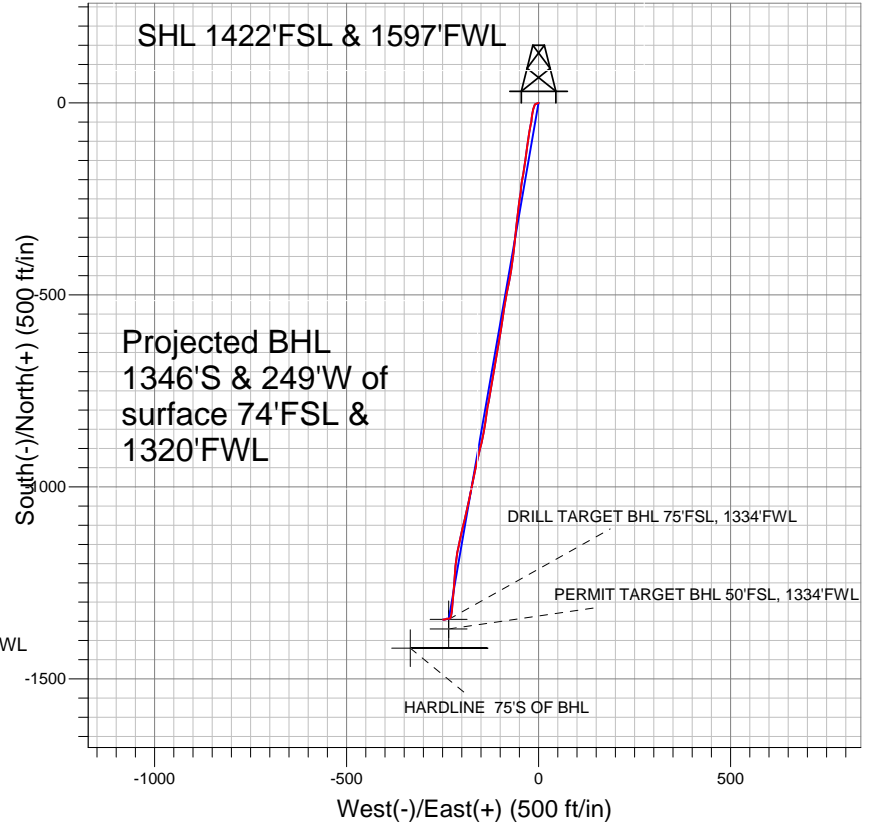
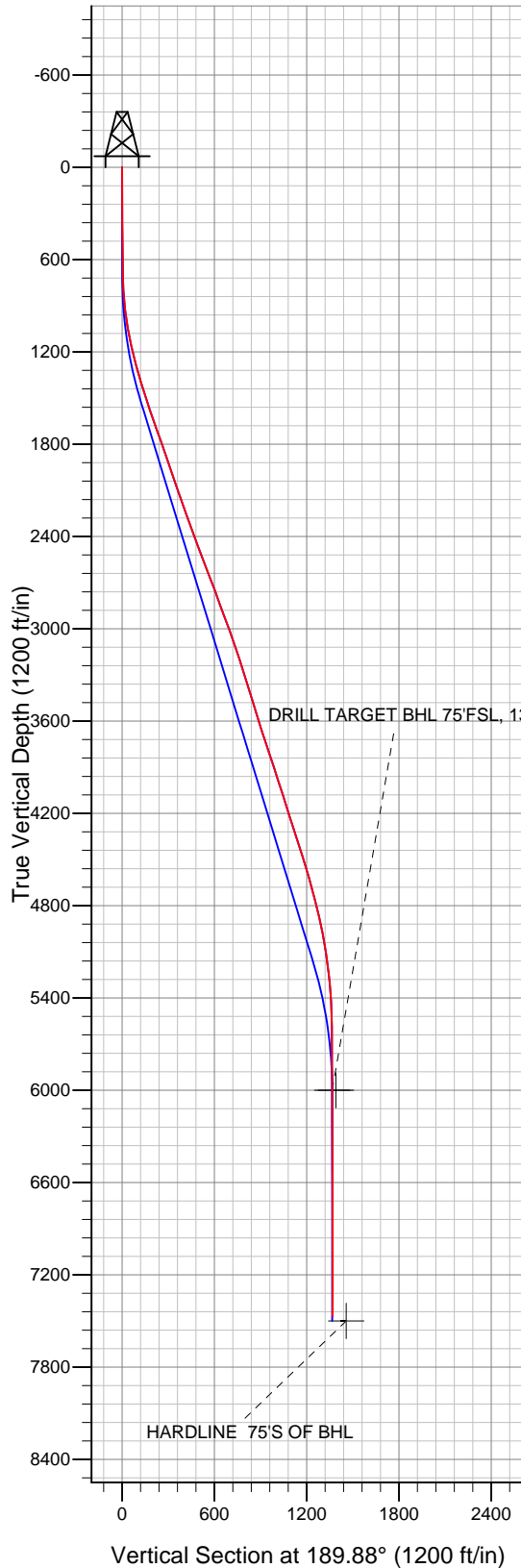


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- △ Walters 21LDU, Wellbore #1, Plan #1 (6-4-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7677'MD & 7468'TVD @ 1368'VS
 0.2 deg Inc 311.2 deg AZ

Project: SEC.21-T4N-R67W
 Site: Walters/Wedco/Ryland Pad Sec.21-T4N-R67W
 Well: Walters 21LDU
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.21-T4N-R67W

Walters/Wedco/Ryland Pad Sec.21-T4N-R67W

Walters 21LDU

Wellbore #1

Survey: Survey #1

Standard Survey Report

08 June, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Walters 21LDU
Project:	SEC.21-T4N-R67W	TVD Reference:	WELL @ 4953.0ft (Original Well Elev)
Site:	Walters/Wedco/Ryland Pad Sec.21-T4N-R67W	MD Reference:	WELL @ 4953.0ft (Original Well Elev)
Well:	Walters 21LDU	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.21-T4N-R67W, 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		Walters/Wedco/Ryland Pad Sec.21-T4N-R67W			
Site Position:		Northing:	1,351,058.86ft	Latitude:	40.295500
From:	Lat/Long	Easting:	3,167,490.83ft	Longitude:	-104.899540
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.39 °

Well	Walters 21LDU					
Well Position	+N-S	0.0 ft	Northing:	1,350,890.93 ft	Latitude:	40.295040
	+E-W	0.0 ft	Easting:	3,167,438.97 ft	Longitude:	-104.899730
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,940.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	9.09	67.00	53,234

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	189.88	

Survey Program	Date 6/8/2011				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
703.0	7,677.0	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
703.0	1.50	246.30	702.9	-3.7	-8.4	5.1	0.21	0.21	0.00
797.0	3.30	197.90	796.8	-6.8	-10.4	8.4	2.73	1.91	-51.49
890.0	5.70	202.20	889.5	-13.6	-13.0	15.6	2.60	2.58	4.62
983.0	8.00	188.90	981.9	-24.3	-15.7	26.6	2.99	2.47	-14.30
1,076.0	10.50	187.20	1,073.7	-39.1	-17.8	41.5	2.70	2.69	-1.83
1,170.0	12.30	190.90	1,165.8	-57.4	-20.7	60.1	2.07	1.91	3.94
1,263.0	15.10	189.40	1,256.2	-79.1	-24.6	82.1	3.03	3.01	-1.61
1,356.0	16.10	189.50	1,345.7	-103.8	-28.7	107.1	1.08	1.08	0.11
1,449.0	17.30	184.90	1,434.8	-130.2	-32.0	133.8	1.92	1.29	-4.95
1,542.0	18.60	189.40	1,523.3	-158.7	-35.6	162.4	2.04	1.40	4.84
1,636.0	19.20	190.50	1,612.2	-188.6	-40.9	192.9	0.74	0.64	1.17

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Walters 21LDU
Project:	SEC.21-T4N-R67W	TVD Reference:	WELL @ 4953.0ft (Original Well Elev)
Site:	Walters/Wedco/Ryland Pad Sec.21-T4N-R67W	MD Reference:	WELL @ 4953.0ft (Original Well Elev)
Well:	Walters 21LDU	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)
1,729.0	19.00	185.80	1,700.1	-218.7	-45.2	223.3	1.67	-0.22	-5.05
1,822.0	19.50	189.40	1,787.9	-249.1	-49.2	253.9	1.38	0.54	3.87
1,915.0	19.10	185.30	1,875.7	-279.6	-53.2	284.6	1.52	-0.43	-4.41
2,007.0	19.10	187.70	1,962.6	-309.5	-56.6	314.6	0.85	0.00	2.61
2,101.0	19.40	184.30	2,051.4	-340.3	-59.8	345.5	1.23	0.32	-3.62
2,194.0	19.00	187.80	2,139.2	-370.7	-63.0	376.0	1.31	-0.43	3.76
2,287.0	19.00	187.20	2,227.1	-400.7	-67.0	406.3	0.21	0.00	-0.65
2,381.0	19.90	187.30	2,315.8	-431.8	-70.9	437.5	0.96	0.96	0.11
2,474.0	20.30	192.20	2,403.1	-463.2	-76.4	469.5	1.86	0.43	5.27
2,567.0	21.10	190.80	2,490.1	-495.5	-82.9	502.3	1.01	0.86	-1.51
2,660.0	21.20	189.70	2,576.8	-528.5	-88.9	535.9	0.44	0.11	-1.18
2,753.0	21.30	188.00	2,663.5	-561.8	-94.1	569.6	0.67	0.11	-1.83
2,846.0	19.60	188.30	2,750.7	-593.9	-98.7	602.1	1.83	-1.83	0.32
2,939.0	20.20	190.20	2,838.1	-625.2	-103.8	633.7	0.95	0.65	2.04
3,033.0	20.60	189.60	2,926.2	-657.5	-109.4	666.5	0.48	0.43	-0.64
3,126.0	20.10	190.10	3,013.4	-689.3	-114.9	698.8	0.57	-0.54	0.54
3,219.0	18.30	188.80	3,101.2	-719.5	-120.0	729.4	1.99	-1.94	-1.40
3,312.0	18.90	189.50	3,189.4	-748.8	-124.7	759.1	0.69	0.65	0.75
3,406.0	17.80	191.60	3,278.6	-777.9	-130.1	788.6	1.37	-1.17	2.23
3,499.0	17.10	188.40	3,367.3	-805.3	-134.9	816.5	1.28	-0.75	-3.44
3,592.0	17.10	188.70	3,456.2	-832.4	-139.0	843.9	0.09	0.00	0.32
3,685.0	17.10	190.60	3,545.1	-859.3	-143.6	871.2	0.60	0.00	2.04
3,779.0	17.00	192.30	3,635.0	-886.3	-149.1	898.8	0.54	-0.11	1.81
3,872.0	18.60	193.80	3,723.5	-914.0	-155.5	927.1	1.79	1.72	1.61
3,965.0	18.40	192.90	3,811.7	-942.7	-162.3	956.6	0.37	-0.22	-0.97
4,058.0	18.50	190.60	3,899.9	-971.5	-168.3	986.0	0.79	0.11	-2.47
4,152.0	18.10	191.60	3,989.2	-1,000.5	-174.0	1,015.5	0.54	-0.43	1.06
4,246.0	18.00	191.20	4,078.5	-1,029.0	-179.7	1,044.6	0.17	-0.11	-0.43
4,339.0	17.00	194.20	4,167.2	-1,056.3	-185.9	1,072.5	1.45	-1.08	3.23
4,432.0	17.50	193.80	4,256.0	-1,083.1	-192.5	1,100.1	0.55	0.54	-0.43
4,525.0	17.60	192.20	4,344.7	-1,110.4	-198.8	1,128.1	0.53	0.11	-1.72
4,619.0	18.80	192.20	4,434.0	-1,139.1	-205.0	1,157.4	1.28	1.28	0.00
4,712.0	17.10	190.80	4,522.5	-1,167.2	-210.8	1,186.0	1.89	-1.83	-1.51
4,805.0	15.90	187.90	4,611.7	-1,193.2	-215.1	1,212.4	1.56	-1.29	-3.12
4,898.0	14.50	183.00	4,701.4	-1,217.5	-217.4	1,236.7	2.04	-1.51	-5.27
4,991.0	14.90	184.20	4,791.4	-1,241.0	-218.9	1,260.2	0.54	0.43	1.29
5,084.0	13.20	184.60	4,881.6	-1,263.5	-220.7	1,282.7	1.83	-1.83	0.43
5,178.0	10.90	185.60	4,973.5	-1,283.1	-222.4	1,302.2	2.46	-2.45	1.06
5,271.0	8.90	183.70	5,065.1	-1,299.0	-223.7	1,318.1	2.18	-2.15	-2.04
5,364.0	7.90	184.20	5,157.1	-1,312.6	-224.6	1,331.6	1.08	-1.08	0.54
5,457.0	6.60	188.50	5,249.4	-1,324.2	-225.9	1,343.3	1.51	-1.40	4.62
5,551.0	4.90	192.70	5,342.9	-1,333.5	-227.6	1,352.8	1.86	-1.81	4.47
5,644.0	3.30	200.70	5,435.6	-1,339.9	-229.4	1,359.4	1.82	-1.72	8.60
5,737.0	1.20	237.20	5,528.6	-1,342.9	-231.2	1,362.6	2.63	-2.26	39.25
5,830.0	1.40	269.50	5,621.6	-1,343.4	-233.1	1,363.5	0.80	0.22	34.73
5,924.0	1.10	269.40	5,715.5	-1,343.5	-235.2	1,363.9	0.32	-0.32	-0.11
6,017.0	0.90	270.70	5,808.5	-1,343.5	-236.8	1,364.2	0.22	-0.22	1.40
6,110.0	0.70	258.90	5,901.5	-1,343.6	-238.1	1,364.5	0.28	-0.22	-12.69
6,203.0	0.60	262.40	5,994.5	-1,343.7	-239.1	1,364.8	0.12	-0.11	3.76
6,208.5	0.60	261.11	6,000.0	-1,343.7	-239.2	1,364.8	0.25	-0.05	-23.68
DRILL TARGET BHL 75'FSL, 1334'FWL									
6,208.5	0.60	261.09	6,000.0	-1,343.7	-239.2	1,364.8	0.25	-0.04	-23.78
PERMIT TARGET BHL 50'FSL, 1334'FWL									

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Site:	Walters/Wedco/Ryland Pad Sec.21-T4N-R67W	MD Reference:	WELL @ 4953.0ft (Original Well Elev)
Well:	Walters 21LDU	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)
6,296.0	0.60	239.90	6,087.5	-1,344.0	-240.0	1,365.3	0.25	0.00	-24.23
6,389.0	0.50	237.30	6,180.5	-1,344.5	-240.8	1,365.9	0.11	-0.11	-2.80
6,483.0	0.40	259.50	6,274.5	-1,344.8	-241.5	1,366.3	0.21	-0.11	23.62
6,576.0	0.30	272.10	6,367.5	-1,344.8	-242.0	1,366.4	0.14	-0.11	13.55
6,669.0	0.50	268.40	6,460.5	-1,344.8	-242.7	1,366.5	0.22	0.22	-3.98
6,763.0	0.70	258.30	6,554.5	-1,345.0	-243.6	1,366.8	0.24	0.21	-10.74
6,856.0	0.50	222.20	6,647.5	-1,345.4	-244.5	1,367.4	0.45	-0.22	-38.82
6,949.0	0.60	256.20	6,740.5	-1,345.8	-245.2	1,367.9	0.36	0.11	36.56
7,041.0	0.50	240.20	6,832.5	-1,346.1	-246.0	1,368.4	0.20	-0.11	-17.39
7,135.0	0.50	282.40	6,926.5	-1,346.2	-246.8	1,368.6	0.38	0.00	44.89
7,227.0	0.40	256.20	7,018.5	-1,346.2	-247.5	1,368.7	0.25	-0.11	-28.48
7,320.0	0.30	298.40	7,111.5	-1,346.2	-248.0	1,368.8	0.29	-0.11	45.38
7,413.0	0.00	294.60	7,204.5	-1,346.1	-248.2	1,368.7	0.32	-0.32	0.00
7,506.0	0.10	306.40	7,297.5	-1,346.0	-248.3	1,368.7	0.11	0.11	0.00
7,598.0	0.20	311.20	7,389.5	-1,345.9	-248.5	1,368.5	0.11	0.11	5.22
7,677.0	0.20	311.20	7,468.5	-1,345.7	-248.7	1,368.4	0.00	0.00	0.00
HARDLINE 75'S OF BHL									

Checked By: _____ Approved By: _____ Date: _____