

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Ochsner 5G-421**

Surface Location: Ochsner L5-HZ Pad Sec.5-T6N-R67W
 North American Datum 1983, US State Plane 1983, Colorado Northern Zone

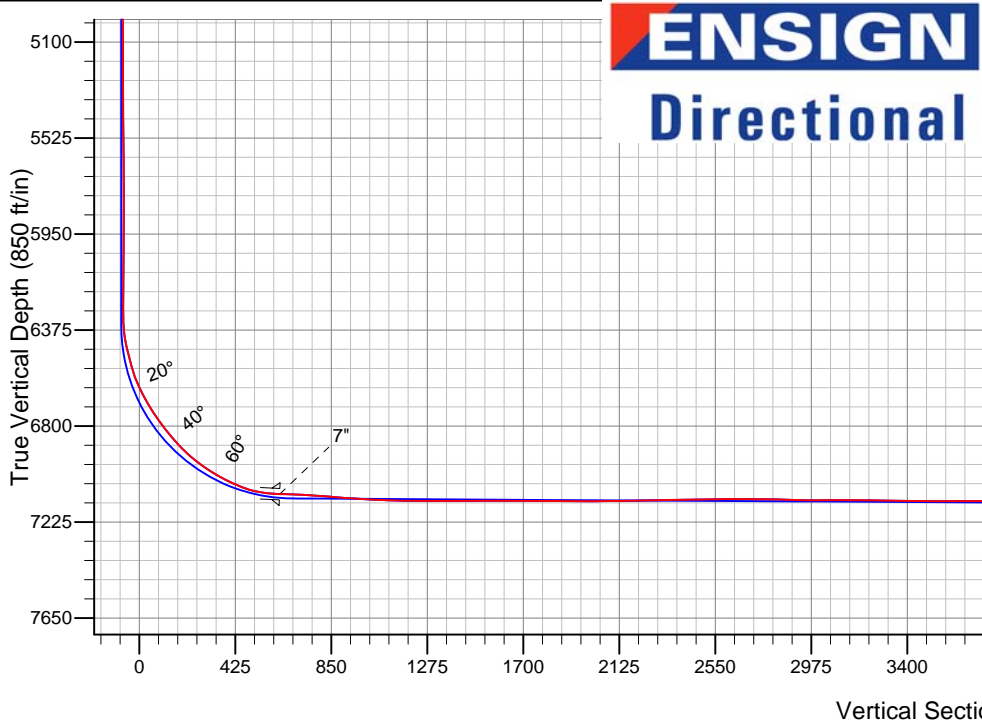
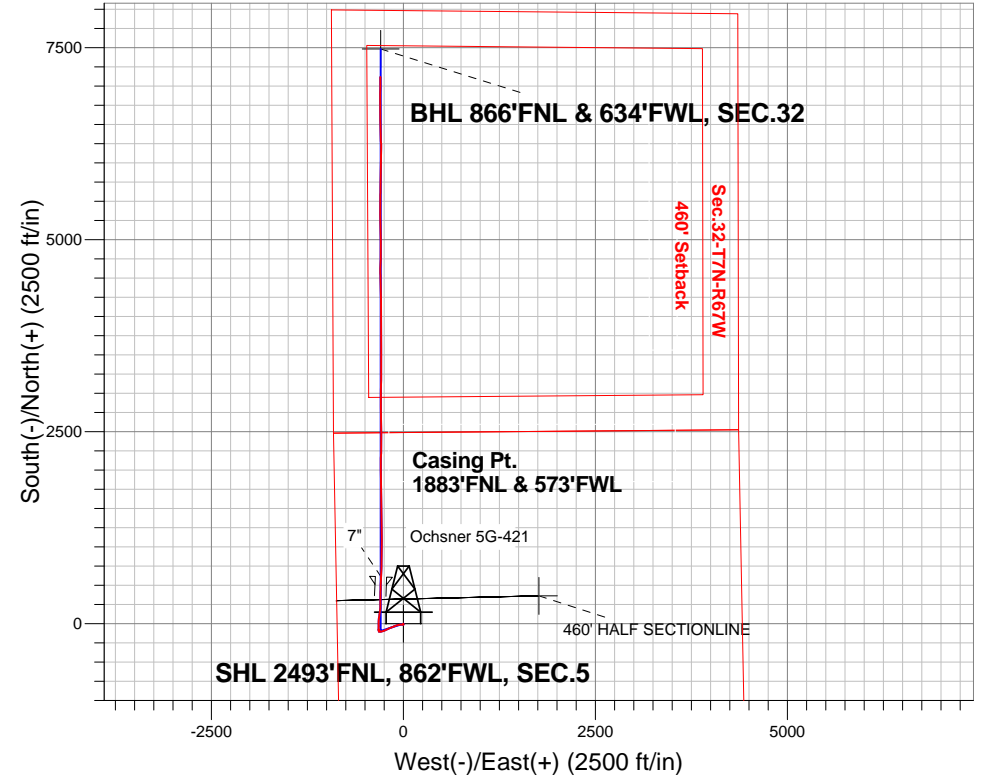
Ground Elevation: 4882.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1431394.72	3160232.17	40.516150	-104.923690	

RKB Ensign 32 - 15' WELL @ 4897.0ft (RKB Ensign 32 - 15')

FINAL SURVEY

Projected Bottom Hole Location
 13997'MD 7123'TVD 7121'N & 300'W of SHL
 90.7 degree Incl @ 359.9 degree AZM



Ochsner L5-HZ Pad Sec.5-T6N-R67W
 Ochsner 5G-421
 Wellbore #1
 12:41, July 21 2014

ANNOTATIONS

No annotation data is available.

LEGEND

- ◇ Ochsner 5G-421, Wellbore #1, Plan #3 (7-03-14) V0
- Wellbore #1
- Survey #1

BHL 866'FNL & 634'FWL, SEC.32



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.5-T6N-R67W

Ochsner L5-HZ Pad Sec.5-T6N-R67W

Ochsner 5G-421

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 July, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 5G-421
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Site:	Ochsner L5-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Well:	Ochsner 5G-421	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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 L5-HZ Pad Sec.5-T6N-R67W				
Site Position:		Northing:	1,431,361.74 ft	Latitude:	40.516060
From:	Lat/Long	Easting:	3,160,201.80 ft	Longitude:	-104.923800
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.37 °

Well	Ochsner 5G-421					
Well Position	+N/-S	0.0 ft	Northing:	1,431,394.72 ft	Latitude:	40.516150
	+E/-W	0.0 ft	Easting:	3,160,232.17 ft	Longitude:	-104.923690
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,882.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/3/2014	8.55	67.01	52,854

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	357.75	

Survey Program	Date	7/21/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
123.0	13,997.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
460' HALF SECTIONLINE										
1.0	0.01	185.20	1.0	0.0	0.0	0.0	0.73	0.73	0.00	
SHL 2493'FNL, 862'FWL, SEC.5										
123.0	0.90	185.20	123.0	-1.0	-0.1	-1.0	0.73	0.73	0.00	
249.0	0.90	170.40	249.0	-2.9	0.0	-2.9	0.18	0.00	-11.75	
376.0	1.10	192.40	376.0	-5.1	-0.1	-5.1	0.34	0.16	17.32	
503.0	1.10	142.10	502.9	-7.2	0.4	-7.3	0.74	0.00	-39.61	
629.0	1.20	151.30	628.9	-9.4	1.8	-9.4	0.17	0.08	7.30	
755.0	0.60	278.40	754.9	-10.4	1.7	-10.5	1.30	-0.48	100.87	
872.0	0.80	279.80	871.9	-10.2	0.3	-10.2	0.17	0.17	1.20	
943.0	1.20	280.30	942.9	-10.0	-0.9	-9.9	0.56	0.56	0.70	

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Site:	Ochsner L5-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Well:	Ochsner 5G-421	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,067.0	1.90	290.50	1,066.8	-9.0	-4.1	-8.9	0.60	0.56	8.23
1,194.0	2.50	212.30	1,193.8	-10.6	-7.5	-10.3	2.22	0.47	-61.57
1,321.0	1.00	325.80	1,320.7	-12.1	-9.7	-11.7	2.39	-1.18	89.37
1,444.0	3.30	264.70	1,443.6	-11.5	-13.8	-10.9	2.40	1.87	-49.67
1,595.0	5.50	274.70	1,594.2	-11.3	-25.3	-10.3	1.54	1.46	6.62
1,748.0	5.80	266.40	1,746.5	-11.2	-40.3	-9.6	0.57	0.20	-5.42
1,900.0	8.40	265.00	1,897.3	-12.6	-59.1	-10.3	1.71	1.71	-0.92
2,052.0	8.90	249.70	2,047.6	-17.7	-81.2	-14.5	1.54	0.33	-10.07
2,204.0	7.90	245.50	2,197.9	-26.1	-101.7	-22.1	0.77	-0.66	-2.76
2,356.0	10.30	251.10	2,348.0	-34.8	-124.1	-29.9	1.68	1.58	3.68
2,510.0	8.30	247.10	2,500.0	-43.6	-147.3	-37.8	1.36	-1.30	-2.60
2,668.0	9.50	247.80	2,656.1	-53.0	-169.9	-46.3	0.76	0.76	0.44
2,826.0	8.90	242.30	2,812.0	-63.6	-192.8	-56.0	0.67	-0.38	-3.48
2,985.0	8.40	247.60	2,969.2	-73.7	-214.4	-65.2	0.59	-0.31	3.33
3,143.0	8.40	246.00	3,125.5	-82.8	-235.6	-73.5	0.15	0.00	-1.01
3,301.0	7.30	243.70	3,282.1	-92.0	-255.2	-81.9	0.72	-0.70	-1.46
3,458.0	7.30	256.20	3,437.8	-98.8	-273.8	-87.9	1.01	0.00	7.96
3,617.0	7.10	271.20	3,595.6	-101.0	-293.5	-89.4	1.19	-0.13	9.43
3,774.0	5.50	269.80	3,751.6	-100.8	-310.7	-88.5	1.02	-1.02	-0.89
3,838.0	3.50	279.30	3,815.4	-100.5	-315.7	-88.0	3.32	-3.13	14.84
3,901.0	1.00	302.50	3,878.4	-99.9	-318.0	-87.3	4.14	-3.97	36.83
4,058.0	1.10	295.60	4,035.3	-98.5	-320.6	-85.8	0.10	0.06	-4.39
4,122.0	1.10	56.70	4,099.3	-97.9	-320.6	-85.2	2.99	0.00	189.22
4,312.0	1.80	42.30	4,289.3	-94.7	-317.1	-82.1	0.41	0.37	-7.58
4,502.0	1.10	73.20	4,479.2	-91.9	-313.3	-79.6	0.54	-0.37	16.26
4,691.0	1.10	11.70	4,668.2	-89.6	-311.2	-77.3	0.60	0.00	-32.54
4,881.0	0.50	352.40	4,858.2	-87.0	-310.9	-74.7	0.34	-0.32	-10.16
5,071.0	0.70	312.10	5,048.1	-85.4	-311.9	-73.1	0.24	0.11	-21.21
5,261.0	0.90	289.40	5,238.1	-84.2	-314.2	-71.7	0.20	0.11	-11.95
5,451.0	1.10	275.00	5,428.1	-83.5	-317.4	-71.0	0.17	0.11	-7.58
5,640.0	0.50	340.60	5,617.1	-82.6	-319.5	-69.9	0.53	-0.32	34.71
5,830.0	0.40	273.60	5,807.1	-81.8	-320.4	-69.1	0.27	-0.05	-35.26
6,020.0	0.70	232.00	5,997.1	-82.4	-322.0	-69.7	0.25	0.16	-21.89
6,210.0	1.10	256.00	6,187.0	-83.6	-324.7	-70.7	0.28	0.21	12.63
6,305.0	0.20	57.80	6,282.0	-83.7	-325.4	-70.9	1.36	-0.95	170.32
6,336.0	0.40	334.10	6,313.0	-83.6	-325.4	-70.7	1.38	0.65	-270.00
6,368.0	1.80	359.40	6,345.0	-83.0	-325.5	-70.1	4.53	4.38	79.06
6,399.0	5.40	4.90	6,376.0	-81.0	-325.4	-68.2	11.65	11.61	17.74
6,431.0	8.90	4.30	6,407.7	-77.1	-325.0	-64.2	10.94	10.94	-1.88
6,462.0	12.40	7.10	6,438.2	-71.4	-324.5	-58.6	11.41	11.29	9.03
6,494.0	14.00	7.00	6,469.3	-64.1	-323.6	-51.4	5.00	5.00	-0.31
6,526.0	14.80	5.90	6,500.3	-56.2	-322.7	-43.5	2.64	2.50	-3.44
6,557.0	15.20	4.20	6,530.3	-48.2	-322.0	-35.5	1.92	1.29	-5.48
6,589.0	17.60	2.60	6,561.0	-39.2	-321.4	-26.5	7.63	7.50	-5.00
6,620.0	20.50	359.90	6,590.3	-29.1	-321.2	-16.4	9.77	9.35	-8.71
6,652.0	24.10	359.60	6,619.9	-17.0	-321.3	-4.3	11.26	11.25	-0.94
6,684.0	27.70	359.40	6,648.6	-3.0	-321.4	9.7	11.25	11.25	-0.63
6,715.0	29.50	359.40	6,675.9	11.9	-321.6	24.5	5.81	5.81	0.00
6,747.0	30.70	1.50	6,703.5	27.9	-321.4	40.5	4.99	3.75	6.56
6,779.0	31.60	4.90	6,730.9	44.4	-320.5	57.0	6.17	2.81	10.63
6,810.0	33.90	6.60	6,757.0	61.1	-318.8	73.6	7.99	7.42	5.48
6,841.0	36.80	6.30	6,782.3	78.9	-316.8	91.3	9.37	9.35	-0.97
6,873.0	38.50	7.70	6,807.6	98.3	-314.4	110.6	5.95	5.31	4.38
6,905.0	39.70	9.80	6,832.5	118.3	-311.3	130.4	5.58	3.75	6.56

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Well:	Ochsner 5G-421	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,937.0	41.20	9.80	6,856.8	138.7	-307.8	150.7	4.69	4.69	0.00
6,968.0	43.00	7.50	6,879.8	159.3	-304.7	171.1	7.64	5.81	-7.42
7,000.0	45.50	4.50	6,902.7	181.5	-302.4	193.2	10.19	7.81	-9.38
7,032.0	48.30	2.40	6,924.6	204.8	-301.0	216.5	9.98	8.75	-6.56
7,065.0	50.30	1.50	6,946.1	229.8	-300.1	241.4	6.40	6.06	-2.73
7,096.0	52.40	1.00	6,965.5	254.0	-299.6	265.6	6.89	6.77	-1.61
7,128.0	55.40	0.50	6,984.3	279.8	-299.3	291.4	9.46	9.38	-1.56
7,160.0	58.70	0.50	7,001.7	306.7	-299.0	318.2	10.31	10.31	0.00
7,191.0	60.60	0.80	7,017.4	333.4	-298.7	344.9	6.19	6.13	0.97
7,223.0	61.90	1.20	7,032.8	361.5	-298.2	372.9	4.21	4.06	1.25
7,254.0	63.80	1.30	7,046.9	389.1	-297.6	400.5	6.14	6.13	0.32
7,286.0	66.50	1.50	7,060.4	418.1	-296.9	429.4	8.46	8.44	0.63
7,317.0	69.70	1.50	7,071.9	446.8	-296.2	458.1	10.32	10.32	0.00
7,349.0	74.00	1.90	7,081.9	477.2	-295.3	488.5	13.49	13.44	1.25
7,380.0	77.80	2.70	7,089.5	507.3	-294.1	518.4	12.51	12.26	2.58
7,412.0	81.70	2.90	7,095.1	538.7	-292.5	549.8	12.20	12.19	0.63
7,448.0	85.30	2.90	7,099.2	574.4	-290.7	585.4	10.00	10.00	0.00
7,461.0	86.00	2.80	7,100.2	587.4	-290.1	598.3	5.44	5.38	-0.77
7,484.0	88.01	2.73	7,101.4	610.3	-289.0	621.2	8.76	8.75	-0.31
7"									
7,493.0	88.80	2.70	7,101.7	619.3	-288.5	630.2	8.76	8.75	-0.31
7,525.0	88.80	2.60	7,102.3	651.3	-287.1	662.0	0.31	0.00	-0.31
7,558.0	88.70	2.60	7,103.0	684.2	-285.6	694.9	0.30	-0.30	0.00
7,589.0	87.30	1.70	7,104.1	715.2	-284.4	725.8	5.37	-4.52	-2.90
7,621.0	85.70	1.00	7,106.1	747.1	-283.6	757.7	5.46	-5.00	-2.19
7,652.0	85.30	0.30	7,108.5	778.0	-283.3	788.5	2.59	-1.29	-2.26
7,684.0	85.60	0.10	7,111.1	809.9	-283.2	820.4	1.13	0.94	-0.63
7,716.0	85.60	0.10	7,113.5	841.8	-283.1	852.3	0.00	0.00	0.00
7,747.0	85.50	359.80	7,115.9	872.7	-283.2	883.2	1.02	-0.32	-0.97
7,779.0	85.90	359.80	7,118.3	904.6	-283.3	915.1	1.25	1.25	0.00
7,810.0	86.70	359.90	7,120.3	935.6	-283.3	946.0	2.60	2.58	0.32
7,842.0	86.50	0.10	7,122.2	967.5	-283.3	977.9	0.88	-0.63	0.63
7,874.0	86.40	0.10	7,124.2	999.4	-283.3	1,009.8	0.31	-0.31	0.00
7,906.0	86.90	359.90	7,126.1	1,031.4	-283.3	1,041.7	1.68	1.56	-0.63
7,937.0	87.70	359.60	7,127.5	1,062.4	-283.4	1,072.7	2.76	2.58	-0.97
7,969.0	88.50	359.90	7,128.6	1,094.3	-283.6	1,104.6	2.67	2.50	0.94
8,000.0	88.40	0.30	7,129.4	1,125.3	-283.5	1,135.6	1.33	-0.32	1.29
8,032.0	88.50	0.30	7,130.3	1,157.3	-283.3	1,167.6	0.31	0.31	0.00
8,063.0	89.00	0.30	7,131.0	1,188.3	-283.2	1,198.5	1.61	1.61	0.00
8,094.0	89.70	359.90	7,131.3	1,219.3	-283.1	1,229.5	2.60	2.26	-1.29
8,124.0	90.00	0.10	7,131.4	1,249.3	-283.1	1,259.5	1.20	1.00	0.67
8,155.0	90.60	359.90	7,131.2	1,280.3	-283.1	1,290.5	2.04	1.94	-0.65
8,185.0	90.70	359.80	7,130.9	1,310.3	-283.2	1,320.4	0.47	0.33	-0.33
8,216.0	90.00	359.90	7,130.7	1,341.3	-283.3	1,351.4	2.28	-2.26	0.32
8,246.0	89.50	359.60	7,130.8	1,371.3	-283.4	1,381.4	1.94	-1.67	-1.00
8,276.0	89.60	359.40	7,131.1	1,401.3	-283.7	1,411.4	0.75	0.33	-0.67
8,307.0	90.10	359.40	7,131.2	1,432.3	-284.0	1,442.4	1.61	1.61	0.00
8,337.0	90.30	359.20	7,131.0	1,462.3	-284.4	1,472.3	0.94	0.67	-0.67
8,367.0	90.20	359.10	7,130.9	1,492.3	-284.8	1,502.3	0.47	-0.33	-0.33
8,398.0	90.20	358.90	7,130.8	1,523.3	-285.4	1,533.3	0.65	0.00	-0.65
8,428.0	90.10	359.10	7,130.7	1,553.3	-285.9	1,563.3	0.75	-0.33	0.67
8,459.0	90.20	359.40	7,130.6	1,584.3	-286.3	1,594.3	1.02	0.32	0.97
8,489.0	90.40	359.20	7,130.5	1,614.3	-286.7	1,624.3	0.94	0.67	-0.67

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,519.0	89.90	358.90	7,130.4	1,644.3	-287.2	1,654.3	1.94	-1.67	-1.00
8,550.0	89.60	358.40	7,130.5	1,675.3	-287.9	1,685.3	1.88	-0.97	-1.61
8,580.0	89.80	358.40	7,130.7	1,705.3	-288.7	1,715.3	0.67	0.67	0.00
8,611.0	89.70	358.50	7,130.8	1,736.2	-289.6	1,746.3	0.46	-0.32	0.32
8,641.0	89.30	358.40	7,131.1	1,766.2	-290.4	1,776.3	1.37	-1.33	-0.33
8,671.0	89.10	358.00	7,131.5	1,796.2	-291.3	1,806.3	1.49	-0.67	-1.33
8,702.0	89.50	358.20	7,131.9	1,827.2	-292.3	1,837.3	1.44	1.29	0.65
8,732.0	89.80	359.20	7,132.1	1,857.2	-293.0	1,867.3	3.48	1.00	3.33
8,762.0	89.30	359.40	7,132.3	1,887.2	-293.4	1,897.3	1.80	-1.67	0.67
8,793.0	89.30	359.80	7,132.7	1,918.2	-293.6	1,928.2	1.29	0.00	1.29
8,824.0	89.80	359.60	7,132.9	1,949.2	-293.8	1,959.2	1.74	1.61	-0.65
8,854.0	90.10	0.80	7,133.0	1,979.2	-293.7	1,989.2	4.12	1.00	4.00
8,884.0	90.40	0.50	7,132.8	2,009.2	-293.3	2,019.2	1.41	1.00	-1.00
8,915.0	90.80	0.60	7,132.5	2,040.2	-293.0	2,050.1	1.33	1.29	0.32
8,976.0	91.10	0.10	7,131.5	2,101.2	-292.7	2,111.0	0.96	0.49	-0.82
9,037.0	91.50	1.20	7,130.1	2,162.1	-292.0	2,171.9	1.92	0.66	1.80
9,098.0	91.40	1.30	7,128.6	2,223.1	-290.6	2,232.8	0.23	-0.16	0.16
9,159.0	90.60	1.00	7,127.5	2,284.1	-289.4	2,293.7	1.40	-1.31	-0.49
9,220.0	90.60	359.40	7,126.9	2,345.1	-289.2	2,354.6	2.62	0.00	-2.62
9,281.0	90.70	0.80	7,126.2	2,406.1	-289.1	2,415.6	2.30	0.16	2.30
9,341.0	90.80	359.80	7,125.4	2,466.1	-288.8	2,475.5	1.67	0.17	-1.67
9,402.0	90.80	359.90	7,124.5	2,527.1	-288.9	2,536.5	0.16	0.00	0.16
9,463.0	91.10	0.50	7,123.5	2,588.0	-288.7	2,597.4	1.10	0.49	0.98
9,522.0	90.20	359.40	7,122.9	2,647.0	-288.8	2,656.4	2.41	-1.53	-1.86
9,583.0	89.90	358.40	7,122.8	2,708.0	-289.9	2,717.3	1.71	-0.49	-1.64
9,644.0	88.80	358.00	7,123.5	2,769.0	-291.9	2,778.3	1.92	-1.80	-0.66
9,704.0	88.10	358.70	7,125.1	2,828.9	-293.6	2,838.3	1.65	-1.17	1.17
9,765.0	88.30	0.10	7,127.0	2,889.9	-294.2	2,899.2	2.32	0.33	2.30
9,827.0	88.90	0.80	7,128.6	2,951.9	-293.7	2,961.2	1.49	0.97	1.13
9,887.0	90.00	1.70	7,129.1	3,011.9	-292.4	3,021.0	2.37	1.83	1.50
9,948.0	90.60	1.20	7,128.8	3,072.9	-290.9	3,081.9	1.28	0.98	-0.82
10,009.0	91.00	1.00	7,128.0	3,133.8	-289.7	3,142.8	0.73	0.66	-0.33
10,069.0	89.30	359.80	7,127.8	3,193.8	-289.3	3,202.7	3.47	-2.83	-2.00
10,130.0	88.50	359.40	7,129.0	3,254.8	-289.7	3,263.7	1.47	-1.31	-0.66
10,191.0	88.80	359.60	7,130.4	3,315.8	-290.3	3,324.6	0.59	0.49	0.33
10,251.0	89.10	359.90	7,131.5	3,375.8	-290.5	3,384.6	0.71	0.50	0.50
10,311.0	89.50	0.10	7,132.2	3,435.8	-290.5	3,444.5	0.75	0.67	0.33
10,371.0	90.10	0.50	7,132.5	3,495.8	-290.2	3,504.5	1.20	1.00	0.67
10,432.0	89.90	0.30	7,132.5	3,556.8	-289.8	3,565.4	0.46	-0.33	-0.33
10,496.0	90.10	359.90	7,132.5	3,620.8	-289.7	3,629.4	0.70	0.31	-0.63
10,558.0	90.20	359.90	7,132.3	3,682.8	-289.8	3,691.3	0.16	0.16	0.00
10,622.0	90.30	359.90	7,132.0	3,746.8	-289.9	3,755.3	0.16	0.16	0.00
10,685.0	90.50	359.40	7,131.6	3,809.8	-290.3	3,818.2	0.85	0.32	-0.79
10,748.0	90.10	0.30	7,131.2	3,872.8	-290.4	3,881.2	1.56	-0.63	1.43
10,811.0	90.00	359.60	7,131.2	3,935.8	-290.5	3,944.2	1.12	-0.16	-1.11
10,875.0	90.80	0.30	7,130.7	3,999.8	-290.5	4,008.1	1.66	1.25	1.09
10,938.0	90.50	0.10	7,130.0	4,062.8	-290.3	4,071.0	0.57	-0.48	-0.32
11,002.0	89.40	359.60	7,130.1	4,126.8	-290.5	4,135.0	1.89	-1.72	-0.78
11,065.0	88.80	358.50	7,131.1	4,189.7	-291.5	4,198.0	1.99	-0.95	-1.75
11,128.0	88.70	358.70	7,132.4	4,252.7	-293.1	4,260.9	0.35	-0.16	0.32
11,190.0	88.80	359.10	7,133.8	4,314.7	-294.3	4,322.9	0.66	0.16	0.65
11,253.0	89.40	358.70	7,134.8	4,377.7	-295.5	4,385.9	1.14	0.95	-0.63
11,316.0	90.00	358.90	7,135.1	4,440.7	-296.8	4,448.9	1.00	0.95	0.32
11,379.0	89.50	359.10	7,135.4	4,503.6	-297.9	4,511.9	0.85	-0.79	0.32

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 5G-421
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Site:	Ochsner L5-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Well:	Ochsner 5G-421	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,410.0	88.90	359.10	7,135.8	4,534.6	-298.4	4,542.9	1.94	-1.94	0.00
11,442.0	88.80	359.20	7,136.5	4,566.6	-298.9	4,574.8	0.44	-0.31	0.31
11,505.0	89.70	0.80	7,137.3	4,629.6	-298.9	4,637.8	2.91	1.43	2.54
11,568.0	90.20	1.50	7,137.3	4,692.6	-297.6	4,700.7	1.37	0.79	1.11
11,600.0	90.30	1.70	7,137.2	4,724.6	-296.7	4,732.6	0.70	0.31	0.63
11,632.0	90.10	1.50	7,137.1	4,756.6	-295.8	4,764.5	0.88	-0.63	-0.63
11,670.0	90.10	0.80	7,137.0	4,794.6	-295.0	4,802.5	1.84	0.00	-1.84
11,733.0	90.80	0.30	7,136.5	4,857.6	-294.4	4,865.4	1.37	1.11	-0.79
11,765.0	91.20	0.60	7,136.0	4,889.6	-294.2	4,897.3	1.56	1.25	0.94
11,796.0	91.50	1.00	7,135.2	4,920.5	-293.7	4,928.3	1.61	0.97	1.29
11,828.0	91.20	0.60	7,134.5	4,952.5	-293.3	4,960.2	1.56	-0.94	-1.25
11,891.0	89.30	359.10	7,134.2	5,015.5	-293.5	5,023.2	3.84	-3.02	-2.38
11,954.0	89.10	358.40	7,135.1	5,078.5	-294.8	5,086.2	1.16	-0.32	-1.11
12,018.0	89.30	358.50	7,136.0	5,142.5	-296.6	5,150.2	0.35	0.31	0.16
12,081.0	89.30	358.90	7,136.8	5,205.5	-298.0	5,213.1	0.63	0.00	0.63
12,144.0	89.40	358.70	7,137.5	5,268.4	-299.3	5,276.1	0.35	0.16	-0.32
12,207.0	89.40	358.70	7,138.1	5,331.4	-300.7	5,339.1	0.00	0.00	0.00
12,239.0	89.30	358.70	7,138.5	5,363.4	-301.5	5,371.1	0.31	-0.31	0.00
12,271.0	89.30	359.40	7,138.9	5,395.4	-302.0	5,403.1	2.19	0.00	2.19
12,303.0	88.70	0.60	7,139.4	5,427.4	-302.0	5,435.1	4.19	-1.88	3.75
12,366.0	88.70	1.20	7,140.9	5,490.4	-301.0	5,498.0	0.95	0.00	0.95
12,430.0	88.90	1.20	7,142.2	5,554.3	-299.7	5,561.8	0.31	0.31	0.00
12,461.0	89.30	1.50	7,142.7	5,585.3	-298.9	5,592.8	1.61	1.29	0.97
12,493.0	90.30	1.00	7,142.8	5,617.3	-298.2	5,624.7	3.49	3.13	-1.56
12,556.0	90.60	1.30	7,142.3	5,680.3	-297.0	5,687.6	0.67	0.48	0.48
12,619.0	90.70	1.50	7,141.6	5,743.3	-295.4	5,750.5	0.35	0.16	0.32
12,683.0	90.90	1.20	7,140.7	5,807.3	-293.9	5,814.3	0.56	0.31	-0.47
12,746.0	90.50	0.60	7,139.9	5,870.2	-292.9	5,877.2	1.14	-0.63	-0.95
12,809.0	90.40	0.10	7,139.4	5,933.2	-292.6	5,940.2	0.81	-0.16	-0.79
12,873.0	90.50	0.30	7,138.9	5,997.2	-292.3	6,004.1	0.35	0.16	0.31
12,936.0	90.00	0.50	7,138.7	6,060.2	-291.9	6,067.0	0.85	-0.79	0.32
12,999.0	90.20	1.00	7,138.6	6,123.2	-291.1	6,129.9	0.85	0.32	0.79
13,062.0	90.10	359.90	7,138.4	6,186.2	-290.6	6,192.9	1.75	-0.16	-1.75
13,125.0	89.30	359.10	7,138.7	6,249.2	-291.1	6,255.8	1.80	-1.27	-1.27
13,157.0	88.80	358.50	7,139.3	6,281.2	-291.8	6,287.8	2.44	-1.56	-1.88
13,188.0	89.20	358.20	7,139.8	6,312.2	-292.7	6,318.8	1.61	1.29	-0.97
13,251.0	90.20	357.80	7,140.1	6,375.2	-294.9	6,381.8	1.71	1.59	-0.63
13,315.0	91.60	358.70	7,139.1	6,439.1	-296.8	6,445.8	2.60	2.19	1.41
13,377.0	92.30	358.50	7,137.0	6,501.1	-298.4	6,507.8	1.17	1.13	-0.32
13,440.0	91.70	358.90	7,134.8	6,564.0	-299.8	6,570.7	1.14	-0.95	0.63
13,503.0	91.50	358.90	7,133.1	6,627.0	-301.0	6,633.7	0.32	-0.32	0.00
13,566.0	91.40	359.10	7,131.5	6,689.9	-302.1	6,696.6	0.35	-0.16	0.32
13,629.0	91.00	359.80	7,130.1	6,752.9	-302.7	6,759.6	1.28	-0.63	1.11
13,659.0	90.70	359.80	7,129.7	6,782.9	-302.8	6,789.6	1.00	-1.00	0.00
13,722.0	91.50	0.30	7,128.5	6,845.9	-302.8	6,852.5	1.50	1.27	0.79
13,785.0	91.80	0.80	7,126.7	6,908.9	-302.1	6,915.4	0.93	0.48	0.79
13,848.0	91.20	1.00	7,125.0	6,971.8	-301.2	6,978.3	1.00	-0.95	0.32
13,911.0	90.70	0.30	7,124.0	7,034.8	-300.4	7,041.2	1.37	-0.79	-1.11
13,942.0	90.70	359.90	7,123.6	7,065.8	-300.4	7,072.2	1.29	0.00	-1.29
13,997.0	90.70	359.90	7,122.9	7,120.8	-300.5	7,127.1	0.00	0.00	0.00

BHL 500'FNL & 640'FWL, SEC.32

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Ochsner 5G-421
Project:	SEC.5-T6N-R67W	TVD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Site:	Ochsner L5-HZ Pad Sec.5-T6N-R67W	MD Reference:	WELL @ 4897.0ft (RKB Ensign 32 - 15')
Well:	Ochsner 5G-421	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (")	Hole Diameter (")
7,484.0	7,101.4	7"		7	7-1/2

Checked By: _____ Approved By: _____ Date: _____