.4	0.00	0.00	0.00
1,920.0	11.45	266.87	1,893.4	-15.5	-284.3	65.2	0.00	0.00	0.00
1,960.0	11.45	266.87	1,932.6	-16.0	-292.2	67.0	0.00	0.00	0.00

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Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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)
2,000.0	11.45	266.87	1,971.8	-16.4	-300.2	68.8	0.00	0.00	0.00
2,040.0	11.45	266.87	2,011.0	-16.8	-308.1	70.6	0.00	0.00	0.00
2,080.0	11.45	266.87	2,050.2	-17.3	-316.0	72.5	0.00	0.00	0.00
2,120.0	11.45	266.87	2,089.4	-17.7	-323.9	74.3	0.00	0.00	0.00
2,160.0	11.45	266.87	2,128.6	-18.1	-331.9	76.1	0.00	0.00	0.00
2,200.0	11.45	266.87	2,167.8	-18.6	-339.8	77.9	0.00	0.00	0.00
2,240.0	11.45	266.87	2,207.0	-19.0	-347.7	79.7	0.00	0.00	0.00
2,280.0	11.45	266.87	2,246.2	-19.4	-355.6	81.5	0.00	0.00	0.00
2,320.0	11.45	266.87	2,285.4	-19.9	-363.6	83.4	0.00	0.00	0.00
2,360.0	11.45	266.87	2,324.6	-20.3	-371.5	85.2	0.00	0.00	0.00
2,400.0	11.45	266.87	2,363.8	-20.7	-379.4	87.0	0.00	0.00	0.00
2,440.0	11.45	266.87	2,403.0	-21.2	-387.4	88.8	0.00	0.00	0.00
2,480.0	11.45	266.87	2,442.2	-21.6	-395.3	90.6	0.00	0.00	0.00
2,520.0	11.45	266.87	2,481.4	-22.0	-403.2	92.4	0.00	0.00	0.00
2,560.0	11.45	266.87	2,520.6	-22.5	-411.1	94.3	0.00	0.00	0.00
2,600.0	11.45	266.87	2,559.8	-22.9	-419.1	96.1	0.00	0.00	0.00
2,640.0	11.45	266.87	2,599.1	-23.3	-427.0	97.9	0.00	0.00	0.00
2,680.0	11.45	266.87	2,638.3	-23.8	-434.9	99.7	0.00	0.00	0.00
2,720.0	11.45	266.87	2,677.5	-24.2	-442.8	101.5	0.00	0.00	0.00
2,760.0	11.45	266.87	2,716.7	-24.6	-450.8	103.4	0.00	0.00	0.00
2,800.0	11.45	266.87	2,755.9	-25.1	-458.7	105.2	0.00	0.00	0.00
2,840.0	11.45	266.87	2,795.1	-25.5	-466.6	107.0	0.00	0.00	0.00
2,880.0	11.45	266.87	2,834.3	-25.9	-474.5	108.8	0.00	0.00	0.00
2,920.0	11.45	266.87	2,873.5	-26.4	-482.5	110.6	0.00	0.00	0.00
2,960.0	11.45	266.87	2,912.7	-26.8	-490.4	112.4	0.00	0.00	0.00
3,000.0	11.45	266.87	2,951.9	-27.2	-498.3	114.3	0.00	0.00	0.00
3,040.0	11.45	266.87	2,991.1	-27.7	-506.2	116.1	0.00	0.00	0.00
3,080.0	11.45	266.87	3,030.3	-28.1	-514.2	117.9	0.00	0.00	0.00
3,120.0	11.45	266.87	3,069.5	-28.5	-522.1	119.7	0.00	0.00	0.00
3,160.0	11.45	266.87	3,108.7	-29.0	-530.0	121.5	0.00	0.00	0.00
3,200.0	11.45	266.87	3,147.9	-29.4	-537.9	123.3	0.00	0.00	0.00
3,240.0	11.45	266.87	3,187.1	-29.8	-545.9	125.2	0.00	0.00	0.00
3,280.0	11.45	266.87	3,226.3	-30.3	-553.8	127.0	0.00	0.00	0.00
3,320.0	11.45	266.87	3,265.5	-30.7	-561.7	128.8	0.00	0.00	0.00
3,360.0	11.45	266.87	3,304.7	-31.1	-569.7	130.6	0.00	0.00	0.00
3,400.0	11.45	266.87	3,343.9	-31.6	-577.6	132.4	0.00	0.00	0.00
3,440.0	11.45	266.87	3,383.1	-32.0	-585.5	134.2	0.00	0.00	0.00
3,480.0	11.45	266.87	3,422.3	-32.4	-593.4	136.1	0.00	0.00	0.00
3,520.0	11.45	266.87	3,461.6	-32.9	-601.4	137.9	0.00	0.00	0.00
3,560.0	11.45	266.87	3,500.8	-33.3	-609.3	139.7	0.00	0.00	0.00
3,600.0	11.45	266.87	3,540.0	-33.7	-617.2	141.5	0.00	0.00	0.00
3,640.0	11.45	266.87	3,579.2	-34.2	-625.1	143.3	0.00	0.00	0.00
3,680.0	11.45	266.87	3,618.4	-34.6	-633.1	145.2	0.00	0.00	0.00
3,720.0	11.45	266.87	3,657.6	-35.0	-641.0	147.0	0.00	0.00	0.00
3,760.0	11.45	266.87	3,696.8	-35.5	-648.9	148.8	0.00	0.00	0.00
3,800.0	11.45	266.87	3,736.0	-35.9	-656.8	150.6	0.00	0.00	0.00
3,840.0	11.45	266.87	3,775.2	-36.3	-664.8	152.4	0.00	0.00	0.00
3,880.0	11.45	266.87	3,814.4	-36.8	-672.7	154.2	0.00	0.00	0.00
3,920.0	11.45	266.87	3,853.6	-37.2	-680.6	156.1	0.00	0.00	0.00
3,960.0	11.45	266.87	3,892.8	-37.6	-688.5	157.9	0.00	0.00	0.00
4,000.0	11.45	266.87	3,932.0	-38.1	-696.5	159.7	0.00	0.00	0.00
4,040.0	11.45	266.87	3,971.2	-38.5	-704.4	161.5	0.00	0.00	0.00

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Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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)
4,080.0	11.45	266.87	4,010.4	-38.9	-712.3	163.3	0.00	0.00	0.00
4,120.0	11.45	266.87	4,049.6	-39.4	-720.3	165.1	0.00	0.00	0.00
4,160.0	11.45	266.87	4,088.8	-39.8	-728.2	167.0	0.00	0.00	0.00
4,200.0	11.45	266.87	4,128.0	-40.2	-736.1	168.8	0.00	0.00	0.00
4,240.0	11.45	266.87	4,167.2	-40.7	-744.0	170.6	0.00	0.00	0.00
4,280.0	11.45	266.87	4,206.4	-41.1	-752.0	172.4	0.00	0.00	0.00
4,320.0	11.45	266.87	4,245.6	-41.5	-759.9	174.2	0.00	0.00	0.00
4,360.0	11.45	266.87	4,284.8	-42.0	-767.8	176.0	0.00	0.00	0.00
4,400.0	11.45	266.87	4,324.0	-42.4	-775.7	177.9	0.00	0.00	0.00
4,440.0	11.45	266.87	4,363.3	-42.8	-783.7	179.7	0.00	0.00	0.00
4,480.0	11.45	266.87	4,402.5	-43.3	-791.6	181.5	0.00	0.00	0.00
4,520.0	11.45	266.87	4,441.7	-43.7	-799.5	183.3	0.00	0.00	0.00
4,560.0	11.45	266.87	4,480.9	-44.1	-807.4	185.1	0.00	0.00	0.00
4,600.0	11.45	266.87	4,520.1	-44.6	-815.4	187.0	0.00	0.00	0.00
4,640.0	11.45	266.87	4,559.3	-45.0	-823.3	188.8	0.00	0.00	0.00
4,680.0	11.45	266.87	4,598.5	-45.4	-831.2	190.6	0.00	0.00	0.00
4,720.0	11.45	266.87	4,637.7	-45.9	-839.1	192.4	0.00	0.00	0.00
4,760.0	11.45	266.87	4,676.9	-46.3	-847.1	194.2	0.00	0.00	0.00
4,800.0	11.45	266.87	4,716.1	-46.7	-855.0	196.0	0.00	0.00	0.00
4,815.7	11.45	266.87	4,731.5	-46.9	-858.1	196.8	0.00	0.00	0.00
4,840.0	10.96	266.87	4,755.3	-47.1	-862.8	197.8	2.00	-2.00	0.00
4,880.0	10.16	266.87	4,794.6	-47.5	-870.1	199.5	2.00	-2.00	0.00
4,920.0	9.36	266.87	4,834.1	-47.9	-876.9	201.1	2.00	-2.00	0.00
4,960.0	8.56	266.87	4,873.6	-48.3	-883.1	202.5	2.00	-2.00	0.00
5,000.0	7.76	266.87	4,913.2	-48.6	-888.8	203.8	2.00	-2.00	0.00
5,040.0	6.96	266.87	4,952.8	-48.8	-893.9	205.0	2.00	-2.00	0.00
5,080.0	6.16	266.87	4,992.6	-49.1	-898.5	206.0	2.00	-2.00	0.00
5,120.0	5.36	266.87	5,032.4	-49.3	-902.5	206.9	2.00	-2.00	0.00
5,160.0	4.56	266.87	5,072.2	-49.5	-905.9	207.7	2.00	-2.00	0.00
5,200.0	3.76	266.87	5,112.1	-49.7	-908.8	208.4	2.00	-2.00	0.00
5,240.0	2.96	266.87	5,152.0	-49.8	-911.2	208.9	2.00	-2.00	0.00
5,280.0	2.16	266.87	5,192.0	-49.9	-913.0	209.3	2.00	-2.00	0.00
5,320.0	1.36	266.87	5,232.0	-50.0	-914.2	209.6	2.00	-2.00	0.00
5,360.0	0.56	266.87	5,272.0	-50.0	-914.9	209.8	2.00	-2.00	0.00
5,388.0	0.00	0.00	5,300.0	-50.0	-915.0	209.8	2.00	-2.00	0.00
5,400.0	0.00	0.00	5,312.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,440.0	0.00	0.00	5,352.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,480.0	0.00	0.00	5,392.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,520.0	0.00	0.00	5,432.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,560.0	0.00	0.00	5,472.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,512.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,640.0	0.00	0.00	5,552.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,680.0	0.00	0.00	5,592.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,720.0	0.00	0.00	5,632.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,672.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,712.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,752.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,792.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,832.0	-50.0	-915.0	209.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,872.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,912.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,040.0	0.00	0.00	5,952.0	-50.0	-915.0	209.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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	5,992.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,120.0	0.00	0.00	6,032.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,072.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,112.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,152.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,192.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,232.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,272.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,312.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,352.0	-50.0	-915.0	209.8	0.00	0.00	0.00
6,461.2	0.00	0.00	6,373.2	-50.0	-915.0	209.8	0.00	0.00	0.00
KOP #2									
6,480.0	1.41	180.00	6,392.0	-50.2	-915.0	210.0	7.50	7.50	0.00
6,520.0	4.41	180.00	6,431.9	-52.3	-915.0	212.0	7.50	7.50	0.00
6,560.0	7.41	180.00	6,471.7	-56.4	-915.0	216.1	7.50	7.50	0.00
6,600.0	10.41	180.00	6,511.2	-62.6	-915.0	222.2	7.50	7.50	0.00
6,640.0	13.41	180.00	6,550.4	-70.8	-915.0	230.3	7.50	7.50	0.00
6,680.0	16.41	180.00	6,589.0	-81.1	-915.0	240.4	7.50	7.50	0.00
6,720.0	19.41	180.00	6,627.1	-93.4	-915.0	252.5	7.50	7.50	0.00
6,760.0	22.41	180.00	6,664.4	-107.7	-915.0	266.6	7.50	7.50	0.00
6,800.0	25.41	180.00	6,701.0	-123.9	-915.0	282.6	7.50	7.50	0.00
6,840.0	28.41	180.00	6,736.7	-142.0	-915.0	300.4	7.50	7.50	0.00
6,880.0	31.41	180.00	6,771.3	-161.9	-915.0	320.0	7.50	7.50	0.00
6,920.0	34.41	180.00	6,804.9	-183.7	-915.0	341.4	7.50	7.50	0.00
6,960.0	37.41	180.00	6,837.3	-207.1	-915.0	364.5	7.50	7.50	0.00
7,000.0	40.41	180.00	6,868.4	-232.3	-915.0	389.2	7.50	7.50	0.00
7,040.0	43.41	180.00	6,898.2	-259.0	-915.0	415.5	7.50	7.50	0.00
7,080.0	46.41	180.00	6,926.5	-287.2	-915.0	443.3	7.50	7.50	0.00
7,120.0	49.41	180.00	6,953.3	-316.9	-915.0	472.5	7.50	7.50	0.00
7,160.0	52.41	180.00	6,978.5	-347.9	-915.0	503.1	7.50	7.50	0.00
7,200.0	55.41	180.00	7,002.1	-380.2	-915.0	534.9	7.50	7.50	0.00
7,240.0	58.41	180.00	7,023.9	-413.8	-915.0	567.9	7.50	7.50	0.00
7,280.0	61.41	180.00	7,044.0	-448.4	-915.0	602.0	7.50	7.50	0.00
7,320.0	64.41	180.00	7,062.2	-484.0	-915.0	637.0	7.50	7.50	0.00
7,360.0	67.41	180.00	7,078.5	-520.5	-915.0	673.0	7.50	7.50	0.00
7,400.0	70.41	180.00	7,092.9	-557.8	-915.0	709.7	7.50	7.50	0.00
7,440.0	73.41	180.00	7,105.3	-595.8	-915.0	747.1	7.50	7.50	0.00
7,480.0	76.41	180.00	7,115.7	-634.4	-915.0	785.2	7.50	7.50	0.00
7,520.0	79.41	180.00	7,124.1	-673.5	-915.0	823.7	7.50	7.50	0.00
7,560.0	82.41	180.00	7,130.4	-713.0	-915.0	862.5	7.50	7.50	0.00
7,600.0	85.41	180.00	7,134.7	-752.8	-915.0	901.7	7.50	7.50	0.00
7,640.0	88.41	180.00	7,136.8	-792.7	-915.0	941.0	7.50	7.50	0.00
7,666.5	90.40	180.00	7,137.1	-819.2	-915.0	967.1	7.50	7.50	0.00
End of Build - 7"									
7,680.0	90.40	180.00	7,137.0	-832.7	-915.0	980.4	0.02	0.02	0.00
7,720.0	90.40	180.00	7,136.7	-872.7	-915.0	1,019.8	0.00	0.00	0.00
7,760.0	90.40	180.00	7,136.5	-912.7	-915.0	1,059.1	0.00	0.00	0.00
7,800.0	90.40	180.00	7,136.2	-952.7	-915.0	1,098.5	0.00	0.00	0.00
7,840.0	90.40	180.00	7,135.9	-992.7	-915.0	1,137.9	0.00	0.00	0.00
7,880.0	90.40	180.00	7,135.6	-1,032.7	-915.0	1,177.3	0.00	0.00	0.00
7,920.0	90.40	180.00	7,135.3	-1,072.7	-915.0	1,216.7	0.00	0.00	0.00
7,960.0	90.40	180.00	7,135.1	-1,112.7	-915.0	1,256.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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	90.40	180.00	7,134.8	-1,152.7	-915.0	1,295.4	0.00	0.00	0.00
8,040.0	90.40	180.00	7,134.5	-1,192.7	-915.0	1,334.8	0.00	0.00	0.00
8,080.0	90.40	180.00	7,134.2	-1,232.7	-915.0	1,374.2	0.00	0.00	0.00
8,120.0	90.40	180.00	7,134.0	-1,272.7	-915.0	1,413.5	0.00	0.00	0.00
8,160.0	90.40	180.00	7,133.7	-1,312.7	-915.0	1,452.9	0.00	0.00	0.00
8,200.0	90.40	180.00	7,133.4	-1,352.7	-915.0	1,492.3	0.00	0.00	0.00
8,240.0	90.40	180.00	7,133.1	-1,392.7	-915.0	1,531.7	0.00	0.00	0.00
8,280.0	90.40	180.00	7,132.8	-1,432.7	-915.0	1,571.1	0.00	0.00	0.00
8,320.0	90.40	180.00	7,132.6	-1,472.7	-915.0	1,610.4	0.00	0.00	0.00
8,360.0	90.40	180.00	7,132.3	-1,512.7	-915.0	1,649.8	0.00	0.00	0.00
8,400.0	90.40	180.00	7,132.0	-1,552.7	-915.0	1,689.2	0.00	0.00	0.00
8,440.0	90.40	180.00	7,131.7	-1,592.7	-915.0	1,728.6	0.00	0.00	0.00
8,480.0	90.40	180.00	7,131.4	-1,632.7	-915.0	1,768.0	0.00	0.00	0.00
8,520.0	90.40	180.00	7,131.2	-1,672.7	-915.0	1,807.3	0.00	0.00	0.00
8,560.0	90.40	180.00	7,130.9	-1,712.7	-915.0	1,846.7	0.00	0.00	0.00
8,600.0	90.40	180.00	7,130.6	-1,752.7	-915.0	1,886.1	0.00	0.00	0.00
8,640.0	90.40	180.00	7,130.3	-1,792.7	-915.0	1,925.5	0.00	0.00	0.00
8,680.0	90.40	180.00	7,130.0	-1,832.7	-915.0	1,964.8	0.00	0.00	0.00
8,720.0	90.40	180.00	7,129.8	-1,872.7	-915.0	2,004.2	0.00	0.00	0.00
8,760.0	90.40	180.00	7,129.5	-1,912.7	-915.0	2,043.6	0.00	0.00	0.00
8,800.0	90.40	180.00	7,129.2	-1,952.7	-915.0	2,083.0	0.00	0.00	0.00
8,840.0	90.40	180.00	7,128.9	-1,992.7	-915.0	2,122.4	0.00	0.00	0.00
8,880.0	90.40	180.00	7,128.6	-2,032.7	-915.0	2,161.7	0.00	0.00	0.00
8,920.0	90.40	180.00	7,128.4	-2,072.7	-915.0	2,201.1	0.00	0.00	0.00
8,960.0	90.40	180.00	7,128.1	-2,112.7	-915.0	2,240.5	0.00	0.00	0.00
9,000.0	90.40	180.00	7,127.8	-2,152.7	-915.0	2,279.9	0.00	0.00	0.00
9,040.0	90.40	180.00	7,127.5	-2,192.7	-915.0	2,319.2	0.00	0.00	0.00
9,080.0	90.40	180.00	7,127.2	-2,232.7	-915.0	2,358.6	0.00	0.00	0.00
9,120.0	90.40	180.00	7,127.0	-2,272.7	-915.0	2,398.0	0.00	0.00	0.00
9,160.0	90.40	180.00	7,126.7	-2,312.7	-915.0	2,437.4	0.00	0.00	0.00
9,200.0	90.40	180.00	7,126.4	-2,352.7	-915.0	2,476.8	0.00	0.00	0.00
9,240.0	90.40	180.00	7,126.1	-2,392.7	-915.0	2,516.1	0.00	0.00	0.00
9,280.0	90.40	180.00	7,125.9	-2,432.7	-915.0	2,555.5	0.00	0.00	0.00
9,320.0	90.40	180.00	7,125.6	-2,472.7	-915.0	2,594.9	0.00	0.00	0.00
9,360.0	90.40	180.00	7,125.3	-2,512.7	-915.0	2,634.3	0.00	0.00	0.00
9,400.0	90.40	180.00	7,125.0	-2,552.7	-915.0	2,673.7	0.00	0.00	0.00
9,440.0	90.40	180.00	7,124.7	-2,592.7	-915.0	2,713.0	0.00	0.00	0.00
9,480.0	90.40	180.00	7,124.5	-2,632.7	-915.0	2,752.4	0.00	0.00	0.00
9,520.0	90.40	180.00	7,124.2	-2,672.7	-915.0	2,791.8	0.00	0.00	0.00
9,560.0	90.40	180.00	7,123.9	-2,712.7	-915.0	2,831.2	0.00	0.00	0.00
9,600.0	90.40	180.00	7,123.6	-2,752.7	-915.0	2,870.5	0.00	0.00	0.00
9,640.0	90.40	180.00	7,123.3	-2,792.7	-915.0	2,909.9	0.00	0.00	0.00
9,680.0	90.40	180.00	7,123.1	-2,832.7	-915.0	2,949.3	0.00	0.00	0.00
9,720.0	90.40	180.00	7,122.8	-2,872.7	-915.0	2,988.7	0.00	0.00	0.00
9,760.0	90.40	180.00	7,122.5	-2,912.7	-915.0	3,028.1	0.00	0.00	0.00
9,800.0	90.40	180.00	7,122.2	-2,952.7	-915.0	3,067.4	0.00	0.00	0.00
9,840.0	90.40	180.00	7,121.9	-2,992.7	-915.0	3,106.8	0.00	0.00	0.00
9,880.0	90.40	180.00	7,121.7	-3,032.7	-915.0	3,146.2	0.00	0.00	0.00
9,920.0	90.40	180.00	7,121.4	-3,072.7	-915.0	3,185.6	0.00	0.00	0.00
9,960.0	90.40	180.00	7,121.1	-3,112.7	-915.0	3,225.0	0.00	0.00	0.00
10,000.0	90.40	180.00	7,120.8	-3,152.7	-915.0	3,264.3	0.00	0.00	0.00
10,040.0	90.40	180.00	7,120.5	-3,192.7	-915.0	3,303.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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	90.40	180.00	7,120.3	-3,232.7	-915.0	3,343.1	0.00	0.00	0.00
10,120.0	90.40	180.00	7,120.0	-3,272.7	-915.0	3,382.5	0.00	0.00	0.00
10,160.0	90.40	180.00	7,119.7	-3,312.7	-915.0	3,421.8	0.00	0.00	0.00
10,200.0	90.40	180.00	7,119.4	-3,352.7	-915.0	3,461.2	0.00	0.00	0.00
10,240.0	90.40	180.00	7,119.2	-3,392.7	-915.0	3,500.6	0.00	0.00	0.00
10,280.0	90.40	180.00	7,118.9	-3,432.7	-915.0	3,540.0	0.00	0.00	0.00
10,320.0	90.40	180.00	7,118.6	-3,472.7	-915.0	3,579.4	0.00	0.00	0.00
10,360.0	90.40	180.00	7,118.3	-3,512.7	-915.0	3,618.7	0.00	0.00	0.00
10,400.0	90.40	180.00	7,118.0	-3,552.7	-915.0	3,658.1	0.00	0.00	0.00
10,440.0	90.40	180.00	7,117.8	-3,592.7	-915.0	3,697.5	0.00	0.00	0.00
10,480.0	90.40	180.00	7,117.5	-3,632.7	-915.0	3,736.9	0.00	0.00	0.00
10,520.0	90.40	180.00	7,117.2	-3,672.7	-915.0	3,776.2	0.00	0.00	0.00
10,560.0	90.40	180.00	7,116.9	-3,712.7	-915.0	3,815.6	0.00	0.00	0.00
10,600.0	90.40	180.00	7,116.6	-3,752.7	-915.0	3,855.0	0.00	0.00	0.00
10,640.0	90.40	180.00	7,116.4	-3,792.7	-915.0	3,894.4	0.00	0.00	0.00
10,680.0	90.40	180.00	7,116.1	-3,832.7	-915.0	3,933.8	0.00	0.00	0.00
10,720.0	90.40	180.00	7,115.8	-3,872.7	-915.0	3,973.1	0.00	0.00	0.00
10,760.0	90.40	180.00	7,115.5	-3,912.7	-915.0	4,012.5	0.00	0.00	0.00
10,800.0	90.40	180.00	7,115.2	-3,952.7	-915.0	4,051.9	0.00	0.00	0.00
10,840.0	90.40	180.00	7,115.0	-3,992.7	-915.0	4,091.3	0.00	0.00	0.00
10,880.0	90.40	180.00	7,114.7	-4,032.7	-915.0	4,130.7	0.00	0.00	0.00
10,920.0	90.40	180.00	7,114.4	-4,072.7	-915.0	4,170.0	0.00	0.00	0.00
10,960.0	90.40	180.00	7,114.1	-4,112.7	-915.0	4,209.4	0.00	0.00	0.00
11,000.0	90.40	180.00	7,113.8	-4,152.7	-915.0	4,248.8	0.00	0.00	0.00
11,040.0	90.40	180.00	7,113.6	-4,192.7	-915.0	4,288.2	0.00	0.00	0.00
11,080.0	90.40	180.00	7,113.3	-4,232.7	-915.0	4,327.5	0.00	0.00	0.00
11,120.0	90.40	180.00	7,113.0	-4,272.7	-915.0	4,366.9	0.00	0.00	0.00
11,160.0	90.40	180.00	7,112.7	-4,312.6	-915.0	4,406.3	0.00	0.00	0.00
11,200.0	90.40	180.00	7,112.4	-4,352.6	-915.0	4,445.7	0.00	0.00	0.00
11,240.0	90.40	180.00	7,112.2	-4,392.6	-915.0	4,485.1	0.00	0.00	0.00
11,280.0	90.40	180.00	7,111.9	-4,432.6	-915.0	4,524.4	0.00	0.00	0.00
11,320.0	90.40	180.00	7,111.6	-4,472.6	-915.0	4,563.8	0.00	0.00	0.00
11,360.0	90.40	180.00	7,111.3	-4,512.6	-915.0	4,603.2	0.00	0.00	0.00
11,400.0	90.40	180.00	7,111.1	-4,552.6	-915.0	4,642.6	0.00	0.00	0.00
11,440.0	90.40	180.00	7,110.8	-4,592.6	-915.0	4,681.9	0.00	0.00	0.00
11,480.0	90.40	180.00	7,110.5	-4,632.6	-915.0	4,721.3	0.00	0.00	0.00
11,520.0	90.40	180.00	7,110.2	-4,672.6	-915.0	4,760.7	0.00	0.00	0.00
11,560.0	90.40	180.00	7,109.9	-4,712.6	-915.0	4,800.1	0.00	0.00	0.00
11,600.0	90.40	180.00	7,109.7	-4,752.6	-915.0	4,839.5	0.00	0.00	0.00
11,640.0	90.40	180.00	7,109.4	-4,792.6	-915.0	4,878.8	0.00	0.00	0.00
11,680.0	90.40	180.00	7,109.1	-4,832.6	-915.0	4,918.2	0.00	0.00	0.00
11,720.0	90.40	180.00	7,108.8	-4,872.6	-915.0	4,957.6	0.00	0.00	0.00
11,760.0	90.40	180.00	7,108.5	-4,912.6	-915.0	4,997.0	0.00	0.00	0.00
11,800.0	90.40	180.00	7,108.3	-4,952.6	-915.0	5,036.4	0.00	0.00	0.00
11,840.0	90.40	180.00	7,108.0	-4,992.6	-915.0	5,075.7	0.00	0.00	0.00
11,880.0	90.40	180.00	7,107.7	-5,032.6	-915.0	5,115.1	0.00	0.00	0.00
11,920.0	90.40	180.00	7,107.4	-5,072.6	-915.0	5,154.5	0.00	0.00	0.00
11,960.0	90.40	180.00	7,107.1	-5,112.6	-915.0	5,193.9	0.00	0.00	0.00
11,980.6	90.40	180.00	7,107.0	-5,133.2	-915.0	5,214.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Project:	SEC.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	North Reference:	True
Well:	Simonson/Schaefer 7E-203	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 (")
7,666.5	7,137.1	7"		7	7-1/2

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
200.0	200.0	0.0	0.0	KOP #1	
6,461.2	6,373.2	-50.0	-915.0	KOP #2	
7,666.5	7,137.1	-819.2	-915.0	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 7E-203

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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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	11,980.6	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)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Flockhart Pad SEC.12-T6N-R67W						
Flockhart 12-45 (Vert.) - Wellbore #1 - Plan #1 (11-25-11)						Out of range
Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W						
Hergert 1 (P&A) - Wellbore #1 - Wellbore #1	11,782.8	7,103.4	393.8	289.8	3.785 CC, ES	
Hergert 1 (P&A) - Wellbore #1 - Wellbore #1	11,800.0	7,103.3	394.2	289.8	3.777 SF	
Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1 (8-9-	200.0	199.0	30.6	29.9	45.514 CC, ES	
Simonson/Schaefer 7E-423 - Wellbore #1 - Plan #1 (8-9-	11,980.6	11,981.7	462.1	275.7	2.480 SF	
Simonson/Schaefer 7J-243 - Wellbore #1 - Plan #1 (8-9-	200.0	199.0	61.2	60.5	91.028 CC, ES	
Simonson/Schaefer 7J-243 - Wellbore #1 - Plan #1 (8-9-	11,980.6	11,889.9	846.2	647.9	4.266 SF	

Offset Design	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W - Hergert 1 (P&A) - Wellbore #1 - Wellbore #1										Offset Site Error:	0.0ft
Survey Program:	7300-MWD										Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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)	Separation Factor	
10,900.0	7,114.5	7,109.5	7,109.5	80.8	8.0	-90.90	-4,935.4	-521.2	966.6	879.2	87.42	11.057
11,000.0	7,113.8	7,108.8	7,108.8	82.6	8.0	-90.79	-4,935.4	-521.2	876.3	787.0	89.30	9.813
11,100.0	7,113.1	7,108.1	7,108.1	84.5	8.0	-90.69	-4,935.4	-521.2	788.2	697.0	91.18	8.645
11,200.0	7,112.4	7,107.4	7,107.4	86.3	8.0	-90.59	-4,935.4	-521.2	703.4	610.3	93.06	7.558
11,300.0	7,111.8	7,106.8	7,106.8	88.2	8.0	-90.49	-4,935.4	-521.2	623.0	528.1	94.94	6.562
11,400.0	7,111.1	7,106.1	7,106.1	90.1	8.0	-90.39	-4,935.4	-521.2	549.2	452.4	96.83	5.672
11,500.0	7,110.4	7,105.4	7,105.4	91.9	8.0	-90.29	-4,935.4	-521.2	484.8	386.1	98.72	4.911
11,600.0	7,109.7	7,104.7	7,104.7	93.8	8.0	-90.19	-4,935.4	-521.2	434.2	333.6	100.60	4.316
11,700.0	7,109.0	7,104.0	7,104.0	95.7	8.0	-90.08	-4,935.4	-521.2	402.4	299.9	102.49	3.927
11,782.8	7,108.4	7,103.4	7,103.4	97.2	8.0	-90.00	-4,935.4	-521.2	393.8	289.8	104.06	3.785 CC, ES
11,800.0	7,108.3	7,103.3	7,103.3	97.5	8.0	-89.98	-4,935.4	-521.2	394.2	289.8	104.38	3.777 SF
11,900.0	7,107.6	7,102.6	7,102.6	99.4	8.0	-89.88	-4,935.4	-521.2	410.9	304.6	106.27	3.867
11,980.6	7,107.0	7,102.0	7,102.0	100.9	8.0	-89.80	-4,935.4	-521.2	440.7	332.9	107.79	4.088

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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
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	90.01	0.0	30.6	30.6					
100.0	100.0	99.0	99.0	0.1	0.1	90.01	0.0	30.6	30.6	30.4	0.22	136.769		
200.0	200.0	199.0	199.0	0.3	0.3	90.01	0.0	30.6	30.6	29.9	0.67	45.514 CC, ES		
300.0	300.0	299.0	299.0	0.6	0.6	-177.03	0.0	30.6	32.3	31.2	1.12	28.943		
400.0	399.8	398.8	398.8	0.8	0.8	-177.44	0.0	30.6	37.6	36.0	1.56	24.005		
500.0	499.5	498.5	498.5	1.0	1.0	-177.92	0.0	30.6	46.3	44.2	2.02	22.921		
600.0	598.7	597.7	597.7	1.3	1.2	-178.34	0.0	30.6	58.4	56.0	2.48	23.607		
700.0	697.5	696.5	696.5	1.7	1.5	-178.69	0.0	30.6	74.1	71.1	2.94	25.236		
772.3	768.5	767.5	767.5	1.9	1.6	-178.88	0.0	30.6	87.5	84.3	3.27	26.774		
800.0	795.7	794.7	794.7	2.0	1.7	-178.95	0.0	30.6	93.0	89.6	3.40	27.395		
900.0	893.7	892.7	892.7	2.5	1.9	-179.13	0.0	30.6	112.9	109.0	3.86	29.269		
1,000.0	991.7	990.7	990.7	2.9	2.1	-179.26	0.0	30.6	132.7	128.4	4.32	30.710		
1,100.0	1,089.7	1,093.5	1,093.5	3.3	2.3	-179.24	-0.4	29.1	151.1	146.4	4.78	31.626		
1,200.0	1,187.7	1,198.0	1,197.9	3.7	2.5	-178.93	-1.8	24.0	166.1	160.9	5.23	31.786		
1,300.0	1,285.7	1,303.5	1,303.0	4.2	2.8	-178.39	-4.2	15.1	177.5	171.8	5.69	31.214		
1,400.0	1,383.7	1,409.7	1,408.3	4.6	3.0	-177.62	-7.6	2.3	185.4	179.2	6.17	30.071		
1,500.0	1,481.7	1,510.9	1,508.4	5.1	3.3	-176.75	-11.5	-12.3	190.9	184.2	6.65	28.703		
1,600.0	1,579.7	1,610.7	1,607.1	5.5	3.6	-175.94	-15.3	-26.7	196.3	189.1	7.14	27.484		
1,700.0	1,677.8	1,710.5	1,705.8	6.0	3.9	-175.17	-19.2	-41.2	201.7	194.1	7.64	26.396		
1,800.0	1,775.8	1,810.4	1,804.4	6.4	4.2	-174.45	-23.1	-55.6	207.2	199.1	8.15	25.422		
1,900.0	1,873.8	1,910.2	1,903.1	6.8	4.5	-173.76	-27.0	-70.1	212.7	204.1	8.67	24.549		
2,000.0	1,971.8	2,010.0	2,001.8	7.3	4.8	-173.10	-30.8	-84.6	218.3	209.1	9.19	23.757		
2,100.0	2,069.8	2,109.8	2,100.5	7.7	5.2	-172.48	-34.7	-99.0	223.9	214.2	9.72	23.040		
2,200.0	2,167.8	2,209.6	2,199.2	8.2	5.5	-171.89	-38.6	-113.5	229.5	219.2	10.25	22.387		
2,300.0	2,265.8	2,309.4	2,297.9	8.6	5.8	-171.32	-42.5	-128.0	235.1	224.3	10.79	21.790		
2,400.0	2,363.8	2,409.3	2,396.6	9.1	6.2	-170.79	-46.3	-142.4	240.8	229.4	11.33	21.243		
2,500.0	2,461.8	2,509.1	2,495.2	9.5	6.5	-170.27	-50.2	-156.9	246.4	234.5	11.88	20.739		
2,600.0	2,559.8	2,608.9	2,593.9	10.0	6.9	-169.78	-54.1	-171.3	252.1	239.7	12.43	20.275		
2,700.0	2,657.9	2,708.7	2,692.6	10.4	7.2	-169.32	-57.9	-185.8	257.8	244.8	12.99	19.846		
2,800.0	2,755.9	2,808.5	2,791.3	10.9	7.6	-168.87	-61.8	-200.3	263.5	250.0	13.55	19.448		
2,900.0	2,853.9	2,908.3	2,890.0	11.3	7.9	-168.44	-65.7	-214.7	269.3	255.2	14.11	19.078		
3,000.0	2,951.9	3,008.1	2,988.7	11.7	8.3	-168.03	-69.6	-229.2	275.0	260.3	14.68	18.733		
3,100.0	3,049.9	3,108.0	3,087.4	12.2	8.6	-167.64	-73.4	-243.7	280.8	265.5	15.25	18.411		
3,200.0	3,147.9	3,207.8	3,186.0	12.6	9.0	-167.26	-77.3	-258.1	286.6	270.8	15.82	18.110		
3,300.0	3,245.9	3,307.6	3,284.7	13.1	9.4	-166.89	-81.2	-272.6	292.4	276.0	16.40	17.827		
3,400.0	3,343.9	3,407.4	3,383.4	13.5	9.7	-166.55	-85.0	-287.1	298.2	281.2	16.98	17.562		
3,500.0	3,441.9	3,507.2	3,482.1	14.0	10.1	-166.21	-88.9	-301.5	304.0	286.4	17.56	17.312		
3,600.0	3,540.0	3,607.0	3,580.8	14.4	10.4	-165.89	-92.8	-316.0	309.8	291.7	18.14	17.077		
3,700.0	3,638.0	3,706.9	3,679.5	14.9	10.8	-165.58	-96.7	-330.4	315.6	296.9	18.73	16.855		
3,800.0	3,736.0	3,806.7	3,778.2	15.3	11.2	-165.28	-100.5	-344.9	321.5	302.2	19.31	16.645		
3,900.0	3,834.0	3,906.5	3,876.8	15.8	11.5	-164.99	-104.4	-359.4	327.3	307.4	19.90	16.447		
4,000.0	3,932.0	4,006.3	3,975.5	16.2	11.9	-164.71	-108.3	-373.8	333.2	312.7	20.49	16.258		
4,100.0	4,030.0	4,106.1	4,074.2	16.7	12.2	-164.44	-112.2	-388.3	339.0	318.0	21.09	16.080		
4,200.0	4,128.0	4,205.9	4,172.9	17.1	12.6	-164.18	-116.0	-402.8	344.9	323.2	21.68	15.910		
4,300.0	4,226.0	4,305.7	4,271.6	17.6	13.0	-163.93	-119.9	-417.2	350.8	328.5	22.28	15.748		
4,400.0	4,324.0	4,405.6	4,370.3	18.0	13.3	-163.68	-123.8	-431.7	356.7	333.8	22.87	15.594		
4,500.0	4,422.1	4,505.4	4,469.0	18.5	13.7	-163.45	-127.6	-446.2	362.6	339.1	23.47	15.448		
4,600.0	4,520.1	4,605.2	4,567.7	18.9	14.1	-163.22	-131.5	-460.6	368.5	344.4	24.07	15.308		
4,700.0	4,618.1	4,695.0	4,656.6	19.4	14.3	-163.12	-134.7	-472.4	375.7	351.1	24.59	15.276		
4,800.0	4,716.1	4,784.1	4,745.2	19.8	14.5	-163.22	-137.1	-481.3	385.6	360.6	25.04	15.399		
4,815.7	4,731.5	4,800.0	4,761.1	19.9	14.6	-163.26	-137.4	-482.7	387.4	362.3	25.11	15.427		

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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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	4,814.3	4,872.8	4,833.7	20.2	14.7	-163.52	-138.8	-487.6	397.1	371.6	25.43	15.611		
5,000.0	4,913.2	4,961.2	4,922.0	20.5	14.9	-163.87	-139.7	-491.3	408.0	382.2	25.74	15.848		
5,100.0	5,012.5	5,050.7	5,011.5	20.7	15.0	-164.26	-140.0	-492.3	418.2	392.2	26.00	16.082		
5,200.0	5,112.1	5,150.3	5,111.1	20.9	15.1	-164.60	-140.0	-492.3	426.2	400.0	26.26	16.229		
5,300.0	5,212.0	5,250.2	5,211.0	21.0	15.3	-164.80	-140.0	-492.3	430.9	404.4	26.51	16.255		
5,388.0	5,300.0	5,338.2	5,299.0	21.1	15.4	102.02	-140.0	-492.3	432.2	405.4	26.72	16.173		
5,400.0	5,312.0	5,350.2	5,311.0	21.1	15.4	102.02	-140.0	-492.3	432.2	405.4	26.76	16.149		
5,500.0	5,412.0	5,450.2	5,411.0	21.3	15.6	102.02	-140.0	-492.3	432.2	405.1	27.11	15.943		
5,600.0	5,512.0	5,550.2	5,511.0	21.4	15.8	102.02	-140.0	-492.3	432.2	404.7	27.45	15.741		
5,700.0	5,612.0	5,650.2	5,611.0	21.5	15.9	102.02	-140.0	-492.3	432.2	404.4	27.80	15.543		
5,800.0	5,712.0	5,750.2	5,711.0	21.6	16.1	102.02	-140.0	-492.3	432.2	404.0	28.16	15.348		
5,900.0	5,812.0	5,850.2	5,811.0	21.7	16.2	102.02	-140.0	-492.3	432.2	403.6	28.51	15.156		
6,000.0	5,912.0	5,950.2	5,911.0	21.9	16.4	102.02	-140.0	-492.3	432.2	403.3	28.87	14.968		
6,100.0	6,012.0	6,050.2	6,011.0	22.0	16.6	102.02	-140.0	-492.3	432.2	402.9	29.23	14.783		
6,200.0	6,112.0	6,150.2	6,111.0	22.1	16.7	102.02	-140.0	-492.3	432.2	402.6	29.60	14.601		
6,300.0	6,212.0	6,250.2	6,211.0	22.2	16.9	102.02	-140.0	-492.3	432.2	402.2	29.96	14.423		
6,400.0	6,312.0	6,350.2	6,311.0	22.4	17.1	102.02	-140.0	-492.3	432.2	401.8	30.33	14.248		
6,461.2	6,373.2	6,411.4	6,372.2	22.5	17.2	102.02	-140.0	-492.3	432.2	401.6	30.56	14.143		
6,500.0	6,412.0	6,450.2	6,411.0	22.5	17.2	-78.12	-140.0	-492.3	432.0	401.3	30.65	14.092		
6,550.0	6,461.8	6,500.0	6,460.8	22.6	17.3	-78.72	-140.0	-492.3	431.1	400.4	30.73	14.031		
6,600.0	6,511.2	6,549.4	6,510.2	22.6	17.4	-79.79	-140.0	-492.3	429.7	399.0	30.76	13.971		
6,650.0	6,560.1	6,595.7	6,556.5	22.7	17.5	-81.13	-140.6	-492.3	428.0	397.2	30.78	13.906		
6,700.0	6,608.1	6,640.9	6,601.6	22.8	17.6	-82.51	-143.6	-492.3	426.5	395.7	30.83	13.832		
6,750.0	6,655.2	6,686.6	6,646.9	22.9	17.7	-83.93	-149.4	-492.3	425.2	394.3	30.93	13.749		
6,800.0	6,701.0	6,732.9	6,692.4	22.9	17.8	-85.39	-158.1	-492.3	424.1	393.1	31.06	13.656		
6,850.0	6,745.4	6,779.8	6,737.9	23.0	17.9	-86.87	-169.6	-492.3	423.4	392.1	31.23	13.554		
6,900.0	6,788.3	6,827.4	6,783.1	23.1	18.0	-88.39	-184.1	-492.3	422.9	391.4	31.45	13.445		
6,950.0	6,829.3	6,875.6	6,828.1	23.3	18.1	-89.91	-201.7	-492.3	422.7	391.0	31.72	13.327		
6,952.8	6,831.5	6,878.3	6,830.5	23.3	18.1	-90.00	-202.8	-492.3	422.7	391.0	31.73	13.320		
7,000.0	6,868.4	6,924.6	6,872.4	23.4	18.3	-91.45	-222.4	-492.3	422.8	390.8	32.03	13.203		
7,050.0	6,905.4	6,974.3	6,916.0	23.5	18.4	-93.00	-246.3	-492.3	423.3	390.9	32.39	13.070		
7,100.0	6,940.1	7,024.8	6,958.6	23.7	18.6	-94.54	-273.4	-492.3	424.1	391.3	32.80	12.929		
7,150.0	6,972.4	7,076.1	6,999.9	23.9	18.8	-96.06	-303.8	-492.3	425.2	391.9	33.28	12.777		
7,200.0	7,002.1	7,128.3	7,039.8	24.1	19.0	-97.57	-337.5	-492.3	426.6	392.8	33.82	12.614		
7,250.0	7,029.1	7,181.4	7,077.9	24.3	19.3	-99.05	-374.4	-492.3	428.3	393.9	34.44	12.436		
7,300.0	7,053.3	7,235.4	7,113.9	24.6	19.6	-100.49	-414.6	-492.3	430.2	395.1	35.15	12.241		
7,350.0	7,074.6	7,290.4	7,147.6	24.8	20.0	-101.89	-458.1	-492.3	432.4	396.5	35.95	12.029		
7,400.0	7,092.9	7,346.3	7,178.6	25.2	20.4	-103.24	-504.7	-492.3	434.7	397.9	36.85	11.797		
7,450.0	7,108.1	7,403.2	7,206.5	25.5	20.8	-104.53	-554.3	-492.3	437.2	399.3	37.87	11.545		
7,500.0	7,120.2	7,461.2	7,231.0	25.9	21.3	-105.75	-606.7	-492.3	439.8	400.8	39.01	11.274		
7,550.0	7,129.1	7,520.0	7,251.8	26.3	21.9	-106.90	-661.8	-492.3	442.4	402.1	40.27	10.986		
7,600.0	7,134.7	7,579.9	7,268.5	26.8	22.5	-107.97	-719.2	-492.3	445.0	403.3	41.65	10.684		
7,650.0	7,137.1	7,640.6	7,280.9	27.3	23.2	-108.95	-778.7	-492.3	447.5	404.3	43.14	10.372		
7,666.5	7,137.1	7,660.9	7,283.9	27.4	23.5	-109.26	-798.7	-492.3	448.3	404.6	43.66	10.267		
7,700.0	7,136.9	7,699.2	7,288.4	27.8	23.9	-109.82	-836.7	-492.3	449.6	405.1	44.49	10.105		
7,800.0	7,136.2	7,804.9	7,298.5	28.9	25.3	-111.12	-941.9	-492.3	453.3	406.3	47.00	9.645		
7,900.0	7,135.5	7,916.1	7,301.0	30.1	26.8	-111.50	-1,053.1	-492.3	454.3	404.5	49.84	9.115		
8,000.0	7,134.8	8,016.1	7,300.7	31.3	28.3	-111.55	-1,153.1	-492.3	454.5	401.8	52.69	8.626		
8,100.0	7,134.1	8,116.1	7,300.5	32.7	29.8	-111.61	-1,253.1	-492.3	454.7	399.0	55.62	8.174		
8,200.0	7,133.4	8,216.1	7,300.3	34.1	31.3	-111.66	-1,353.1	-492.3	454.8	396.2	58.63	7.758		

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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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				Minimum Separation		Separation Factor		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)							
8,300.0	7,132.7	8,316.1	7,300.1	35.5	32.9	-111.72	-1,453.1	-492.3	455.0	393.3	61.70	7.375					
8,400.0	7,132.0	8,416.1	7,299.9	37.0	34.5	-111.78	-1,553.1	-492.3	455.2	390.4	64.82	7.022					
8,500.0	7,131.3	8,516.1	7,299.6	38.6	36.1	-111.83	-1,653.1	-492.3	455.4	387.4	67.99	6.698					
8,600.0	7,130.6	8,616.1	7,299.4	40.1	37.8	-111.89	-1,753.1	-492.3	455.5	384.4	71.19	6.399					
8,700.0	7,129.9	8,716.1	7,299.2	41.8	39.5	-111.94	-1,853.1	-492.3	455.7	381.3	74.43	6.123					
8,800.0	7,129.2	8,816.1	7,299.0	43.4	41.2	-112.00	-1,953.1	-492.3	455.9	378.2	77.70	5.868					
8,900.0	7,128.5	8,916.1	7,298.8	45.0	43.0	-112.05	-2,053.1	-492.3	456.1	375.1	80.99	5.631					
9,000.0	7,127.8	9,016.1	7,298.5	46.7	44.7	-112.11	-2,153.1	-492.3	456.3	372.0	84.31	5.412					
9,100.0	7,127.1	9,116.1	7,298.3	48.4	46.5	-112.17	-2,253.1	-492.3	456.4	368.8	87.64	5.208					
9,200.0	7,126.4	9,216.1	7,298.1	50.1	48.3	-112.22	-2,353.1	-492.3	456.6	365.6	90.99	5.018					
9,300.0	7,125.7	9,316.1	7,297.9	51.9	50.1	-112.28	-2,453.1	-492.3	456.8	362.5	94.36	4.841					
9,400.0	7,125.0	9,416.1	7,297.7	53.6	51.8	-112.33	-2,553.1	-492.3	457.0	359.3	97.73	4.676					
9,500.0	7,124.3	9,516.1	7,297.4	55.4	53.7	-112.39	-2,653.1	-492.3	457.2	356.0	101.12	4.521					
9,600.0	7,123.6	9,616.1	7,297.2	57.1	55.5	-112.44	-2,753.1	-492.3	457.4	352.8	104.52	4.376					
9,700.0	7,122.9	9,716.1	7,297.0	58.9	57.3	-112.50	-2,853.1	-492.3	457.5	349.6	107.93	4.239					
9,800.0	7,122.2	9,816.1	7,296.8	60.7	59.1	-112.55	-2,953.1	-492.3	457.7	346.4	111.35	4.111					
9,900.0	7,121.5	9,916.1	7,296.6	62.5	61.0	-112.61	-3,053.1	-492.3	457.9	343.1	114.77	3.990					
10,000.0	7,120.8	10,016.1	7,296.3	64.3	62.8	-112.66	-3,153.1	-492.3	458.1	339.9	118.20	3.876					
10,100.0	7,120.1	10,116.1	7,296.1	66.1	64.6	-112.72	-3,253.1	-492.3	458.3	336.6	121.63	3.768					
10,200.0	7,119.4	10,216.1	7,295.9	67.9	66.5	-112.77	-3,353.1	-492.3	458.5	333.4	125.07	3.666					
10,300.0	7,118.7	10,316.1	7,295.7	69.7	68.3	-112.83	-3,453.1	-492.3	458.6	330.1	128.51	3.569					
10,400.0	7,118.0	10,416.1	7,295.5	71.6	70.2	-112.88	-3,553.1	-492.3	458.8	326.9	131.95	3.477					
10,500.0	7,117.3	10,516.1	7,295.2	73.4	72.1	-112.94	-3,653.1	-492.3	459.0	323.6	135.40	3.390					
10,600.0	7,116.6	10,616.1	7,295.0	75.2	73.9	-112.99	-3,753.1	-492.3	459.2	320.4	138.85	3.307					
10,700.0	7,115.9	10,716.1	7,294.8	77.1	75.8	-113.05	-3,853.1	-492.3	459.4	317.1	142.31	3.228					
10,800.0	7,115.2	10,816.1	7,294.6	78.9	77.6	-113.10	-3,953.1	-492.3	459.6	313.8	145.76	3.153					
10,900.0	7,114.5	10,916.1	7,294.3	80.8	79.5	-113.16	-4,053.1	-492.3	459.8	310.6	149.22	3.081					
11,000.0	7,113.8	11,016.1	7,294.1	82.6	81.4	-113.21	-4,153.1	-492.3	460.0	307.3	152.68	3.013					
11,100.0	7,113.1	11,116.1	7,293.9	84.5	83.3	-113.27	-4,253.0	-492.3	460.2	304.0	156.14	2.947					
11,200.0	7,112.4	11,216.1	7,293.7	86.3	85.1	-113.32	-4,353.0	-492.3	460.3	300.7	159.60	2.884					
11,300.0	7,111.8	11,316.1	7,293.5	88.2	87.0	-113.37	-4,453.0	-492.3	460.5	297.5	163.06	2.824					
11,400.0	7,111.1	11,416.1	7,293.2	90.1	88.9	-113.43	-4,553.0	-492.3	460.7	294.2	166.52	2.767					
11,500.0	7,110.4	11,516.0	7,293.0	91.9	90.8	-113.48	-4,653.0	-492.3	460.9	290.9	169.98	2.712					
11,600.0	7,109.7	11,616.0	7,292.8	93.8	92.7	-113.54	-4,753.0	-492.3	461.1	287.7	173.44	2.659					
11,700.0	7,109.0	11,716.0	7,292.6	95.7	94.6	-113.59	-4,853.0	-492.3	461.3	284.4	176.90	2.608					
11,800.0	7,108.3	11,816.0	7,292.4	97.5	96.5	-113.65	-4,953.0	-492.3	461.5	281.1	180.36	2.559					
11,900.0	7,107.6	11,916.0	7,292.1	99.4	98.3	-113.70	-5,053.0	-492.3	461.7	277.9	183.82	2.512					
11,938.4	7,107.3	11,954.5	7,292.1	100.1	99.1	-113.72	-5,091.5	-492.3	461.8	276.6	185.15	2.494					
11,980.6	7,107.0	11,981.7	7,292.0	100.9	99.6	-113.74	-5,118.7	-492.3	462.1	275.7	186.36	2.480 SF					

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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-243 - 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	61.2	61.2					
100.0	100.0	99.0	99.0	0.1	0.1	90.00	0.0	61.2	61.2	61.0	0.22	273.538		
200.0	200.0	199.0	199.0	0.3	0.3	90.00	0.0	61.2	61.2	60.5	0.67	91.028 CC, ES		
300.0	300.0	299.0	299.0	0.6	0.6	-176.95	0.0	61.2	62.9	61.8	1.12	56.326		
400.0	399.8	398.8	398.8	0.8	0.8	-177.18	0.0	61.2	68.1	66.6	1.56	43.554		
500.0	499.5	498.5	498.5	1.0	1.0	-177.49	0.0	61.2	76.9	74.8	2.02	38.072		
600.0	598.7	597.7	597.7	1.3	1.2	-177.83	0.0	61.2	89.0	86.6	2.48	35.957		
700.0	697.5	696.5	696.5	1.7	1.5	-178.14	0.0	61.2	104.7	101.7	2.94	35.649		
772.3	768.5	767.5	767.5	1.9	1.6	-178.35	0.0	61.2	118.1	114.8	3.27	36.121		
800.0	795.7	794.7	794.7	2.0	1.7	-178.42	0.0	61.2	123.6	120.2	3.40	36.393		
900.0	893.7	892.7	892.7	2.5	1.9	-178.64	0.0	61.2	143.4	139.6	3.86	37.190		
1,000.0	991.7	990.7	990.7	2.9	2.1	-178.80	0.0	61.2	163.3	159.0	4.32	37.777		
1,100.0	1,089.7	1,088.7	1,088.7	3.3	2.3	-178.93	0.0	61.2	183.1	178.3	4.79	38.223		
1,200.0	1,187.7	1,186.7	1,186.7	3.7	2.6	-179.04	0.0	61.2	203.0	197.7	5.26	38.572		
1,300.0	1,285.7	1,284.7	1,284.7	4.2	2.8	-179.12	0.0	61.2	222.8	217.1	5.73	38.852		
1,400.0	1,383.7	1,382.7	1,382.7	4.6	3.0	-179.19	0.0	61.2	242.6	236.4	6.21	39.081		
1,500.0	1,481.7	1,480.7	1,480.7	5.1	3.2	-179.26	0.0	61.2	262.5	255.8	6.68	39.270		
1,600.0	1,579.7	1,578.7	1,578.7	5.5	3.4	-179.31	0.0	61.2	282.3	275.2	7.16	39.430		
1,700.0	1,677.8	1,676.8	1,676.8	6.0	3.7	-179.35	0.0	61.2	302.2	294.5	7.64	39.566		
1,800.0	1,775.8	1,774.8	1,774.8	6.4	3.9	-179.39	0.0	61.2	322.0	313.9	8.11	39.684		
1,900.0	1,873.8	1,872.8	1,872.8	6.8	4.1	-179.43	0.0	61.2	341.9	333.3	8.59	39.786		
2,000.0	1,971.8	1,970.8	1,970.8	7.3	4.3	-179.46	0.0	61.2	361.7	352.6	9.07	39.875		
2,100.0	2,069.8	2,068.8	2,068.8	7.7	4.5	-179.49	0.0	61.2	381.6	372.0	9.55	39.954		
2,200.0	2,167.8	2,166.8	2,166.8	8.2	4.8	-179.51	0.0	61.2	401.4	391.4	10.03	40.024		
2,300.0	2,265.8	2,264.8	2,264.8	8.6	5.0	-179.54	0.0	61.2	421.2	410.7	10.51	40.087		
2,400.0	2,363.8	2,362.8	2,362.8	9.1	5.2	-179.56	0.0	61.2	441.1	430.1	10.99	40.143		
2,500.0	2,461.8	2,460.8	2,460.8	9.5	5.4	-179.58	0.0	61.2	460.9	449.5	11.47	40.194		
2,600.0	2,559.8	2,558.8	2,558.8	10.0	5.6	-179.59	0.0	61.2	480.8	468.8	11.95	40.241		
2,700.0	2,657.9	2,656.9	2,656.9	10.4	5.9	-179.61	0.0	61.2	500.6	488.2	12.43	40.283		
2,800.0	2,755.9	2,754.9	2,754.9	10.9	6.1	-179.62	0.0	61.2	520.5	507.6	12.91	40.321		
2,900.0	2,853.9	2,852.9	2,852.9	11.3	6.3	-179.64	0.0	61.2	540.3	526.9	13.39	40.357		
3,000.0	2,951.9	2,950.9	2,950.9	11.7	6.5	-179.65	0.0	61.2	560.2	546.3	13.87	40.389		
3,100.0	3,049.9	3,060.5	3,060.5	12.2	6.8	-179.64	-0.2	60.6	579.5	565.1	14.36	40.347		
3,200.0	3,147.9	3,183.2	3,183.0	12.6	7.0	-179.50	-2.1	55.7	595.4	580.5	14.86	40.073		
3,300.0	3,245.9	3,307.1	3,306.5	13.1	7.2	-179.21	-5.9	45.8	607.2	591.9	15.35	39.549		
3,400.0	3,343.9	3,425.0	3,423.5	13.5	7.5	-178.79	-11.2	31.9	615.1	599.3	15.85	38.816		
3,500.0	3,441.9	3,524.7	3,522.2	14.0	7.7	-178.42	-16.1	19.0	622.0	605.7	16.31	38.125		
3,600.0	3,540.0	3,624.4	3,620.9	14.4	7.9	-178.05	-21.1	6.1	628.8	612.1	16.78	37.469		
3,700.0	3,638.0	3,724.1	3,719.7	14.9	8.2	-177.69	-26.0	-6.8	635.7	618.5	17.26	36.836		
3,800.0	3,736.0	3,823.8	3,818.4	15.3	8.4	-177.34	-30.9	-19.6	642.7	624.9	17.74	36.229		
3,900.0	3,834.0	3,923.4	3,917.1	15.8	8.7	-176.99	-35.8	-32.5	649.6	631.4	18.22	35.648		
4,000.0	3,932.0	4,020.9	4,013.7	16.2	8.9	-176.66	-40.7	-45.1	656.6	637.9	18.71	35.101		
4,100.0	4,030.0	4,100.0	4,092.1	16.7	9.1	-176.44	-44.1	-54.0	665.3	646.1	19.15	34.743		
4,200.0	4,128.0	4,184.4	4,176.2	17.1	9.3	-176.29	-46.9	-61.4	676.6	657.0	19.60	34.521		
4,300.0	4,226.0	4,265.5	4,257.1	17.6	9.5	-176.22	-48.7	-66.2	690.5	670.5	20.04	34.459		
4,400.0	4,324.0	4,345.9	4,337.4	18.0	9.7	-176.22	-49.8	-68.9	707.0	686.5	20.47	34.544		
4,500.0	4,422.1	4,429.5	4,421.1	18.5	9.8	-176.28	-50.0	-69.5	726.0	705.1	20.90	34.744		
4,600.0	4,520.1	4,527.5	4,519.1	18.9	10.0	-176.38	-50.0	-69.5	745.8	724.5	21.36	34.916		
4,700.0	4,618.1	4,625.5	4,617.1	19.4	10.2	-176.48	-50.0	-69.5	765.6	743.8	21.84	35.063		
4,800.0	4,716.1	4,723.5	4,715.1	19.8	10.4	-176.56	-50.0	-69.5	785.5	763.1	22.31	35.202		
4,815.7	4,731.5	4,738.9	4,730.5	19.9	10.5	-176.58	-50.0	-69.5	788.6	766.2	22.39	35.223		

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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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-243 - 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	4,814.3	4,821.8	4,813.3	20.2	10.6	-176.66	-50.0	-69.5	804.1	781.3	22.80	35.262		
5,000.0	4,913.2	4,920.6	4,912.2	20.5	10.9	-176.74	-50.0	-69.5	819.3	796.0	23.24	35.249		
5,100.0	5,012.5	5,019.9	5,011.5	20.7	11.1	-176.80	-50.0	-69.5	831.0	807.4	23.65	35.139		
5,200.0	5,112.1	5,119.6	5,111.1	20.9	11.3	-176.84	-50.0	-69.5	839.3	815.3	24.02	34.936		
5,300.0	5,212.0	5,219.4	5,211.0	21.0	11.5	-176.87	-50.0	-69.5	844.1	819.7	24.36	34.645		
5,388.0	5,300.0	5,307.5	5,299.0	21.1	11.7	90.00	-50.0	-69.5	845.5	820.8	24.64	34.306		
5,400.0	5,312.0	5,319.4	5,311.0	21.1	11.7	90.00	-50.0	-69.5	845.5	820.8	24.69	34.240		
5,500.0	5,412.0	5,419.4	5,411.0	21.3	11.9	90.00	-50.0	-69.5	845.5	820.4	25.09	33.704		
5,600.0	5,512.0	5,519.4	5,511.0	21.4	12.2	90.00	-50.0	-69.5	845.5	820.0	25.48	33.181		
5,700.0	5,612.0	5,619.4	5,611.0	21.5	12.4	90.00	-50.0	-69.5	845.5	819.6	25.88	32.673		
5,800.0	5,712.0	5,719.4	5,711.0	21.6	12.6	90.00	-50.0	-69.5	845.5	819.2	26.27	32.178		
5,900.0	5,812.0	5,819.4	5,811.0	21.7	12.8	90.00	-50.0	-69.5	845.5	818.8	26.67	31.696		
6,000.0	5,912.0	5,919.4	5,911.0	21.9	13.0	90.00	-50.0	-69.5	845.5	818.4	27.08	31.226		
6,100.0	6,012.0	6,019.4	6,011.0	22.0	13.3	90.00	-50.0	-69.5	845.5	818.0	27.48	30.769		
6,200.0	6,112.0	6,119.4	6,111.0	22.1	13.5	90.00	-50.0	-69.5	845.5	817.6	27.88	30.323		
6,300.0	6,212.0	6,219.4	6,211.0	22.2	13.7	90.00	-50.0	-69.5	845.5	817.2	28.29	29.889		
6,400.0	6,312.0	6,319.4	6,311.0	22.4	13.9	90.00	-50.0	-69.5	845.5	816.8	28.69	29.466		
6,461.2	6,373.2	6,380.6	6,372.2	22.5	14.0	90.00	-50.0	-69.5	845.5	816.5	28.94	29.212		
6,500.0	6,412.0	6,419.4	6,411.0	22.5	14.1	-90.05	-50.3	-69.5	845.5	816.4	29.09	29.060		
6,550.0	6,461.8	6,469.5	6,461.0	22.6	14.2	-90.13	-53.2	-69.5	845.5	816.2	29.28	28.873		
6,600.0	6,511.2	6,519.7	6,510.7	22.6	14.3	-90.22	-59.4	-69.5	845.5	816.0	29.47	28.688		
6,650.0	6,560.1	6,569.9	6,560.0	22.7	14.4	-90.30	-68.9	-69.5	845.5	815.8	29.67	28.498		
6,700.0	6,608.1	6,620.2	6,608.7	22.8	14.5	-90.38	-81.6	-69.5	845.5	815.6	29.88	28.299		
6,750.0	6,655.2	6,670.6	6,656.5	22.9	14.6	-90.46	-97.5	-69.5	845.5	815.4	30.10	28.086		
6,800.0	6,701.0	6,721.1	6,703.2	22.9	14.8	-90.54	-116.6	-69.5	845.5	815.1	30.35	27.856		
6,850.0	6,745.4	6,771.6	6,748.7	23.0	14.9	-90.62	-138.8	-69.5	845.5	814.9	30.63	27.603		
6,900.0	6,788.3	6,822.3	6,792.6	23.1	15.0	-90.69	-163.9	-69.5	845.5	814.6	30.95	27.321		
6,950.0	6,829.3	6,873.0	6,834.8	23.3	15.2	-90.76	-192.0	-69.5	845.5	814.2	31.31	27.006		
7,000.0	6,868.4	6,923.7	6,875.1	23.4	15.4	-90.83	-222.8	-69.5	845.5	813.8	31.72	26.653		
7,050.0	6,905.4	6,974.6	6,913.4	23.5	15.6	-90.89	-256.3	-69.5	845.6	813.4	32.20	26.260		
7,100.0	6,940.1	7,025.5	6,949.3	23.7	15.9	-90.95	-292.3	-69.5	845.6	812.8	32.74	25.825		
7,150.0	6,972.4	7,076.4	6,982.9	23.9	16.2	-91.01	-330.7	-69.5	845.6	812.2	33.36	25.349		
7,200.0	7,002.1	7,127.4	7,013.8	24.1	16.5	-91.06	-371.2	-69.5	845.6	811.6	34.05	24.833		
7,250.0	7,029.1	7,178.5	7,042.0	24.3	16.9	-91.10	-413.8	-69.5	845.6	810.8	34.83	24.280		
7,300.0	7,053.3	7,229.6	7,067.3	24.6	17.4	-91.15	-458.2	-69.5	845.6	809.9	35.68	23.697		
7,350.0	7,074.6	7,280.8	7,089.6	24.8	17.8	-91.18	-504.2	-69.5	845.6	809.0	36.62	23.090		
7,400.0	7,092.9	7,331.9	7,108.7	25.2	18.3	-91.21	-551.6	-69.5	845.6	808.0	37.64	22.465		
7,450.0	7,108.1	7,383.2	7,124.7	25.5	18.9	-91.24	-600.3	-69.5	845.7	806.9	38.74	21.829		
7,500.0	7,120.2	7,434.4	7,137.4	25.9	19.5	-91.26	-649.9	-69.5	845.7	805.8	39.91	21.191		
7,550.0	7,129.1	7,485.6	7,146.7	26.3	20.1	-91.28	-700.3	-69.5	845.7	804.5	41.14	20.557		
7,600.0	7,134.7	7,536.9	7,152.6	26.8	20.8	-91.29	-751.2	-69.5	845.7	803.2	42.42	19.933		
7,650.0	7,137.1	7,588.2	7,155.1	27.3	21.4	-91.29	-802.4	-69.5	845.7	801.9	43.76	19.325		
7,666.5	7,137.1	7,605.2	7,155.2	27.4	21.7	-91.29	-819.4	-69.5	845.7	801.5	44.21	19.129		
7,700.0	7,136.9	7,638.6	7,154.9	27.8	22.1	-91.29	-852.9	-69.5	845.7	800.6	45.12	18.742		
7,800.0	7,136.2	7,738.6	7,154.3	28.9	23.5	-91.29	-952.9	-69.5	845.7	797.7	47.93	17.644		
7,900.0	7,135.5	7,838.6	7,153.6	30.1	25.0	-91.29	-1,052.9	-69.5	845.7	794.8	50.87	16.623		
8,000.0	7,134.8	7,938.6	7,152.9	31.3	26.6	-91.29	-1,152.9	-69.5	845.7	791.7	53.93	15.681		
8,100.0	7,134.1	8,038.6	7,152.2	32.7	28.2	-91.30	-1,252.9	-69.5	845.7	788.6	57.08	14.815		
8,200.0	7,133.4	8,138.6	7,151.5	34.1	29.8	-91.30	-1,352.9	-69.5	845.7	785.4	60.32	14.021		
8,300.0	7,132.7	8,238.6	7,150.9	35.5	31.4	-91.30	-1,452.8	-69.5	845.7	782.1	63.62	13.293		

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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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-243 - 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		
8,400.0	7,132.0	8,338.6	7,150.2	37.0	33.1	-91.30	-1,552.8	-69.5	845.7	778.7	66.98	12.627		
8,500.0	7,131.3	8,438.6	7,149.5	38.6	34.8	-91.30	-1,652.8	-69.5	845.7	775.3	70.39	12.015		
8,600.0	7,130.6	8,538.6	7,148.8	40.1	36.6	-91.30	-1,752.8	-69.5	845.7	771.8	73.84	11.453		
8,700.0	7,129.9	8,638.6	7,148.1	41.8	38.3	-91.30	-1,852.8	-69.5	845.7	768.4	77.33	10.936		
8,800.0	7,129.2	8,738.6	7,147.5	43.4	40.1	-91.30	-1,952.8	-69.5	845.7	764.8	80.85	10.460		
8,900.0	7,128.5	8,838.6	7,146.8	45.0	41.9	-91.31	-2,052.8	-69.5	845.7	761.3	84.40	10.020		
9,000.0	7,127.8	8,938.6	7,146.1	46.7	43.7	-91.31	-2,152.8	-69.5	845.7	757.7	87.98	9.613		
9,100.0	7,127.1	9,038.6	7,145.4	48.4	45.5	-91.31	-2,252.8	-69.5	845.7	754.1	91.57	9.235		
9,200.0	7,126.4	9,138.6	7,144.7	50.1	47.3	-91.31	-2,352.8	-69.5	845.7	750.5	95.19	8.884		
9,300.0	7,125.7	9,238.6	7,144.0	51.9	49.1	-91.31	-2,452.8	-69.5	845.7	746.9	98.82	8.558		
9,400.0	7,125.0	9,338.6	7,143.4	53.6	51.0	-91.31	-2,552.8	-69.5	845.7	743.2	102.47	8.253		
9,500.0	7,124.3	9,438.6	7,142.7	55.4	52.8	-91.31	-2,652.8	-69.5	845.7	739.6	106.14	7.968		
9,600.0	7,123.6	9,538.6	7,142.0	57.1	54.6	-91.31	-2,752.8	-69.5	845.7	735.9	109.81	7.701		
9,700.0	7,122.9	9,638.6	7,141.3	58.9	56.5	-91.31	-2,852.8	-69.5	845.7	732.2	113.50	7.451		
9,800.0	7,122.2	9,738.6	7,140.6	60.7	58.3	-91.32	-2,952.8	-69.5	845.7	728.5	117.20	7.216		
9,900.0	7,121.5	9,838.6	7,140.0	62.5	60.2	-91.32	-3,052.8	-69.5	845.7	724.8	120.91	6.995		
10,000.0	7,120.8	9,938.6	7,139.3	64.3	62.1	-91.32	-3,152.8	-69.5	845.7	721.1	124.62	6.786		
10,100.0	7,120.1	10,038.6	7,138.6	66.1	63.9	-91.32	-3,252.8	-69.5	845.7	717.4	128.34	6.589		
10,200.0	7,119.4	10,138.6	7,137.9	67.9	65.8	-91.32	-3,352.8	-69.5	845.7	713.6	132.07	6.403		
10,300.0	7,118.7	10,238.6	7,137.2	69.7	67.7	-91.32	-3,452.8	-69.5	845.7	709.9	135.81	6.227		
10,400.0	7,118.0	10,338.6	7,136.6	71.6	69.5	-91.32	-3,552.8	-69.5	845.7	706.2	139.55	6.060		
10,500.0	7,117.3	10,438.6	7,135.9	73.4	71.4	-91.32	-3,652.8	-69.5	845.7	702.4	143.30	5.902		
10,600.0	7,116.6	10,538.6	7,135.2	75.2	73.3	-91.33	-3,752.8	-69.5	845.7	698.7	147.05	5.751		
10,700.0	7,115.9	10,638.6	7,134.5	77.1	75.2	-91.33	-3,852.8	-69.5	845.7	694.9	150.81	5.608		
10,800.0	7,115.2	10,738.6	7,133.8	78.9	77.1	-91.33	-3,952.8	-69.5	845.7	691.1	154.58	5.471		
10,900.0	7,114.5	10,838.6	7,133.2	80.8	78.9	-91.33	-4,052.8	-69.5	845.7	687.4	158.34	5.341		
11,000.0	7,113.8	10,938.6	7,132.5	82.6	80.8	-91.33	-4,152.8	-69.5	845.7	683.6	162.11	5.217		
11,100.0	7,113.1	11,038.6	7,131.8	84.5	82.7	-91.33	-4,252.8	-69.5	845.7	679.8	165.89	5.098		
11,200.0	7,112.4	11,138.6	7,131.1	86.3	84.6	-91.33	-4,352.8	-69.5	845.7	676.1	169.66	4.985		
11,300.0	7,111.8	11,238.6	7,130.4	88.2	86.5	-91.33	-4,452.8	-69.5	845.7	672.3	173.44	4.876		
11,400.0	7,111.1	11,338.6	7,129.8	90.1	88.4	-91.33	-4,552.8	-69.5	845.7	668.5	177.23	4.772		
11,500.0	7,110.4	11,438.6	7,129.1	91.9	90.3	-91.34	-4,652.8	-69.5	845.7	664.7	181.01	4.672		
11,600.0	7,109.7	11,538.6	7,128.4	93.8	92.2	-91.34	-4,752.8	-69.5	845.7	660.9	184.80	4.576		
11,700.0	7,109.0	11,638.6	7,127.7	95.7	94.1	-91.34	-4,852.8	-69.5	845.7	657.1	188.59	4.484		
11,800.0	7,108.3	11,738.6	7,127.0	97.5	96.0	-91.34	-4,952.8	-69.5	845.7	653.3	192.38	4.396		
11,900.0	7,107.6	11,838.6	7,126.3	99.4	97.7	-91.34	-5,052.8	-69.5	845.7	649.7	196.04	4.314		
11,932.8	7,107.3	11,871.4	7,126.1	100.0	98.3	-91.34	-5,085.6	-69.5	845.7	648.6	197.17	4.289		
11,980.6	7,107.0	11,889.9	7,126.0	100.9	98.5	-91.34	-5,104.1	-69.5	846.2	647.9	198.36	4.266 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Simonson/Schaefer 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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 @ 4907.0ft (RKB Ensign 32 - 1 Coordinates are relative to: Simonson/Schaefer 7E-203
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 7E-203
Project:	SEC.6-T6N-R66W	TVD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Reference Site:	Simonson-Schaefer 6L-HZ Pad Sec.6-T6N-R66W	MD Reference:	WELL @ 4907.0ft (RKB Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Simonson/Schaefer 7E-203	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 @ 4907.0ft (RKB Ensign 32 - 1 Coordinates are relative to: Simonson/Schaefer 7E-203
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