

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Wilson 24-30H**

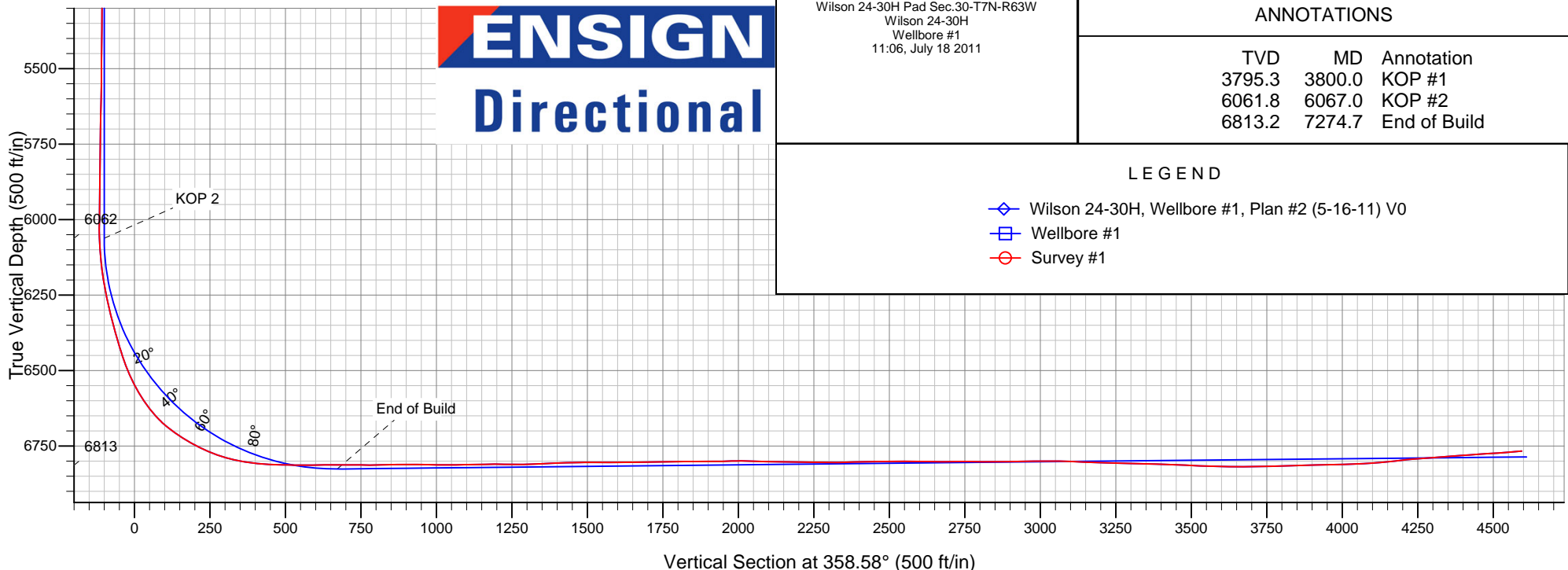
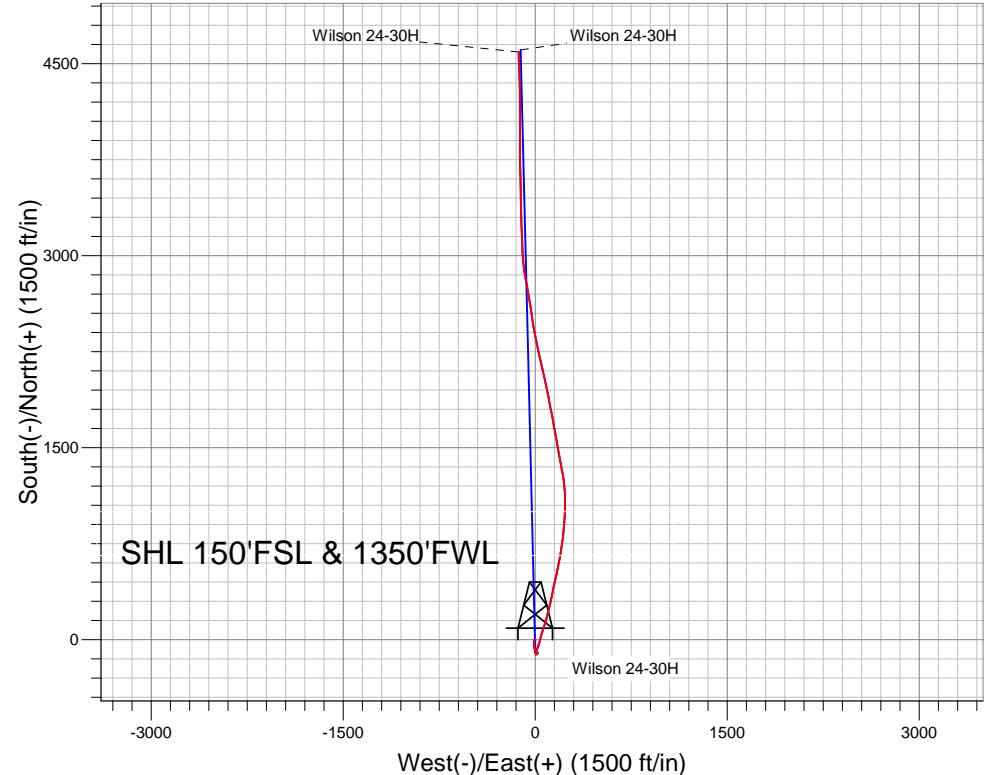
Surface Location: Wilson 24-30H Pad Sec.30-T7N-R63W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4772.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1440377.92	3282287.89	40° 32' 16.080 N	104° 29' 3.660 W	
RKB Ensign 32 - 15' WELL @ 4787.0ft (RKB Ensign 32 - 15')						

FINAL SURVEY

Projected Bottom Hole Location
11312' MD 6767' TVD 4592' N & 130'W of
SHL
94.6 degree Incl @ 358.4 degree AZM



Wilson 24-30H Pad Sec.30-T7N-R63W
Wilson 24-30H
Wellbore #1
11:06, July 18 2011

ANNOTATIONS

TVD	MD	Annotation
3795.3	3800.0	KOP #1
6061.8	6067.0	KOP #2
6813.2	7274.7	End of Build

LEGEND

- Wilson 24-30H, Wellbore #1, Plan #2 (5-16-11) V0
- Wellbore #1
- Survey #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.30-T7N-R63W

Wilson 24-30H Pad Sec.30-T7N-R63W

Wilson 24-30H

Wellbore #1

Survey: Survey #1

Standard Survey Report

18 July, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.30-T7N-R63W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Wilson 24-30H Pad Sec.30-T7N-R63W			
Site Position:		Northing:	1,440,377.94ft	Latitude:	40° 32' 16.080 N
From:	Lat/Long	Easting:	3,282,287.89ft	Longitude:	104° 29' 3.660 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.66 °

Well	Wilson 24-30H					
Well Position	+N-S	0.0 ft	Northing:	1,440,377.92 ft	Latitude:	40° 32' 16.080 N
	+E-W	0.0 ft	Easting:	3,282,287.89 ft	Longitude:	104° 29' 3.660 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,772.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2011	8.74	67.21	53,242

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	358.58	

Survey Program	Date 7/18/2011				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
1,004.0	11,312.0	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	
1.1	0.00	306.10	1.1	0.0	0.0	0.0	0.00	0.00	0.00	
HARDLINE BHL 460'FNL										
3.6	0.00	306.10	3.6	0.0	0.0	0.0	0.08	0.08	0.00	
HARDLINE SHL 460'FSL										
1,004.0	0.60	306.10	1,004.0	3.1	-4.2	3.2	0.06	0.06	0.00	
1,097.0	1.10	292.00	1,097.0	3.7	-5.5	3.9	0.58	0.54	-15.16	
1,189.0	0.80	304.40	1,189.0	4.4	-6.8	4.6	0.39	-0.33	13.48	
1,282.0	1.20	177.00	1,282.0	3.8	-7.3	4.0	1.94	0.43	-136.99	
1,375.0	3.10	185.80	1,374.9	0.3	-7.5	0.5	2.07	2.04	9.46	
1,468.0	5.00	186.20	1,467.6	-6.2	-8.2	-6.0	2.04	2.04	0.43	
1,561.0	6.60	181.60	1,560.2	-15.6	-8.8	-15.3	1.79	1.72	-4.95	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	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)
1,654.0	7.10	180.70	1,652.5	-26.7	-9.0	-26.4	0.55	0.54	-0.97
1,748.0	6.50	181.40	1,745.8	-37.8	-9.2	-37.6	0.64	-0.64	0.74
1,841.0	5.60	179.00	1,838.3	-47.6	-9.3	-47.3	1.01	-0.97	-2.58
1,934.0	5.10	173.60	1,930.9	-56.2	-8.7	-56.0	0.76	-0.54	-5.81
2,026.0	4.50	168.40	2,022.6	-63.8	-7.5	-63.6	0.80	-0.65	-5.65
2,119.0	3.70	165.40	2,115.4	-70.3	-6.0	-70.1	0.89	-0.86	-3.23
2,213.0	3.40	159.90	2,209.2	-75.9	-4.3	-75.7	0.48	-0.32	-5.85
2,306.0	3.50	156.60	2,302.0	-81.1	-2.2	-81.0	0.24	0.11	-3.55
2,399.0	3.00	159.50	2,394.9	-85.9	-0.3	-85.9	0.57	-0.54	3.12
2,492.0	3.00	160.70	2,487.7	-90.5	1.4	-90.5	0.07	0.00	1.29
2,585.0	2.80	158.30	2,580.6	-94.9	3.0	-95.0	0.25	-0.22	-2.58
2,679.0	2.50	157.60	2,674.5	-99.0	4.7	-99.0	0.32	-0.32	-0.74
2,771.0	1.70	143.80	2,766.4	-101.9	6.2	-102.0	1.02	-0.87	-15.00
2,864.0	0.70	111.60	2,859.4	-103.2	7.6	-103.4	1.26	-1.08	-34.62
2,957.0	0.70	86.80	2,952.4	-103.4	8.7	-103.6	0.32	0.00	-26.67
3,050.0	0.90	87.90	3,045.4	-103.4	10.0	-103.6	0.22	0.22	1.18
3,143.0	1.00	83.90	3,138.4	-103.2	11.5	-103.5	0.13	0.11	-4.30
3,236.0	1.10	81.70	3,231.4	-103.0	13.2	-103.3	0.12	0.11	-2.37
3,329.0	1.20	86.30	3,324.4	-102.8	15.1	-103.2	0.15	0.11	4.95
3,422.0	1.00	190.70	3,417.4	-103.6	15.9	-103.9	1.87	-0.22	112.26
3,515.0	1.80	202.80	3,510.3	-105.7	15.2	-106.1	0.91	0.86	13.01
3,609.0	1.20	191.20	3,604.3	-108.0	14.4	-108.4	0.71	-0.64	-12.34
3,702.0	0.50	54.30	3,697.3	-108.8	14.5	-109.1	1.72	-0.75	-147.20
3,796.0	0.70	36.30	3,791.3	-108.1	15.2	-108.4	0.29	0.21	-19.15
3,800.0	0.70	35.96	3,795.3	-108.0	15.2	-108.4	0.11	-0.01	-8.58
KOP #1									
3,889.0	0.70	28.30	3,884.3	-107.1	15.8	-107.5	0.11	0.00	-8.60
3,982.0	0.70	32.60	3,977.3	-106.1	16.4	-106.5	0.06	0.00	4.62
4,076.0	0.70	42.30	4,071.3	-105.2	17.1	-105.6	0.13	0.00	10.32
4,169.0	0.90	39.80	4,164.3	-104.2	17.9	-104.6	0.22	0.22	-2.69
4,262.0	0.80	351.70	4,257.2	-103.0	18.3	-103.4	0.75	-0.11	-51.72
4,354.0	1.60	321.40	4,349.2	-101.4	17.4	-101.8	1.08	0.87	-32.93
4,447.0	2.20	305.90	4,442.2	-99.3	15.2	-99.7	0.84	0.65	-16.67
4,541.0	2.10	296.80	4,536.1	-97.5	12.2	-97.8	0.38	-0.11	-9.68
4,634.0	1.60	259.60	4,629.1	-97.0	9.4	-97.2	1.37	-0.54	-40.00
4,726.0	1.50	228.50	4,721.0	-98.0	7.2	-98.1	0.91	-0.11	-33.80
4,819.0	1.50	219.60	4,814.0	-99.7	5.5	-99.8	0.25	0.00	-9.57
4,912.0	1.30	214.90	4,907.0	-101.5	4.1	-101.6	0.25	-0.22	-5.05
5,005.0	1.00	201.70	5,000.0	-103.2	3.2	-103.2	0.43	-0.32	-14.19
5,099.0	1.00	194.90	5,093.9	-104.7	2.7	-104.7	0.13	0.00	-7.23
5,192.0	0.70	187.70	5,186.9	-106.1	2.4	-106.1	0.34	-0.32	-7.74
5,285.0	0.50	167.80	5,279.9	-107.0	2.4	-107.0	0.31	-0.22	-21.40
5,378.0	0.60	155.70	5,372.9	-107.9	2.7	-107.9	0.16	0.11	-13.01
5,471.0	0.60	141.70	5,465.9	-108.7	3.2	-108.7	0.16	0.00	-15.05
5,564.0	0.50	144.80	5,558.9	-109.4	3.8	-109.5	0.11	-0.11	3.33
5,656.0	1.70	160.50	5,650.9	-111.0	4.4	-111.1	1.33	1.30	17.07
5,749.0	0.70	162.80	5,743.9	-112.9	5.1	-112.9	1.08	-1.08	2.47
5,843.0	0.60	176.60	5,837.9	-113.9	5.3	-114.0	0.20	-0.11	14.68
5,939.0	0.70	177.80	5,933.9	-115.0	5.3	-115.1	0.11	0.10	1.25
5,970.0	0.80	159.70	5,964.9	-115.4	5.4	-115.5	0.83	0.32	-58.39
6,001.0	0.90	174.30	5,995.8	-115.8	5.5	-115.9	0.77	0.32	47.10
6,032.0	1.10	240.30	6,026.8	-116.2	5.3	-116.3	3.56	0.65	212.90
6,063.0	2.10	338.90	6,057.8	-115.8	4.8	-115.9	8.10	3.23	318.07

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	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)
6,067.0	2.31	341.63	6,061.8	-115.7	4.8	-115.8	5.98	5.37	68.37
KOP #2									
6,095.0	3.90	352.00	6,089.8	-114.2	4.4	-114.3	5.98	5.66	37.02
6,126.0	4.70	358.90	6,120.7	-111.9	4.3	-112.0	3.07	2.58	22.26
6,157.0	6.60	1.40	6,151.6	-108.8	4.3	-108.9	6.18	6.13	8.06
6,188.0	8.40	8.10	6,182.3	-104.8	4.7	-104.9	6.45	5.81	21.61
6,219.0	9.90	12.50	6,212.9	-100.0	5.6	-100.1	5.34	4.84	14.19
6,250.0	11.40	14.30	6,243.4	-94.4	6.9	-94.5	4.96	4.84	5.81
6,281.0	13.00	13.00	6,273.7	-88.0	8.4	-88.2	5.24	5.16	-4.19
6,312.0	14.20	19.70	6,303.8	-81.1	10.5	-81.3	6.38	3.87	21.61
6,343.0	16.00	23.50	6,333.7	-73.6	13.5	-73.9	6.62	5.81	12.26
6,374.0	16.70	24.90	6,363.5	-65.6	17.1	-66.0	2.59	2.26	4.52
6,405.0	17.10	20.20	6,393.1	-57.3	20.5	-57.8	4.59	1.29	-15.16
6,436.0	18.20	14.00	6,422.7	-48.3	23.3	-48.9	7.02	3.55	-20.00
6,468.0	19.40	18.00	6,453.0	-38.4	26.1	-39.0	5.50	3.75	12.50
6,499.0	21.20	16.80	6,482.0	-28.1	29.3	-28.9	5.96	5.81	-3.87
6,530.0	24.40	16.90	6,510.6	-16.6	32.8	-17.4	10.32	10.32	0.32
6,561.0	28.00	15.20	6,538.4	-3.5	36.6	-4.4	11.86	11.61	-5.48
6,592.0	30.50	15.10	6,565.5	11.1	40.5	10.1	8.07	8.06	-0.32
6,623.0	33.50	15.20	6,591.8	27.0	44.8	25.9	9.68	9.68	0.32
6,654.0	37.60	15.80	6,617.0	44.4	49.6	43.1	13.27	13.23	1.94
6,686.0	42.20	17.10	6,641.5	64.0	55.5	62.6	14.61	14.38	4.06
6,717.0	46.40	18.30	6,663.7	84.6	62.1	83.1	13.82	13.55	3.87
6,748.0	51.40	17.40	6,684.1	106.9	69.2	105.1	16.28	16.13	-2.90
6,779.0	55.90	16.70	6,702.4	130.7	76.5	128.8	14.63	14.52	-2.26
6,810.0	58.40	16.30	6,719.3	155.7	83.9	153.6	8.14	8.06	-1.29
6,841.0	60.60	14.20	6,735.0	181.5	90.9	179.2	9.19	7.10	-6.77
6,872.0	63.20	13.50	6,749.6	208.0	97.5	205.6	8.62	8.39	-2.26
6,903.0	66.20	15.10	6,762.8	235.2	104.4	232.5	10.74	9.68	5.16
6,934.0	69.60	13.70	6,774.5	263.0	111.5	260.2	11.74	10.97	-4.52
6,965.0	72.80	13.10	6,784.5	291.5	118.3	288.5	10.48	10.32	-1.94
6,996.0	76.50	11.10	6,792.7	320.8	124.6	317.6	13.46	11.94	-6.45
7,027.0	79.40	11.60	6,799.2	350.5	130.6	347.2	9.49	9.35	1.61
7,058.0	81.90	11.60	6,804.2	380.4	136.7	377.0	8.06	8.06	0.00
7,089.0	84.10	11.50	6,808.0	410.6	142.9	406.9	7.10	7.10	-0.32
7,120.0	86.50	13.40	6,810.5	440.8	149.5	436.9	9.86	7.74	6.13
7,150.0	88.40	13.00	6,811.8	469.9	156.4	465.9	6.47	6.33	-1.33
7,216.0	89.40	11.20	6,813.1	534.5	170.2	530.1	3.12	1.52	-2.73
7,247.0	89.90	12.50	6,813.3	564.8	176.6	560.3	4.49	1.61	4.19
7,274.7	90.42	10.68	6,813.2	591.9	182.1	587.2	6.83	1.88	-6.56
End of Build									
7,279.0	90.50	10.40	6,813.2	596.2	182.9	591.4	6.83	1.87	-6.56
7,311.0	90.50	11.40	6,812.9	627.6	189.0	622.7	3.12	0.00	3.13
7,342.0	90.20	9.40	6,812.7	658.1	194.6	653.1	6.52	-0.97	-6.45
7,374.0	90.10	9.90	6,812.6	689.6	199.9	684.5	1.59	-0.31	1.56
7,406.0	89.70	7.50	6,812.7	721.2	204.8	716.0	7.60	-1.25	-7.50
7,438.0	89.50	7.20	6,812.9	753.0	208.9	747.6	1.13	-0.63	-0.94
7,470.0	90.20	6.30	6,813.0	784.8	212.6	779.3	3.56	2.19	-2.81
7,503.0	91.00	6.50	6,812.7	817.5	216.3	811.9	2.50	2.42	0.61
7,535.0	91.30	6.90	6,812.0	849.3	220.0	843.6	1.56	0.94	1.25
7,567.0	91.10	5.80	6,811.3	881.1	223.6	875.3	3.49	-0.63	-3.44
7,598.0	90.10	5.60	6,811.0	912.0	226.7	906.1	3.29	-3.23	-0.65
7,630.0	88.80	3.40	6,811.3	943.9	229.2	937.9	7.99	-4.06	-6.88

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	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)
7,662.0	88.90	3.00	6,812.0	975.8	231.0	969.8	1.29	0.31	-1.25
7,695.0	89.10	2.40	6,812.5	1,008.8	232.5	1,002.7	1.92	0.61	-1.82
7,726.0	89.90	0.00	6,812.8	1,039.7	233.2	1,033.7	8.16	2.58	-7.74
7,758.0	91.00	0.00	6,812.6	1,071.7	233.2	1,065.7	3.44	3.44	0.00
7,790.0	91.60	359.00	6,811.8	1,103.7	232.9	1,097.6	3.64	1.88	-3.13
7,822.0	91.20	356.50	6,811.1	1,135.7	231.6	1,129.6	7.91	-1.25	-7.81
7,854.0	90.60	356.70	6,810.6	1,167.6	229.7	1,161.6	1.98	-1.88	0.63
7,886.0	90.00	354.20	6,810.4	1,199.5	227.2	1,193.6	8.03	-1.88	-7.81
7,917.0	89.50	353.30	6,810.5	1,230.3	223.8	1,224.4	3.32	-1.61	-2.90
7,949.0	89.00	351.00	6,810.9	1,262.0	219.4	1,256.2	7.35	-1.56	-7.19
7,981.0	91.00	348.50	6,810.9	1,293.5	213.8	1,287.9	10.00	6.25	-7.81
8,012.0	92.30	349.00	6,810.0	1,323.9	207.7	1,318.4	4.49	4.19	1.61
8,044.0	93.10	349.20	6,808.5	1,355.3	201.7	1,349.9	2.58	2.50	0.63
8,076.0	92.40	350.70	6,807.0	1,386.8	196.1	1,381.5	5.17	-2.19	4.69
8,108.0	91.20	348.40	6,806.0	1,418.2	190.3	1,413.1	8.10	-3.75	-7.19
8,139.0	90.90	350.20	6,805.4	1,448.7	184.5	1,443.7	5.89	-0.97	5.81
8,171.0	91.50	350.60	6,804.8	1,480.2	179.2	1,475.3	2.25	1.88	1.25
8,203.0	90.20	350.80	6,804.3	1,511.8	174.0	1,507.0	4.11	-4.06	0.63
8,235.0	89.20	350.30	6,804.5	1,543.4	168.8	1,538.7	3.49	-3.13	-1.56
8,267.0	90.10	350.60	6,804.7	1,574.9	163.5	1,570.4	2.96	2.81	0.94
8,299.0	90.50	349.90	6,804.5	1,606.5	158.0	1,602.1	2.52	1.25	-2.19
8,331.0	90.60	348.90	6,804.2	1,637.9	152.2	1,633.7	3.14	0.31	-3.13
8,363.0	90.90	348.90	6,803.8	1,669.3	146.0	1,665.2	0.94	0.94	0.00
8,394.0	91.30	350.10	6,803.2	1,699.8	140.3	1,695.8	4.08	1.29	3.87
8,426.0	90.20	349.30	6,802.7	1,731.3	134.6	1,727.4	4.25	-3.44	-2.50
8,458.0	90.40	348.60	6,802.6	1,762.7	128.5	1,759.0	2.28	0.63	-2.19
8,490.0	91.10	348.20	6,802.2	1,794.0	122.1	1,790.5	2.52	2.19	-1.25
8,522.0	90.90	347.60	6,801.6	1,825.3	115.4	1,821.9	1.98	-0.63	-1.88
8,553.0	91.10	349.10	6,801.1	1,855.7	109.1	1,852.4	4.88	0.65	4.84
8,585.0	89.70	350.40	6,800.8	1,887.1	103.4	1,884.0	5.97	-4.38	4.06
8,617.0	90.00	349.80	6,800.9	1,918.7	97.9	1,915.7	2.10	0.94	-1.88
8,649.0	90.90	348.20	6,800.7	1,950.1	91.8	1,947.2	5.74	2.81	-5.00
8,681.0	91.60	348.30	6,800.0	1,981.4	85.3	1,978.7	2.21	2.19	0.31
8,712.0	90.20	348.60	6,799.5	2,011.8	79.1	2,009.2	4.62	-4.52	0.97
8,744.0	88.10	347.00	6,800.0	2,043.0	72.3	2,040.6	8.25	-6.56	-5.00
8,776.0	88.20	347.60	6,801.0	2,074.2	65.3	2,072.0	1.90	0.31	1.88
8,808.0	88.20	346.40	6,802.0	2,105.4	58.1	2,103.3	3.75	0.00	-3.75
8,840.0	88.80	348.20	6,802.8	2,136.6	51.1	2,134.7	5.93	1.88	5.63
8,872.0	89.40	346.20	6,803.3	2,167.8	44.0	2,166.1	6.52	1.88	-6.25
8,904.0	90.30	347.90	6,803.4	2,199.0	36.8	2,197.4	6.01	2.81	5.31
8,936.0	90.00	347.20	6,803.3	2,230.2	29.9	2,228.8	2.38	-0.94	-2.19
8,969.0	88.30	347.80	6,803.8	2,262.5	22.8	2,261.2	5.46	-5.15	1.82
9,001.0	89.30	346.40	6,804.5	2,293.6	15.6	2,292.6	5.38	3.13	-4.38
9,032.0	90.10	347.70	6,804.7	2,323.8	8.7	2,322.9	4.92	2.58	4.19
9,064.0	91.80	349.60	6,804.1	2,355.2	2.4	2,354.4	7.97	5.31	5.94
9,096.0	91.80	349.30	6,803.1	2,386.7	-3.5	2,386.0	0.94	0.00	-0.94
9,128.0	91.20	349.50	6,802.3	2,418.1	-9.4	2,417.6	1.98	-1.88	0.63
9,160.0	91.60	350.90	6,801.5	2,449.6	-14.8	2,449.2	4.55	1.25	4.38
9,193.0	90.60	351.90	6,800.9	2,482.2	-19.7	2,482.0	4.29	-3.03	3.03
9,224.0	90.40	350.00	6,800.6	2,512.9	-24.6	2,512.7	6.16	-0.65	-6.13
9,257.0	89.40	352.10	6,800.7	2,545.5	-29.8	2,545.4	7.05	-3.03	6.36
9,288.0	89.50	352.20	6,801.0	2,576.2	-34.0	2,576.2	0.46	0.32	0.32
9,320.0	89.30	351.40	6,801.3	2,607.8	-38.6	2,608.0	2.58	-0.63	-2.50

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	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)
9,352.0	88.80	350.00	6,801.8	2,639.4	-43.7	2,639.7	4.65	-1.56	-4.38
9,384.0	89.90	350.50	6,802.2	2,670.9	-49.1	2,671.3	3.78	3.44	1.56
9,416.0	91.20	350.80	6,801.9	2,702.5	-54.3	2,703.0	4.17	4.06	0.94
9,447.0	91.10	351.10	6,801.3	2,733.1	-59.2	2,733.8	1.02	-0.32	0.97
9,479.0	89.80	349.40	6,801.0	2,764.7	-64.6	2,765.4	6.69	-4.06	-5.31
9,511.0	89.30	349.20	6,801.3	2,796.1	-70.6	2,797.0	1.68	-1.56	-0.63
9,543.0	88.20	349.20	6,802.0	2,827.5	-76.6	2,828.6	3.44	-3.44	0.00
9,575.0	89.90	349.90	6,802.5	2,859.0	-82.4	2,860.2	5.75	5.31	2.19
9,606.0	90.60	352.40	6,802.3	2,889.6	-87.1	2,890.9	8.37	2.26	8.06
9,638.0	91.20	353.30	6,801.8	2,921.4	-91.1	2,922.7	3.38	1.88	2.81
9,671.0	91.60	354.90	6,801.0	2,954.2	-94.5	2,955.6	5.00	1.21	4.85
9,703.0	91.20	356.20	6,800.3	2,986.1	-97.0	2,987.6	4.25	-1.25	4.06
9,735.0	90.40	357.50	6,799.8	3,018.0	-98.8	3,019.5	4.77	-2.50	4.06
9,767.0	89.50	357.50	6,799.8	3,050.0	-100.2	3,051.5	2.81	-2.81	0.00
9,799.0	88.60	356.80	6,800.4	3,081.9	-101.7	3,083.5	3.56	-2.81	-2.19
9,831.0	87.30	358.50	6,801.5	3,113.9	-103.1	3,115.5	6.69	-4.06	5.31
9,863.0	87.10	357.30	6,803.1	3,145.8	-104.2	3,147.4	3.80	-0.63	-3.75
9,894.0	87.40	356.90	6,804.6	3,176.8	-105.8	3,178.4	1.61	0.97	-1.29
9,927.0	87.80	359.00	6,805.9	3,209.7	-107.0	3,211.4	6.47	1.21	6.36
9,959.0	88.50	357.30	6,807.0	3,241.7	-108.0	3,243.4	5.74	2.19	-5.31
9,990.0	89.10	358.10	6,807.6	3,272.6	-109.3	3,274.3	3.23	1.94	2.58
10,022.0	89.90	358.50	6,807.9	3,304.6	-110.2	3,306.3	2.80	2.50	1.25
10,054.0	88.90	357.80	6,808.2	3,336.6	-111.2	3,338.3	3.81	-3.13	-2.19
10,085.0	87.60	0.00	6,809.2	3,367.6	-111.8	3,369.3	8.24	-4.19	7.10
10,117.0	87.60	0.00	6,810.5	3,399.6	-111.8	3,401.3	0.00	0.00	0.00
10,148.0	87.60	358.30	6,811.8	3,430.5	-112.3	3,432.2	5.48	0.00	-5.48
10,180.0	87.60	358.60	6,813.2	3,462.5	-113.2	3,464.2	0.94	0.00	0.94
10,212.0	87.60	359.90	6,814.5	3,494.5	-113.6	3,496.2	4.06	0.00	4.06
10,244.0	88.00	358.50	6,815.7	3,526.4	-114.0	3,528.2	4.55	1.25	-4.38
10,276.0	87.70	359.30	6,816.9	3,558.4	-114.6	3,560.1	2.67	-0.94	2.50
10,308.0	88.90	359.00	6,817.9	3,590.4	-115.1	3,592.1	3.87	3.75	-0.94
10,341.0	89.20	357.50	6,818.4	3,623.4	-116.1	3,625.1	4.63	0.91	-4.55
10,373.0	89.30	358.20	6,818.9	3,655.3	-117.3	3,657.1	2.21	0.31	2.19
10,404.0	91.50	358.40	6,818.6	3,686.3	-118.2	3,688.1	7.13	7.10	0.65
10,436.0	92.00	359.00	6,817.7	3,718.3	-119.0	3,720.1	2.44	1.56	1.88
10,468.0	91.30	357.60	6,816.7	3,750.3	-119.9	3,752.1	4.89	-2.19	-4.38
10,500.0	90.60	359.80	6,816.2	3,782.2	-120.6	3,784.1	7.21	-2.19	6.88
10,532.0	90.70	0.00	6,815.8	3,814.2	-120.7	3,816.1	0.70	0.31	0.63
10,564.0	92.00	0.20	6,815.1	3,846.2	-120.6	3,848.0	4.11	4.06	0.63
10,596.0	92.20	0.50	6,813.9	3,878.2	-120.4	3,880.0	1.13	0.63	0.94
10,628.0	91.60	358.80	6,812.9	3,910.2	-120.6	3,912.0	5.63	-1.88	-5.31
10,660.0	90.80	0.40	6,812.2	3,942.2	-120.9	3,944.0	5.59	-2.50	5.00
10,692.0	91.20	1.20	6,811.6	3,974.2	-120.4	3,975.9	2.79	1.25	2.50
10,724.0	91.60	0.10	6,810.8	4,006.2	-120.0	4,007.9	3.66	1.25	-3.44
10,756.0	92.20	1.00	6,809.8	4,038.1	-119.7	4,039.9	3.38	1.88	2.81
10,787.0	93.10	0.60	6,808.3	4,069.1	-119.3	4,070.8	3.18	2.90	-1.29
10,819.0	94.10	0.60	6,806.3	4,101.0	-119.0	4,102.7	3.13	3.13	0.00
10,851.0	95.10	359.60	6,803.8	4,132.9	-118.9	4,134.6	4.41	3.13	-3.13
10,883.0	96.00	358.80	6,800.7	4,164.8	-119.4	4,166.5	3.76	2.81	-2.50
10,915.0	97.10	359.20	6,797.0	4,196.6	-119.9	4,198.3	3.65	3.44	1.25
10,946.0	95.20	358.90	6,793.7	4,227.4	-120.4	4,229.1	6.20	-6.13	-0.97
10,978.0	93.70	0.00	6,791.2	4,259.3	-120.7	4,261.0	5.81	-4.69	3.44
11,010.0	93.80	359.70	6,789.1	4,291.2	-120.8	4,292.9	0.99	0.31	-0.94
11,042.0	94.50	357.70	6,786.8	4,323.1	-121.5	4,324.8	6.61	2.19	-6.25

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wilson 24-30H
Project:	SEC.30-T7N-R63W	TVD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Site:	Wilson 24-30H Pad Sec.30-T7N-R63W	MD Reference:	WELL @ 4787.0ft (RKB Ensign 32 - 15')
Well:	Wilson 24-30H	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)
11,074.0	94.90	359.20	6,784.2	4,355.0	-122.4	4,356.7	4.84	1.25	4.69
11,106.0	94.20	357.00	6,781.7	4,386.9	-123.5	4,388.6	7.19	-2.19	-6.88
11,138.0	93.50	359.20	6,779.5	4,418.8	-124.5	4,420.5	7.20	-2.19	6.88
11,171.0	93.70	358.50	6,777.4	4,451.7	-125.2	4,453.5	2.20	0.61	-2.12
11,202.0	93.90	357.60	6,775.4	4,482.6	-126.2	4,484.4	2.97	0.65	-2.90
11,234.0	94.20	357.90	6,773.1	4,514.5	-127.5	4,516.3	1.32	0.94	0.94
11,266.0	94.60	358.40	6,770.7	4,546.4	-128.5	4,548.2	2.00	1.25	1.56
11,312.0	94.60	358.40	6,767.0	4,592.3	-129.8	4,594.1	0.00	0.00	0.00
TARGET BHL 500'FNL, 1320'FWL									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,800.0	3,795.3	-108.0	15.2	KOP #1
6,067.0	6,061.8	-115.7	4.8	KOP #2
7,274.7	6,813.2	591.9	182.1	End of Build

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------