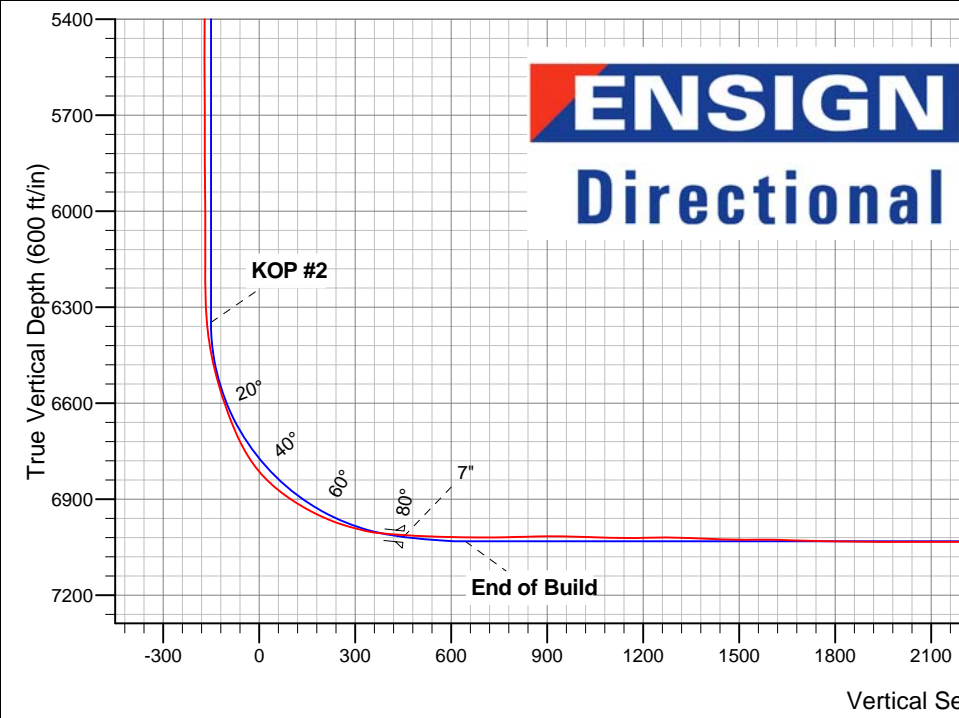
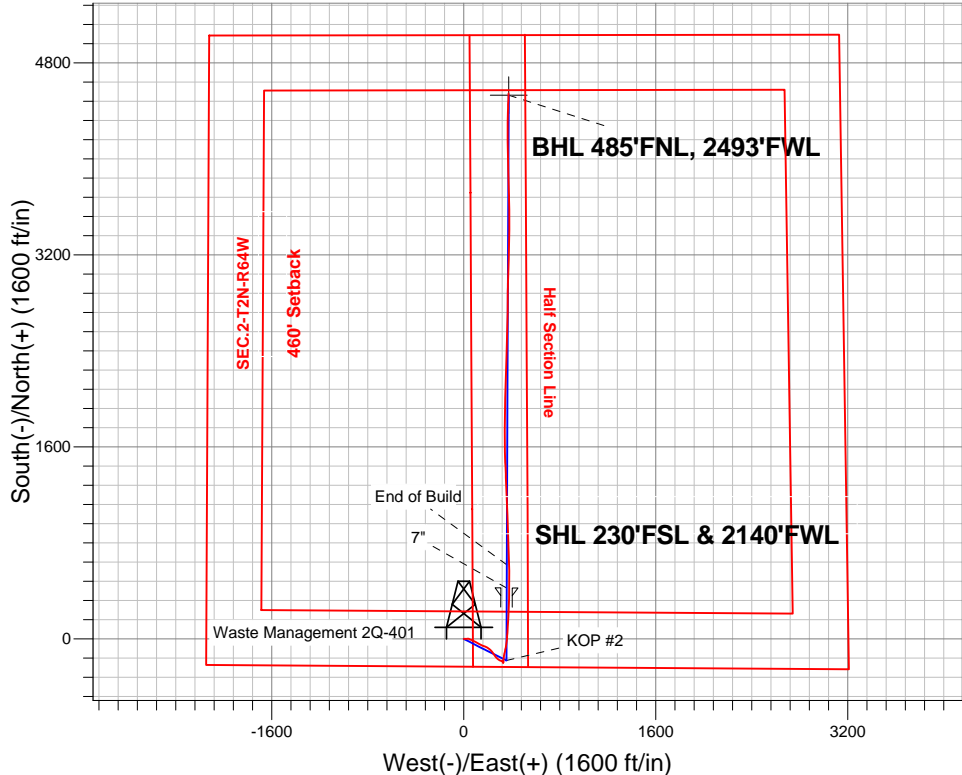


PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Waste Management 2Q-401**  
Surface Location: Waste Management 2Q-HZ Pad Sec.2-T2N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4932.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1302941.47 3273724.23 40.160820 -104.520620  
RKB -15' WELL @ 4947.0ft (RKB -15')

FINAL SURVEY

Projected Bottom Hole Location  
11502' MD 7028' TVD 4546' N & 372' E of SHL  
90.1 degree Incl @ 1.6 degree AZM



Waste Management 2Q-HZ Pad Sec.2-T2N-R64W Waste Management 2Q-401 Wellbore #1 8:22, August 20 2013	ANNOTATIONS
	No annotation data is available.
LEGEND	
✕ Waste Management 2Q-401, Wellbore #1, Plan #2 (8-02-13)R V0	
□ Wellbore #1	



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.2-T2N-R64W**

**Waste Management 2Q-HZ Pad Sec.2-T2N-R64W**

**Waste Management 2Q-401**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**20 August, 2013**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.2-T2N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W				
Site Position:		Northing:	1,302,940.51 ft	Latitude:	40.160820
From:	Lat/Long	Easting:	3,273,634.80 ft	Longitude:	-104.520940
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.63 °

Well	Waste Management 2Q-401					
Well Position	+N-S	0.0 ft	Northing:	1,302,941.47 ft	Latitude:	40.160820
	+E-W	0.0 ft	Easting:	3,273,724.23 ft	Longitude:	-104.520620
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,932.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/2/2013	8.43	66.82	52,806

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	4.68	

<b>Survey Program</b>	<b>Date</b> 8/19/2013				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
97.0	11,502.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
97.0	0.50	94.20	97.0	0.0	0.4	0.0	0.52	0.52	0.00
164.0	0.70	92.50	164.0	-0.1	1.1	0.0	0.30	0.30	-2.54
370.0	1.80	91.80	369.9	-0.2	5.6	0.2	0.53	0.53	-0.34
529.0	3.00	91.20	528.8	-0.4	12.3	0.6	0.75	0.75	-0.38
687.0	2.70	95.10	686.6	-0.8	20.1	0.8	0.23	-0.19	2.47
891.0	1.80	68.70	890.5	-0.1	27.9	2.2	0.66	-0.44	-12.94
970.0	2.20	67.10	969.4	1.0	30.4	3.4	0.51	0.51	-2.03
1,001.0	1.90	70.50	1,000.4	1.4	31.5	3.9	1.04	-0.97	10.97
1,064.0	2.00	87.40	1,063.3	1.8	33.5	4.5	0.92	0.16	26.83
1,158.0	4.60	102.80	1,157.2	1.0	38.9	4.2	2.90	2.77	16.38

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,283.0	5.70	115.30	1,281.7	-2.8	49.4	1.3	1.25	0.88	10.00
1,405.0	5.60	115.00	1,403.1	-7.9	60.2	-2.9	0.09	-0.08	-0.25
1,558.0	7.00	111.60	1,555.2	-14.4	75.7	-8.2	0.95	0.92	-2.22
1,711.0	6.40	116.60	1,707.1	-21.7	92.0	-14.1	0.55	-0.39	3.27
1,864.0	6.20	119.20	1,859.2	-29.5	106.8	-20.7	0.23	-0.13	1.70
2,024.0	6.20	121.10	2,018.3	-38.2	121.7	-28.2	0.13	0.00	1.19
2,183.0	5.50	121.50	2,176.4	-46.6	135.6	-35.4	0.44	-0.44	0.25
2,342.0	5.90	112.70	2,334.6	-53.8	149.6	-41.4	0.60	0.25	-5.53
2,500.0	6.50	106.90	2,491.7	-59.5	165.7	-45.8	0.55	0.38	-3.67
2,658.0	5.90	117.80	2,648.8	-65.9	181.4	-50.9	0.83	-0.38	6.90
2,817.0	6.20	116.90	2,806.9	-73.6	196.3	-57.3	0.20	0.19	-0.57
2,976.0	7.00	129.50	2,964.9	-83.6	211.4	-66.1	1.04	0.50	7.92
3,135.0	4.70	132.70	3,123.0	-94.2	223.7	-75.6	1.46	-1.45	2.01
3,294.0	5.50	144.00	3,281.4	-104.8	233.0	-85.4	0.81	0.50	7.11
3,452.0	6.20	141.10	3,438.6	-117.6	242.8	-97.4	0.48	0.44	-1.84
3,611.0	7.10	145.40	3,596.5	-132.3	253.7	-111.2	0.65	0.57	2.70
3,770.0	8.10	144.00	3,754.1	-149.5	265.9	-127.3	0.64	0.63	-0.88
3,929.0	6.90	129.70	3,911.8	-164.7	279.8	-141.3	1.39	-0.75	-8.99
4,087.0	6.60	121.60	4,068.7	-175.5	294.9	-150.8	0.63	-0.19	-5.13
4,150.0	6.20	116.20	4,131.3	-178.9	301.0	-153.7	1.15	-0.63	-8.57
4,214.0	6.00	107.60	4,194.9	-181.4	307.3	-155.7	1.46	-0.31	-13.44
4,309.0	3.30	114.80	4,289.6	-184.1	314.5	-157.8	2.90	-2.84	7.58
4,405.0	3.50	121.50	4,385.4	-186.8	319.5	-160.0	0.46	0.21	6.98
4,500.0	3.50	113.50	4,480.3	-189.4	324.7	-162.3	0.51	0.00	-8.42
4,563.0	2.40	116.00	4,543.2	-190.8	327.6	-163.4	1.76	-1.75	3.97
4,627.0	0.80	112.10	4,607.1	-191.5	329.2	-164.0	2.50	-2.50	-6.09
4,722.0	0.90	107.60	4,702.1	-192.0	330.6	-164.4	0.13	0.11	-4.74
4,881.0	0.20	164.70	4,861.1	-192.6	331.8	-164.9	0.51	-0.44	35.91
5,039.0	0.80	237.10	5,019.1	-193.5	331.0	-165.8	0.48	0.38	45.82
5,230.0	1.00	217.80	5,210.1	-195.6	328.8	-168.1	0.19	0.10	-10.10
5,389.0	0.80	191.90	5,369.1	-197.7	327.7	-170.3	0.28	-0.13	-16.29
5,548.0	0.50	7.70	5,528.1	-198.1	327.6	-170.7	0.82	-0.19	110.57
5,706.0	0.20	14.60	5,686.1	-197.2	327.8	-169.8	0.19	-0.19	4.37
5,865.0	0.20	21.60	5,845.1	-196.7	327.9	-169.2	0.02	0.00	4.40
6,024.0	0.30	1.40	6,004.1	-196.0	328.1	-168.5	0.08	0.06	-12.70
6,182.0	0.10	299.90	6,162.1	-195.5	327.9	-168.1	0.17	-0.13	-38.92
6,214.0	0.00	16.50	6,194.1	-195.5	327.9	-168.1	0.31	-0.31	0.00
6,246.0	0.10	335.70	6,226.1	-195.5	327.9	-168.0	0.31	0.31	0.00
6,277.0	1.00	13.70	6,257.1	-195.2	328.0	-167.7	2.98	2.90	122.58
6,309.0	2.40	11.90	6,289.0	-194.2	328.2	-166.8	4.38	4.38	-5.63
6,341.0	4.00	10.90	6,321.0	-192.5	328.5	-165.0	5.00	5.00	-3.13
6,373.0	5.30	2.50	6,352.9	-189.9	328.8	-162.4	4.58	4.06	-26.25
6,404.0	6.90	2.60	6,383.7	-186.6	328.9	-159.2	5.16	5.16	0.32
6,436.0	9.00	5.40	6,415.4	-182.2	329.3	-154.7	6.67	6.56	8.75
6,468.0	10.80	7.40	6,446.9	-176.8	329.9	-149.2	5.73	5.63	6.25
6,500.0	12.60	9.00	6,478.3	-170.3	330.8	-142.8	5.72	5.63	5.00
6,531.0	14.30	8.60	6,508.4	-163.2	331.9	-135.6	5.49	5.48	-1.29
6,563.0	16.10	8.10	6,539.3	-154.9	333.1	-127.2	5.64	5.63	-1.56
6,595.0	17.60	9.10	6,569.9	-145.7	334.5	-117.9	4.77	4.69	3.13
6,627.0	18.90	10.70	6,600.3	-135.9	336.3	-108.0	4.35	4.06	5.00
6,658.0	20.20	11.80	6,629.5	-125.7	338.3	-97.7	4.36	4.19	3.55
6,690.0	21.90	12.50	6,659.4	-114.5	340.7	-86.3	5.37	5.31	2.19
6,722.0	23.80	12.50	6,688.9	-102.3	343.4	-74.0	5.94	5.94	0.00

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
6,753.0	25.70	12.30	6,717.0	-89.7	346.2	-61.1	6.13	6.13	-0.65
6,785.0	28.90	11.40	6,745.5	-75.3	349.2	-46.5	10.08	10.00	-2.81
6,817.0	33.20	9.80	6,772.9	-59.1	352.2	-30.1	13.68	13.44	-5.00
6,849.0	37.50	8.10	6,799.0	-40.8	355.1	-11.7	13.78	13.44	-5.31
6,880.0	42.20	7.00	6,822.7	-21.1	357.7	8.2	15.33	15.16	-3.55
6,912.0	45.90	5.80	6,845.7	1.0	360.1	30.4	11.85	11.56	-3.75
6,944.0	50.40	4.20	6,867.1	24.8	362.2	54.2	14.55	14.06	-5.00
6,976.0	53.60	3.50	6,886.8	49.9	363.9	79.4	10.15	10.00	-2.19
7,007.0	56.80	3.30	6,904.5	75.3	365.4	104.9	10.34	10.32	-0.65
7,039.0	59.90	3.50	6,921.3	102.5	367.0	132.1	9.70	9.69	0.63
7,071.0	61.50	4.00	6,936.9	130.3	368.8	160.0	5.18	5.00	1.56
7,102.0	64.50	3.70	6,951.0	157.9	370.7	187.6	9.72	9.68	-0.97
7,134.0	67.60	2.50	6,964.0	187.1	372.3	216.9	10.28	9.69	-3.75
7,166.0	71.10	1.80	6,975.3	217.0	373.4	246.8	11.13	10.94	-2.19
7,198.0	73.20	0.70	6,985.1	247.5	374.1	277.2	7.33	6.56	-3.44
7,229.0	75.30	1.00	6,993.5	277.3	374.5	307.0	6.84	6.77	0.97
7,272.0	80.60	1.80	7,002.5	319.3	375.5	348.9	12.46	12.33	1.86
7,328.0	85.60	1.00	7,009.2	374.9	376.9	404.4	9.04	8.93	-1.43
7,358.0	86.20	0.50	7,011.3	404.8	377.3	434.3	2.60	2.00	-1.67
7,389.0	86.60	0.20	7,013.3	435.7	377.5	465.1	1.61	1.29	-0.97
7,419.0	87.10	0.20	7,014.9	465.7	377.6	495.0	1.67	1.67	0.00
7,450.0	87.40	0.70	7,016.4	496.7	377.8	525.9	1.88	0.97	1.61
7,480.0	88.30	0.50	7,017.5	526.6	378.1	555.8	3.07	3.00	-0.67
7,511.0	88.80	2.10	7,018.3	557.6	378.8	586.7	5.41	1.61	5.16
7,542.0	89.30	359.50	7,018.8	588.6	379.3	617.6	8.54	1.61	-8.39
7,572.0	89.40	358.80	7,019.2	618.6	378.8	647.5	2.36	0.33	-2.33
7,602.0	89.70	358.60	7,019.4	648.6	378.1	677.3	1.20	1.00	-0.67
7,633.0	89.70	359.10	7,019.6	679.6	377.5	708.1	1.61	0.00	1.61
7,664.0	90.10	358.40	7,019.6	710.6	376.8	739.0	2.60	1.29	-2.26
7,695.0	90.80	358.10	7,019.4	741.6	375.9	769.8	2.46	2.26	-0.97
7,727.0	91.50	358.40	7,018.8	773.5	374.9	801.6	2.38	2.19	0.94
7,759.0	91.60	357.50	7,017.9	805.5	373.8	833.3	2.83	0.31	-2.81
7,791.0	91.60	357.40	7,017.0	837.5	372.4	865.1	0.31	0.00	-0.31
7,822.0	91.00	358.10	7,016.3	868.4	371.1	895.8	2.97	-1.94	2.26
7,854.0	90.00	357.20	7,016.0	900.4	369.8	927.6	4.20	-3.13	-2.81
7,886.0	88.20	357.70	7,016.5	932.4	368.4	959.3	5.84	-5.63	1.56
7,917.0	87.90	357.20	7,017.6	963.3	367.0	990.1	1.88	-0.97	-1.61
7,949.0	87.80	356.80	7,018.8	995.3	365.4	1,021.8	1.29	-0.31	-1.25
7,981.0	88.50	356.70	7,019.8	1,027.2	363.5	1,053.4	2.21	2.19	-0.31
8,013.0	88.10	357.00	7,020.8	1,059.1	361.8	1,085.1	1.56	-1.25	0.94
8,044.0	89.10	357.00	7,021.5	1,090.1	360.2	1,115.8	3.23	3.23	0.00
8,076.0	90.00	357.20	7,021.8	1,122.0	358.5	1,147.6	2.88	2.81	0.63
8,108.0	90.90	357.90	7,021.5	1,154.0	357.2	1,179.3	3.56	2.81	2.19
8,139.0	91.00	357.50	7,021.0	1,185.0	355.9	1,210.1	1.33	0.32	-1.29
8,171.0	91.10	357.70	7,020.4	1,216.9	354.6	1,241.8	0.70	0.31	0.63
8,202.0	90.70	358.80	7,019.9	1,247.9	353.6	1,272.6	3.78	-1.29	3.55
8,234.0	88.40	358.80	7,020.2	1,279.9	353.0	1,304.5	7.19	-7.19	0.00
8,267.0	87.10	357.90	7,021.5	1,312.9	352.0	1,337.2	4.79	-3.94	-2.73
8,298.0	87.10	358.20	7,023.0	1,343.8	351.0	1,368.0	0.97	0.00	0.97
8,330.0	88.00	358.10	7,024.4	1,375.8	349.9	1,399.7	2.83	2.81	-0.31
8,362.0	88.50	357.70	7,025.4	1,407.7	348.8	1,431.5	2.00	1.56	-1.25
8,393.0	88.60	357.70	7,026.2	1,438.7	347.5	1,462.3	0.32	0.32	0.00

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
8,425.0	89.10	357.20	7,026.8	1,470.7	346.1	1,494.0	2.21	1.56	-1.56
8,457.0	89.80	357.70	7,027.1	1,502.6	344.7	1,525.7	2.69	2.19	1.56
8,488.0	90.30	358.10	7,027.1	1,533.6	343.5	1,556.5	2.07	1.61	1.29
8,520.0	90.10	358.10	7,027.0	1,565.6	342.5	1,588.3	0.63	-0.63	0.00
8,552.0	89.00	358.90	7,027.2	1,597.6	341.6	1,620.1	4.25	-3.44	2.50
8,584.0	88.40	358.40	7,028.0	1,629.6	340.9	1,651.9	2.44	-1.88	-1.56
8,616.0	88.30	358.40	7,028.9	1,661.5	340.0	1,683.7	0.31	-0.31	0.00
8,647.0	88.40	359.10	7,029.8	1,692.5	339.3	1,714.6	2.28	0.32	2.26
8,679.0	88.10	0.90	7,030.7	1,724.5	339.3	1,746.4	5.70	-0.94	5.63
8,711.0	88.80	1.80	7,031.6	1,756.5	340.1	1,778.4	3.56	2.19	2.81
8,743.0	89.20	2.10	7,032.2	1,788.4	341.2	1,810.3	1.56	1.25	0.94
8,774.0	89.30	2.30	7,032.6	1,819.4	342.3	1,841.3	0.72	0.32	0.65
8,806.0	89.50	1.90	7,032.9	1,851.4	343.5	1,873.3	1.40	0.63	-1.25
8,838.0	89.30	0.90	7,033.2	1,883.4	344.3	1,905.2	3.19	-0.63	-3.13
8,870.0	89.30	0.90	7,033.6	1,915.4	344.8	1,937.1	0.00	0.00	0.00
8,901.0	89.60	1.00	7,033.9	1,946.4	345.3	1,968.1	1.02	0.97	0.32
8,933.0	89.80	1.20	7,034.1	1,978.4	345.9	2,000.0	0.88	0.63	0.63
8,965.0	90.00	1.20	7,034.2	2,010.4	346.6	2,031.9	0.63	0.63	0.00
8,996.0	89.90	1.40	7,034.2	2,041.4	347.3	2,062.9	0.72	-0.32	0.65
9,028.0	89.90	0.90	7,034.2	2,073.3	347.9	2,094.8	1.56	0.00	-1.56
9,060.0	90.00	1.00	7,034.3	2,105.3	348.5	2,126.8	0.44	0.31	0.31
9,091.0	90.10	1.40	7,034.2	2,136.3	349.1	2,157.7	1.33	0.32	1.29
9,123.0	90.30	1.90	7,034.1	2,168.3	350.0	2,189.7	1.68	0.63	1.56
9,155.0	90.60	1.90	7,033.9	2,200.3	351.1	2,221.6	0.94	0.94	0.00
9,189.0	90.30	1.60	7,033.6	2,234.3	352.1	2,255.6	1.25	-0.88	-0.88
9,218.0	90.60	1.80	7,033.4	2,263.3	353.0	2,284.5	1.24	1.03	0.69
9,250.0	90.40	1.40	7,033.1	2,295.3	353.9	2,316.5	1.40	-0.63	-1.25
9,282.0	89.60	2.10	7,033.1	2,327.2	354.9	2,348.4	3.32	-2.50	2.19
9,313.0	89.60	1.90	7,033.3	2,358.2	356.0	2,379.4	0.65	0.00	-0.65
9,345.0	89.50	1.80	7,033.6	2,390.2	357.0	2,411.4	0.44	-0.31	-0.31
9,377.0	89.70	1.90	7,033.8	2,422.2	358.0	2,443.3	0.70	0.63	0.31
9,409.0	89.80	1.60	7,033.9	2,454.2	359.0	2,475.3	0.99	0.31	-0.94
9,440.0	90.00	1.90	7,034.0	2,485.2	360.0	2,506.2	1.16	0.65	0.97
9,472.0	90.00	1.60	7,034.0	2,517.1	360.9	2,538.2	0.94	0.00	-0.94
9,504.0	90.00	1.20	7,034.0	2,549.1	361.7	2,570.2	1.25	0.00	-1.25
9,536.0	90.00	1.40	7,034.0	2,581.1	362.4	2,602.1	0.63	0.00	0.63
9,567.0	90.30	1.40	7,033.9	2,612.1	363.2	2,633.0	0.97	0.97	0.00
9,599.0	90.80	1.00	7,033.6	2,644.1	363.9	2,665.0	2.00	1.56	-1.25
9,631.0	91.00	1.00	7,033.1	2,676.1	364.4	2,696.9	0.63	0.63	0.00
9,663.0	90.50	0.50	7,032.7	2,708.1	364.8	2,728.8	2.21	-1.56	-1.56
9,694.0	90.00	0.20	7,032.5	2,739.1	365.0	2,759.7	1.88	-1.61	-0.97
9,726.0	89.30	0.90	7,032.7	2,771.1	365.3	2,791.7	3.09	-2.19	2.19
9,758.0	88.50	0.90	7,033.4	2,803.1	365.8	2,823.6	2.50	-2.50	0.00
9,790.0	88.30	1.00	7,034.2	2,835.1	366.4	2,855.5	0.70	-0.63	0.31
9,821.0	88.30	0.50	7,035.2	2,866.0	366.8	2,886.4	1.61	0.00	-1.61
9,853.0	89.00	1.20	7,035.9	2,898.0	367.3	2,918.3	3.09	2.19	2.19
9,885.0	89.30	1.60	7,036.4	2,930.0	368.0	2,950.3	1.56	0.94	1.25
9,917.0	89.00	1.60	7,036.9	2,962.0	368.9	2,982.2	0.94	-0.94	0.00
9,948.0	89.30	1.90	7,037.3	2,993.0	369.9	3,013.2	1.37	0.97	0.97
9,980.0	89.30	1.80	7,037.7	3,025.0	370.9	3,045.1	0.31	0.00	-0.31
10,012.0	89.20	1.60	7,038.1	3,056.9	371.9	3,077.1	0.70	-0.31	-0.63
10,043.0	89.20	1.90	7,038.6	3,087.9	372.8	3,108.1	0.97	0.00	0.97
10,075.0	90.00	1.60	7,038.8	3,119.9	373.8	3,140.0	2.67	2.50	-0.94

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
10,107.0	90.40	1.40	7,038.7	3,151.9	374.6	3,172.0	1.40	1.25	-0.63
10,139.0	90.70	1.40	7,038.4	3,183.9	375.4	3,203.9	0.94	0.94	0.00
10,170.0	90.70	1.20	7,038.0	3,214.9	376.1	3,234.9	0.65	0.00	-0.65
10,202.0	90.50	1.00	7,037.7	3,246.9	376.7	3,266.8	0.88	-0.63	-0.63
10,234.0	89.50	0.70	7,037.7	3,278.9	377.2	3,298.7	3.26	-3.13	-0.94
10,265.0	89.00	0.70	7,038.1	3,309.9	377.6	3,329.6	1.61	-1.61	0.00
10,297.0	88.90	0.30	7,038.7	3,341.9	377.8	3,361.5	1.29	-0.31	-1.25
10,329.0	89.30	0.90	7,039.2	3,373.9	378.2	3,393.5	2.25	1.25	1.88
10,361.0	89.50	1.20	7,039.5	3,405.8	378.8	3,425.4	1.13	0.63	0.94
10,393.0	90.00	0.90	7,039.6	3,437.8	379.4	3,457.3	1.82	1.56	-0.94
10,424.0	90.70	0.30	7,039.4	3,468.8	379.7	3,488.3	2.97	2.26	-1.94
10,456.0	91.40	359.80	7,038.9	3,500.8	379.7	3,520.1	2.69	2.19	-1.56
10,488.0	91.90	359.60	7,037.9	3,532.8	379.5	3,552.0	1.68	1.56	-0.63
10,520.0	91.70	359.50	7,036.9	3,564.8	379.3	3,583.9	0.70	-0.63	-0.31
10,551.0	91.20	359.80	7,036.1	3,595.8	379.1	3,614.7	1.88	-1.61	0.97
10,583.0	90.50	358.80	7,035.7	3,627.8	378.7	3,646.6	3.81	-2.19	-3.13
10,615.0	90.70	358.60	7,035.3	3,659.8	378.0	3,678.4	0.88	0.63	-0.63
10,647.0	90.70	358.40	7,034.9	3,691.8	377.1	3,710.2	0.62	0.00	-0.63
10,678.0	90.10	357.90	7,034.7	3,722.7	376.1	3,741.0	2.52	-1.94	-1.61
10,710.0	90.00	358.40	7,034.7	3,754.7	375.1	3,772.8	1.59	-0.31	1.56
10,742.0	90.00	358.10	7,034.7	3,786.7	374.1	3,804.6	0.94	0.00	-0.94
10,774.0	90.00	357.70	7,034.7	3,818.7	373.0	3,836.4	1.25	0.00	-1.25
10,805.0	90.50	358.40	7,034.6	3,849.7	371.9	3,867.2	2.77	1.61	2.26
10,837.0	91.00	358.60	7,034.1	3,881.7	371.1	3,899.0	1.68	1.56	0.63
10,869.0	91.20	359.10	7,033.5	3,913.6	370.4	3,930.8	1.68	0.63	1.56
10,901.0	91.20	359.10	7,032.9	3,945.6	369.9	3,962.7	0.00	0.00	0.00
10,932.0	91.40	359.10	7,032.2	3,976.6	369.4	3,993.5	0.65	0.65	0.00
10,964.0	91.50	359.10	7,031.3	4,008.6	368.9	4,025.3	0.31	0.31	0.00
10,996.0	91.50	358.80	7,030.5	4,040.6	368.4	4,057.2	0.94	0.00	-0.94
11,028.0	91.50	358.60	7,029.7	4,072.6	367.6	4,089.0	0.62	0.00	-0.63
11,060.0	91.30	358.10	7,028.9	4,104.5	366.7	4,120.8	1.68	-0.63	-1.56
11,092.0	91.30	358.80	7,028.2	4,136.5	365.8	4,152.6	2.19	0.00	2.19
11,123.0	90.50	359.30	7,027.7	4,167.5	365.3	4,183.4	3.04	-2.58	1.61
11,155.0	89.90	359.80	7,027.6	4,199.5	365.1	4,215.3	2.44	-1.88	1.56
11,187.0	89.90	0.30	7,027.6	4,231.5	365.1	4,247.2	1.56	0.00	1.56
11,219.0	89.50	1.40	7,027.8	4,263.5	365.6	4,279.1	3.66	-1.25	3.44
11,251.0	89.70	1.20	7,028.0	4,295.5	366.3	4,311.1	0.88	0.63	-0.63
11,283.0	89.70	1.20	7,028.2	4,327.5	367.0	4,343.0	0.00	0.00	0.00
11,314.0	90.00	1.40	7,028.3	4,358.5	367.7	4,374.0	1.16	0.97	0.65
11,346.0	90.10	1.40	7,028.2	4,390.5	368.5	4,405.9	0.31	0.31	0.00
11,378.0	90.00	1.40	7,028.2	4,422.5	369.2	4,437.9	0.31	-0.31	0.00
11,409.0	90.00	1.20	7,028.2	4,453.5	369.9	4,468.8	0.65	0.00	-0.65
11,446.0	90.10	1.60	7,028.2	4,490.5	370.8	4,505.7	1.11	0.27	1.08
11,487.5	90.10	1.60	7,028.1	4,532.0	372.0	4,547.2	0.00	0.00	0.00
<b>BHL 500'FNL, 2495'FWL</b>									
11,502.0	90.10	1.60	7,028.1	4,546.4	372.4	4,561.7	0.00	0.00	0.00

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2Q-401
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Site:</b>	Waste Management 2Q-HZ Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4947.0ft (RKB -15')
<b>Well:</b>	Waste Management 2Q-401	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Checked By: _____	Approved By: _____	Date: _____
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