

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Frank Trust 11-11H (SHL 502'FNL, 225'FWL)**

Surface Location: Frank Trust 11-11H Sec.11-T6N-R61W

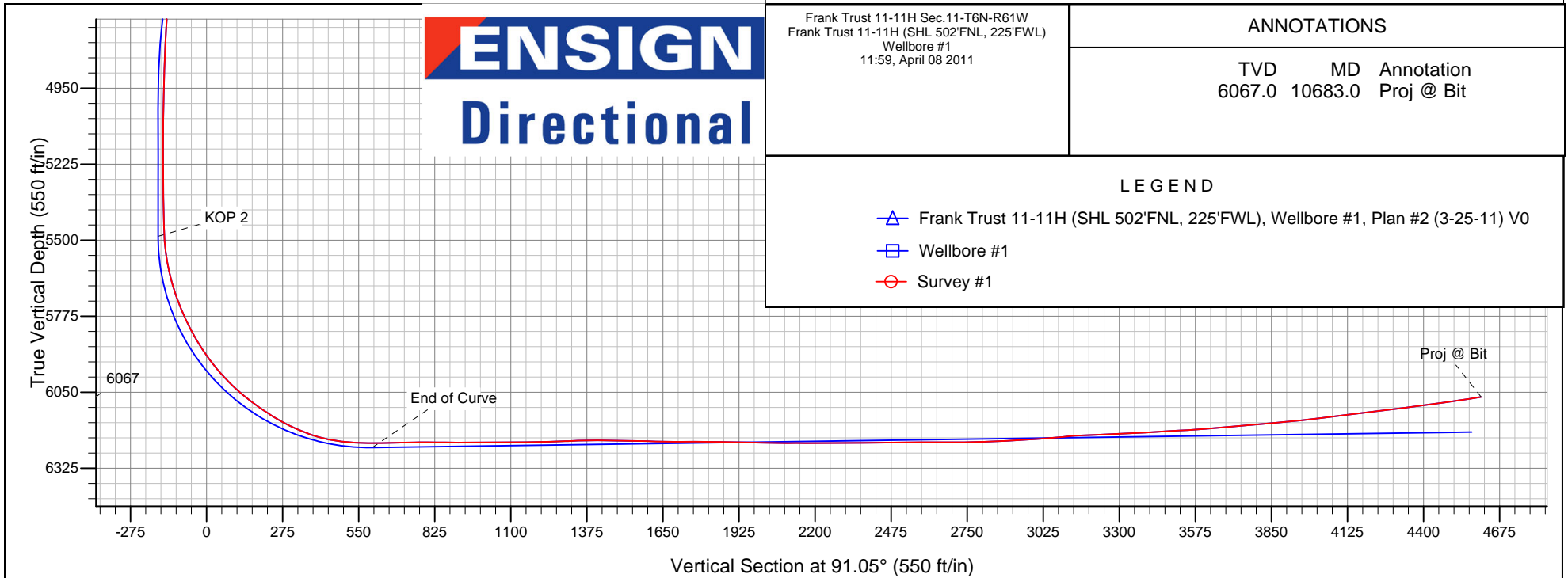
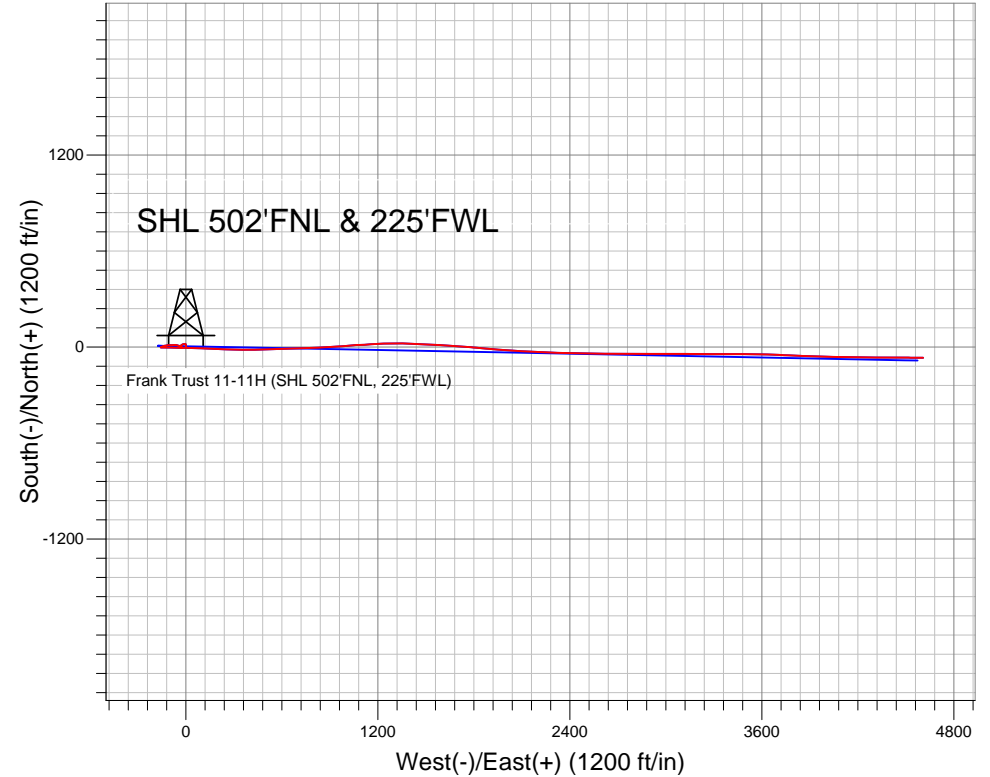
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4731.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1430847.98	3365676.69	40.508635	-104.184871	
RKB Ensign 32 - 15' WELL @ 4746.0ft (RKB Ensign 32 - 15')						

FINAL SURVEY

Projected Bottom Hole Location
10683' MD 6067' TVD 67' S & 4607' E of
SHL
98.9 degree Incl @ 6067 degree AZM





Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.11-T6N-R61W

Frank Trust 11-11H Sec.11-T6N-R61W

Frank Trust 11-11H (SHL 502'FNL, 225'FWL)

Wellbore #1

Survey: Survey #1

Standard Survey Report

08 April, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Frank Trust 11-11H (SHL 502'FNL, 225'FWL)
Project:	SEC.11-T6N-R61W	TVD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Site:	Frank Trust 11-11H Sec.11-T6N-R61W	MD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Well:	Frank Trust 11-11H (SHL 502'FNL, 225'FWL)	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.11-T6N-R61W, 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		Frank Trust 11-11H Sec.11-T6N-R61W			
Site Position:		Northing:	1,430,847.99ft	Latitude:	40.508635
From:	Lat/Long	Easting:	3,365,676.69ft	Longitude:	-104.184871
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.85 °

Well	Frank Trust 11-11H (SHL 502'FNL, 225'FWL)					
Well Position	+N-S	0.0 ft	Northing:	1,430,847.98 ft	Latitude:	40.508635
	+E-W	0.0 ft	Easting:	3,365,676.69 ft	Longitude:	-104.184871
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,731.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/22/2010	8.68	67.27	53,346

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	91.05	

Survey Program	Date	4/8/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
889.0	10,683.0	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
HARDLINE SHL 460'FWL - HARDLINE BHL 460'FEL - 500' Circle									
889.0	1.40	359.20	888.9	10.9	-0.2	-0.4	0.16	0.16	0.00
982.0	1.40	0.20	981.9	13.1	-0.2	-0.4	0.03	0.00	1.08
1,075.0	1.50	338.50	1,074.9	15.4	-0.6	-0.9	0.60	0.11	-23.33
1,167.0	1.60	315.10	1,166.8	17.4	-2.0	-2.3	0.69	0.11	-25.43
1,260.0	1.50	292.70	1,259.8	18.8	-4.0	-4.3	0.66	-0.11	-24.09
1,353.0	2.50	266.70	1,352.7	19.2	-7.1	-7.5	1.43	1.08	-27.96
1,446.0	2.50	265.20	1,445.6	18.9	-11.2	-11.5	0.07	0.00	-1.61
1,539.0	2.70	256.80	1,538.5	18.2	-15.3	-15.7	0.46	0.22	-9.03
1,632.0	2.10	248.60	1,631.5	17.1	-19.1	-19.4	0.74	-0.65	-8.82
1,725.0	2.00	255.70	1,724.4	16.1	-22.2	-22.5	0.29	-0.11	7.63

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Site:	Frank Trust 11-11H Sec.11-T6N-R61W	MD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Well:	Frank Trust 11-11H (SHL 502'FNL, 225'FWL)	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)
1,818.0	1.70	244.80	1,817.4	15.1	-25.0	-25.3	0.50	-0.32	-11.72
1,911.0	1.70	214.30	1,910.3	13.4	-27.1	-27.3	0.96	0.00	-32.80
2,004.0	1.60	216.00	2,003.3	11.2	-28.6	-28.8	0.12	-0.11	1.83
2,097.0	1.70	211.40	2,096.2	8.9	-30.1	-30.2	0.18	0.11	-4.95
2,190.0	1.30	181.90	2,189.2	6.7	-30.8	-31.0	0.92	-0.43	-31.72
2,283.0	1.30	158.70	2,282.2	4.7	-30.5	-30.6	0.56	0.00	-24.95
2,377.0	1.00	158.70	2,376.2	2.9	-29.8	-29.9	0.32	-0.32	0.00
2,470.0	1.10	168.00	2,469.2	1.3	-29.3	-29.3	0.21	0.11	10.00
2,563.0	0.70	173.90	2,562.1	-0.2	-29.1	-29.1	0.44	-0.43	6.34
2,655.0	0.90	178.80	2,654.1	-1.4	-29.0	-29.0	0.23	0.22	5.33
2,749.0	0.60	175.50	2,748.1	-2.7	-29.0	-28.9	0.32	-0.32	-3.51
2,842.0	0.50	154.90	2,841.1	-3.5	-28.7	-28.7	0.24	-0.11	-22.15
2,934.0	0.60	140.40	2,933.1	-4.3	-28.3	-28.2	0.19	0.11	-15.76
3,027.0	0.50	145.00	3,026.1	-5.0	-27.7	-27.6	0.12	-0.11	4.95
3,120.0	0.70	7.10	3,119.1	-4.7	-27.4	-27.3	1.21	0.22	-148.28
3,212.0	1.10	17.50	3,211.1	-3.3	-27.1	-27.0	0.47	0.43	11.30
3,307.0	1.60	356.60	3,306.1	-1.1	-26.9	-26.9	0.73	0.53	-22.00
3,400.0	1.80	326.20	3,399.0	1.4	-27.8	-27.8	0.98	0.22	-32.69
3,493.0	2.50	293.80	3,492.0	3.4	-30.4	-30.5	1.48	0.75	-34.84
3,586.0	5.10	293.80	3,584.8	5.9	-36.1	-36.2	2.80	2.80	0.00
3,679.0	5.60	286.90	3,677.4	8.9	-44.2	-44.4	0.88	0.54	-7.42
3,773.0	6.60	282.70	3,770.8	11.4	-53.9	-54.1	1.16	1.06	-4.47
3,866.0	6.40	276.10	3,863.2	13.1	-64.2	-64.5	0.83	-0.22	-7.10
3,959.0	6.10	264.40	3,955.7	13.2	-74.3	-74.5	1.40	-0.32	-12.58
4,053.0	6.50	268.00	4,049.1	12.5	-84.6	-84.8	0.60	0.43	3.83
4,146.0	6.90	266.60	4,141.5	12.0	-95.4	-95.6	0.46	0.43	-1.51
4,239.0	7.00	273.80	4,233.8	12.1	-106.7	-106.9	0.94	0.11	7.74
4,332.0	5.70	259.30	4,326.2	11.6	-116.9	-117.1	2.21	-1.40	-15.59
4,426.0	4.70	259.00	4,419.8	10.0	-125.2	-125.4	1.06	-1.06	-0.32
4,519.0	4.00	248.50	4,512.6	8.1	-132.0	-132.1	1.14	-0.75	-11.29
4,612.0	4.00	255.20	4,605.3	6.0	-138.1	-138.2	0.50	0.00	7.20
4,705.0	3.70	254.10	4,698.1	4.4	-144.2	-144.2	0.33	-0.32	-1.18
4,797.0	2.70	252.30	4,790.0	2.9	-149.1	-149.1	1.09	-1.09	-1.96
4,890.0	2.20	241.90	4,882.9	1.4	-152.7	-152.7	0.72	-0.54	-11.18
4,983.0	1.50	228.80	4,975.9	-0.2	-155.2	-155.2	0.87	-0.75	-14.09
5,076.0	0.80	226.60	5,068.8	-1.5	-156.6	-156.6	0.75	-0.75	-2.37
5,169.0	0.20	263.40	5,161.8	-1.9	-157.3	-157.2	0.70	-0.65	39.57
5,263.0	0.50	81.60	5,255.8	-1.9	-157.0	-156.9	0.74	0.32	189.57
5,348.0	0.90	100.20	5,340.8	-2.0	-156.0	-155.9	0.54	0.47	21.88
5,379.0	0.80	110.20	5,371.8	-2.1	-155.5	-155.5	0.58	-0.32	32.26
5,410.0	0.90	96.00	5,402.8	-2.2	-155.1	-155.0	0.75	0.32	-45.81
5,440.0	0.70	112.70	5,432.8	-2.3	-154.7	-154.6	1.02	-0.67	55.67
5,471.0	1.80	103.80	5,463.8	-2.5	-154.0	-154.0	3.59	3.55	-28.71
5,503.0	4.10	92.30	5,495.8	-2.6	-152.4	-152.3	7.39	7.19	-35.94
5,533.0	6.30	86.60	5,525.6	-2.6	-149.7	-149.6	7.52	7.33	-19.00
5,565.0	8.40	86.20	5,557.4	-2.3	-145.6	-145.5	6.56	6.56	-1.25
5,596.0	10.50	88.90	5,588.0	-2.1	-140.5	-140.5	6.92	6.77	8.71
5,627.0	13.00	90.00	5,618.3	-2.1	-134.2	-134.2	8.10	8.06	3.55
5,658.0	15.40	88.80	5,648.4	-2.0	-126.6	-126.6	7.80	7.74	-3.87
5,689.0	17.50	89.50	5,678.1	-1.9	-117.8	-117.8	6.80	6.77	2.26
5,720.0	19.50	92.50	5,707.5	-2.0	-108.0	-108.0	7.14	6.45	9.68
5,751.0	21.80	94.40	5,736.5	-2.7	-97.1	-97.0	7.73	7.42	6.13
5,782.0	24.00	93.80	5,765.0	-3.6	-85.1	-85.0	7.14	7.10	-1.94
5,813.0	25.70	92.70	5,793.2	-4.3	-72.1	-72.0	5.68	5.48	-3.55

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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)
5,843.0	27.00	90.50	5,820.1	-4.7	-58.8	-58.7	5.42	4.33	-7.33
5,874.0	29.10	88.70	5,847.4	-4.6	-44.2	-44.1	7.30	6.77	-5.81
5,905.0	31.80	89.20	5,874.1	-4.3	-28.5	-28.4	8.75	8.71	1.61
5,936.0	34.30	89.40	5,900.1	-4.1	-11.6	-11.5	8.07	8.06	0.65
5,967.0	36.10	89.60	5,925.4	-3.9	6.3	6.4	5.82	5.81	0.65
5,998.0	38.20	90.90	5,950.2	-4.0	25.0	25.1	7.23	6.77	4.19
6,029.0	40.60	92.10	5,974.1	-4.5	44.7	44.8	8.12	7.74	3.87
6,060.0	43.20	93.90	5,997.2	-5.6	65.4	65.4	9.24	8.39	5.81
6,091.0	45.30	94.70	6,019.4	-7.2	86.9	87.0	7.01	6.77	2.58
6,121.0	47.90	94.50	6,040.0	-9.0	108.7	108.8	8.68	8.67	-0.67
6,152.0	50.50	93.00	6,060.2	-10.5	132.1	132.2	9.15	8.39	-4.84
6,184.0	52.40	91.60	6,080.2	-11.5	157.1	157.3	6.85	5.94	-4.38
6,215.0	54.20	91.70	6,098.7	-12.2	181.9	182.1	5.81	5.81	0.32
6,246.0	56.00	90.90	6,116.4	-12.8	207.3	207.5	6.18	5.81	-2.58
6,277.0	57.70	90.80	6,133.4	-13.2	233.3	233.5	5.49	5.48	-0.32
6,308.0	60.10	91.40	6,149.4	-13.7	259.8	260.0	7.92	7.74	1.94
6,338.0	62.30	90.80	6,163.9	-14.2	286.1	286.3	7.54	7.33	-2.00
6,369.0	65.50	91.10	6,177.5	-14.7	313.9	314.1	10.36	10.32	0.97
6,400.0	67.60	91.40	6,189.8	-15.3	342.4	342.6	6.83	6.77	0.97
6,431.0	69.80	90.90	6,201.1	-15.9	371.2	371.5	7.25	7.10	-1.61
6,462.0	73.60	90.50	6,210.8	-16.2	400.7	400.9	12.32	12.26	-1.29
6,493.0	77.40	89.10	6,218.6	-16.1	430.7	430.9	13.01	12.26	-4.52
6,524.0	80.80	88.10	6,224.5	-15.4	461.1	461.3	11.42	10.97	-3.23
6,556.0	83.60	88.00	6,228.8	-14.3	492.8	493.0	8.76	8.75	-0.31
6,587.0	85.80	87.90	6,231.7	-13.2	523.6	523.8	7.10	7.10	-0.32
6,618.0	88.20	87.50	6,233.3	-11.9	554.6	554.7	7.85	7.74	-1.29
6,672.0	90.30	89.40	6,234.0	-10.5	608.5	608.6	5.24	3.89	3.52
6,704.0	90.70	88.90	6,233.7	-10.0	640.5	640.6	2.00	1.25	-1.56
6,736.0	91.00	89.00	6,233.2	-9.4	672.5	672.6	0.99	0.94	0.31
6,768.0	91.50	88.60	6,232.5	-8.8	704.5	704.5	2.00	1.56	-1.25
6,800.0	91.50	88.10	6,231.7	-7.8	736.5	736.5	1.56	0.00	-1.56
6,833.0	90.40	87.30	6,231.1	-6.5	769.4	769.4	4.12	-3.33	-2.42
6,864.0	89.90	87.50	6,231.1	-5.1	800.4	800.4	1.74	-1.61	0.65
6,895.0	89.60	87.20	6,231.2	-3.7	831.4	831.3	1.37	-0.97	-0.97
6,927.0	88.90	86.10	6,231.6	-1.8	863.3	863.2	4.07	-2.19	-3.44
6,959.0	89.10	85.50	6,232.2	0.5	895.2	895.1	1.98	0.63	-1.88
6,990.0	90.50	86.10	6,232.3	2.8	926.1	925.9	4.91	4.52	1.94
7,023.0	90.70	85.40	6,231.9	5.3	959.0	958.8	2.21	0.61	-2.12
7,055.0	90.40	85.50	6,231.6	7.8	990.9	990.6	0.99	-0.94	0.31
7,086.0	90.50	85.50	6,231.4	10.2	1,021.8	1,021.5	0.32	0.32	0.00
7,118.0	90.10	86.80	6,231.2	12.4	1,053.8	1,053.4	4.25	-1.25	4.06
7,149.0	90.00	88.00	6,231.2	13.8	1,084.7	1,084.3	3.88	-0.32	3.87
7,181.0	90.50	87.90	6,231.1	14.9	1,116.7	1,116.3	1.59	1.56	-0.31
7,213.0	90.50	87.30	6,230.8	16.3	1,148.7	1,148.2	1.87	0.00	-1.88
7,245.0	91.20	87.20	6,230.3	17.8	1,180.7	1,180.1	2.21	2.19	-0.31
7,277.0	91.30	87.30	6,229.6	19.3	1,212.6	1,212.0	0.44	0.31	0.31
7,309.0	91.40	87.20	6,228.9	20.9	1,244.6	1,244.0	0.44	0.31	-0.31
7,340.0	91.60	88.00	6,228.0	22.2	1,275.5	1,274.9	2.66	0.65	2.58
7,372.0	92.80	89.80	6,226.8	22.8	1,307.5	1,306.9	6.76	3.75	5.63
7,404.0	92.20	89.00	6,225.4	23.1	1,339.5	1,338.8	3.12	-1.88	-2.50
7,435.0	91.10	91.00	6,224.5	23.1	1,370.4	1,369.8	7.36	-3.55	6.45
7,467.0	90.30	91.50	6,224.1	22.4	1,402.4	1,401.8	2.95	-2.50	1.56
7,499.0	89.20	93.90	6,224.3	20.9	1,434.4	1,433.8	8.25	-3.44	7.50

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Survey									
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7,531.0	89.20	93.20	6,224.7	18.9	1,466.3	1,465.7	2.19	0.00	-2.19
7,562.0	89.20	92.90	6,225.2	17.3	1,497.3	1,496.7	0.97	0.00	-0.97
7,594.0	88.90	93.50	6,225.7	15.5	1,529.2	1,528.7	2.10	-0.94	1.88
7,625.0	88.80	92.70	6,226.3	13.8	1,560.2	1,559.7	2.60	-0.32	-2.58
7,657.0	88.10	93.40	6,227.2	12.1	1,592.1	1,591.6	3.09	-2.19	2.19
7,689.0	88.60	93.60	6,228.1	10.2	1,624.0	1,623.6	1.68	1.56	0.63
7,720.0	89.10	95.10	6,228.7	7.8	1,654.9	1,654.5	5.10	1.61	4.84
7,753.0	89.70	93.80	6,229.1	5.3	1,687.8	1,687.5	4.34	1.82	-3.94
7,784.0	90.20	94.00	6,229.1	3.2	1,718.8	1,718.4	1.74	1.61	0.65
7,816.0	90.50	94.40	6,228.9	0.8	1,750.7	1,750.4	1.56	0.94	1.25
7,847.0	89.50	93.80	6,228.9	-1.4	1,781.6	1,781.3	3.76	-3.23	-1.94
7,879.0	89.10	94.90	6,229.3	-3.8	1,813.5	1,813.3	3.66	-1.25	3.44
7,911.0	88.80	94.90	6,229.9	-6.6	1,845.4	1,845.2	0.94	-0.94	0.00
7,943.0	88.80	94.90	6,230.5	-9.3	1,877.3	1,877.1	0.00	0.00	0.00
7,975.0	89.10	94.70	6,231.1	-12.0	1,909.2	1,909.0	1.13	0.94	-0.63
8,007.0	88.70	94.50	6,231.7	-14.5	1,941.0	1,941.0	1.40	-1.25	-0.63
8,039.0	89.30	93.50	6,232.3	-16.8	1,973.0	1,972.9	3.64	1.88	-3.13
8,071.0	89.10	94.20	6,232.7	-18.9	2,004.9	2,004.9	2.27	-0.63	2.19
8,102.0	89.00	94.30	6,233.3	-21.2	2,035.8	2,035.8	0.46	-0.32	0.32
8,135.0	89.10	93.80	6,233.8	-23.6	2,068.7	2,068.8	1.54	0.30	-1.52
8,167.0	90.20	92.40	6,234.0	-25.3	2,100.7	2,100.8	5.56	3.44	-4.38
8,199.0	90.10	92.90	6,233.9	-26.8	2,132.6	2,132.8	1.59	-0.31	1.56
8,230.0	89.70	94.00	6,234.0	-28.6	2,163.6	2,163.7	3.78	-1.29	3.55
8,262.0	89.80	93.70	6,234.1	-30.8	2,195.5	2,195.7	0.99	0.31	-0.94
8,294.0	90.40	91.70	6,234.1	-32.3	2,227.5	2,227.7	6.53	1.88	-6.25
8,326.0	90.40	91.60	6,233.8	-33.2	2,259.4	2,259.7	0.31	0.00	-0.31
8,358.0	90.20	93.60	6,233.7	-34.7	2,291.4	2,291.7	6.28	-0.63	6.25
8,390.0	90.50	91.30	6,233.5	-36.0	2,323.4	2,323.6	7.25	0.94	-7.19
8,421.0	90.20	92.90	6,233.3	-37.2	2,354.4	2,354.6	5.25	-0.97	5.16
8,453.0	90.50	91.40	6,233.1	-38.4	2,386.3	2,386.6	4.78	0.94	-4.69
8,485.0	90.40	91.20	6,232.8	-39.1	2,418.3	2,418.6	0.70	-0.31	-0.63
8,517.0	90.90	90.30	6,232.5	-39.5	2,450.3	2,450.6	3.22	1.56	-2.81
8,549.0	91.00	90.40	6,231.9	-39.7	2,482.3	2,482.6	0.44	0.31	0.31
8,581.0	90.70	92.30	6,231.5	-40.5	2,514.3	2,514.6	6.01	-0.94	5.94
8,613.0	90.20	90.40	6,231.2	-41.2	2,546.3	2,546.6	6.14	-1.56	-5.94
8,645.0	90.10	90.00	6,231.1	-41.3	2,578.3	2,578.6	1.29	-0.31	-1.25
8,677.0	90.00	89.50	6,231.1	-41.2	2,610.3	2,610.6	1.59	-0.31	-1.56
8,709.0	89.80	91.30	6,231.2	-41.4	2,642.3	2,642.6	5.66	-0.63	5.63
8,741.0	90.50	89.50	6,231.1	-41.6	2,674.3	2,674.6	6.04	2.19	-5.63
8,774.0	90.20	91.40	6,230.9	-41.9	2,707.3	2,707.6	5.83	-0.91	5.76
8,806.0	90.40	91.40	6,230.7	-42.7	2,739.3	2,739.6	0.63	0.63	0.00
8,838.0	91.20	89.90	6,230.3	-43.0	2,771.3	2,771.6	5.31	2.50	-4.69
8,870.0	91.50	89.60	6,229.5	-42.9	2,803.2	2,803.6	1.33	0.94	-0.94
8,903.0	91.90	90.20	6,228.5	-42.8	2,836.2	2,836.5	2.18	1.21	1.82
8,936.0	93.00	89.50	6,227.1	-42.7	2,869.2	2,869.5	3.95	3.33	-2.12
8,968.0	92.70	90.90	6,225.5	-42.9	2,901.2	2,901.5	4.47	-0.94	4.38
9,001.0	93.80	88.40	6,223.7	-42.7	2,934.1	2,934.4	8.27	3.33	-7.58
9,033.0	93.80	89.50	6,221.5	-42.1	2,966.0	2,966.3	3.43	0.00	3.44
9,065.0	93.90	89.90	6,219.4	-41.9	2,998.0	2,998.2	1.29	0.31	1.25
9,098.0	94.20	91.60	6,217.1	-42.3	3,030.9	3,031.1	5.22	0.91	5.15
9,130.0	94.90	90.80	6,214.5	-43.0	3,062.8	3,063.0	3.32	2.19	-2.50
9,163.0	95.80	89.70	6,211.4	-43.1	3,095.6	3,095.9	4.30	2.73	-3.33
9,195.0	95.20	90.40	6,208.4	-43.2	3,127.5	3,127.7	2.87	-1.88	2.19

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Frank Trust 11-11H (SHL 502'FNL, 225'FWL)
Project:	SEC.11-T6N-R61W	TVD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Site:	Frank Trust 11-11H Sec.11-T6N-R61W	MD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Well:	Frank Trust 11-11H (SHL 502'FNL, 225'FWL)	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)
9,227.0	93.10	91.40	6,206.1	-43.7	3,159.4	3,159.6	7.26	-6.56	3.13
9,259.0	92.30	90.30	6,204.5	-44.2	3,191.3	3,191.6	4.25	-2.50	-3.44
9,291.0	91.70	90.50	6,203.4	-44.4	3,223.3	3,223.6	1.98	-1.88	0.63
9,324.0	92.00	90.20	6,202.4	-44.6	3,256.3	3,256.6	1.29	0.91	-0.91
9,356.0	92.60	89.40	6,201.1	-44.5	3,288.3	3,288.5	3.12	1.88	-2.50
9,389.0	92.50	88.90	6,199.6	-44.0	3,321.2	3,321.5	1.54	-0.30	-1.52
9,421.0	93.50	89.50	6,197.9	-43.5	3,353.2	3,353.4	3.64	3.13	1.88
9,453.0	93.10	90.00	6,196.1	-43.4	3,385.1	3,385.4	2.00	-1.25	1.56
9,485.0	94.00	88.80	6,194.1	-43.1	3,417.1	3,417.3	4.68	2.81	-3.75
9,518.0	93.30	91.20	6,192.0	-43.1	3,450.0	3,450.2	7.56	-2.12	7.27
9,550.0	92.50	91.30	6,190.4	-43.8	3,482.0	3,482.2	2.52	-2.50	0.31
9,583.0	93.40	90.70	6,188.7	-44.3	3,514.9	3,515.1	3.28	2.73	-1.82
9,615.0	93.60	91.10	6,186.7	-44.8	3,546.8	3,547.1	1.40	0.63	1.25
9,647.0	93.70	91.80	6,184.7	-45.6	3,578.8	3,579.0	2.21	0.31	2.19
9,679.0	94.40	92.00	6,182.4	-46.7	3,610.7	3,610.9	2.27	2.19	0.63
9,711.0	95.40	90.10	6,179.7	-47.3	3,642.5	3,642.8	6.69	3.13	-5.94
9,743.0	94.60	91.40	6,176.9	-47.7	3,674.4	3,674.7	4.76	-2.50	4.06
9,775.0	94.40	92.40	6,174.4	-48.8	3,706.3	3,706.6	3.18	-0.63	3.13
9,806.0	94.80	92.50	6,171.9	-50.1	3,737.2	3,737.5	1.33	1.29	0.32
9,839.0	95.30	92.10	6,169.0	-51.4	3,770.0	3,770.3	1.94	1.52	-1.21
9,870.0	94.90	92.80	6,166.3	-52.7	3,800.9	3,801.2	2.59	-1.29	2.26
9,903.0	95.30	92.20	6,163.3	-54.2	3,833.7	3,834.1	2.18	1.21	-1.82
9,934.0	95.20	93.10	6,160.5	-55.6	3,864.5	3,864.9	2.91	-0.32	2.90
9,966.0	95.70	91.80	6,157.5	-56.9	3,896.4	3,896.8	4.34	1.56	-4.06
9,998.0	95.60	91.60	6,154.3	-57.9	3,928.2	3,928.6	0.70	-0.31	-0.63
10,030.0	95.90	91.70	6,151.1	-58.8	3,960.0	3,960.4	0.99	0.94	0.31
10,062.0	96.20	91.90	6,147.7	-59.8	3,991.8	3,992.3	1.12	0.94	0.63
10,094.0	96.80	92.40	6,144.1	-61.0	4,023.6	4,024.0	2.43	1.88	1.56
10,126.0	96.70	91.20	6,140.3	-62.0	4,055.4	4,055.8	3.74	-0.31	-3.75
10,159.0	97.10	90.40	6,136.4	-62.5	4,088.1	4,088.6	2.69	1.21	-2.42
10,190.0	97.50	91.60	6,132.4	-63.0	4,118.9	4,119.3	4.05	1.29	3.87
10,223.0	97.60	90.10	6,128.1	-63.5	4,151.6	4,152.0	4.52	0.30	-4.55
10,254.0	97.20	90.20	6,124.1	-63.6	4,182.3	4,182.8	1.33	-1.29	0.32
10,286.0	96.80	90.50	6,120.2	-63.7	4,214.1	4,214.5	1.56	-1.25	0.94
10,318.0	96.80	90.20	6,116.4	-63.9	4,245.9	4,246.3	0.93	0.00	-0.94
10,350.0	96.70	89.90	6,112.7	-64.0	4,277.6	4,278.1	0.98	-0.31	-0.94
10,381.0	96.60	91.70	6,109.1	-64.4	4,308.4	4,308.9	5.78	-0.32	5.81
10,413.0	97.10	91.30	6,105.3	-65.2	4,340.2	4,340.6	2.00	1.56	-1.25
10,445.0	97.20	90.30	6,101.3	-65.7	4,371.9	4,372.4	3.12	0.31	-3.13
10,477.0	97.80	90.20	6,097.1	-65.8	4,403.7	4,404.1	1.90	1.88	-0.31
10,510.0	98.10	90.20	6,092.5	-65.9	4,436.3	4,436.8	0.91	0.91	0.00
10,542.0	98.20	90.20	6,088.0	-66.0	4,468.0	4,468.5	0.31	0.31	0.00
10,574.0	98.00	90.20	6,083.5	-66.1	4,499.7	4,500.1	0.63	-0.63	0.00
10,605.0	98.60	91.20	6,079.0	-66.5	4,530.4	4,530.8	3.73	1.94	3.23
10,629.8	98.83	90.52	6,075.2	-66.9	4,554.9	4,555.3	2.84	0.91	-2.73
TARGET BHL 580'FNL, 500'FEL									
10,638.0	98.90	90.30	6,074.0	-66.9	4,563.0	4,563.4	2.84	0.91	-2.73
10,683.0	98.90	90.30	6,067.0	-67.2	4,607.4	4,607.9	0.00	0.00	0.00
Proj @ Bit									

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Frank Trust 11-11H (SHL 502'FNL, 225'FWL)
Project:	SEC.11-T6N-R61W	TVD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Site:	Frank Trust 11-11H Sec.11-T6N-R61W	MD Reference:	WELL @ 4746.0ft (RKB Ensign 32 - 15')
Well:	Frank Trust 11-11H (SHL 502'FNL, 225'FWL)	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
+N/-S (ft)	+E/-W (ft)			
10,683.0	6,067.0	-67.2	4,607.4	Proj @ Bit

Checked By: _____	Approved By: _____	Date: _____
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