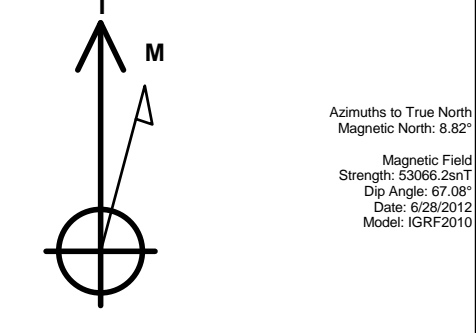


PETROLEUM DEVELOPMENT CORP Weld County CO

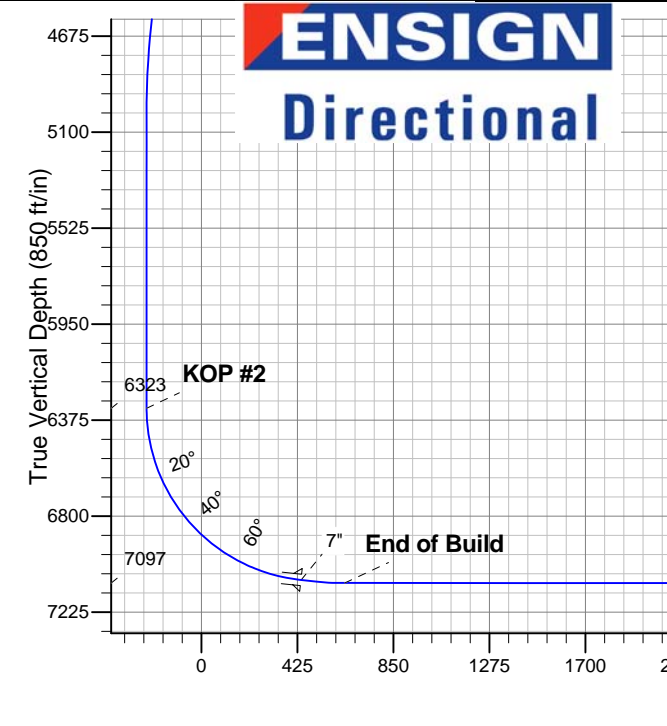
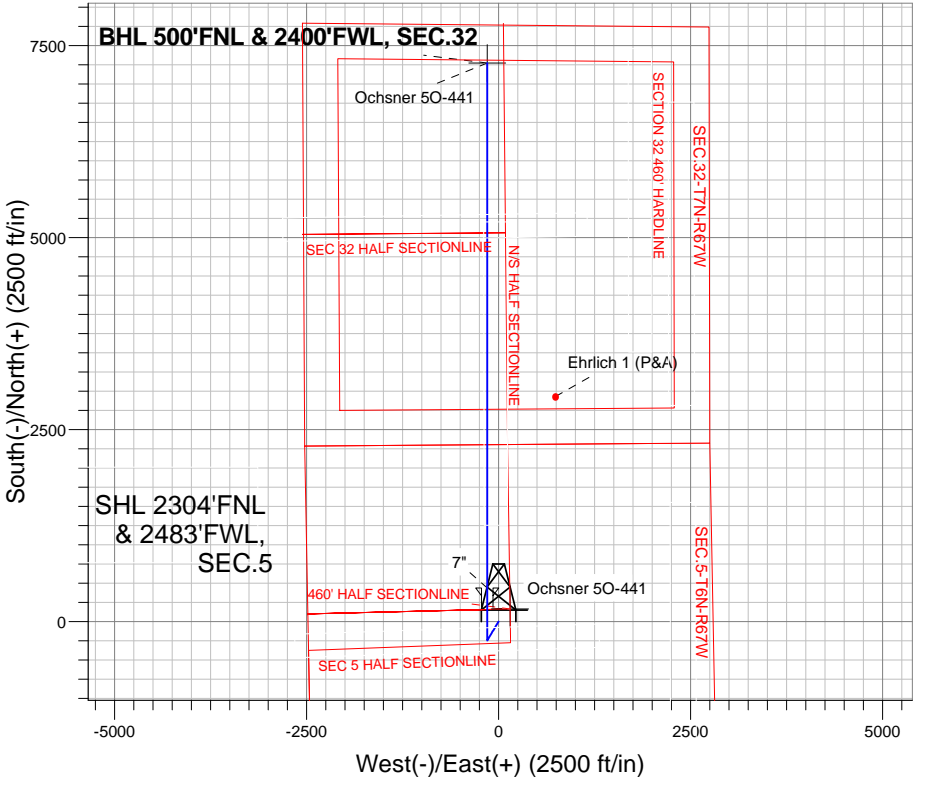
Well Name: **Ochsner 5O-441**
Surface Location: Ochsner 5Q-HZ Pad Sec.5-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4884.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1431605.64 3161846.20 40.516700 -104.917880
Ensign 32 - 15' WELL @ 4899.0ft (Ensign 32 - 15')

WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
460' HALF SECTIONLINE	1.0	164.0	150.0	Polygon
BHL 500'FNL & 2400'FWL	7097.0	7271.8	-147.3	Point

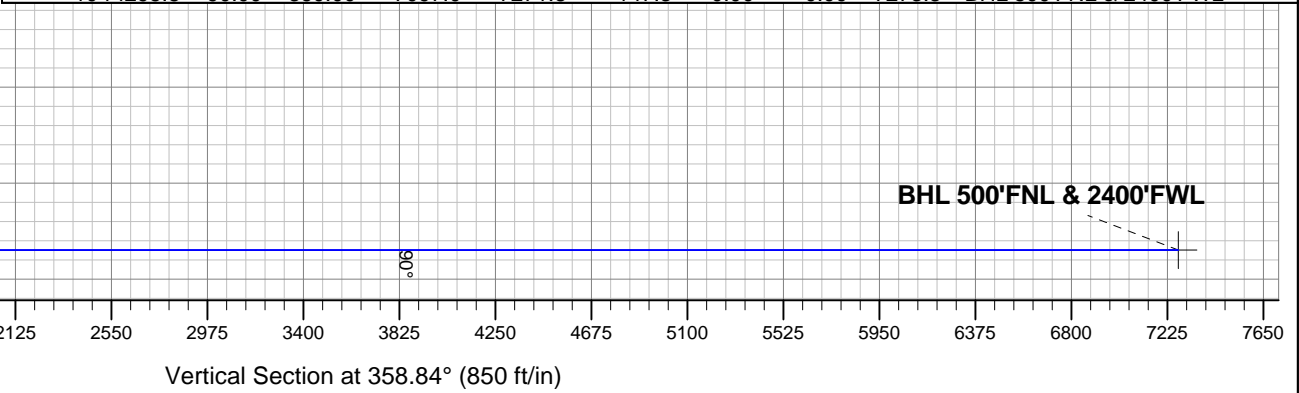


Ochsner 5Q-HZ Pad Sec.5-T6N-R67W
Ochsner 5O-441
Plan #1 (6-28-12)
13:57, July 18 2012

ANNOTATIONS		
TVD	MD	Annotation
2500.0	2500.0	KOP #1
6323.2	6341.4	KOP #2
7097.0	7655.4	End of Build



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	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	
3	2886.1	7.72	210.86	2885.0	-22.3	-13.3	2.00	210.86	-22.0	
4	4632.0	7.72	210.86	4615.0	-223.7	-133.7	0.00	0.00	-220.9	
5	5018.2	0.00	0.00	5000.0	-246.0	-147.0	2.00	180.00	-243.0	
6	6341.4	0.00	0.00	6323.3	-246.0	-147.0	0.00	0.00	-243.0	
7	7461.4	84.00	0.00	7083.0	438.1	-147.0	7.50	0.00	441.0	
8	7535.4	84.00	0.00	7090.8	511.7	-147.0	0.00	0.00	514.6	
9	7655.4	90.00	360.00	7097.0	631.5	-147.0	5.00	-0.03	634.3	
10	14295.8	90.00	360.00	7097.0	7271.8	-147.3	0.00	0.00	7273.3	BHL 500'FNL & 2400'FWL





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.5-T6N-R67W

Ochsner 5Q-HZ Pad Sec.5-T6N-R67W

Ochsner 5O-441

Wellbore #1

Plan: Plan #1 (6-28-12)

Standard Planning Report

18 July, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 5O-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 5O-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

Project	SEC.5-T6N-R67W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Ochsner 5Q-HZ Pad Sec.5-T6N-R67W											
Site Position:						Northing:			1,431,605.64 ft			Latitude:			40.516700		
From:			Lat/Long			Easting:			3,161,846.20 ft			Longitude:			-104.917880		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.38 °		

Well	Ochsner 5O-441					
Well Position	+N/-S	0.0 ft	Northing:	1,431,605.64 ft	Latitude:	40.516700
	+E/-W	0.0 ft	Easting:	3,161,846.20 ft	Longitude:	-104.917880
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,884.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/28/2012	8.82	67.08	53,066

Design	Plan #1 (6-28-12)			
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	358.84

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,886.1	7.72	210.86	2,885.0	-22.3	-13.3	2.00	2.00	0.00	210.86	
4,632.0	7.72	210.86	4,615.0	-223.7	-133.7	0.00	0.00	0.00	0.00	
5,018.2	0.00	0.00	5,000.0	-246.0	-147.0	2.00	-2.00	0.00	180.00	
6,341.4	0.00	0.00	6,323.3	-246.0	-147.0	0.00	0.00	0.00	0.00	
7,461.4	84.00	0.00	7,083.0	438.1	-147.0	7.50	7.50	0.00	0.00	
7,535.4	84.00	0.00	7,090.8	511.7	-147.0	0.00	0.00	0.00	0.00	
7,655.4	90.00	360.00	7,097.0	631.5	-147.0	5.00	5.00	0.00	-0.03	
14,295.8	90.00	360.00	7,097.0	7,271.8	-147.3	0.00	0.00	0.00	0.00	BHL 500'FNL & 24C

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
460' HALF SECTIONLINE									
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

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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)
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00
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
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
2,520.0	0.40	210.86	2,520.0	-0.1	0.0	-0.1	2.00	2.00	0.00
2,560.0	1.20	210.86	2,560.0	-0.5	-0.3	-0.5	2.00	2.00	0.00
2,600.0	2.00	210.86	2,600.0	-1.5	-0.9	-1.5	2.00	2.00	0.00
2,640.0	2.80	210.86	2,639.9	-2.9	-1.8	-2.9	2.00	2.00	0.00
2,680.0	3.60	210.86	2,679.9	-4.9	-2.9	-4.8	2.00	2.00	0.00
2,720.0	4.40	210.86	2,719.8	-7.2	-4.3	-7.2	2.00	2.00	0.00
2,760.0	5.20	210.86	2,759.6	-10.1	-6.0	-10.0	2.00	2.00	0.00
2,800.0	6.00	210.86	2,799.5	-13.5	-8.1	-13.3	2.00	2.00	0.00
2,840.0	6.80	210.86	2,839.2	-17.3	-10.3	-17.1	2.00	2.00	0.00
2,880.0	7.60	210.86	2,878.9	-21.6	-12.9	-21.3	2.00	2.00	0.00
2,886.1	7.72	210.86	2,885.0	-22.3	-13.3	-22.0	2.00	2.00	0.00
2,920.0	7.72	210.86	2,918.5	-26.2	-15.7	-25.9	0.00	0.00	0.00
2,960.0	7.72	210.86	2,958.2	-30.8	-18.4	-30.4	0.00	0.00	0.00
3,000.0	7.72	210.86	2,997.8	-35.4	-21.2	-35.0	0.00	0.00	0.00
3,040.0	7.72	210.86	3,037.4	-40.1	-23.9	-39.6	0.00	0.00	0.00
3,080.0	7.72	210.86	3,077.1	-44.7	-26.7	-44.1	0.00	0.00	0.00
3,120.0	7.72	210.86	3,116.7	-49.3	-29.4	-48.7	0.00	0.00	0.00
3,160.0	7.72	210.86	3,156.3	-53.9	-32.2	-53.2	0.00	0.00	0.00
3,200.0	7.72	210.86	3,196.0	-58.5	-35.0	-57.8	0.00	0.00	0.00
3,240.0	7.72	210.86	3,235.6	-63.1	-37.7	-62.3	0.00	0.00	0.00
3,280.0	7.72	210.86	3,275.3	-67.7	-40.5	-66.9	0.00	0.00	0.00
3,320.0	7.72	210.86	3,314.9	-72.4	-43.2	-71.5	0.00	0.00	0.00
3,360.0	7.72	210.86	3,354.5	-77.0	-46.0	-76.0	0.00	0.00	0.00
3,400.0	7.72	210.86	3,394.2	-81.6	-48.7	-80.6	0.00	0.00	0.00
3,440.0	7.72	210.86	3,433.8	-86.2	-51.5	-85.1	0.00	0.00	0.00
3,480.0	7.72	210.86	3,473.4	-90.8	-54.3	-89.7	0.00	0.00	0.00
3,520.0	7.72	210.86	3,513.1	-95.4	-57.0	-94.2	0.00	0.00	0.00
3,560.0	7.72	210.86	3,552.7	-100.0	-59.8	-98.8	0.00	0.00	0.00
3,600.0	7.72	210.86	3,592.4	-104.6	-62.5	-103.4	0.00	0.00	0.00
3,640.0	7.72	210.86	3,632.0	-109.3	-65.3	-107.9	0.00	0.00	0.00
3,680.0	7.72	210.86	3,671.6	-113.9	-68.0	-112.5	0.00	0.00	0.00
3,720.0	7.72	210.86	3,711.3	-118.5	-70.8	-117.0	0.00	0.00	0.00
3,760.0	7.72	210.86	3,750.9	-123.1	-73.6	-121.6	0.00	0.00	0.00
3,800.0	7.72	210.86	3,790.5	-127.7	-76.3	-126.1	0.00	0.00	0.00
3,840.0	7.72	210.86	3,830.2	-132.3	-79.1	-130.7	0.00	0.00	0.00
3,880.0	7.72	210.86	3,869.8	-136.9	-81.8	-135.3	0.00	0.00	0.00
3,920.0	7.72	210.86	3,909.5	-141.6	-84.6	-139.8	0.00	0.00	0.00
3,960.0	7.72	210.86	3,949.1	-146.2	-87.3	-144.4	0.00	0.00	0.00
4,000.0	7.72	210.86	3,988.7	-150.8	-90.1	-148.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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	7.72	210.86	4,028.4	-155.4	-92.9	-153.5	0.00	0.00	0.00
4,080.0	7.72	210.86	4,068.0	-160.0	-95.6	-158.0	0.00	0.00	0.00
4,120.0	7.72	210.86	4,107.6	-164.6	-98.4	-162.6	0.00	0.00	0.00
4,160.0	7.72	210.86	4,147.3	-169.2	-101.1	-167.2	0.00	0.00	0.00
4,200.0	7.72	210.86	4,186.9	-173.9	-103.9	-171.7	0.00	0.00	0.00
4,240.0	7.72	210.86	4,226.6	-178.5	-106.6	-176.3	0.00	0.00	0.00
4,280.0	7.72	210.86	4,266.2	-183.1	-109.4	-180.8	0.00	0.00	0.00
4,320.0	7.72	210.86	4,305.8	-187.7	-112.2	-185.4	0.00	0.00	0.00
4,360.0	7.72	210.86	4,345.5	-192.3	-114.9	-189.9	0.00	0.00	0.00
4,400.0	7.72	210.86	4,385.1	-196.9	-117.7	-194.5	0.00	0.00	0.00
4,440.0	7.72	210.86	4,424.7	-201.5	-120.4	-199.1	0.00	0.00	0.00
4,480.0	7.72	210.86	4,464.4	-206.2	-123.2	-203.6	0.00	0.00	0.00
4,520.0	7.72	210.86	4,504.0	-210.8	-125.9	-208.2	0.00	0.00	0.00
4,560.0	7.72	210.86	4,543.7	-215.4	-128.7	-212.7	0.00	0.00	0.00
4,600.0	7.72	210.86	4,583.3	-220.0	-131.5	-217.3	0.00	0.00	0.00
4,632.0	7.72	210.86	4,615.0	-223.7	-133.7	-220.9	0.00	0.00	0.00
4,640.0	7.56	210.86	4,622.9	-224.6	-134.2	-221.8	2.00	-2.00	0.00
4,680.0	6.76	210.86	4,662.6	-228.9	-136.8	-226.1	2.00	-2.00	0.00
4,720.0	5.96	210.86	4,702.4	-232.7	-139.0	-229.8	2.00	-2.00	0.00
4,760.0	5.16	210.86	4,742.2	-236.0	-141.0	-233.1	2.00	-2.00	0.00
4,800.0	4.36	210.86	4,782.0	-238.9	-142.7	-235.9	2.00	-2.00	0.00
4,840.0	3.56	210.86	4,821.9	-241.2	-144.2	-238.3	2.00	-2.00	0.00
4,880.0	2.76	210.86	4,861.9	-243.1	-145.3	-240.1	2.00	-2.00	0.00
4,920.0	1.96	210.86	4,901.8	-244.6	-146.1	-241.5	2.00	-2.00	0.00
4,960.0	1.16	210.86	4,941.8	-245.5	-146.7	-242.5	2.00	-2.00	0.00
5,000.0	0.36	210.86	4,981.8	-246.0	-147.0	-242.9	2.00	-2.00	0.00
5,018.2	0.00	0.00	5,000.0	-246.0	-147.0	-243.0	2.00	-2.00	0.00
5,040.0	0.00	0.00	5,021.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,080.0	0.00	0.00	5,061.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,120.0	0.00	0.00	5,101.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,160.0	0.00	0.00	5,141.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,181.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,240.0	0.00	0.00	5,221.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,280.0	0.00	0.00	5,261.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,320.0	0.00	0.00	5,301.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,360.0	0.00	0.00	5,341.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,381.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,440.0	0.00	0.00	5,421.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,480.0	0.00	0.00	5,461.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,520.0	0.00	0.00	5,501.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,560.0	0.00	0.00	5,541.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,581.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,640.0	0.00	0.00	5,621.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,680.0	0.00	0.00	5,661.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,720.0	0.00	0.00	5,701.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,760.0	0.00	0.00	5,741.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,781.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,840.0	0.00	0.00	5,821.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,880.0	0.00	0.00	5,861.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,920.0	0.00	0.00	5,901.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
5,960.0	0.00	0.00	5,941.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,981.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,040.0	0.00	0.00	6,021.8	-246.0	-147.0	-243.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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	6,061.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,120.0	0.00	0.00	6,101.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,160.0	0.00	0.00	6,141.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,181.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,240.0	0.00	0.00	6,221.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,261.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,301.8	-246.0	-147.0	-243.0	0.00	0.00	0.00
6,341.4	0.00	0.00	6,323.2	-246.0	-147.0	-243.0	0.00	0.00	0.00
KOP #2									
6,360.0	1.39	0.00	6,341.8	-245.8	-147.0	-242.7	7.49	7.49	0.00
6,400.0	4.39	0.00	6,381.8	-243.8	-147.0	-240.7	7.50	7.50	0.00
6,440.0	7.39	0.00	6,421.6	-239.6	-147.0	-236.6	7.50	7.50	0.00
6,480.0	10.39	0.00	6,461.1	-233.5	-147.0	-230.4	7.50	7.50	0.00
6,520.0	13.39	0.00	6,500.2	-225.2	-147.0	-222.2	7.50	7.50	0.00
6,560.0	16.39	0.00	6,538.9	-214.9	-147.0	-211.9	7.50	7.50	0.00
6,600.0	19.39	0.00	6,576.9	-202.7	-147.0	-199.6	7.50	7.50	0.00
6,640.0	22.39	0.00	6,614.3	-188.4	-147.0	-185.4	7.50	7.50	0.00
6,680.0	25.39	0.00	6,650.9	-172.2	-147.0	-169.2	7.50	7.50	0.00
6,720.0	28.39	0.00	6,686.5	-154.1	-147.0	-151.1	7.50	7.50	0.00
6,760.0	31.39	0.00	6,721.2	-134.2	-147.0	-131.2	7.50	7.50	0.00
6,800.0	34.39	0.00	6,754.8	-112.4	-147.0	-109.4	7.50	7.50	0.00
6,840.0	37.39	0.00	6,787.2	-89.0	-147.0	-86.0	7.50	7.50	0.00
6,880.0	40.39	0.00	6,818.3	-63.9	-147.0	-60.9	7.50	7.50	0.00
6,920.0	43.39	0.00	6,848.1	-37.2	-147.0	-34.2	7.50	7.50	0.00
6,960.0	46.39	0.00	6,876.4	-9.0	-147.0	-6.0	7.50	7.50	0.00
7,000.0	49.39	0.00	6,903.2	20.7	-147.0	23.7	7.50	7.50	0.00
7,040.0	52.39	0.00	6,928.5	51.8	-147.0	54.7	7.50	7.50	0.00
7,080.0	55.39	0.00	6,952.0	84.1	-147.0	87.0	7.50	7.50	0.00
7,120.0	58.39	0.00	6,973.9	117.6	-147.0	120.5	7.50	7.50	0.00
7,160.0	61.39	0.00	6,993.9	152.2	-147.0	155.1	7.50	7.50	0.00
7,200.0	64.39	0.00	7,012.2	187.8	-147.0	190.7	7.50	7.50	0.00
7,240.0	67.39	0.00	7,028.5	224.3	-147.0	227.2	7.50	7.50	0.00
7,280.0	70.39	0.00	7,042.9	261.6	-147.0	264.5	7.50	7.50	0.00
7,320.0	73.39	0.00	7,055.3	299.6	-147.0	302.5	7.50	7.50	0.00
7,360.0	76.39	0.00	7,065.8	338.2	-147.0	341.1	7.50	7.50	0.00
7,400.0	79.39	0.00	7,074.1	377.3	-147.0	380.2	7.50	7.50	0.00
7,440.0	82.39	0.00	7,080.5	416.8	-147.0	419.7	7.50	7.50	0.00
7,461.4	84.00	0.00	7,083.0	438.1	-147.0	440.9	7.50	7.50	0.00
7"									
7,480.0	84.00	0.00	7,085.0	456.6	-147.0	459.4	0.01	0.01	0.00
7,520.0	84.00	0.00	7,089.1	496.3	-147.0	499.2	0.00	0.00	0.00
7,535.4	84.00	0.00	7,090.8	511.7	-147.0	514.6	0.00	0.00	0.00
7,560.0	85.23	360.00	7,093.1	536.1	-147.0	539.0	5.00	5.00	0.00
7,600.0	87.23	360.00	7,095.7	576.1	-147.0	578.9	5.00	5.00	0.00
7,640.0	89.23	360.00	7,096.9	616.0	-147.0	618.9	5.00	5.00	0.00
7,655.4	90.00	360.00	7,097.0	631.4	-147.0	634.3	5.00	5.00	0.00
End of Build									
7,680.0	90.00	360.00	7,097.0	656.0	-147.0	658.9	0.01	0.01	0.00
7,720.0	90.00	360.00	7,097.0	696.0	-147.0	698.9	0.00	0.00	0.00
7,760.0	90.00	360.00	7,097.0	736.0	-147.0	738.9	0.00	0.00	0.00
7,800.0	90.00	360.00	7,097.0	776.0	-147.0	778.9	0.00	0.00	0.00
7,840.0	90.00	360.00	7,097.0	816.0	-147.0	818.8	0.00	0.00	0.00
7,880.0	90.00	360.00	7,097.0	856.0	-147.0	858.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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)
7,920.0	90.00	360.00	7,097.0	896.0	-147.0	898.8	0.00	0.00	0.00
7,960.0	90.00	360.00	7,097.0	936.0	-147.0	938.8	0.00	0.00	0.00
8,000.0	90.00	360.00	7,097.0	976.0	-147.0	978.8	0.00	0.00	0.00
8,040.0	90.00	360.00	7,097.0	1,016.0	-147.0	1,018.8	0.00	0.00	0.00
8,080.0	90.00	360.00	7,097.0	1,056.0	-147.0	1,058.8	0.00	0.00	0.00
8,120.0	90.00	360.00	7,097.0	1,096.0	-147.0	1,098.8	0.00	0.00	0.00
8,160.0	90.00	360.00	7,097.0	1,136.0	-147.0	1,138.8	0.00	0.00	0.00
8,200.0	90.00	360.00	7,097.0	1,176.0	-147.0	1,178.8	0.00	0.00	0.00
8,240.0	90.00	360.00	7,097.0	1,216.0	-147.0	1,218.8	0.00	0.00	0.00
8,280.0	90.00	360.00	7,097.0	1,256.0	-147.0	1,258.8	0.00	0.00	0.00
8,320.0	90.00	360.00	7,097.0	1,296.0	-147.0	1,298.7	0.00	0.00	0.00
8,360.0	90.00	360.00	7,097.0	1,336.0	-147.0	1,338.7	0.00	0.00	0.00
8,400.0	90.00	360.00	7,097.0	1,376.0	-147.0	1,378.7	0.00	0.00	0.00
8,440.0	90.00	360.00	7,097.0	1,416.0	-147.0	1,418.7	0.00	0.00	0.00
8,480.0	90.00	360.00	7,097.0	1,456.0	-147.0	1,458.7	0.00	0.00	0.00
8,520.0	90.00	360.00	7,097.0	1,496.0	-147.0	1,498.7	0.00	0.00	0.00
8,560.0	90.00	360.00	7,097.0	1,536.0	-147.0	1,538.7	0.00	0.00	0.00
8,600.0	90.00	360.00	7,097.0	1,576.0	-147.0	1,578.7	0.00	0.00	0.00
8,640.0	90.00	360.00	7,097.0	1,616.0	-147.0	1,618.7	0.00	0.00	0.00
8,680.0	90.00	360.00	7,097.0	1,656.0	-147.1	1,658.7	0.00	0.00	0.00
8,720.0	90.00	360.00	7,097.0	1,696.0	-147.1	1,698.7	0.00	0.00	0.00
8,760.0	90.00	360.00	7,097.0	1,736.0	-147.1	1,738.7	0.00	0.00	0.00
8,800.0	90.00	360.00	7,097.0	1,776.0	-147.1	1,778.7	0.00	0.00	0.00
8,840.0	90.00	360.00	7,097.0	1,816.0	-147.1	1,818.6	0.00	0.00	0.00
8,880.0	90.00	360.00	7,097.0	1,856.0	-147.1	1,858.6	0.00	0.00	0.00
8,920.0	90.00	360.00	7,097.0	1,896.0	-147.1	1,898.6	0.00	0.00	0.00
8,960.0	90.00	360.00	7,097.0	1,936.0	-147.1	1,938.6	0.00	0.00	0.00
9,000.0	90.00	360.00	7,097.0	1,976.0	-147.1	1,978.6	0.00	0.00	0.00
9,040.0	90.00	360.00	7,097.0	2,016.0	-147.1	2,018.6	0.00	0.00	0.00
9,080.0	90.00	360.00	7,097.0	2,056.0	-147.1	2,058.6	0.00	0.00	0.00
9,120.0	90.00	360.00	7,097.0	2,096.0	-147.1	2,098.6	0.00	0.00	0.00
9,160.0	90.00	360.00	7,097.0	2,136.0	-147.1	2,138.6	0.00	0.00	0.00
9,200.0	90.00	360.00	7,097.0	2,176.0	-147.1	2,178.6	0.00	0.00	0.00
9,240.0	90.00	360.00	7,097.0	2,216.0	-147.1	2,218.6	0.00	0.00	0.00
9,280.0	90.00	360.00	7,097.0	2,256.0	-147.1	2,258.6	0.00	0.00	0.00
9,320.0	90.00	360.00	7,097.0	2,296.0	-147.1	2,298.5	0.00	0.00	0.00
9,360.0	90.00	360.00	7,097.0	2,336.0	-147.1	2,338.5	0.00	0.00	0.00
9,400.0	90.00	360.00	7,097.0	2,376.0	-147.1	2,378.5	0.00	0.00	0.00
9,440.0	90.00	360.00	7,097.0	2,416.0	-147.1	2,418.5	0.00	0.00	0.00
9,480.0	90.00	360.00	7,097.0	2,456.0	-147.1	2,458.5	0.00	0.00	0.00
9,520.0	90.00	360.00	7,097.0	2,496.0	-147.1	2,498.5	0.00	0.00	0.00
9,560.0	90.00	360.00	7,097.0	2,536.0	-147.1	2,538.5	0.00	0.00	0.00
9,600.0	90.00	360.00	7,097.0	2,576.0	-147.1	2,578.5	0.00	0.00	0.00
9,640.0	90.00	360.00	7,097.0	2,616.0	-147.1	2,618.5	0.00	0.00	0.00
9,680.0	90.00	360.00	7,097.0	2,656.0	-147.1	2,658.5	0.00	0.00	0.00
9,720.0	90.00	360.00	7,097.0	2,696.0	-147.1	2,698.5	0.00	0.00	0.00
9,760.0	90.00	360.00	7,097.0	2,736.0	-147.1	2,738.5	0.00	0.00	0.00
9,800.0	90.00	360.00	7,097.0	2,776.0	-147.1	2,778.4	0.00	0.00	0.00
9,840.0	90.00	360.00	7,097.0	2,816.0	-147.1	2,818.4	0.00	0.00	0.00
9,880.0	90.00	360.00	7,097.0	2,856.0	-147.1	2,858.4	0.00	0.00	0.00
9,920.0	90.00	360.00	7,097.0	2,896.0	-147.1	2,898.4	0.00	0.00	0.00
9,960.0	90.00	360.00	7,097.0	2,936.0	-147.1	2,938.4	0.00	0.00	0.00
10,000.0	90.00	360.00	7,097.0	2,976.0	-147.1	2,978.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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)
10,040.0	90.00	360.00	7,097.0	3,016.0	-147.1	3,018.4	0.00	0.00	0.00
10,080.0	90.00	360.00	7,097.0	3,056.0	-147.1	3,058.4	0.00	0.00	0.00
10,120.0	90.00	360.00	7,097.0	3,096.0	-147.1	3,098.4	0.00	0.00	0.00
10,160.0	90.00	360.00	7,097.0	3,136.0	-147.1	3,138.4	0.00	0.00	0.00
10,200.0	90.00	360.00	7,097.0	3,176.0	-147.1	3,178.4	0.00	0.00	0.00
10,240.0	90.00	360.00	7,097.0	3,216.0	-147.1	3,218.4	0.00	0.00	0.00
10,280.0	90.00	360.00	7,097.0	3,256.0	-147.1	3,258.3	0.00	0.00	0.00
10,320.0	90.00	360.00	7,097.0	3,296.0	-147.1	3,298.3	0.00	0.00	0.00
10,360.0	90.00	360.00	7,097.0	3,336.0	-147.1	3,338.3	0.00	0.00	0.00
10,400.0	90.00	360.00	7,097.0	3,376.0	-147.1	3,378.3	0.00	0.00	0.00
10,440.0	90.00	360.00	7,097.0	3,416.0	-147.1	3,418.3	0.00	0.00	0.00
10,480.0	90.00	360.00	7,097.0	3,456.0	-147.1	3,458.3	0.00	0.00	0.00
10,520.0	90.00	360.00	7,097.0	3,496.0	-147.1	3,498.3	0.00	0.00	0.00
10,560.0	90.00	360.00	7,097.0	3,536.0	-147.1	3,538.3	0.00	0.00	0.00
10,600.0	90.00	360.00	7,097.0	3,576.0	-147.1	3,578.3	0.00	0.00	0.00
10,640.0	90.00	360.00	7,097.0	3,616.0	-147.1	3,618.3	0.00	0.00	0.00
10,680.0	90.00	360.00	7,097.0	3,656.0	-147.1	3,658.3	0.00	0.00	0.00
10,720.0	90.00	360.00	7,097.0	3,696.0	-147.1	3,698.3	0.00	0.00	0.00
10,760.0	90.00	360.00	7,097.0	3,736.0	-147.2	3,738.3	0.00	0.00	0.00
10,800.0	90.00	360.00	7,097.0	3,776.0	-147.2	3,778.2	0.00	0.00	0.00
10,840.0	90.00	360.00	7,097.0	3,816.0	-147.2	3,818.2	0.00	0.00	0.00
10,880.0	90.00	360.00	7,097.0	3,856.0	-147.2	3,858.2	0.00	0.00	0.00
10,920.0	90.00	360.00	7,097.0	3,896.0	-147.2	3,898.2	0.00	0.00	0.00
10,960.0	90.00	360.00	7,097.0	3,936.0	-147.2	3,938.2	0.00	0.00	0.00
11,000.0	90.00	360.00	7,097.0	3,976.0	-147.2	3,978.2	0.00	0.00	0.00
11,040.0	90.00	360.00	7,097.0	4,016.0	-147.2	4,018.2	0.00	0.00	0.00
11,080.0	90.00	360.00	7,097.0	4,056.0	-147.2	4,058.2	0.00	0.00	0.00
11,120.0	90.00	360.00	7,097.0	4,096.0	-147.2	4,098.2	0.00	0.00	0.00
11,160.0	90.00	360.00	7,097.0	4,136.0	-147.2	4,138.2	0.00	0.00	0.00
11,200.0	90.00	360.00	7,097.0	4,176.0	-147.2	4,178.2	0.00	0.00	0.00
11,240.0	90.00	360.00	7,097.0	4,216.0	-147.2	4,218.2	0.00	0.00	0.00
11,280.0	90.00	360.00	7,097.0	4,256.0	-147.2	4,258.1	0.00	0.00	0.00
11,320.0	90.00	360.00	7,097.0	4,296.0	-147.2	4,298.1	0.00	0.00	0.00
11,360.0	90.00	360.00	7,097.0	4,336.0	-147.2	4,338.1	0.00	0.00	0.00
11,400.0	90.00	360.00	7,097.0	4,376.0	-147.2	4,378.1	0.00	0.00	0.00
11,440.0	90.00	360.00	7,097.0	4,416.0	-147.2	4,418.1	0.00	0.00	0.00
11,480.0	90.00	360.00	7,097.0	4,456.0	-147.2	4,458.1	0.00	0.00	0.00
11,520.0	90.00	360.00	7,097.0	4,496.0	-147.2	4,498.1	0.00	0.00	0.00
11,560.0	90.00	360.00	7,097.0	4,536.0	-147.2	4,538.1	0.00	0.00	0.00
11,600.0	90.00	360.00	7,097.0	4,576.0	-147.2	4,578.1	0.00	0.00	0.00
11,640.0	90.00	360.00	7,097.0	4,616.0	-147.2	4,618.1	0.00	0.00	0.00
11,680.0	90.00	360.00	7,097.0	4,656.0	-147.2	4,658.1	0.00	0.00	0.00
11,720.0	90.00	360.00	7,097.0	4,696.0	-147.2	4,698.1	0.00	0.00	0.00
11,760.0	90.00	360.00	7,097.0	4,736.0	-147.2	4,738.0	0.00	0.00	0.00
11,800.0	90.00	360.00	7,097.0	4,776.0	-147.2	4,778.0	0.00	0.00	0.00
11,840.0	90.00	360.00	7,097.0	4,816.0	-147.2	4,818.0	0.00	0.00	0.00
11,880.0	90.00	360.00	7,097.0	4,856.0	-147.2	4,858.0	0.00	0.00	0.00
11,920.0	90.00	360.00	7,097.0	4,896.0	-147.2	4,898.0	0.00	0.00	0.00
11,960.0	90.00	360.00	7,097.0	4,936.0	-147.2	4,938.0	0.00	0.00	0.00
12,000.0	90.00	360.00	7,097.0	4,976.0	-147.2	4,978.0	0.00	0.00	0.00
12,040.0	90.00	360.00	7,097.0	5,016.0	-147.2	5,018.0	0.00	0.00	0.00
12,080.0	90.00	360.00	7,097.0	5,056.0	-147.2	5,058.0	0.00	0.00	0.00
12,120.0	90.00	360.00	7,097.0	5,096.0	-147.2	5,098.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 50-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 50-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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)
12,160.0	90.00	360.00	7,097.0	5,136.0	-147.2	5,138.0	0.00	0.00	0.00
12,200.0	90.00	360.00	7,097.0	5,176.0	-147.2	5,178.0	0.00	0.00	0.00
12,240.0	90.00	360.00	7,097.0	5,216.0	-147.2	5,217.9	0.00	0.00	0.00
12,280.0	90.00	360.00	7,097.0	5,256.0	-147.2	5,257.9	0.00	0.00	0.00
12,320.0	90.00	360.00	7,097.0	5,296.0	-147.2	5,297.9	0.00	0.00	0.00
12,360.0	90.00	360.00	7,097.0	5,336.0	-147.2	5,337.9	0.00	0.00	0.00
12,400.0	90.00	360.00	7,097.0	5,376.0	-147.2	5,377.9	0.00	0.00	0.00
12,440.0	90.00	360.00	7,097.0	5,416.0	-147.2	5,417.9	0.00	0.00	0.00
12,480.0	90.00	360.00	7,097.0	5,456.0	-147.2	5,457.9	0.00	0.00	0.00
12,520.0	90.00	360.00	7,097.0	5,496.0	-147.2	5,497.9	0.00	0.00	0.00
12,560.0	90.00	360.00	7,097.0	5,536.0	-147.2	5,537.9	0.00	0.00	0.00
12,600.0	90.00	360.00	7,097.0	5,576.0	-147.2	5,577.9	0.00	0.00	0.00
12,640.0	90.00	360.00	7,097.0	5,616.0	-147.2	5,617.9	0.00	0.00	0.00
12,680.0	90.00	360.00	7,097.0	5,656.0	-147.2	5,657.9	0.00	0.00	0.00
12,720.0	90.00	360.00	7,097.0	5,696.0	-147.2	5,697.9	0.00	0.00	0.00
12,760.0	90.00	360.00	7,097.0	5,736.0	-147.2	5,737.8	0.00	0.00	0.00
12,800.0	90.00	360.00	7,097.0	5,776.0	-147.2	5,777.8	0.00	0.00	0.00
12,840.0	90.00	360.00	7,097.0	5,816.0	-147.2	5,817.8	0.00	0.00	0.00
12,880.0	90.00	360.00	7,097.0	5,856.0	-147.3	5,857.8	0.00	0.00	0.00
12,920.0	90.00	360.00	7,097.0	5,896.0	-147.3	5,897.8	0.00	0.00	0.00
12,960.0	90.00	360.00	7,097.0	5,936.0	-147.3	5,937.8	0.00	0.00	0.00
13,000.0	90.00	360.00	7,097.0	5,976.0	-147.3	5,977.8	0.00	0.00	0.00
13,040.0	90.00	360.00	7,097.0	6,016.0	-147.3	6,017.8	0.00	0.00	0.00
13,080.0	90.00	360.00	7,097.0	6,056.0	-147.3	6,057.8	0.00	0.00	0.00
13,120.0	90.00	360.00	7,097.0	6,096.0	-147.3	6,097.8	0.00	0.00	0.00
13,160.0	90.00	360.00	7,097.0	6,136.0	-147.3	6,137.8	0.00	0.00	0.00
13,200.0	90.00	360.00	7,097.0	6,176.0	-147.3	6,177.8	0.00	0.00	0.00
13,240.0	90.00	360.00	7,097.0	6,216.0	-147.3	6,217.7	0.00	0.00	0.00
13,280.0	90.00	360.00	7,097.0	6,256.0	-147.3	6,257.7	0.00	0.00	0.00
13,320.0	90.00	360.00	7,097.0	6,296.0	-147.3	6,297.7	0.00	0.00	0.00
13,360.0	90.00	360.00	7,097.0	6,336.0	-147.3	6,337.7	0.00	0.00	0.00
13,400.0	90.00	360.00	7,097.0	6,376.0	-147.3	6,377.7	0.00	0.00	0.00
13,440.0	90.00	360.00	7,097.0	6,416.0	-147.3	6,417.7	0.00	0.00	0.00
13,480.0	90.00	360.00	7,097.0	6,456.0	-147.3	6,457.7	0.00	0.00	0.00
13,520.0	90.00	360.00	7,097.0	6,496.0	-147.3	6,497.7	0.00	0.00	0.00
13,560.0	90.00	360.00	7,097.0	6,536.0	-147.3	6,537.7	0.00	0.00	0.00
13,600.0	90.00	360.00	7,097.0	6,576.0	-147.3	6,577.7	0.00	0.00	0.00
13,640.0	90.00	360.00	7,097.0	6,616.0	-147.3	6,617.7	0.00	0.00	0.00
13,680.0	90.00	360.00	7,097.0	6,656.0	-147.3	6,657.7	0.00	0.00	0.00
13,720.0	90.00	360.00	7,097.0	6,696.0	-147.3	6,697.6	0.00	0.00	0.00
13,760.0	90.00	360.00	7,097.0	6,736.0	-147.3	6,737.6	0.00	0.00	0.00
13,800.0	90.00	360.00	7,097.0	6,776.0	-147.3	6,777.6	0.00	0.00	0.00
13,840.0	90.00	360.00	7,097.0	6,816.0	-147.3	6,817.6	0.00	0.00	0.00
13,880.0	90.00	360.00	7,097.0	6,856.0	-147.3	6,857.6	0.00	0.00	0.00
13,920.0	90.00	360.00	7,097.0	6,896.0	-147.3	6,897.6	0.00	0.00	0.00
13,960.0	90.00	360.00	7,097.0	6,936.0	-147.3	6,937.6	0.00	0.00	0.00
14,000.0	90.00	360.00	7,097.0	6,976.0	-147.3	6,977.6	0.00	0.00	0.00
14,040.0	90.00	360.00	7,097.0	7,016.0	-147.3	7,017.6	0.00	0.00	0.00
14,080.0	90.00	360.00	7,097.0	7,056.0	-147.3	7,057.6	0.00	0.00	0.00
14,120.0	90.00	360.00	7,097.0	7,096.0	-147.3	7,097.6	0.00	0.00	0.00
14,160.0	90.00	360.00	7,097.0	7,136.0	-147.3	7,137.6	0.00	0.00	0.00
14,200.0	90.00	360.00	7,097.0	7,176.0	-147.3	7,177.5	0.00	0.00	0.00
14,240.0	90.00	360.00	7,097.0	7,216.0	-147.3	7,217.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Ochsner 5O-441
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Project:	SEC.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	North Reference:	True
Well:	Ochsner 5O-441	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-28-12)		

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)
14,280.0	90.00	360.00	7,097.0	7,256.0	-147.3	7,257.5	0.00	0.00	0.00
14,295.8	90.00	360.00	7,097.0	7,271.8	-147.3	7,273.3	0.00	0.00	0.00
BHL 500'FNL & 2400'FWL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL 500'FNL & 2400'	0.00	0.00	7,097.0	7,271.8	-147.3	1,438,876.11	3,161,651.15	40.536660	-104.918410
- plan hits target center									
- Point									
460' HALF SECTIONI	0.00	0.00	1.0	164.0	150.0	1,431,770.61	3,161,995.11	40.517150	-104.917341
- plan misses target center by 222.3ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,431,770.61	3,161,995.11		
Point 2			1.0	-64.0	-2,638.0	1,431,689.30	3,159,357.68		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
7,461.4	7,083.0	7"		7	7-1/2

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
2,500.0	2,500.0	0.0	0.0	KOP #1
6,341.4	6,323.2	-246.0	-147.0	KOP #2
7,655.4	7,097.0	631.4	-147.0	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.5-T6N-R67W

Ochsner 5Q-HZ Pad Sec.5-T6N-R67W

Ochsner 5O-441

Wellbore #1

Plan #1 (6-28-12)

Anticollision Report

18 July, 2012



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (6-28-12)
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	7/18/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,295.8	Plan #1 (6-28-12) (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						
Ochsner 5Q-HZ Pad Sec.5-T6N-R67W						
Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1	9,956.7	7,097.0	890.7	689.8	4.433	CC, ES
Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1	10,000.0	7,097.0	891.7	690.0	4.420	SF
Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)	1,000.0	999.0	69.5	65.3	16.292	CC, ES
Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)	14,295.8	14,129.1	484.7	221.2	1.840	SF
Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)	400.0	399.0	93.1	91.5	59.239	CC, ES
Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)	14,295.8	14,375.5	881.2	597.3	3.104	SF

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1												
Survey Program: 7097-UNKNOWN												
Offset Site Error: 0.0ft												
Offset Well Error: 0.0ft												
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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.0	0.0	48.0	48.0	0.0	1.0	14.20	2,932.8	742.3	3,025.3	3,024.3	0.96	3,150.659
100.0	100.0	148.0	148.0	0.1	3.0	14.20	2,932.8	742.3	3,025.3	3,022.2	3.07	984.599
200.0	200.0	248.0	248.0	0.3	5.0	14.20	2,932.8	742.3	3,025.3	3,020.0	5.30	571.090
300.0	300.0	348.0	348.0	0.6	7.0	14.20	2,932.8	742.3	3,025.3	3,017.7	7.52	402.182
400.0	400.0	448.0	448.0	0.8	9.0	14.20	2,932.8	742.3	3,025.3	3,015.5	9.75	310.383
500.0	500.0	548.0	548.0	1.0	11.0	14.20	2,932.8	742.3	3,025.3	3,013.3	11.97	252.702
600.0	600.0	648.0	648.0	1.2	13.0	14.20	2,932.8	742.3	3,025.3	3,011.1	14.20	213.100
700.0	700.0	748.0	748.0	1.5	15.0	14.20	2,932.8	742.3	3,025.3	3,008.8	16.42	184.229
800.0	800.0	848.0	848.0	1.7	17.0	14.20	2,932.8	742.3	3,025.3	3,006.6	18.65	162.248
900.0	900.0	948.0	948.0	1.9	19.0	14.20	2,932.8	742.3	3,025.3	3,004.4	20.87	144.953
1,000.0	1,000.0	1,048.0	1,048.0	2.1	21.0	14.20	2,932.8	742.3	3,025.3	3,002.2	23.10	130.989
1,100.0	1,100.0	1,148.0	1,148.0	2.4	23.0	14.20	2,932.8	742.3	3,025.3	2,999.9	25.32	119.480
1,200.0	1,200.0	1,248.0	1,248.0	2.6	25.0	14.20	2,932.8	742.3	3,025.3	2,997.7	27.54	109.830
1,300.0	1,300.0	1,348.0	1,348.0	2.8	27.0	14.20	2,932.8	742.3	3,025.3	2,995.5	29.77	101.622
1,400.0	1,400.0	1,448.0	1,448.0	3.0	29.0	14.20	2,932.8	742.3	3,025.3	2,993.3	31.99	94.556
1,500.0	1,500.0	1,548.0	1,548.0	3.3	31.0	14.20	2,932.8	742.3	3,025.3	2,991.0	34.22	88.408
1,600.0	1,600.0	1,648.0	1,648.0	3.5	33.0	14.20	2,932.8	742.3	3,025.3	2,988.8	36.44	83.011
1,700.0	1,700.0	1,748.0	1,748.0	3.7	35.0	14.20	2,932.8	742.3	3,025.3	2,986.6	38.67	78.235
1,800.0	1,800.0	1,848.0	1,848.0	3.9	37.0	14.20	2,932.8	742.3	3,025.3	2,984.4	40.89	73.979
1,900.0	1,900.0	1,948.0	1,948.0	4.2	39.0	14.20	2,932.8	742.3	3,025.3	2,982.1	43.12	70.162
2,000.0	2,000.0	2,048.0	2,048.0	4.4	41.0	14.20	2,932.8	742.3	3,025.3	2,979.9	45.34	66.719

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 Ochsner 50-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 50-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 7097-UNKNOWN													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		
2,100.0	2,100.0	2,148.0	2,148.0	4.6	43.0	14.20	2,932.8	742.3	3,025.3	2,977.7	47.57	63.599		
2,200.0	2,200.0	2,248.0	2,248.0	4.8	45.0	14.20	2,932.8	742.3	3,025.3	2,975.5	49.79	60.757		
2,300.0	2,300.0	2,348.0	2,348.0	5.1	47.0	14.20	2,932.8	742.3	3,025.3	2,973.2	52.02	58.159		
2,400.0	2,400.0	2,448.0	2,448.0	5.3	49.0	14.20	2,932.8	742.3	3,025.3	2,971.0	54.24	55.773		
2,500.0	2,500.0	2,548.0	2,548.0	5.5	51.0	14.20	2,932.8	742.3	3,025.3	2,968.8	56.47	53.576		
2,600.0	2,600.0	2,648.0	2,648.0	5.7	53.0	163.34	2,932.8	742.3	3,026.9	2,968.3	58.63	51.626		
2,700.0	2,699.8	2,747.8	2,747.8	5.9	55.0	163.34	2,932.8	742.3	3,031.9	2,971.2	60.70	49.948		
2,800.0	2,799.5	2,847.5	2,847.5	6.1	56.9	163.34	2,932.8	742.3	3,040.3	2,977.6	62.69	48.494		
2,886.1	2,885.0	2,933.0	2,933.0	6.2	58.7	163.34	2,932.8	742.3	3,050.2	2,985.8	64.34	47.405		
2,900.0	2,898.7	2,946.7	2,946.7	6.3	58.9	163.35	2,932.8	742.3	3,051.9	2,987.3	64.64	47.214		
3,000.0	2,997.8	3,045.8	3,045.8	6.5	60.9	163.42	2,932.8	742.3	3,064.8	2,998.0	66.79	45.885		
3,100.0	3,096.9	3,144.9	3,144.9	6.7	62.9	163.49	2,932.8	742.3	3,077.7	3,008.8	68.95	44.636		
3,200.0	3,196.0	3,244.0	3,244.0	6.9	64.9	163.56	2,932.8	742.3	3,090.6	3,019.5	71.11	43.461		
3,300.0	3,295.1	3,343.1	3,343.1	7.1	66.9	163.63	2,932.8	742.3	3,103.5	3,030.2	73.28	42.353		
3,400.0	3,394.2	3,442.2	3,442.2	7.4	68.8	163.70	2,932.8	742.3	3,116.4	3,041.0	75.44	41.307		
3,500.0	3,493.3	3,541.3	3,541.3	7.6	70.8	163.77	2,932.8	742.3	3,129.3	3,051.7	77.62	40.318		
3,600.0	3,592.4	3,640.4	3,640.4	7.9	72.8	163.84	2,932.8	742.3	3,142.2	3,062.5	79.79	39.382		
3,700.0	3,691.5	3,739.5	3,739.5	8.2	74.8	163.91	2,932.8	742.3	3,155.2	3,073.2	81.97	38.494		
3,800.0	3,790.5	3,838.5	3,838.5	8.4	76.8	163.98	2,932.8	742.3	3,168.1	3,083.9	84.14	37.651		
3,900.0	3,889.6	3,937.6	3,937.6	8.7	78.8	164.04	2,932.8	742.3	3,181.0	3,094.7	86.32	36.850		
4,000.0	3,988.7	4,036.7	4,036.7	9.0	80.7	164.11	2,932.8	742.3	3,193.9	3,105.4	88.51	36.087		
4,100.0	4,087.8	4,135.8	4,135.8	9.3	82.7	164.17	2,932.8	742.3	3,206.9	3,116.2	90.69	35.361		
4,200.0	4,186.9	4,234.9	4,234.9	9.6	84.7	164.24	2,932.8	742.3	3,219.8	3,126.9	92.88	34.668		
4,300.0	4,286.0	4,334.0	4,334.0	9.8	86.7	164.30	2,932.8	742.3	3,232.8	3,137.7	95.06	34.006		
4,400.0	4,385.1	4,433.1	4,433.1	10.1	88.7	164.37	2,932.8	742.3	3,245.7	3,148.5	97.25	33.374		
4,500.0	4,484.2	4,532.2	4,532.2	10.4	90.6	164.43	2,932.8	742.3	3,258.7	3,159.2	99.44	32.769		
4,600.0	4,583.3	4,631.3	4,631.3	10.7	92.6	164.50	2,932.8	742.3	3,271.6	3,170.0	101.63	32.190		
4,632.0	4,615.0	4,663.0	4,663.0	10.8	93.3	164.52	2,932.8	742.3	3,275.8	3,173.4	102.34	32.010		
4,700.0	4,682.5	4,730.5	4,730.5	11.0	94.6	164.60	2,932.8	742.3	3,283.8	3,179.7	104.09	31.547		
4,800.0	4,782.0	4,830.0	4,830.0	11.3	96.6	164.69	2,932.8	742.3	3,292.8	3,186.2	106.59	30.891		
4,900.0	4,881.9	4,929.9	4,929.9	11.5	98.6	164.74	2,932.8	742.3	3,298.5	3,189.5	108.99	30.265		
5,000.0	4,981.8	5,029.8	5,029.8	11.7	100.6	164.77	2,932.8	742.3	3,300.8	3,189.5	111.26	29.667		
5,018.2	5,000.0	5,048.0	5,048.0	11.7	101.0	15.63	2,932.8	742.3	3,300.8	3,189.2	111.66	29.561		
5,100.0	5,081.8	5,129.8	5,129.8	11.9	102.6	15.63	2,932.8	742.3	3,300.8	3,187.4	113.46	29.092		
5,200.0	5,181.8	5,229.8	5,229.8	12.1	104.6	15.63	2,932.8	742.3	3,300.8	3,185.2	115.67	28.536		
5,300.0	5,281.8	5,329.8	5,329.8	12.3	106.6	15.63	2,932.8	742.3	3,300.8	3,182.9	117.88	28.001		
5,400.0	5,381.8	5,429.8	5,429.8	12.5	108.6	15.63	2,932.8	742.3	3,300.8	3,180.7	120.09	27.486		
5,500.0	5,481.8	5,529.8	5,529.8	12.6	110.6	15.63	2,932.8	742.3	3,300.8	3,178.5	122.30	26.989		
5,600.0	5,581.8	5,629.8	5,629.8	12.8	112.6	15.63	2,932.8	742.3	3,300.8	3,176.3	124.52	26.509		
5,700.0	5,681.8	5,729.8	5,729.8	13.0	114.6	15.63	2,932.8	742.3	3,300.8	3,174.1	126.73	26.047		
5,800.0	5,781.8	5,829.8	5,829.8	13.2	116.6	15.63	2,932.8	742.3	3,300.8	3,171.9	128.94	25.600		
5,900.0	5,881.8	5,929.8	5,929.8	13.4	118.6	15.63	2,932.8	742.3	3,300.8	3,169.7	131.15	25.168		
6,000.0	5,981.8	6,029.8	6,029.8	13.6	120.6	15.63	2,932.8	742.3	3,300.8	3,167.5	133.37	24.750		
6,100.0	6,081.8	6,129.8	6,129.8	13.8	122.6	15.63	2,932.8	742.3	3,300.8	3,165.2	135.58	24.346		
6,200.0	6,181.8	6,229.8	6,229.8	14.0	124.6	15.63	2,932.8	742.3	3,300.8	3,163.0	137.79	23.955		
6,300.0	6,281.8	6,329.8	6,329.8	14.2	126.6	15.63	2,932.8	742.3	3,300.8	3,160.8	140.01	23.576		
6,341.4	6,323.3	6,371.3	6,371.3	14.3	127.4	15.63	2,932.8	742.3	3,300.8	3,159.9	140.93	23.422		
6,350.0	6,331.8	6,379.8	6,379.8	14.3	127.6	15.63	2,932.8	742.3	3,300.8	3,159.7	141.10	23.393		
6,400.0	6,381.8	6,429.8	6,429.8	14.4	128.6	15.68	2,932.8	742.3	3,298.7	3,156.9	141.81	23.261		
6,450.0	6,431.5	6,479.5	6,479.5	14.5	129.6	15.82	2,932.8	742.3	3,293.4	3,151.5	141.95	23.202		
6,500.0	6,480.7	6,528.7	6,528.7	14.6	130.6	16.03	2,932.8	742.3	3,285.0	3,143.5	141.51	23.214		

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 Ochsner 50-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 50-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7097-UNKNOWN													Offset Well Error:	0.0 ft
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	
6,550.0	6,529.2	6,577.2	6,577.2	14.6	131.5	16.34	2,932.8	742.3	3,273.6	3,133.1	140.51	23.298		
6,600.0	6,576.9	6,624.9	6,624.9	14.6	132.5	16.74	2,932.8	742.3	3,259.1	3,120.2	138.94	23.457		
6,650.0	6,623.5	6,671.5	6,671.5	14.7	133.4	17.24	2,932.8	742.3	3,241.7	3,104.8	136.83	23.692		
6,700.0	6,668.8	6,716.8	6,716.8	14.7	134.3	17.85	2,932.8	742.3	3,221.3	3,087.1	134.21	24.003		
6,750.0	6,712.6	6,760.6	6,760.6	14.7	135.2	18.60	2,932.8	742.3	3,198.2	3,067.1	131.13	24.390		
6,800.0	6,754.8	6,802.8	6,802.8	14.8	136.1	19.49	2,932.8	742.3	3,172.4	3,044.8	127.66	24.851		
6,850.0	6,795.1	6,843.1	6,843.1	14.8	136.9	20.55	2,932.8	742.3	3,144.0	3,020.1	123.90	25.375		
6,900.0	6,833.4	6,881.4	6,881.4	14.8	137.6	21.82	2,932.8	742.3	3,113.2	2,993.2	120.00	25.944		
6,950.0	6,869.5	6,917.5	6,917.5	14.8	138.3	23.33	2,932.8	742.3	3,080.1	2,964.0	116.14	26.521		
7,000.0	6,903.2	6,951.2	6,951.2	14.9	139.0	25.14	2,932.8	742.3	3,044.8	2,932.2	112.58	27.046		
7,050.0	6,934.5	6,982.5	6,982.5	15.0	139.7	27.29	2,932.8	742.3	3,007.5	2,897.9	109.68	27.422		
7,100.0	6,963.2	7,011.2	7,011.2	15.2	140.2	29.89	2,932.8	742.3	2,968.4	2,860.6	107.87	27.518		
7,150.0	6,989.1	7,037.1	7,037.1	15.4	140.7	33.04	2,932.8	742.3	2,927.7	2,820.0	107.69	27.186		
7,200.0	7,012.2	7,060.2	7,060.2	15.7	141.2	36.85	2,932.8	742.3	2,885.5	2,775.8	109.68	26.308		
7,250.0	7,032.3	7,080.3	7,080.3	16.0	141.6	41.51	2,932.8	742.3	2,842.0	2,727.7	114.28	24.869		
7,300.0	7,049.4	7,097.0	7,097.0	16.4	141.9	47.16	2,932.8	742.3	2,797.4	2,675.8	121.58	23.008		
7,350.0	7,063.3	7,097.0	7,097.0	16.8	141.9	53.43	2,932.8	742.3	2,752.0	2,621.8	130.17	21.141		
7,400.0	7,074.1	7,097.0	7,097.0	17.2	141.9	60.89	2,932.8	742.3	2,705.9	2,565.8	140.10	19.314		
7,450.0	7,081.7	7,097.0	7,097.0	17.7	141.9	69.54	2,932.8	742.3	2,659.4	2,509.5	149.81	17.751		
7,461.4	7,083.0	7,097.0	7,097.0	17.8	141.9	71.67	2,932.8	742.3	2,648.7	2,496.9	151.79	17.449		
7,500.0	7,087.0	7,097.0	7,097.0	18.2	141.9	71.67	2,932.8	742.3	2,612.6	2,460.4	152.18	17.168		
7,535.4	7,090.8	7,097.0	7,097.0	18.6	141.9	71.67	2,932.8	742.3	2,579.6	2,427.0	152.55	16.909		
7,600.0	7,095.7	7,097.0	7,097.0	19.4	141.9	79.76	2,932.8	742.3	2,519.4	2,360.7	158.69	15.876		
7,655.4	7,097.0	7,097.0	7,097.0	20.1	141.9	86.91	2,932.8	742.3	2,467.6	2,305.9	161.68	15.262		
7,700.0	7,097.0	7,097.0	7,097.0	20.6	141.9	86.91	2,932.8	742.3	2,426.1	2,263.9	162.25	14.953		
7,800.0	7,097.0	7,097.0	7,097.0	22.0	141.9	86.91	2,932.8	742.3	2,333.4	2,169.8	163.60	14.263		
7,900.0	7,097.0	7,097.0	7,097.0	23.4	141.9	86.91	2,932.8	742.3	2,241.3	2,076.3	165.02	13.582		
8,000.0	7,097.0	7,097.0	7,097.0	24.9	141.9	86.91	2,932.8	742.3	2,149.9	1,983.4	166.51	12.911		
8,100.0	7,097.0	7,097.0	7,097.0	26.4	141.9	86.91	2,932.8	742.3	2,059.3	1,891.2	168.06	12.253		
8,200.0	7,097.0	7,097.0	7,097.0	28.0	141.9	86.91	2,932.8	742.3	1,969.6	1,799.9	169.65	11.609		
8,300.0	7,097.0	7,097.0	7,097.0	29.7	141.9	86.91	2,932.8	742.3	1,881.0	1,709.7	171.29	10.981		
8,400.0	7,097.0	7,097.0	7,097.0	31.3	141.9	86.91	2,932.8	742.3	1,793.5	1,620.5	172.95	10.370		
8,500.0	7,097.0	7,097.0	7,097.0	33.0	141.9	86.91	2,932.8	742.3	1,707.4	1,532.8	174.65	9.776		
8,600.0	7,097.0	7,097.0	7,097.0	34.7	141.9	86.91	2,932.8	742.3	1,622.9	1,446.6	176.37	9.202		
8,700.0	7,097.0	7,097.0	7,097.0	36.5	141.9	86.91	2,932.8	742.3	1,540.3	1,362.2	178.10	8.649		
8,800.0	7,097.0	7,097.0	7,097.0	38.2	141.9	86.91	2,932.8	742.3	1,459.9	1,280.0	179.86	8.117		
8,900.0	7,097.0	7,097.0	7,097.0	40.0	141.9	86.91	2,932.8	742.3	1,382.0	1,200.4	181.63	7.609		
9,000.0	7,097.0	7,097.0	7,097.0	41.8	141.9	86.91	2,932.8	742.3	1,307.1	1,123.7	183.42	7.127		
9,100.0	7,097.0	7,097.0	7,097.0	43.6	141.9	86.91	2,932.8	742.3	1,235.8	1,050.6	185.21	6.673		
9,200.0	7,097.0	7,097.0	7,097.0	45.4	141.9	86.91	2,932.8	742.3	1,168.7	981.7	187.02	6.249		
9,300.0	7,097.0	7,097.0	7,097.0	47.2	141.9	86.91	2,932.8	742.3	1,106.6	917.8	188.83	5.860		
9,400.0	7,097.0	7,097.0	7,097.0	49.0	141.9	86.91	2,932.8	742.3	1,050.4	859.7	190.66	5.509		
9,500.0	7,097.0	7,097.0	7,097.0	50.9	141.9	86.91	2,932.8	742.3	1,001.0	808.5	192.49	5.200		
9,600.0	7,097.0	7,097.0	7,097.0	52.7	141.9	86.91	2,932.8	742.3	959.5	765.1	194.33	4.937		
9,700.0	7,097.0	7,097.0	7,097.0	54.6	141.9	86.91	2,932.8	742.3	926.9	730.8	196.17	4.725		
9,800.0	7,097.0	7,097.0	7,097.0	56.4	141.9	86.91	2,932.8	742.3	904.4	706.3	198.02	4.567		
9,900.0	7,097.0	7,097.0	7,097.0	58.3	141.9	86.91	2,932.8	742.3	892.5	692.6	199.87	4.465		
9,956.7	7,097.0	7,097.0	7,097.0	59.3	141.9	86.91	2,932.8	742.3	890.7	689.8	200.92	4.433 CC, ES		
10,000.0	7,097.0	7,097.0	7,097.0	60.1	141.9	86.91	2,932.8	742.3	891.7	690.0	201.73	4.420 SF		
10,100.0	7,097.0	7,097.0	7,097.0	62.0	141.9	86.91	2,932.8	742.3	902.1	698.6	203.59	4.431		
10,200.0	7,097.0	7,097.0	7,097.0	63.9	141.9	86.91	2,932.8	742.3	923.3	717.9	205.45	4.494		

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 Ochsner 50-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 50-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ehrlich 1 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7097-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.0	7,097.0	7,097.0	7,097.0	65.7	141.9	86.91	2,932.8	742.3	954.6	747.2	207.32	4.604		
10,400.0	7,097.0	7,097.0	7,097.0	67.6	141.9	86.91	2,932.8	742.3	994.9	785.7	209.19	4.756		
10,500.0	7,097.0	7,097.0	7,097.0	69.5	141.9	86.91	2,932.8	742.3	1,043.3	832.2	211.07	4.943		
10,600.0	7,097.0	7,097.0	7,097.0	71.3	141.9	86.91	2,932.8	742.3	1,098.7	885.8	212.95	5.160		
10,700.0	7,097.0	7,097.0	7,097.0	73.2	141.9	86.91	2,932.8	742.3	1,160.1	945.3	214.82	5.400		
10,800.0	7,097.0	7,097.0	7,097.0	75.1	141.9	86.91	2,932.8	742.3	1,226.6	1,009.9	216.71	5.660		
10,900.0	7,097.0	7,097.0	7,097.0	77.0	141.9	86.91	2,932.8	742.3	1,297.4	1,078.8	218.59	5.935		
11,000.0	7,097.0	7,097.0	7,097.0	78.9	141.9	86.91	2,932.8	742.3	1,371.8	1,151.3	220.47	6.222		
11,100.0	7,097.0	7,097.0	7,097.0	80.8	141.9	86.91	2,932.8	742.3	1,449.3	1,226.9	222.36	6.518		
11,200.0	7,097.0	7,097.0	7,097.0	82.7	141.9	86.91	2,932.8	742.3	1,529.4	1,305.2	224.25	6.820		
11,300.0	7,097.0	7,097.0	7,097.0	84.6	141.9	86.91	2,932.8	742.3	1,611.8	1,385.6	226.14	7.127		
11,400.0	7,097.0	7,097.0	7,097.0	86.4	141.9	86.91	2,932.8	742.3	1,696.0	1,468.0	228.03	7.438		
11,500.0	7,097.0	7,097.0	7,097.0	88.3	141.9	86.91	2,932.8	742.3	1,781.9	1,552.0	229.92	7.750		
11,600.0	7,097.0	7,097.0	7,097.0	90.2	141.9	86.91	2,932.8	742.3	1,869.2	1,637.3	231.82	8.063		
11,700.0	7,097.0	7,097.0	7,097.0	92.1	141.9	86.91	2,932.8	742.3	1,957.7	1,723.9	233.71	8.376		
11,800.0	7,097.0	7,097.0	7,097.0	94.0	141.9	86.91	2,932.8	742.3	2,047.2	1,811.6	235.61	8.689		
11,900.0	7,097.0	7,097.0	7,097.0	95.9	141.9	86.91	2,932.8	742.3	2,137.7	1,900.2	237.50	9.001		
12,000.0	7,097.0	7,097.0	7,097.0	97.8	141.9	86.91	2,932.8	742.3	2,229.0	1,989.6	239.40	9.311		
12,100.0	7,097.0	7,097.0	7,097.0	99.7	141.9	86.91	2,932.8	742.3	2,321.0	2,079.7	241.30	9.619		
12,200.0	7,097.0	7,097.0	7,097.0	101.6	141.9	86.91	2,932.8	742.3	2,413.6	2,170.4	243.20	9.924		
12,300.0	7,097.0	7,097.0	7,097.0	103.5	141.9	86.91	2,932.8	742.3	2,506.9	2,261.8	245.10	10.228		
12,400.0	7,097.0	7,097.0	7,097.0	105.4	141.9	86.91	2,932.8	742.3	2,600.6	2,353.6	247.00	10.529		
12,500.0	7,097.0	7,097.0	7,097.0	107.3	141.9	86.91	2,932.8	742.3	2,694.8	2,445.8	248.91	10.826		
12,600.0	7,097.0	7,097.0	7,097.0	109.2	141.9	86.91	2,932.8	742.3	2,789.3	2,538.5	250.81	11.121		
12,700.0	7,097.0	7,097.0	7,097.0	111.2	141.9	86.91	2,932.8	742.3	2,884.3	2,631.6	252.71	11.413		
12,800.0	7,097.0	7,097.0	7,097.0	113.1	141.9	86.91	2,932.8	742.3	2,979.5	2,724.9	254.62	11.702		
12,900.0	7,097.0	7,097.0	7,097.0	115.0	141.9	86.91	2,932.8	742.3	3,075.1	2,818.6	256.52	11.988		
13,000.0	7,097.0	7,097.0	7,097.0	116.9	141.9	86.91	2,932.8	742.3	3,171.0	2,912.5	258.43	12.270		
13,100.0	7,097.0	7,097.0	7,097.0	118.8	141.9	86.91	2,932.8	742.3	3,267.1	3,006.7	260.33	12.550		
13,200.0	7,097.0	7,097.0	7,097.0	120.7	141.9	86.91	2,932.8	742.3	3,363.4	3,101.1	262.24	12.826		
13,300.0	7,097.0	7,097.0	7,097.0	122.6	141.9	86.91	2,932.8	742.3	3,459.9	3,195.8	264.15	13.099		
13,400.0	7,097.0	7,097.0	7,097.0	124.5	141.9	86.91	2,932.8	742.3	3,556.6	3,290.6	266.05	13.368		
13,500.0	7,097.0	7,097.0	7,097.0	126.4	141.9	86.91	2,932.8	742.3	3,653.5	3,385.6	267.96	13.635		
13,600.0	7,097.0	7,097.0	7,097.0	128.3	141.9	86.91	2,932.8	742.3	3,750.6	3,480.7	269.87	13.898		
13,700.0	7,097.0	7,097.0	7,097.0	130.2	141.9	86.91	2,932.8	742.3	3,847.8	3,576.0	271.78	14.158		
13,800.0	7,097.0	7,097.0	7,097.0	132.1	141.9	86.91	2,932.8	742.3	3,945.2	3,671.5	273.69	14.415		
13,900.0	7,097.0	7,097.0	7,097.0	134.1	141.9	86.91	2,932.8	742.3	4,042.6	3,767.0	275.60	14.669		
14,000.0	7,097.0	7,097.0	7,097.0	136.0	141.9	86.91	2,932.8	742.3	4,140.2	3,862.7	277.50	14.920		
14,100.0	7,097.0	7,097.0	7,097.0	137.9	141.9	86.91	2,932.8	742.3	4,238.0	3,958.5	279.41	15.167		
14,200.0	7,097.0	7,097.0	7,097.0	139.8	141.9	86.91	2,932.8	742.3	4,335.8	4,054.4	281.32	15.412		
14,295.8	7,097.0	7,097.0	7,097.0	141.6	141.9	86.91	2,932.8	742.3	4,429.6	4,146.4	283.16	15.644		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-137.18	-51.0	-47.3	69.5				
100.0	100.0	99.0	99.0	0.1	0.1	-137.18	-51.0	-47.3	69.5	69.3	0.22	310.935	
200.0	200.0	199.0	199.0	0.3	0.3	-137.18	-51.0	-47.3	69.5	68.9	0.67	103.473	
300.0	300.0	299.0	299.0	0.6	0.6	-137.18	-51.0	-47.3	69.5	68.4	1.12	62.001	
400.0	400.0	399.0	399.0	0.8	0.8	-137.18	-51.0	-47.3	69.5	68.0	1.57	44.261	
500.0	500.0	499.0	499.0	1.0	1.0	-137.18	-51.0	-47.3	69.5	67.5	2.02	34.414	
600.0	600.0	599.0	599.0	1.2	1.2	-137.18	-51.0	-47.3	69.5	67.1	2.47	28.151	
700.0	700.0	699.0	699.0	1.5	1.5	-137.18	-51.0	-47.3	69.5	66.6	2.92	23.817	
800.0	800.0	799.0	799.0	1.7	1.7	-137.18	-51.0	-47.3	69.5	66.2	3.37	20.639	
900.0	900.0	899.0	899.0	1.9	1.9	-137.18	-51.0	-47.3	69.5	65.7	3.82	18.210	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	-137.18	-51.0	-47.3	69.5	65.3	4.27	16.292 CC, ES	
1,100.0	1,100.0	1,096.9	1,096.9	2.4	2.3	-136.57	-51.6	-48.8	71.0	66.3	4.70	15.126	
1,200.0	1,200.0	1,194.5	1,194.4	2.6	2.5	-134.87	-53.2	-53.5	75.6	70.5	5.11	14.785	
1,300.0	1,300.0	1,291.7	1,291.2	2.8	2.7	-132.46	-56.0	-61.2	83.4	77.8	5.54	15.042	
1,400.0	1,400.0	1,388.2	1,387.0	3.0	3.0	-129.77	-59.9	-72.0	94.4	88.4	5.98	15.778	
1,500.0	1,500.0	1,485.6	1,483.3	3.3	3.2	-127.14	-64.8	-85.5	108.4	101.9	6.44	16.825	
1,600.0	1,600.0	1,584.4	1,581.0	3.5	3.5	-125.04	-69.8	-99.6	122.9	116.0	6.91	17.789	
1,700.0	1,700.0	1,683.3	1,678.8	3.7	3.8	-123.39	-74.9	-113.6	137.6	130.2	7.38	18.634	
1,800.0	1,800.0	1,782.1	1,776.5	3.9	4.1	-122.05	-79.9	-127.7	152.3	144.5	7.86	19.377	
1,900.0	1,900.0	1,881.0	1,874.2	4.2	4.4	-120.95	-85.0	-141.8	167.1	158.8	8.34	20.035	
2,000.0	2,000.0	1,979.8	1,971.9	4.4	4.7	-120.03	-90.1	-155.8	182.0	173.2	8.83	20.621	
2,100.0	2,100.0	2,078.7	2,069.6	4.6	5.1	-119.24	-95.1	-169.9	196.9	187.6	9.31	21.144	
2,200.0	2,200.0	2,177.5	2,167.3	4.8	5.4	-118.57	-100.2	-184.0	211.9	202.1	9.80	21.615	
2,300.0	2,300.0	2,276.4	2,265.0	5.1	5.7	-117.99	-105.2	-198.0	226.8	216.5	10.29	22.040	
2,400.0	2,400.0	2,375.2	2,362.7	5.3	6.1	-117.48	-110.3	-212.1	241.8	231.0	10.78	22.426	
2,500.0	2,500.0	2,474.1	2,460.5	5.5	6.4	-117.03	-115.4	-226.2	256.8	245.5	11.28	22.777	
2,600.0	2,600.0	2,573.1	2,558.3	5.7	6.8	32.57	-120.4	-240.3	270.4	259.1	11.31	23.906	
2,700.0	2,699.8	2,672.4	2,656.5	5.9	7.1	33.39	-125.5	-254.4	281.1	269.4	11.71	23.998	
2,800.0	2,799.5	2,771.9	2,754.9	6.1	7.5	34.55	-130.6	-268.6	289.0	276.8	12.11	23.859	
2,886.1	2,885.0	2,857.7	2,839.6	6.2	7.8	35.84	-135.0	-280.8	293.6	281.1	12.46	23.571	
2,900.0	2,898.7	2,871.5	2,853.3	6.3	7.8	36.08	-135.7	-282.7	294.2	281.7	12.51	23.508	
3,000.0	2,997.8	2,971.0	2,951.6	6.5	8.2	37.75	-140.8	-296.9	298.6	285.7	12.94	23.071	
3,100.0	3,096.9	3,070.5	3,050.0	6.7	8.5	39.37	-145.9	-311.1	303.3	289.9	13.38	22.660	
3,200.0	3,196.0	3,170.0	3,148.4	6.9	8.9	40.95	-151.0	-325.2	308.2	294.4	13.84	22.273	
3,300.0	3,295.1	3,269.6	3,246.8	7.1	9.2	42.47	-156.1	-339.4	313.3	299.0	14.30	21.908	
3,400.0	3,394.2	3,369.1	3,345.2	7.4	9.6	43.94	-161.2	-353.6	318.7	303.9	14.78	21.562	
3,500.0	3,493.3	3,468.6	3,443.5	7.6	10.0	45.37	-166.3	-367.7	324.2	309.0	15.27	21.234	
3,600.0	3,592.4	3,568.1	3,541.9	7.9	10.3	46.74	-171.4	-381.9	330.0	314.2	15.77	20.923	
3,700.0	3,691.5	3,667.7	3,640.3	8.2	10.7	48.07	-176.5	-396.1	335.9	319.6	16.28	20.628	
3,800.0	3,790.5	3,767.2	3,738.7	8.4	11.0	49.35	-181.6	-410.2	342.0	325.2	16.81	20.348	
3,900.0	3,889.6	3,866.7	3,837.1	8.7	11.4	50.58	-186.7	-424.4	348.3	331.0	17.34	20.081	
4,000.0	3,988.7	3,966.2	3,935.4	9.0	11.8	51.78	-191.8	-438.6	354.7	336.8	17.89	19.828	
4,100.0	4,087.8	4,065.8	4,033.8	9.3	12.1	52.93	-196.9	-452.7	361.3	342.9	18.45	19.587	
4,200.0	4,186.9	4,165.3	4,132.2	9.6	12.5	54.03	-202.0	-466.9	368.0	349.0	19.01	19.359	
4,300.0	4,286.0	4,264.8	4,230.6	9.8	12.9	55.10	-207.1	-481.1	374.9	355.3	19.58	19.141	
4,400.0	4,385.1	4,364.3	4,328.9	10.1	13.2	56.13	-212.2	-495.2	381.9	361.7	20.17	18.935	
4,500.0	4,484.2	4,463.9	4,427.3	10.4	13.6	57.12	-217.3	-509.4	389.0	368.2	20.76	18.738	
4,600.0	4,583.3	4,563.4	4,525.7	10.7	14.0	58.08	-222.4	-523.6	396.2	374.8	21.35	18.552	
4,632.0	4,615.0	4,595.3	4,557.2	10.8	14.1	58.38	-224.0	-528.1	398.5	376.9	21.55	18.494	
4,700.0	4,682.5	4,662.9	4,624.1	11.0	14.3	59.00	-227.5	-537.7	403.9	381.9	21.94	18.410	
4,800.0	4,782.0	4,762.4	4,722.5	11.3	14.7	59.56	-232.6	-551.9	413.4	390.9	22.46	18.401	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,881.9	4,870.6	4,829.5	11.5	15.0	59.73	59.73	-237.9	-566.6	424.0	401.1	22.95	18.480	
5,000.0	4,981.8	4,986.4	4,944.6	11.7	15.3	59.62	59.62	-242.1	-578.5	433.1	409.7	23.35	18.545	
5,018.2	5,000.0	5,007.5	4,965.6	11.7	15.4	-89.57	-89.57	-242.8	-580.2	434.5	411.1	23.42	18.553	
5,100.0	5,081.8	5,102.8	5,060.7	11.9	15.5	-89.85	-89.85	-244.9	-586.1	439.5	415.8	23.73	18.522	
5,200.0	5,181.8	5,219.7	5,177.6	12.1	15.7	-90.00	-90.00	-246.0	-589.2	442.2	418.1	24.12	18.336	
5,300.0	5,281.8	5,323.0	5,280.8	12.3	15.9	-90.00	-90.00	-246.0	-589.3	442.3	417.8	24.50	18.054	
5,400.0	5,381.8	5,423.0	5,380.8	12.5	16.0	-90.00	-90.00	-246.0	-589.3	442.3	417.4	24.87	17.780	
5,500.0	5,481.8	5,523.0	5,480.8	12.6	16.2	-90.00	-90.00	-246.0	-589.3	442.3	417.0	25.25	17.513	
5,600.0	5,581.8	5,623.0	5,580.8	12.8	16.3	-90.00	-90.00	-246.0	-589.3	442.3	416.6	25.63	17.253	
5,700.0	5,681.8	5,723.0	5,680.8	13.0	16.5	-90.00	-90.00	-246.0	-589.3	442.3	416.2	26.02	16.998	
5,800.0	5,781.8	5,823.0	5,780.8	13.2	16.6	-90.00	-90.00	-246.0	-589.3	442.3	415.9	26.40	16.750	
5,900.0	5,881.8	5,923.0	5,880.8	13.4	16.8	-90.00	-90.00	-246.0	-589.3	442.3	415.5	26.79	16.508	
6,000.0	5,981.8	6,023.0	5,980.8	13.6	17.0	-90.00	-90.00	-246.0	-589.3	442.3	415.1	27.18	16.271	
6,100.0	6,081.8	6,123.0	6,080.8	13.8	17.1	-90.00	-90.00	-246.0	-589.3	442.3	414.7	27.57	16.040	
6,154.5	6,136.4	6,177.5	6,135.4	13.9	17.2	-90.00	-90.00	-246.0	-589.3	442.3	414.5	27.79	15.917	
6,200.0	6,181.8	6,222.9	6,180.7	14.0	17.3	-89.81	-89.81	-244.5	-589.3	442.3	414.3	27.97	15.813	
6,300.0	6,281.8	6,321.2	6,278.1	14.2	17.4	-88.20	-88.20	-232.1	-589.3	442.5	414.1	28.40	15.580	
6,341.4	6,323.3	6,360.7	6,316.7	14.3	17.4	-87.10	-87.10	-223.6	-589.3	442.9	414.3	28.59	15.490	
6,350.0	6,331.8	6,368.7	6,324.5	14.3	17.4	-86.84	-86.84	-221.6	-589.3	443.0	414.4	28.63	15.473	
6,400.0	6,381.8	6,415.4	6,369.3	14.4	17.5	-85.35	-85.35	-208.6	-589.3	443.8	415.0	28.85	15.385	
6,450.0	6,431.5	6,461.4	6,412.6	14.5	17.5	-83.89	-83.89	-193.0	-589.3	444.9	415.9	29.04	15.323	
6,500.0	6,480.7	6,506.9	6,454.4	14.6	17.5	-82.46	-82.46	-175.1	-589.3	446.3	417.1	29.20	15.288	
6,550.0	6,529.2	6,550.0	6,493.0	14.6	17.5	-81.13	-81.13	-155.9	-589.3	448.0	418.6	29.32	15.277	
6,600.0	6,576.9	6,596.2	6,533.1	14.6	17.6	-79.74	-79.74	-132.9	-589.3	449.8	420.4	29.43	15.285	
6,650.0	6,623.5	6,640.1	6,569.8	14.7	17.6	-78.46	-78.46	-108.9	-589.3	451.8	422.3	29.51	15.312	
6,700.0	6,668.8	6,683.6	6,604.7	14.7	17.6	-77.23	-77.23	-83.0	-589.3	453.9	424.4	29.56	15.354	
6,750.0	6,712.6	6,726.6	6,637.8	14.7	17.6	-76.06	-76.06	-55.5	-589.3	456.2	426.5	29.61	15.406	
6,800.0	6,754.8	6,769.3	6,669.1	14.8	17.7	-74.96	-74.96	-26.4	-589.3	458.5	428.8	29.65	15.464	
6,850.0	6,795.1	6,811.6	6,698.4	14.8	17.7	-73.92	-73.92	4.1	-589.3	460.8	431.1	29.68	15.528	
6,900.0	6,833.4	6,850.0	6,723.5	14.8	17.7	-73.01	-73.01	33.1	-589.3	463.1	433.4	29.74	15.573	
6,950.0	6,869.5	6,895.3	6,751.2	14.8	17.8	-72.03	-72.03	69.0	-589.3	465.4	435.6	29.83	15.601	
7,000.0	6,903.2	6,936.8	6,774.6	14.9	17.8	-71.20	-71.20	103.2	-589.3	467.6	437.7	29.95	15.612	
7,050.0	6,934.5	6,978.0	6,796.1	15.0	17.9	-70.43	-70.43	138.4	-589.3	469.8	439.7	30.12	15.596	
7,100.0	6,963.2	7,019.0	6,815.5	15.2	18.0	-69.74	-69.74	174.5	-589.3	471.8	441.4	30.35	15.544	
7,150.0	6,989.1	7,059.8	6,832.8	15.4	18.2	-69.12	-69.12	211.4	-589.3	473.6	443.0	30.65	15.452	
7,200.0	7,012.2	7,100.0	6,848.0	15.7	18.3	-68.58	-68.58	248.7	-589.3	475.3	444.3	31.03	15.317	
7,250.0	7,032.3	7,140.9	6,861.4	16.0	18.5	-68.11	-68.11	287.3	-589.3	476.8	445.3	31.51	15.131	
7,300.0	7,049.4	7,181.3	6,872.5	16.4	18.8	-67.71	-67.71	326.1	-589.3	478.1	446.0	32.09	14.901	
7,350.0	7,063.3	7,221.6	6,881.6	16.8	19.1	-67.39	-67.39	365.4	-589.3	479.2	446.4	32.76	14.629	
7,400.0	7,074.1	7,261.8	6,888.6	17.2	19.4	-67.14	-67.14	404.9	-589.3	480.0	446.5	33.52	14.319	
7,450.0	7,081.7	7,300.0	6,893.3	17.7	19.7	-66.97	-66.97	442.9	-589.3	480.6	446.3	34.37	13.985	
7,461.4	7,083.0	7,311.1	6,894.3	17.8	19.8	-66.93	-66.93	453.9	-589.3	480.7	446.1	34.60	13.894	
7,500.0	7,087.0	7,342.0	6,896.3	18.2	20.1	-66.80	-66.80	484.7	-589.3	481.3	446.1	35.26	13.649	
7,535.4	7,090.8	7,370.2	6,897.0	18.6	20.4	-66.55	-66.55	512.9	-589.3	482.5	446.6	35.88	13.447	
7,600.0	7,095.7	7,433.3	6,897.0	19.4	21.1	-65.94	-65.94	576.1	-589.3	484.4	447.2	37.25	13.004	
7,655.4	7,097.0	7,488.7	6,897.0	20.1	21.7	-65.77	-65.77	631.5	-589.3	485.0	446.4	38.58	12.570	
7,700.0	7,097.0	7,533.3	6,897.0	20.6	22.3	-65.77	-65.77	676.0	-589.3	485.0	445.3	39.65	12.231	
7,800.0	7,097.0	7,633.3	6,897.0	22.0	23.6	-65.77	-65.77	776.0	-589.3	485.0	442.8	42.16	11.502	
7,900.0	7,097.0	7,733.3	6,897.0	23.4	25.0	-65.77	-65.77	876.0	-589.3	485.0	440.2	44.82	10.821	
8,000.0	7,097.0	7,833.3	6,897.0	24.9	26.4	-65.77	-65.77	976.0	-589.3	485.0	437.4	47.59	10.190	
8,100.0	7,097.0	7,933.3	6,897.0	26.4	27.9	-65.77	-65.77	1,076.0	-589.3	485.0	434.5	50.46	9.610	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,200.0	7,097.0	8,033.3	6,897.0	28.0	29.5	-65.77	-65.77	1,176.0	-589.3	485.0	431.5	53.42	9.078	
8,300.0	7,097.0	8,133.3	6,897.0	29.7	31.1	-65.77	-65.77	1,276.0	-589.3	485.0	428.5	56.44	8.592	
8,400.0	7,097.0	8,233.3	6,897.0	31.3	32.7	-65.77	-65.77	1,376.0	-589.3	485.0	425.4	59.53	8.147	
8,500.0	7,097.0	8,333.3	6,897.0	33.0	34.4	-65.77	-65.77	1,476.0	-589.3	485.0	422.3	62.66	7.739	
8,600.0	7,097.0	8,433.3	6,897.0	34.7	36.1	-65.77	-65.77	1,576.0	-589.3	484.9	419.1	65.84	7.365	
8,700.0	7,097.0	8,533.3	6,897.0	36.5	37.8	-65.77	-65.77	1,676.0	-589.3	484.9	415.9	69.06	7.022	
8,800.0	7,097.0	8,633.3	6,897.0	38.2	39.5	-65.77	-65.77	1,776.0	-589.3	484.9	412.6	72.30	6.707	
8,900.0	7,097.0	8,733.3	6,897.0	40.0	41.3	-65.77	-65.77	1,876.0	-589.3	484.9	409.4	75.58	6.416	
9,000.0	7,097.0	8,833.3	6,897.0	41.8	43.0	-65.77	-65.77	1,976.0	-589.3	484.9	406.1	78.88	6.148	
9,100.0	7,097.0	8,933.3	6,897.0	43.6	44.8	-65.77	-65.77	2,076.0	-589.3	484.9	402.7	82.20	5.899	
9,200.0	7,097.0	9,033.3	6,897.0	45.4	46.6	-65.77	-65.77	2,176.0	-589.3	484.9	399.4	85.54	5.669	
9,300.0	7,097.0	9,133.3	6,897.0	47.2	48.4	-65.77	-65.77	2,276.0	-589.3	484.9	396.0	88.90	5.455	
9,400.0	7,097.0	9,233.3	6,897.0	49.0	50.2	-65.77	-65.77	2,376.0	-589.3	484.9	392.6	92.27	5.255	
9,500.0	7,097.0	9,333.3	6,897.0	50.9	52.0	-65.77	-65.77	2,476.0	-589.3	484.9	389.2	95.66	5.069	
9,600.0	7,097.0	9,433.3	6,897.0	52.7	53.8	-65.77	-65.77	2,576.0	-589.3	484.9	385.8	99.06	4.895	
9,700.0	7,097.0	9,533.3	6,897.0	54.6	55.7	-65.77	-65.77	2,676.0	-589.3	484.9	382.4	102.47	4.732	
9,800.0	7,097.0	9,633.3	6,897.0	56.4	57.5	-65.77	-65.77	2,776.0	-589.3	484.9	379.0	105.89	4.579	
9,900.0	7,097.0	9,733.3	6,897.0	58.3	59.3	-65.77	-65.77	2,876.0	-589.3	484.9	375.6	109.31	4.436	
10,000.0	7,097.0	9,833.3	6,897.0	60.1	61.2	-65.77	-65.77	2,976.0	-589.3	484.9	372.1	112.75	4.301	
10,100.0	7,097.0	9,933.3	6,897.0	62.0	63.0	-65.77	-65.77	3,076.0	-589.3	484.9	368.7	116.19	4.173	
10,200.0	7,097.0	10,033.3	6,897.0	63.9	64.9	-65.77	-65.77	3,176.0	-589.3	484.9	365.2	119.64	4.053	
10,300.0	7,097.0	10,133.3	6,897.0	65.7	66.8	-65.77	-65.77	3,276.0	-589.3	484.9	361.8	123.10	3.939	
10,400.0	7,097.0	10,233.3	6,897.0	67.6	68.6	-65.77	-65.77	3,376.0	-589.3	484.9	358.3	126.56	3.831	
10,500.0	7,097.0	10,333.3	6,897.0	69.5	70.5	-65.77	-65.77	3,476.0	-589.3	484.9	354.8	130.03	3.729	
10,600.0	7,097.0	10,433.3	6,897.0	71.3	72.4	-65.77	-65.77	3,576.0	-589.3	484.9	351.4	133.50	3.632	
10,700.0	7,097.0	10,533.3	6,897.0	73.2	74.2	-65.77	-65.77	3,676.0	-589.3	484.9	347.9	136.98	3.540	
10,800.0	7,097.0	10,633.3	6,897.0	75.1	76.1	-65.77	-65.77	3,776.0	-589.3	484.9	344.4	140.46	3.452	
10,900.0	7,097.0	10,733.3	6,897.0	77.0	78.0	-65.77	-65.77	3,876.0	-589.3	484.8	340.9	143.95	3.368	
11,000.0	7,097.0	10,833.3	6,897.0	78.9	79.9	-65.77	-65.77	3,976.0	-589.3	484.8	337.4	147.43	3.289	
11,100.0	7,097.0	10,933.3	6,897.0	80.8	81.7	-65.77	-65.77	4,076.0	-589.3	484.8	333.9	150.93	3.212	
11,200.0	7,097.0	11,033.3	6,897.0	82.7	83.6	-65.77	-65.77	4,176.0	-589.3	484.8	330.4	154.42	3.140	
11,300.0	7,097.0	11,133.3	6,897.0	84.6	85.5	-65.77	-65.77	4,276.0	-589.3	484.8	326.9	157.92	3.070	
11,400.0	7,097.0	11,233.3	6,897.0	86.4	87.4	-65.76	-65.76	4,376.0	-589.3	484.8	323.4	161.42	3.004	
11,500.0	7,097.0	11,333.3	6,897.0	88.3	89.3	-65.76	-65.76	4,476.0	-589.3	484.8	319.9	164.92	2.940	
11,600.0	7,097.0	11,433.3	6,897.0	90.2	91.2	-65.76	-65.76	4,576.0	-589.3	484.8	316.4	168.43	2.879	
11,700.0	7,097.0	11,533.3	6,897.0	92.1	93.1	-65.76	-65.76	4,676.0	-589.3	484.8	312.9	171.93	2.820	
11,800.0	7,097.0	11,633.3	6,897.0	94.0	94.9	-65.76	-65.76	4,776.0	-589.3	484.8	309.4	175.44	2.763	
11,900.0	7,097.0	11,733.3	6,897.0	95.9	96.8	-65.76	-65.76	4,876.0	-589.3	484.8	305.9	178.95	2.709	
12,000.0	7,097.0	11,833.3	6,897.0	97.8	98.7	-65.76	-65.76	4,976.0	-589.3	484.8	302.3	182.47	2.657	
12,100.0	7,097.0	11,933.3	6,897.0	99.7	100.6	-65.76	-65.76	5,076.0	-589.3	484.8	298.8	185.98	2.607	
12,200.0	7,097.0	12,033.3	6,897.0	101.6	102.5	-65.76	-65.76	5,176.0	-589.3	484.8	295.3	189.50	2.558	
12,300.0	7,097.0	12,133.3	6,897.0	103.5	104.4	-65.76	-65.76	5,276.0	-589.3	484.8	291.8	193.02	2.512	
12,400.0	7,097.0	12,233.3	6,897.0	105.4	106.3	-65.76	-65.76	5,376.0	-589.3	484.8	288.2	196.54	2.467	
12,500.0	7,097.0	12,333.3	6,897.0	107.3	108.2	-65.76	-65.76	5,476.0	-589.3	484.8	284.7	200.06	2.423	
12,600.0	7,097.0	12,433.3	6,897.0	109.2	110.1	-65.76	-65.76	5,576.0	-589.3	484.8	281.2	203.58	2.381	
12,700.0	7,097.0	12,533.3	6,897.0	111.2	112.0	-65.76	-65.76	5,676.0	-589.3	484.8	277.7	207.10	2.341	
12,800.0	7,097.0	12,633.3	6,897.0	113.1	113.9	-65.76	-65.76	5,776.0	-589.3	484.8	274.1	210.63	2.302	
12,900.0	7,097.0	12,733.3	6,897.0	115.0	115.8	-65.76	-65.76	5,876.0	-589.3	484.8	270.6	214.15	2.264	
13,000.0	7,097.0	12,833.3	6,897.0	116.9	117.7	-65.76	-65.76	5,976.0	-589.3	484.8	267.1	217.68	2.227	
13,100.0	7,097.0	12,933.3	6,897.0	118.8	119.6	-65.76	-65.76	6,076.0	-589.3	484.8	263.5	221.21	2.191	
13,200.0	7,097.0	13,033.3	6,897.0	120.7	121.5	-65.76	-65.76	6,176.0	-589.3	484.7	260.0	224.74	2.157	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-221 - Wellbore #1 - Plan #1 (6-28-12)												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	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,300.0	7,097.0	13,133.3	6,897.0	122.6	123.4	-65.76	6,276.0	-589.3	484.7	256.5	228.27	2.124	
13,400.0	7,097.0	13,233.3	6,897.0	124.5	125.4	-65.76	6,376.0	-589.3	484.7	252.9	231.80	2.091	
13,500.0	7,097.0	13,333.3	6,897.0	126.4	127.3	-65.76	6,476.0	-589.3	484.7	249.4	235.33	2.060	
13,600.0	7,097.0	13,433.3	6,897.0	128.3	129.2	-65.76	6,576.0	-589.3	484.7	245.9	238.86	2.029	
13,700.0	7,097.0	13,533.3	6,897.0	130.2	131.1	-65.76	6,676.0	-589.3	484.7	242.3	242.40	2.000	
13,800.0	7,097.0	13,633.3	6,897.0	132.1	133.0	-65.76	6,776.0	-589.3	484.7	238.8	245.93	1.971	
13,900.0	7,097.0	13,733.3	6,897.0	134.1	134.9	-65.76	6,876.0	-589.3	484.7	235.3	249.46	1.943	
14,000.0	7,097.0	13,833.3	6,897.0	136.0	136.8	-65.76	6,976.0	-589.3	484.7	231.7	253.00	1.916	
14,100.0	7,097.0	13,933.3	6,897.0	137.9	138.7	-65.76	7,076.0	-589.3	484.7	228.2	256.54	1.889	
14,200.0	7,097.0	14,033.3	6,897.0	139.8	140.6	-65.76	7,176.0	-589.3	484.7	224.6	260.07	1.864	
14,295.8	7,097.0	14,129.1	6,897.0	141.6	142.4	-65.76	7,271.8	-589.3	484.7	221.2	263.46	1.840 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 50-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 50-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-123.23	-51.0	-77.9	93.1				
100.0	100.0	99.0	99.0	0.1	0.1	-123.23	-51.0	-77.9	93.1	92.8	0.22	416.159	
200.0	200.0	199.0	199.0	0.3	0.3	-123.23	-51.0	-77.9	93.1	92.4	0.67	138.489	
300.0	300.0	299.0	299.0	0.6	0.6	-123.23	-51.0	-77.9	93.1	92.0	1.12	82.982	
400.0	400.0	399.0	399.0	0.8	0.8	-123.23	-51.0	-77.9	93.1	91.5	1.57	59.239	CC, ES
500.0	500.0	496.1	496.0	1.0	1.0	-122.87	-51.3	-79.4	94.6	92.6	2.00	47.298	
600.0	600.0	592.9	592.7	1.2	1.2	-121.84	-52.3	-84.2	99.3	96.9	2.43	40.899	
700.0	700.0	689.3	688.8	1.5	1.4	-120.34	-53.9	-92.1	107.3	104.4	2.87	37.334	
800.0	800.0	785.0	783.8	1.7	1.7	-118.57	-56.2	-103.2	118.4	115.1	3.33	35.519	
900.0	900.0	879.8	877.6	1.9	2.0	-116.74	-59.0	-117.1	132.9	129.1	3.82	34.834	
1,000.0	1,000.0	973.7	969.8	2.1	2.3	-115.00	-62.5	-133.9	150.6	146.3	4.32	34.897	
1,100.0	1,100.0	1,069.6	1,063.6	2.4	2.7	-113.40	-66.5	-153.6	171.0	166.2	4.84	35.359	
1,200.0	1,200.0	1,167.3	1,159.2	2.6	3.1	-112.11	-70.6	-173.8	191.8	186.4	5.37	35.714	
1,300.0	1,300.0	1,265.1	1,254.7	2.8	3.5	-111.06	-74.7	-194.0	212.6	206.7	5.90	36.003	
1,400.0	1,400.0	1,362.8	1,350.2	3.0	4.0	-110.21	-78.9	-214.2	233.4	227.0	6.44	36.238	
1,500.0	1,500.0	1,460.5	1,445.8	3.3	4.4	-109.49	-83.0	-234.5	254.3	247.4	6.98	36.432	
1,600.0	1,600.0	1,558.3	1,541.3	3.5	4.8	-108.88	-87.1	-254.7	275.3	267.8	7.52	36.598	
1,700.0	1,700.0	1,656.0	1,636.9	3.7	5.3	-108.36	-91.2	-274.9	296.2	288.2	8.06	36.740	
1,800.0	1,800.0	1,753.8	1,732.4	3.9	5.7	-107.91	-95.4	-295.1	317.2	308.6	8.61	36.863	
1,900.0	1,900.0	1,851.5	1,827.9	4.2	6.2	-107.51	-99.5	-315.3	338.2	329.1	9.15	36.972	
2,000.0	2,000.0	1,949.3	1,923.5	4.4	6.6	-107.16	-103.6	-335.6	359.2	349.5	9.69	37.069	
2,100.0	2,100.0	2,047.0	2,019.0	4.6	7.1	-106.85	-107.8	-355.8	380.3	370.0	10.23	37.156	
2,200.0	2,200.0	2,144.8	2,114.6	4.8	7.5	-106.57	-111.9	-376.0	401.3	390.5	10.78	37.234	
2,300.0	2,300.0	2,242.5	2,210.1	5.1	8.0	-106.32	-116.0	-396.2	422.3	411.0	11.32	37.304	
2,400.0	2,400.0	2,340.2	2,305.7	5.3	8.4	-106.09	-120.2	-416.5	443.4	431.5	11.87	37.368	
2,500.0	2,500.0	2,438.0	2,401.2	5.5	8.9	-105.89	-124.3	-436.7	464.4	452.0	12.41	37.427	
2,600.0	2,600.0	2,536.0	2,497.0	5.7	9.4	43.31	-128.4	-457.0	484.3	472.5	11.76	41.181	
2,700.0	2,699.8	2,634.3	2,593.1	5.9	9.8	43.65	-132.6	-477.3	501.6	489.4	12.20	41.124	
2,800.0	2,799.5	2,732.9	2,689.5	6.1	10.3	44.26	-136.7	-497.7	516.6	503.9	12.64	40.881	
2,886.1	2,885.0	2,818.0	2,772.6	6.2	10.7	44.99	-140.3	-515.3	527.6	514.5	13.02	40.533	
2,900.0	2,898.7	2,831.7	2,786.0	6.3	10.7	45.14	-140.9	-518.1	529.2	516.1	13.08	40.466	
3,000.0	2,997.8	2,930.4	2,882.5	6.5	11.2	46.23	-145.1	-538.6	541.1	527.6	13.53	39.988	
3,100.0	3,096.9	3,029.2	2,979.1	6.7	11.7	47.27	-149.3	-559.0	553.2	539.2	14.00	39.517	
3,200.0	3,196.0	3,128.0	3,075.6	6.9	12.1	48.26	-153.4	-579.4	565.4	551.0	14.48	39.056	
3,300.0	3,295.1	3,226.8	3,172.2	7.1	12.6	49.21	-157.6	-599.9	577.9	562.9	14.97	38.604	
3,400.0	3,394.2	3,325.5	3,268.7	7.4	13.1	50.13	-161.8	-620.3	590.4	575.0	15.47	38.162	
3,500.0	3,493.3	3,424.3	3,365.3	7.6	13.5	51.00	-166.0	-640.8	603.1	587.2	15.99	37.730	
3,600.0	3,592.4	3,523.1	3,461.8	7.9	14.0	51.84	-170.1	-661.2	616.0	599.5	16.51	37.310	
3,700.0	3,691.5	3,621.9	3,558.4	8.2	14.5	52.65	-174.3	-681.6	629.0	611.9	17.04	36.901	
3,800.0	3,790.5	3,720.6	3,654.9	8.4	14.9	53.42	-178.5	-702.1	642.1	624.5	17.59	36.505	
3,900.0	3,889.6	3,819.4	3,751.4	8.7	15.4	54.16	-182.6	-722.5	655.3	637.1	18.14	36.120	
4,000.0	3,988.7	3,918.2	3,848.0	9.0	15.9	54.87	-186.8	-742.9	668.6	649.9	18.70	35.748	
4,100.0	4,087.8	4,016.9	3,944.5	9.3	16.3	55.56	-191.0	-763.4	682.0	662.7	19.27	35.387	
4,200.0	4,186.9	4,115.7	4,041.1	9.6	16.8	56.21	-195.2	-783.8	695.5	675.6	19.85	35.039	
4,300.0	4,286.0	4,214.5	4,137.6	9.8	17.2	56.85	-199.3	-804.2	709.1	688.6	20.43	34.703	
4,400.0	4,385.1	4,313.3	4,234.2	10.1	17.7	57.46	-203.5	-824.7	722.7	701.7	21.02	34.379	
4,500.0	4,484.2	4,412.0	4,330.7	10.4	18.2	58.04	-207.7	-845.1	736.5	714.9	21.62	34.066	
4,600.0	4,583.3	4,510.8	4,427.3	10.7	18.6	58.61	-211.9	-865.5	750.3	728.1	22.22	33.764	
4,632.0	4,615.0	4,542.4	4,458.2	10.8	18.8	58.79	-213.2	-872.1	754.8	732.3	22.42	33.670	
4,700.0	4,682.5	4,609.6	4,523.8	11.0	19.1	59.27	-216.0	-886.0	764.6	741.8	22.81	33.521	
4,800.0	4,782.0	4,708.2	4,620.2	11.3	19.6	59.82	-220.2	-906.4	780.6	757.3	23.35	33.437	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,881.9	4,806.6	4,716.4	11.5	20.0	60.16		-224.4	-926.7	798.4	774.5	23.84	33.483	
5,000.0	4,981.8	4,904.7	4,812.2	11.7	20.5	60.32		-228.5	-947.0	817.8	793.5	24.30	33.652	
5,018.2	5,000.0	4,922.4	4,829.6	11.7	20.6	-88.81		-229.3	-950.7	821.5	797.2	24.38	33.696	
5,100.0	5,081.8	5,007.6	4,912.9	11.9	21.0	-89.08		-232.8	-968.3	838.4	813.6	24.74	33.890	
5,200.0	5,181.8	5,146.0	5,049.0	12.1	21.4	-89.45		-237.9	-992.8	856.1	830.9	25.19	33.991	
5,300.0	5,281.8	5,286.5	5,188.2	12.3	21.7	-89.71		-241.6	-1,011.2	869.1	843.5	25.63	33.912	
5,400.0	5,381.8	5,428.6	5,329.8	12.5	22.0	-89.87		-244.0	-1,022.9	877.4	851.3	26.06	33.667	
5,500.0	5,481.8	5,571.5	5,472.6	12.6	22.2	-89.93		-245.0	-1,027.7	880.8	854.3	26.49	33.252	
5,600.0	5,581.8	5,679.8	5,580.8	12.8	22.3	-89.94		-245.0	-1,027.9	880.9	854.0	26.86	32.791	
5,700.0	5,681.8	5,779.8	5,680.8	13.0	22.4	-89.94		-245.0	-1,027.9	880.9	853.6	27.23	32.352	
5,800.0	5,781.8	5,879.8	5,780.8	13.2	22.6	-89.94		-245.0	-1,027.9	880.9	853.3	27.59	31.923	
5,900.0	5,881.8	5,979.8	5,880.8	13.4	22.7	-89.94		-245.0	-1,027.9	880.9	852.9	27.96	31.501	
6,000.0	5,981.8	6,079.8	5,980.8	13.6	22.8	-89.94		-245.0	-1,027.9	880.9	852.5	28.33	31.089	
6,100.0	6,081.8	6,179.8	6,080.8	13.8	22.9	-89.94		-245.0	-1,027.9	880.9	852.1	28.71	30.684	
6,200.0	6,181.8	6,279.8	6,180.8	14.0	23.0	-89.94		-245.0	-1,027.9	880.9	851.8	29.08	30.288	
6,300.0	6,281.8	6,379.8	6,280.8	14.2	23.2	-89.94		-245.0	-1,027.9	880.9	851.4	29.46	29.900	
6,341.4	6,323.3	6,421.2	6,322.3	14.3	23.2	-89.94		-245.0	-1,027.9	880.9	851.2	29.62	29.742	
6,350.0	6,331.8	6,429.7	6,330.8	14.3	23.2	-89.94		-245.0	-1,027.9	880.9	851.2	29.65	29.710	
6,400.0	6,381.8	6,479.7	6,380.7	14.4	23.3	-89.94		-242.8	-1,027.9	880.9	851.0	29.82	29.541	
6,450.0	6,431.5	6,529.6	6,430.3	14.5	23.3	-89.95		-237.5	-1,027.9	880.9	850.9	29.96	29.401	
6,500.0	6,480.7	6,579.6	6,479.5	14.6	23.4	-89.95		-228.9	-1,027.9	880.9	850.8	30.08	29.287	
6,550.0	6,529.2	6,629.5	6,528.1	14.6	23.4	-89.96		-217.0	-1,027.9	880.9	850.7	30.17	29.195	
6,600.0	6,576.9	6,679.5	6,575.7	14.6	23.4	-89.96		-202.1	-1,027.9	880.9	850.6	30.25	29.121	
6,650.0	6,623.5	6,729.4	6,622.3	14.7	23.5	-89.97		-184.0	-1,027.9	880.9	850.5	30.31	29.058	
6,700.0	6,668.8	6,779.4	6,667.6	14.7	23.5	-89.97		-163.0	-1,027.9	880.9	850.5	30.38	28.999	
6,750.0	6,712.6	6,829.4	6,711.5	14.7	23.5	-89.98		-139.0	-1,027.9	880.9	850.4	30.44	28.935	
6,800.0	6,754.8	6,879.4	6,753.6	14.8	23.5	-89.98		-112.2	-1,027.9	880.9	850.3	30.52	28.859	
6,850.0	6,795.1	6,929.4	6,794.0	14.8	23.5	-89.99		-82.8	-1,027.9	880.9	850.2	30.63	28.760	
6,900.0	6,833.4	6,979.3	6,832.3	14.8	23.5	-90.00		-50.7	-1,027.9	880.9	850.1	30.77	28.629	
6,931.8	6,856.6	7,011.2	6,855.6	14.8	23.6	-90.00		-29.0	-1,027.9	880.9	850.0	30.88	28.524	
6,950.0	6,869.5	7,029.3	6,868.5	14.8	23.6	-90.00		-16.2	-1,027.9	880.9	849.9	30.95	28.459	
7,000.0	6,903.2	7,079.4	6,902.3	14.9	23.6	-90.01		20.6	-1,027.9	880.9	849.7	31.19	28.241	
7,050.0	6,934.5	7,129.4	6,933.7	15.0	23.7	-90.01		59.6	-1,027.9	880.9	849.4	31.49	27.969	
7,100.0	6,963.2	7,179.4	6,962.4	15.2	23.7	-90.02		100.5	-1,027.9	880.9	849.0	31.87	27.640	
7,150.0	6,989.1	7,229.4	6,988.4	15.4	23.8	-90.03		143.2	-1,027.9	880.9	848.5	32.32	27.252	
7,200.0	7,012.2	7,279.4	7,011.6	15.7	23.9	-90.03		187.6	-1,027.9	880.9	848.0	32.86	26.807	
7,250.0	7,032.3	7,329.5	7,031.8	16.0	24.0	-90.04		233.3	-1,027.9	880.9	847.4	33.48	26.308	
7,300.0	7,049.4	7,379.5	7,049.0	16.4	24.2	-90.04		280.3	-1,027.9	880.9	846.7	34.19	25.762	
7,350.0	7,063.3	7,429.6	7,063.1	16.8	24.3	-90.05		328.3	-1,027.9	880.9	845.9	34.99	25.177	
7,400.0	7,074.1	7,479.6	7,074.0	17.2	24.5	-90.05		377.2	-1,027.9	880.9	845.0	35.86	24.562	
7,450.0	7,081.7	7,529.7	7,081.6	17.7	24.8	-90.06		426.6	-1,027.9	880.9	844.0	36.81	23.927	
7,461.4	7,083.0	7,541.1	7,082.9	17.8	24.9	-90.06		438.0	-1,027.9	880.9	843.8	37.04	23.781	
7,500.0	7,087.0	7,579.7	7,087.0	18.2	25.1	-90.06		476.4	-1,027.9	880.9	843.0	37.84	23.278	
7,535.4	7,090.8	7,615.1	7,090.7	18.6	25.3	-90.06		511.6	-1,027.9	880.9	842.2	38.60	22.818	
7,600.0	7,095.7	7,679.7	7,095.7	19.4	25.8	-90.06		576.0	-1,027.9	880.9	840.8	40.09	21.974	
7,655.4	7,097.0	7,735.1	7,097.1	20.1	26.3	-90.07		631.4	-1,027.9	880.9	839.4	41.42	21.268	
7,700.0	7,097.0	7,779.7	7,097.1	20.6	26.7	-90.07		676.0	-1,027.9	880.9	838.3	42.54	20.705	
7,800.0	7,097.0	7,879.7	7,097.1	22.0	27.6	-90.07		776.0	-1,027.9	880.9	835.7	45.20	19.490	
7,900.0	7,097.0	7,979.7	7,097.0	23.4	28.8	-90.07		876.0	-1,027.9	880.9	832.9	48.01	18.348	
8,000.0	7,097.0	8,079.7	7,097.0	24.9	30.0	-90.07		976.0	-1,027.9	880.9	829.9	50.96	17.286	
8,100.0	7,097.0	8,179.7	7,097.0	26.4	31.3	-90.07		1,076.0	-1,027.9	880.9	826.9	54.02	16.307	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,200.0	7,097.0	8,279.7	7,097.0	28.0	32.6	-90.07	-90.07	1,176.0	-1,027.9	880.9	823.7	57.18	15.406	
8,300.0	7,097.0	8,379.7	7,097.0	29.7	34.0	-90.07	-90.07	1,276.0	-1,027.9	880.9	820.5	60.41	14.581	
8,400.0	7,097.0	8,479.7	7,097.0	31.3	35.5	-90.07	-90.07	1,376.0	-1,027.9	880.9	817.2	63.72	13.825	
8,500.0	7,097.0	8,579.7	7,097.0	33.0	37.0	-90.07	-90.07	1,476.0	-1,027.9	880.9	813.8	67.08	13.132	
8,600.0	7,097.0	8,679.7	7,097.0	34.7	38.6	-90.07	-90.07	1,576.0	-1,027.9	880.9	810.4	70.49	12.496	
8,700.0	7,097.0	8,779.7	7,097.0	36.5	40.2	-90.07	-90.07	1,676.0	-1,028.0	880.9	807.0	73.95	11.912	
8,800.0	7,097.0	8,879.7	7,097.0	38.2	41.8	-90.07	-90.07	1,776.0	-1,028.0	880.9	803.5	77.44	11.375	
8,900.0	7,097.0	8,979.7	7,097.0	40.0	43.5	-90.07	-90.07	1,876.0	-1,028.0	880.9	799.9	80.97	10.880	
9,000.0	7,097.0	9,079.7	7,097.0	41.8	45.1	-90.07	-90.07	1,976.0	-1,028.0	880.9	796.4	84.52	10.423	
9,100.0	7,097.0	9,179.7	7,097.0	43.6	46.8	-90.07	-90.07	2,076.0	-1,028.0	880.9	792.8	88.10	10.000	
9,200.0	7,097.0	9,279.7	7,097.0	45.4	48.5	-90.07	-90.07	2,176.0	-1,028.0	880.9	789.2	91.70	9.607	
9,300.0	7,097.0	9,379.7	7,097.0	47.2	50.3	-90.07	-90.07	2,276.0	-1,028.0	880.9	785.6	95.31	9.242	
9,400.0	7,097.0	9,479.7	7,097.0	49.0	52.0	-90.07	-90.07	2,376.0	-1,028.0	880.9	782.0	98.95	8.903	
9,500.0	7,097.0	9,579.7	7,097.0	50.9	53.8	-90.07	-90.07	2,476.0	-1,028.0	880.9	778.3	102.60	8.586	
9,600.0	7,097.0	9,679.7	7,097.0	52.7	55.5	-90.07	-90.07	2,576.0	-1,028.0	880.9	774.7	106.27	8.290	
9,700.0	7,097.0	9,779.7	7,097.0	54.6	57.3	-90.07	-90.07	2,676.0	-1,028.0	880.9	771.0	109.95	8.013	
9,800.0	7,097.0	9,879.7	7,097.0	56.4	59.1	-90.07	-90.07	2,776.0	-1,028.1	881.0	767.3	113.64	7.752	
9,900.0	7,097.0	9,979.7	7,097.0	58.3	60.9	-90.07	-90.07	2,876.0	-1,028.1	881.0	763.6	117.34	7.508	
10,000.0	7,097.0	10,079.7	7,097.0	60.1	62.7	-90.07	-90.07	2,976.0	-1,028.1	881.0	759.9	121.04	7.278	
10,100.0	7,097.0	10,179.7	7,097.0	62.0	64.5	-90.07	-90.07	3,076.0	-1,028.1	881.0	756.2	124.76	7.061	
10,200.0	7,097.0	10,279.7	7,097.0	63.9	66.3	-90.07	-90.07	3,176.0	-1,028.1	881.0	752.5	128.49	6.857	
10,300.0	7,097.0	10,379.7	7,097.0	65.7	68.1	-90.07	-90.07	3,276.0	-1,028.1	881.0	748.8	132.22	6.663	
10,400.0	7,097.0	10,479.7	7,097.0	67.6	69.9	-90.07	-90.07	3,376.0	-1,028.1	881.0	745.0	135.96	6.480	
10,500.0	7,097.0	10,579.7	7,097.0	69.5	71.8	-90.07	-90.07	3,476.0	-1,028.1	881.0	741.3	139.70	6.306	
10,600.0	7,097.0	10,679.7	7,097.0	71.3	73.6	-90.07	-90.07	3,576.0	-1,028.1	881.0	737.5	143.45	6.141	
10,700.0	7,097.0	10,779.7	7,097.0	73.2	75.4	-90.07	-90.07	3,676.0	-1,028.1	881.0	733.8	147.21	5.985	
10,800.0	7,097.0	10,879.7	7,097.0	75.1	77.3	-90.07	-90.07	3,776.0	-1,028.1	881.0	730.0	150.97	5.836	
10,900.0	7,097.0	10,979.7	7,097.0	77.0	79.1	-90.07	-90.07	3,876.0	-1,028.2	881.0	726.3	154.73	5.694	
11,000.0	7,097.0	11,079.7	7,097.0	78.9	81.0	-90.07	-90.07	3,976.0	-1,028.2	881.0	722.5	158.50	5.558	
11,100.0	7,097.0	11,179.7	7,097.0	80.8	82.8	-90.07	-90.07	4,076.0	-1,028.2	881.0	718.7	162.27	5.429	
11,200.0	7,097.0	11,279.7	7,097.0	82.7	84.7	-90.07	-90.07	4,176.0	-1,028.2	881.0	715.0	166.04	5.306	
11,300.0	7,097.0	11,379.7	7,097.0	84.6	86.5	-90.07	-90.07	4,276.0	-1,028.2	881.0	711.2	169.82	5.188	
11,400.0	7,097.0	11,479.7	7,097.0	86.4	88.4	-90.07	-90.07	4,376.0	-1,028.2	881.0	707.4	173.61	5.075	
11,500.0	7,097.0	11,579.7	7,097.0	88.3	90.3	-90.07	-90.07	4,476.0	-1,028.2	881.0	703.6	177.39	4.967	
11,600.0	7,097.0	11,679.7	7,097.0	90.2	92.1	-90.07	-90.07	4,576.0	-1,028.2	881.0	699.9	181.18	4.863	
11,700.0	7,097.0	11,779.7	7,097.0	92.1	94.0	-90.07	-90.07	4,676.0	-1,028.2	881.0	696.1	184.97	4.763	
11,800.0	7,097.0	11,879.7	7,097.0	94.0	95.9	-90.07	-90.07	4,776.0	-1,028.2	881.0	692.3	188.76	4.668	
11,900.0	7,097.0	11,979.7	7,097.0	95.9	97.7	-90.07	-90.07	4,876.0	-1,028.2	881.0	688.5	192.55	4.576	
12,000.0	7,097.0	12,079.7	7,097.0	97.8	99.6	-90.07	-90.07	4,976.0	-1,028.3	881.0	684.7	196.35	4.487	
12,100.0	7,097.0	12,179.7	7,097.0	99.7	101.5	-90.07	-90.07	5,076.0	-1,028.3	881.1	680.9	200.15	4.402	
12,200.0	7,097.0	12,279.7	7,097.0	101.6	103.4	-90.07	-90.07	5,176.0	-1,028.3	881.1	677.1	203.95	4.320	
12,300.0	7,097.0	12,379.7	7,097.0	103.5	105.3	-90.07	-90.07	5,276.0	-1,028.3	881.1	673.3	207.75	4.241	
12,400.0	7,097.0	12,479.7	7,097.0	105.4	107.1	-90.07	-90.07	5,376.0	-1,028.3	881.1	669.5	211.55	4.165	
12,500.0	7,097.0	12,579.7	7,097.0	107.3	109.0	-90.07	-90.07	5,476.0	-1,028.3	881.1	665.7	215.36	4.091	
12,600.0	7,097.0	12,679.7	7,097.0	109.2	110.9	-90.07	-90.07	5,576.0	-1,028.3	881.1	661.9	219.17	4.020	
12,700.0	7,097.0	12,779.7	7,097.0	111.2	112.8	-90.07	-90.07	5,676.0	-1,028.3	881.1	658.1	222.97	3.951	
12,800.0	7,097.0	12,879.7	7,097.0	113.1	114.7	-90.07	-90.07	5,776.0	-1,028.3	881.1	654.3	226.78	3.885	
12,900.0	7,097.0	12,979.7	7,097.0	115.0	116.6	-90.07	-90.07	5,876.0	-1,028.3	881.1	650.5	230.59	3.821	
13,000.0	7,097.0	13,079.7	7,097.0	116.9	118.5	-90.07	-90.07	5,976.0	-1,028.3	881.1	646.7	234.41	3.759	
13,100.0	7,097.0	13,179.7	7,097.0	118.8	120.4	-90.07	-90.07	6,076.0	-1,028.4	881.1	642.9	238.22	3.699	
13,200.0	7,097.0	13,279.7	7,097.0	120.7	122.3	-90.07	-90.07	6,176.0	-1,028.4	881.1	639.1	242.03	3.640	

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 Ochsner 5O-441
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Reference Site:	Ochsner 5Q-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4899.0ft (Ensign 32 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Ochsner 5O-441	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 (6-28-12)	Offset TVD Reference:	Offset Datum

Offset Design Ochsner 5Q-HZ Pad Sec.5-T6N-R67W - Ochsner 5K-401 - Wellbore #1 - Plan #1 (6-28-12)												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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
13,300.0	7,097.0	13,379.7	7,097.0	122.6	124.1	-90.07	6,276.0	-1,028.4	881.1	635.3	245.85	3.584			
13,400.0	7,097.0	13,479.7	7,097.0	124.5	126.0	-90.07	6,376.0	-1,028.4	881.1	631.4	249.67	3.529			
13,500.0	7,097.0	13,579.7	7,097.0	126.4	127.9	-90.07	6,476.0	-1,028.4	881.1	627.6	253.48	3.476			
13,600.0	7,097.0	13,679.7	7,097.0	128.3	129.8	-90.07	6,576.0	-1,028.4	881.1	623.8	257.30	3.424			
13,700.0	7,097.0	13,779.7	7,097.0	130.2	131.7	-90.07	6,676.0	-1,028.4	881.1	620.0	261.12	3.374			
13,800.0	7,097.0	13,879.7	7,097.0	132.1	133.6	-90.07	6,776.0	-1,028.4	881.1	616.2	264.94	3.326			
13,900.0	7,097.0	13,979.7	7,097.0	134.1	135.5	-90.07	6,876.0	-1,028.4	881.1	612.4	268.76	3.278			
14,000.0	7,097.0	14,079.7	7,097.0	136.0	137.4	-90.07	6,976.0	-1,028.4	881.1	608.6	272.58	3.233			
14,100.0	7,097.0	14,179.7	7,097.0	137.9	139.3	-90.07	7,076.0	-1,028.5	881.1	604.7	276.41	3.188			
14,200.0	7,097.0	14,279.7	7,097.0	139.8	141.2	-90.07	7,176.0	-1,028.5	881.1	600.9	280.23	3.144			
14,295.8	7,097.0	14,375.5	7,097.0	141.6	143.0	-90.07	7,271.8	-1,028.5	881.2	597.3	283.89	3.104 SF			

Reference Depths are relative to WELL @ 4899.0ft (Ensign 32 - 15')	Coordinates are relative to: Ochsner 50-441
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.38°



Reference Depths are relative to WELL @ 4899.0ft (Ensign 32 - 15')	Coordinates are relative to: Ochsner 50-441
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.38°

