

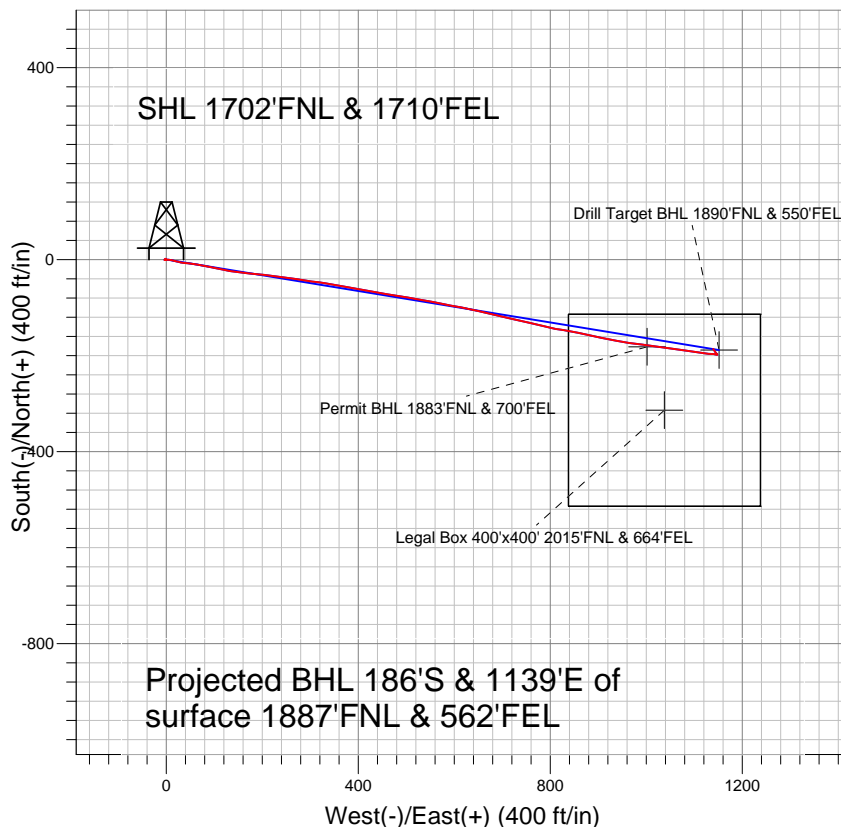
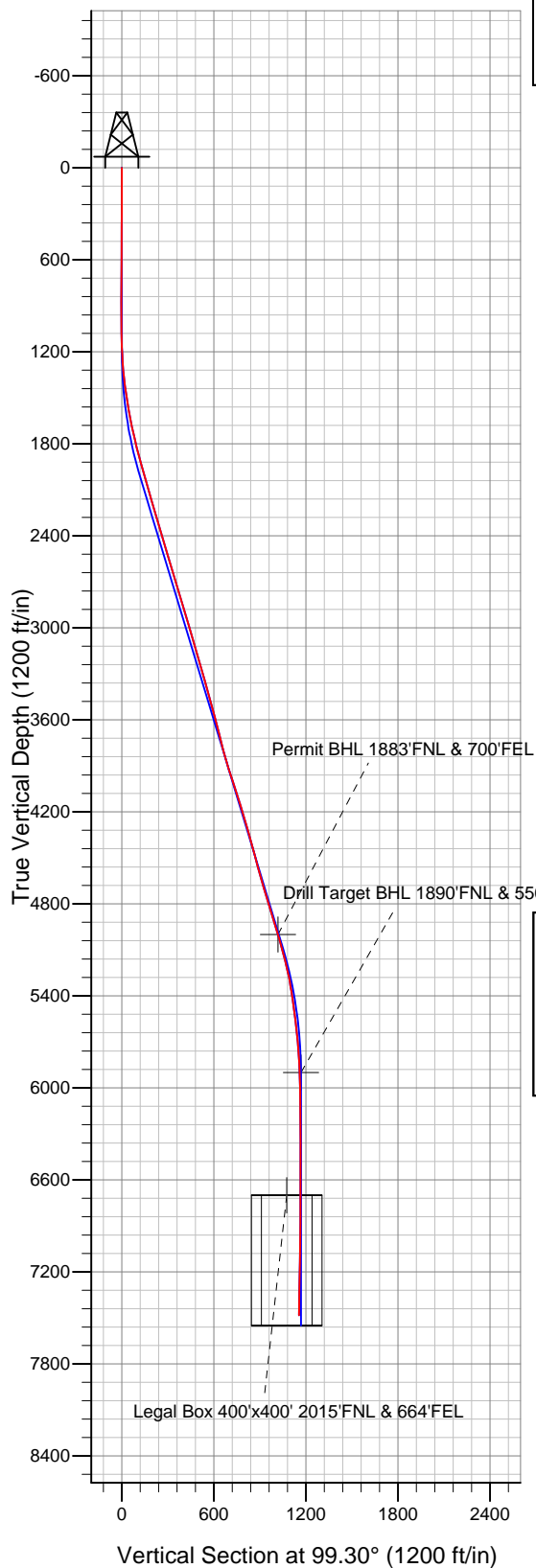
Well Name: **Moody 42-32D**

Surface Location: Moody 31-32D Pad Sec.32-T7N-R66W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4890.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1438039.97	3194662.43	40° 32' 1.356 N	104° 47' 58.812 W	
Original Well Elev WELL @ 4903.0ft (Original Well Elev)						

PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- ✕ Moody 42-32D, Wellbore #1, Plan #3 (2-16-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7637'MD & 7483'TVD @ 1154'VS
 1.2 deg Inc 331.8 deg AZ

Project: SEC.32-T7N-R66W
 Site: Moody 31-32D Pad Sec.32-T7N-R66W
 Well: Moody 42-32D
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T7N-R66W

Moody 31-32D Pad Sec.32-T7N-R66W

Moody 42-32D

Wellbore #1

Survey: Survey #1

Standard Survey Report

31 March, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Moody 42-32D
Project:	SEC.32-T7N-R66W	TVD Reference:	WELL @ 4903.0ft (Original Well Elev)
Site:	Moody 31-32D Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4903.0ft (Original Well Elev)
Well:	Moody 42-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.32-T7N-R66W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Moody 31-32D Pad Sec.32-T7N-R66W				
Site Position:		Northing:	1,438,090.61 ft	Latitude:	40° 32' 1.860 N
From:	Lat/Long	Easting:	3,194,614.77 ft	Longitude:	104° 47' 59.424 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.45 °

Well	Moody 42-32D					
Well Position	+N-S	0.0 ft	Northing:	1,438,039.97 ft	Latitude:	40° 32' 1.356 N
	+E-W	0.0 ft	Easting:	3,194,662.43 ft	Longitude:	104° 47' 58.812 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,890.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2011	8.94	67.16	53,232

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	99.30	

Survey Program	Date 3/31/2011				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
95.0	7,637.0	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
95.0	0.10	3.10	95.0	0.1	0.0	0.0	0.11	0.11	0.00
190.0	0.30	341.30	190.0	0.4	-0.1	-0.1	0.22	0.21	-22.95
285.0	0.30	325.70	285.0	0.8	-0.3	-0.4	0.09	0.00	-16.42
380.0	0.30	289.80	380.0	1.1	-0.7	-0.8	0.19	0.00	-37.79
475.0	0.40	285.20	475.0	1.3	-1.2	-1.4	0.11	0.11	-4.84
570.0	0.40	272.20	570.0	1.4	-1.9	-2.1	0.10	0.00	-13.68
665.0	0.60	232.70	665.0	1.1	-2.6	-2.7	0.41	0.21	-41.58
760.0	0.60	209.20	760.0	0.4	-3.2	-3.3	0.26	0.00	-24.74
855.0	0.50	193.90	855.0	-0.5	-3.6	-3.5	0.19	-0.11	-16.11
950.0	0.40	182.90	950.0	-1.2	-3.7	-3.5	0.14	-0.11	-11.58
1,027.0	0.40	13.00	1,027.0	-1.2	-3.6	-3.4	1.03	0.00	-220.65

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Moody 42-32D
Project:	SEC.32-T7N-R66W	TVD Reference:	WELL @ 4903.0ft (Original Well Elev)
Site:	Moody 31-32D Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4903.0ft (Original Well Elev)
Well:	Moody 42-32D	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)
1,122.0	1.50	84.40	1,122.0	-0.8	-2.3	-2.2	1.50	1.16	75.16
1,217.0	3.40	89.10	1,216.9	-0.6	1.7	1.8	2.01	2.00	4.95
1,312.0	5.10	97.50	1,311.6	-1.1	8.7	8.8	1.90	1.79	8.84
1,407.0	6.50	105.80	1,406.1	-3.1	18.1	18.3	1.71	1.47	8.74
1,502.0	9.00	100.70	1,500.2	-6.0	30.6	31.1	2.73	2.63	-5.37
1,597.0	10.50	94.40	1,593.9	-8.0	46.5	47.2	1.94	1.58	-6.63
1,691.0	11.60	100.40	1,686.1	-10.4	64.3	65.2	1.69	1.17	6.38
1,786.0	13.40	100.80	1,778.9	-14.1	84.5	85.7	1.90	1.89	0.42
1,881.0	14.80	103.20	1,871.0	-19.0	107.2	108.8	1.60	1.47	2.53
1,976.0	15.80	98.20	1,962.7	-23.6	131.8	133.9	1.74	1.05	-5.26
2,071.0	16.50	98.20	2,053.9	-27.4	157.9	160.3	0.74	0.74	0.00
2,166.0	16.30	94.00	2,145.0	-30.2	184.6	187.0	1.27	-0.21	-4.42
2,261.0	16.60	96.80	2,236.2	-32.8	211.4	213.9	0.89	0.32	2.95
2,356.0	16.50	97.60	2,327.2	-36.1	238.2	240.9	0.26	-0.11	0.84
2,451.0	16.20	97.80	2,418.4	-39.7	264.7	267.7	0.32	-0.32	0.21
2,546.0	15.70	99.60	2,509.7	-43.7	290.5	293.8	0.74	-0.53	1.89
2,640.0	16.40	96.90	2,600.1	-47.4	316.2	319.7	1.09	0.74	-2.87
2,735.0	16.90	100.40	2,691.1	-51.5	343.1	346.9	1.18	0.53	3.68
2,830.0	17.10	99.80	2,781.9	-56.4	370.5	374.7	0.28	0.21	-0.63
2,925.0	17.00	100.40	2,872.7	-61.2	397.9	402.6	0.21	-0.11	0.63
3,020.0	16.10	100.40	2,963.8	-66.1	424.5	429.6	0.95	-0.95	0.00
3,114.0	16.10	98.60	3,054.1	-70.4	450.2	455.7	0.53	0.00	-1.91
3,209.0	16.50	100.30	3,145.3	-74.8	476.5	482.3	0.66	0.42	1.79
3,304.0	16.70	99.10	3,236.3	-79.4	503.3	509.5	0.42	0.21	-1.26
3,399.0	15.60	99.20	3,327.6	-83.6	529.4	535.9	1.16	-1.16	0.11
3,494.0	15.30	102.10	3,419.2	-88.3	554.2	561.2	0.87	-0.32	3.05
3,589.0	16.10	101.30	3,510.6	-93.5	579.4	586.9	0.87	0.84	-0.84
3,683.0	14.40	98.90	3,601.3	-97.8	603.7	611.6	1.93	-1.81	-2.55
3,778.0	13.80	102.30	3,693.4	-102.1	626.5	634.7	1.08	-0.63	3.58
3,873.0	14.40	103.20	3,785.6	-107.2	649.0	657.8	0.67	0.63	0.95
3,968.0	16.70	103.10	3,877.1	-113.0	673.8	683.2	2.42	2.42	-0.11
4,063.0	17.80	102.60	3,967.8	-119.2	701.3	711.4	1.17	1.16	-0.53
4,158.0	18.20	102.60	4,058.2	-125.6	730.0	740.7	0.42	0.42	0.00
4,253.0	17.80	103.20	4,148.5	-132.2	758.6	770.0	0.46	-0.42	0.63
4,347.0	16.20	104.00	4,238.4	-138.6	785.3	797.4	1.72	-1.70	0.85
4,442.0	16.00	101.00	4,329.7	-144.3	811.0	823.7	0.90	-0.21	-3.16
4,537.0	14.60	100.40	4,421.3	-149.0	835.6	848.7	1.48	-1.47	-0.63
4,632.0	15.00	98.90	4,513.2	-153.1	859.5	873.0	0.58	0.42	-1.58
4,727.0	16.20	103.80	4,604.7	-158.1	884.6	898.5	1.88	1.26	5.16
4,822.0	17.00	102.40	4,695.7	-164.3	911.0	925.6	0.94	0.84	-1.47
4,917.0	16.20	99.60	4,786.8	-169.5	937.6	952.7	1.19	-0.84	-2.95
5,012.0	16.90	98.40	4,877.8	-173.7	964.4	979.7	0.82	0.74	-1.26
5,107.0	17.00	97.50	4,968.7	-177.5	991.8	1,007.4	0.30	0.11	-0.95
5,140.0	16.58	97.50	5,000.2	-178.8	1,001.2	1,017.0	1.28	-1.28	0.00
Permit BHL 1883'FNL & 700'FEL									
5,201.0	15.80	97.50	5,058.9	-181.0	1,018.1	1,034.0	1.28	-1.28	0.00
5,296.0	14.70	97.50	5,150.5	-184.3	1,042.9	1,058.9	1.16	-1.16	0.00
5,391.0	12.30	97.70	5,242.9	-187.2	1,064.9	1,081.1	2.53	-2.53	0.21
5,486.0	10.00	98.30	5,336.1	-189.7	1,083.0	1,099.5	2.42	-2.42	0.63
5,581.0	8.00	98.40	5,429.9	-191.9	1,097.7	1,114.3	2.11	-2.11	0.11
5,676.0	7.10	98.70	5,524.1	-193.7	1,110.1	1,126.8	0.95	-0.95	0.32
5,771.0	6.10	97.40	5,618.5	-195.3	1,120.9	1,137.7	1.06	-1.05	-1.37
5,866.0	5.50	96.00	5,713.0	-196.4	1,130.4	1,147.3	0.65	-0.63	-1.47

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Well:	Moody 42-32D	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)
5,960.0	3.20	92.50	5,806.7	-197.0	1,137.5	1,154.4	2.46	-2.45	-3.72
6,053.8	1.92	96.42	5,900.4	-197.3	1,141.7	1,158.6	1.38	-1.37	4.18
Drill Target BHL 1890'FNL & 550'FEL									
6,055.0	1.90	96.50	5,901.6	-197.3	1,141.7	1,158.6	1.38	-1.36	7.02
6,150.0	1.20	95.80	5,996.6	-197.6	1,144.3	1,161.2	0.74	-0.74	-0.74
6,245.0	0.80	108.60	6,091.5	-197.9	1,145.9	1,162.8	0.48	-0.42	13.47
6,340.0	0.40	116.50	6,186.5	-198.2	1,146.8	1,163.8	0.43	-0.42	8.32
6,435.0	0.30	109.00	6,281.5	-198.5	1,147.4	1,164.4	0.12	-0.11	-7.89
6,530.0	0.20	78.20	6,376.5	-198.5	1,147.8	1,164.8	0.17	-0.11	-32.42
6,625.0	0.20	37.40	6,471.5	-198.3	1,148.0	1,165.0	0.15	0.00	-42.95
6,720.0	0.30	2.20	6,566.5	-198.0	1,148.1	1,165.1	0.19	0.11	-37.05
6,816.0	0.30	322.50	6,662.5	-197.5	1,148.0	1,164.8	0.21	0.00	-41.35
6,853.4	0.30	317.78	6,700.0	-197.4	1,147.9	1,164.7	0.07	0.00	-12.62
Legal Box 400'x400' 2015'FNL & 664'FEL									
6,911.0	0.30	310.50	6,757.5	-197.2	1,147.7	1,164.4	0.07	0.00	-12.64
7,006.0	0.40	299.50	6,852.5	-196.8	1,147.2	1,163.9	0.13	0.11	-11.58
7,101.0	0.90	319.10	6,947.5	-196.1	1,146.4	1,163.0	0.57	0.53	20.63
7,196.0	1.20	319.50	7,042.5	-194.8	1,145.3	1,161.7	0.32	0.32	0.42
7,291.0	1.40	324.60	7,137.5	-193.1	1,144.0	1,160.1	0.24	0.21	5.37
7,386.0	1.50	324.00	7,232.5	-191.1	1,142.6	1,158.4	0.11	0.11	-0.63
7,481.0	1.40	327.60	7,327.4	-189.1	1,141.2	1,156.8	0.14	-0.11	3.79
7,576.0	1.30	329.70	7,422.4	-187.2	1,140.0	1,155.3	0.12	-0.11	2.21
7,637.0	1.20	331.80	7,483.4	-186.1	1,139.4	1,154.5	0.18	-0.16	3.44

Checked By: _____	Approved By: _____	Date: _____
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