

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Waste Management 2T-201**

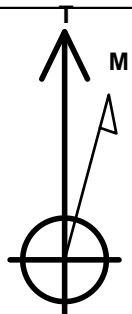
Surface Location: Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4894.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1302947.82	3275610.85	40.160780	-104.513870	

RKB - 15' WELL @ 4909.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500'FNL, 1490'FEL	6839.0	4550.1	-231.9	Point



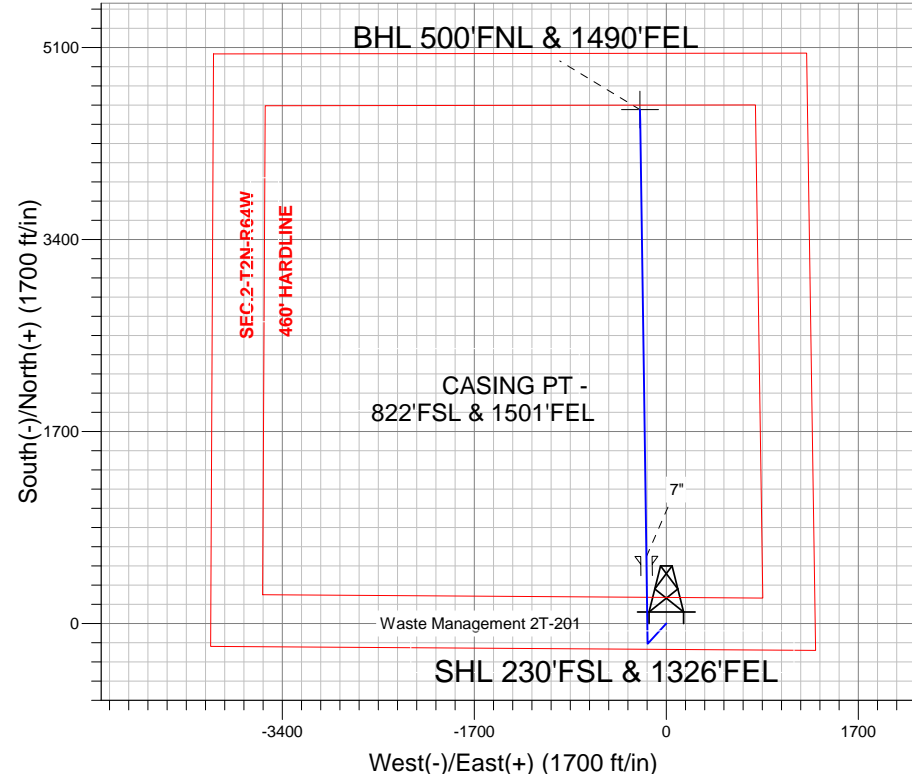
Azimuths to True North  
Magnetic North: 8.49°

Magnetic Field  
Strength: 52857.9nT  
Dip Angle: 66.84°  
Date: 2/7/2013  
Model: IGRF2010

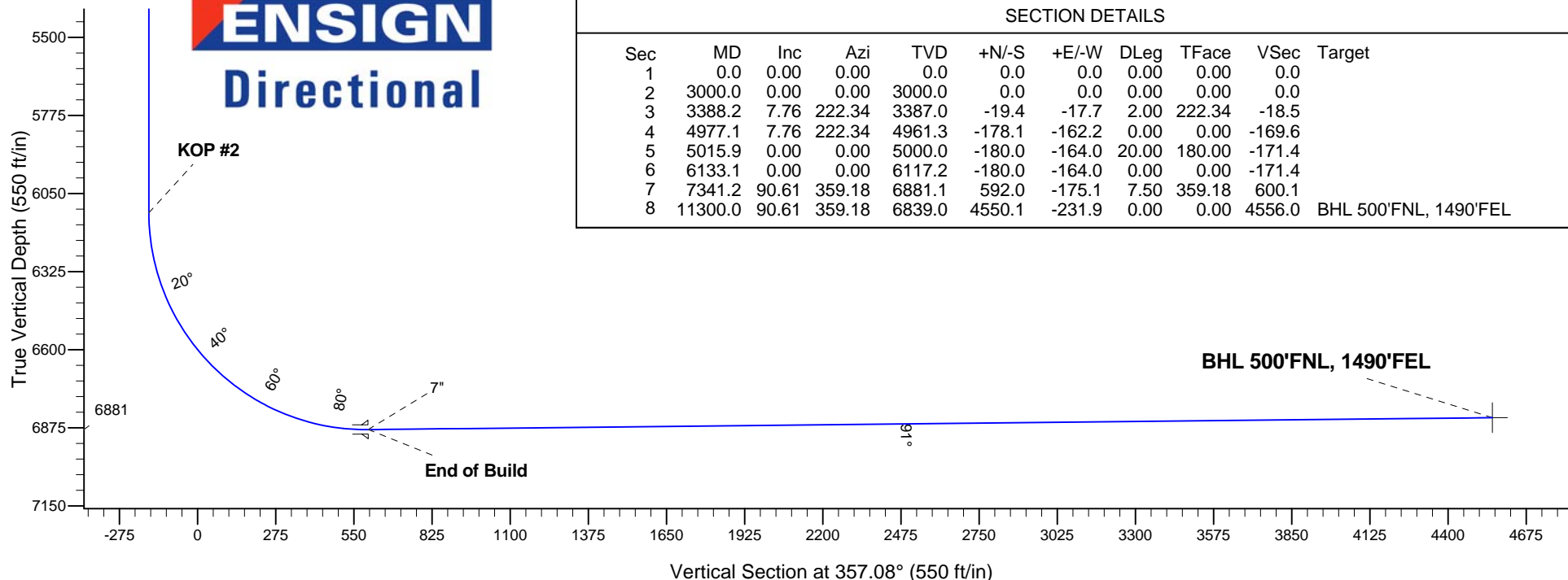
Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W  
Waste Management 2T-201  
Plan #1 (2-07-13)  
15:01, February 07 2013

## ANNOTATIONS

TVD	MD	Annotation
3000.0	3000.0	KOP #1
6117.2	6133.1	KOP #2
6881.1	7341.2	End of Build



**ENSIGN**  
Directional



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3388.2	7.76	222.34	3387.0	-19.4	-17.7	2.00	222.34	-18.5	
4	4977.1	7.76	222.34	4961.3	-178.1	-162.2	0.00	0.00	-169.6	
5	5015.9	0.00	0.00	5000.0	-180.0	-164.0	20.00	180.00	-171.4	
6	6133.1	0.00	0.00	6117.2	-180.0	-164.0	0.00	0.00	-171.4	
7	7341.2	90.61	359.18	6881.1	592.0	-175.1	7.50	359.18	600.1	
8	11300.0	90.61	359.18	6839.0	4550.1	-231.9	0.00	0.00	4556.0	BHL 500'FNL, 1490'FEL



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.2-T2N-R64W**

**Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W**

**Waste Management 2T-201**

**Wellbore #1**

**Plan: Plan #1 (2-07-13)**

## **Standard Planning Report**

**07 February, 2013**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,388.2	7.76	222.34	3,387.0	-19.4	-17.7	2.00	2.00	0.00	222.34	
4,977.1	7.76	222.34	4,961.3	-178.1	-162.2	0.00	0.00	0.00	0.00	
5,015.9	0.00	0.00	5,000.0	-180.0	-164.0	20.00	-20.00	0.00	180.00	
6,133.1	0.00	0.00	6,117.2	-180.0	-164.0	0.00	0.00	0.00	0.00	
7,341.2	90.61	359.18	6,881.1	592.0	-175.1	7.50	7.50	0.00	359.18	
11,300.0	90.61	359.18	6,839.0	4,550.1	-231.9	0.00	0.00	0.00	0.00	BHL 500°FNL, 1490

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Project:</b>	SEC.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00

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<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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)
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
3,040.0	0.80	222.34	3,040.0	-0.2	-0.2	-0.2	2.00	2.00	0.00
3,080.0	1.60	222.34	3,080.0	-0.8	-0.8	-0.8	2.00	2.00	0.00
3,120.0	2.40	222.34	3,120.0	-1.9	-1.7	-1.8	2.00	2.00	0.00
3,160.0	3.20	222.34	3,159.9	-3.3	-3.0	-3.1	2.00	2.00	0.00
3,200.0	4.00	222.34	3,199.8	-5.2	-4.7	-4.9	2.00	2.00	0.00
3,240.0	4.80	222.34	3,239.7	-7.4	-6.8	-7.1	2.00	2.00	0.00
3,280.0	5.60	222.34	3,279.6	-10.1	-9.2	-9.6	2.00	2.00	0.00
3,320.0	6.40	222.34	3,319.3	-13.2	-12.0	-12.6	2.00	2.00	0.00
3,360.0	7.20	222.34	3,359.1	-16.7	-15.2	-15.9	2.00	2.00	0.00
3,388.2	7.76	222.34	3,387.0	-19.4	-17.7	-18.5	2.00	2.00	0.00
3,400.0	7.76	222.34	3,398.7	-20.6	-18.8	-19.6	0.00	0.00	0.00
3,440.0	7.76	222.34	3,438.3	-24.6	-22.4	-23.4	0.00	0.00	0.00
3,480.0	7.76	222.34	3,478.0	-28.6	-26.0	-27.2	0.00	0.00	0.00
3,520.0	7.76	222.34	3,517.6	-32.6	-29.7	-31.0	0.00	0.00	0.00
3,560.0	7.76	222.34	3,557.2	-36.6	-33.3	-34.8	0.00	0.00	0.00
3,600.0	7.76	222.34	3,596.9	-40.6	-37.0	-38.6	0.00	0.00	0.00
3,640.0	7.76	222.34	3,636.5	-44.6	-40.6	-42.4	0.00	0.00	0.00
3,680.0	7.76	222.34	3,676.1	-48.5	-44.2	-46.2	0.00	0.00	0.00
3,720.0	7.76	222.34	3,715.8	-52.5	-47.9	-50.0	0.00	0.00	0.00
3,760.0	7.76	222.34	3,755.4	-56.5	-51.5	-53.8	0.00	0.00	0.00
3,800.0	7.76	222.34	3,795.0	-60.5	-55.2	-57.6	0.00	0.00	0.00
3,840.0	7.76	222.34	3,834.7	-64.5	-58.8	-61.4	0.00	0.00	0.00
3,880.0	7.76	222.34	3,874.3	-68.5	-62.4	-65.3	0.00	0.00	0.00
3,920.0	7.76	222.34	3,913.9	-72.5	-66.1	-69.1	0.00	0.00	0.00
3,960.0	7.76	222.34	3,953.6	-76.5	-69.7	-72.9	0.00	0.00	0.00
4,000.0	7.76	222.34	3,993.2	-80.5	-73.3	-76.7	0.00	0.00	0.00
4,040.0	7.76	222.34	4,032.8	-84.5	-77.0	-80.5	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
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<b>Project:</b>	SEC.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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)
4,080.0	7.76	222.34	4,072.5	-88.5	-80.6	-84.3	0.00	0.00	0.00
4,120.0	7.76	222.34	4,112.1	-92.5	-84.3	-88.1	0.00	0.00	0.00
4,160.0	7.76	222.34	4,151.7	-96.5	-87.9	-91.9	0.00	0.00	0.00
4,200.0	7.76	222.34	4,191.4	-100.5	-91.5	-95.7	0.00	0.00	0.00
4,240.0	7.76	222.34	4,231.0	-104.5	-95.2	-99.5	0.00	0.00	0.00
4,280.0	7.76	222.34	4,270.6	-108.5	-98.8	-103.3	0.00	0.00	0.00
4,320.0	7.76	222.34	4,310.3	-112.5	-102.5	-107.1	0.00	0.00	0.00
4,360.0	7.76	222.34	4,349.9	-116.4	-106.1	-110.9	0.00	0.00	0.00
4,400.0	7.76	222.34	4,389.5	-120.4	-109.7	-114.7	0.00	0.00	0.00
4,440.0	7.76	222.34	4,429.2	-124.4	-113.4	-118.5	0.00	0.00	0.00
4,480.0	7.76	222.34	4,468.8	-128.4	-117.0	-122.3	0.00	0.00	0.00
4,520.0	7.76	222.34	4,508.4	-132.4	-120.7	-126.1	0.00	0.00	0.00
4,560.0	7.76	222.34	4,548.1	-136.4	-124.3	-129.9	0.00	0.00	0.00
4,600.0	7.76	222.34	4,587.7	-140.4	-127.9	-133.7	0.00	0.00	0.00
4,640.0	7.76	222.34	4,627.3	-144.4	-131.6	-137.5	0.00	0.00	0.00
4,680.0	7.76	222.34	4,667.0	-148.4	-135.2	-141.3	0.00	0.00	0.00
4,720.0	7.76	222.34	4,706.6	-152.4	-138.8	-145.1	0.00	0.00	0.00
4,760.0	7.76	222.34	4,746.2	-156.4	-142.5	-148.9	0.00	0.00	0.00
4,800.0	7.76	222.34	4,785.9	-160.4	-146.1	-152.7	0.00	0.00	0.00
4,840.0	7.76	222.34	4,825.5	-164.4	-149.8	-156.5	0.00	0.00	0.00
4,880.0	7.76	222.34	4,865.1	-168.4	-153.4	-160.3	0.00	0.00	0.00
4,920.0	7.76	222.34	4,904.8	-172.4	-157.0	-164.1	0.00	0.00	0.00
4,960.0	7.76	222.34	4,944.4	-176.4	-160.7	-167.9	0.00	0.00	0.00
4,977.1	7.76	222.34	4,961.3	-178.1	-162.2	-169.6	0.00	0.00	0.00
5,000.0	3.17	222.34	4,984.1	-179.7	-163.7	-171.1	20.00	-20.00	0.00
5,015.9	0.00	0.00	5,000.0	-180.0	-164.0	-171.4	20.00	-20.00	0.00
5,040.0	0.00	0.00	5,024.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,080.0	0.00	0.00	5,064.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,120.0	0.00	0.00	5,104.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,160.0	0.00	0.00	5,144.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,184.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,240.0	0.00	0.00	5,224.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,280.0	0.00	0.00	5,264.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,320.0	0.00	0.00	5,304.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,360.0	0.00	0.00	5,344.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,384.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,440.0	0.00	0.00	5,424.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,480.0	0.00	0.00	5,464.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,520.0	0.00	0.00	5,504.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,560.0	0.00	0.00	5,544.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,584.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,640.0	0.00	0.00	5,624.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,680.0	0.00	0.00	5,664.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,720.0	0.00	0.00	5,704.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,760.0	0.00	0.00	5,744.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,784.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,840.0	0.00	0.00	5,824.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,880.0	0.00	0.00	5,864.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,904.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,944.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,984.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
6,040.0	0.00	0.00	6,024.1	-180.0	-164.0	-171.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Project:</b>	SEC.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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)
6,080.0	0.00	0.00	6,064.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
6,120.0	0.00	0.00	6,104.1	-180.0	-164.0	-171.4	0.00	0.00	0.00
6,133.1	0.00	0.00	6,117.2	-180.0	-164.0	-171.4	0.00	0.00	0.00
<b>KOP #2</b>									
6,160.0	2.02	359.18	6,144.1	-179.5	-164.0	-170.9	7.50	7.50	0.00
6,200.0	5.02	359.18	6,184.0	-177.1	-164.0	-168.5	7.50	7.50	0.00
6,240.0	8.02	359.18	6,223.8	-172.5	-164.1	-164.0	7.50	7.50	0.00
6,280.0	11.02	359.18	6,263.2	-165.9	-164.2	-157.3	7.50	7.50	0.00
6,320.0	14.02	359.18	6,302.3	-157.3	-164.3	-148.7	7.50	7.50	0.00
6,360.0	17.02	359.18	6,340.8	-146.6	-164.5	-138.0	7.50	7.50	0.00
6,400.0	20.02	359.18	6,378.7	-133.9	-164.7	-125.3	7.50	7.50	0.00
6,440.0	23.02	359.18	6,415.9	-119.2	-164.9	-110.6	7.50	7.50	0.00
6,480.0	26.02	359.18	6,452.3	-102.6	-165.1	-94.1	7.50	7.50	0.00
6,520.0	29.02	359.18	6,487.8	-84.1	-165.4	-75.6	7.50	7.50	0.00
6,560.0	32.02	359.18	6,522.3	-63.8	-165.7	-55.3	7.50	7.50	0.00
6,600.0	35.02	359.18	6,555.6	-41.7	-166.0	-33.2	7.50	7.50	0.00
6,640.0	38.02	359.18	6,587.7	-17.9	-166.3	-9.4	7.50	7.50	0.00
6,680.0	41.02	359.18	6,618.6	7.5	-166.7	16.0	7.50	7.50	0.00
6,720.0	44.02	359.18	6,648.1	34.5	-167.1	43.0	7.50	7.50	0.00
6,760.0	47.02	359.18	6,676.1	63.1	-167.5	71.5	7.50	7.50	0.00
6,800.0	50.02	359.18	6,702.6	93.0	-167.9	101.5	7.50	7.50	0.00
6,840.0	53.02	359.18	6,727.5	124.3	-168.4	132.7	7.50	7.50	0.00
6,880.0	56.02	359.18	6,750.7	156.9	-168.8	165.3	7.50	7.50	0.00
6,920.0	59.02	359.18	6,772.2	190.6	-169.3	199.0	7.50	7.50	0.00
6,960.0	62.02	359.18	6,791.9	225.4	-169.8	233.8	7.50	7.50	0.00
7,000.0	65.02	359.18	6,809.7	261.2	-170.3	269.6	7.50	7.50	0.00
7,040.0	68.02	359.18	6,825.6	297.9	-170.9	306.2	7.50	7.50	0.00
7,080.0	71.02	359.18	6,839.6	335.4	-171.4	343.7	7.50	7.50	0.00
7,120.0	74.02	359.18	6,851.7	373.5	-172.0	381.8	7.50	7.50	0.00
7,160.0	77.02	359.18	6,861.7	412.2	-172.5	420.5	7.50	7.50	0.00
7,200.0	80.02	359.18	6,869.6	451.4	-173.1	459.7	7.50	7.50	0.00
7,240.0	83.02	359.18	6,875.5	491.0	-173.6	499.2	7.50	7.50	0.00
7,280.0	86.02	359.18	6,879.3	530.8	-174.2	539.0	7.50	7.50	0.00
7,320.0	89.02	359.18	6,881.1	570.8	-174.8	578.9	7.50	7.50	0.00
7,341.2	90.61	359.18	6,881.1	592.0	-175.1	600.1	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,360.0	90.61	359.18	6,880.9	610.7	-175.4	618.9	0.02	0.02	0.00
7,400.0	90.61	359.18	6,880.5	650.7	-175.9	658.9	0.00	0.00	0.00
7,440.0	90.61	359.18	6,880.1	690.7	-176.5	698.8	0.00	0.00	0.00
7,480.0	90.61	359.18	6,879.7	730.7	-177.1	738.8	0.00	0.00	0.00
7,520.0	90.61	359.18	6,879.2	770.7	-177.7	778.8	0.00	0.00	0.00
7,560.0	90.61	359.18	6,878.8	810.7	-178.2	818.7	0.00	0.00	0.00
7,600.0	90.61	359.18	6,878.4	850.7	-178.8	858.7	0.00	0.00	0.00
7,640.0	90.61	359.18	6,878.0	890.7	-179.4	898.7	0.00	0.00	0.00
7,680.0	90.61	359.18	6,877.5	930.7	-180.0	938.7	0.00	0.00	0.00
7,720.0	90.61	359.18	6,877.1	970.7	-180.5	978.6	0.00	0.00	0.00
7,760.0	90.61	359.18	6,876.7	1,010.7	-181.1	1,018.6	0.00	0.00	0.00
7,800.0	90.61	359.18	6,876.3	1,050.7	-181.7	1,058.6	0.00	0.00	0.00
7,840.0	90.61	359.18	6,875.8	1,090.7	-182.3	1,098.5	0.00	0.00	0.00
7,880.0	90.61	359.18	6,875.4	1,130.7	-182.8	1,138.5	0.00	0.00	0.00
7,920.0	90.61	359.18	6,875.0	1,170.7	-183.4	1,178.5	0.00	0.00	0.00
7,960.0	90.61	359.18	6,874.6	1,210.7	-184.0	1,218.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Project:</b>	SEC.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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)
8,000.0	90.61	359.18	6,874.1	1,250.6	-184.6	1,258.4	0.00	0.00	0.00
8,040.0	90.61	359.18	6,873.7	1,290.6	-185.1	1,298.4	0.00	0.00	0.00
8,080.0	90.61	359.18	6,873.3	1,330.6	-185.7	1,338.4	0.00	0.00	0.00
8,120.0	90.61	359.18	6,872.9	1,370.6	-186.3	1,378.3	0.00	0.00	0.00
8,160.0	90.61	359.18	6,872.4	1,410.6	-186.8	1,418.3	0.00	0.00	0.00
8,200.0	90.61	359.18	6,872.0	1,450.6	-187.4	1,458.3	0.00	0.00	0.00
8,240.0	90.61	359.18	6,871.6	1,490.6	-188.0	1,498.2	0.00	0.00	0.00
8,280.0	90.61	359.18	6,871.2	1,530.6	-188.6	1,538.2	0.00	0.00	0.00
8,320.0	90.61	359.18	6,870.7	1,570.6	-189.1	1,578.2	0.00	0.00	0.00
8,360.0	90.61	359.18	6,870.3	1,610.6	-189.7	1,618.2	0.00	0.00	0.00
8,400.0	90.61	359.18	6,869.9	1,650.6	-190.3	1,658.1	0.00	0.00	0.00
8,440.0	90.61	359.18	6,869.4	1,690.6	-190.9	1,698.1	0.00	0.00	0.00
8,480.0	90.61	359.18	6,869.0	1,730.6	-191.4	1,738.1	0.00	0.00	0.00
8,520.0	90.61	359.18	6,868.6	1,770.6	-192.0	1,778.0	0.00	0.00	0.00
8,560.0	90.61	359.18	6,868.2	1,810.6	-192.6	1,818.0	0.00	0.00	0.00
8,600.0	90.61	359.18	6,867.7	1,850.6	-193.2	1,858.0	0.00	0.00	0.00
8,640.0	90.61	359.18	6,867.3	1,890.5	-193.7	1,898.0	0.00	0.00	0.00
8,680.0	90.61	359.18	6,866.9	1,930.5	-194.3	1,937.9	0.00	0.00	0.00
8,720.0	90.61	359.18	6,866.5	1,970.5	-194.9	1,977.9	0.00	0.00	0.00
8,760.0	90.61	359.18	6,866.0	2,010.5	-195.5	2,017.9	0.00	0.00	0.00
8,800.0	90.61	359.18	6,865.6	2,050.5	-196.0	2,057.8	0.00	0.00	0.00
8,840.0	90.61	359.18	6,865.2	2,090.5	-196.6	2,097.8	0.00	0.00	0.00
8,880.0	90.61	359.18	6,864.8	2,130.5	-197.2	2,137.8	0.00	0.00	0.00
8,920.0	90.61	359.18	6,864.3	2,170.5	-197.8	2,177.8	0.00	0.00	0.00
8,960.0	90.61	359.18	6,863.9	2,210.5	-198.3	2,217.7	0.00	0.00	0.00
9,000.0	90.61	359.18	6,863.5	2,250.5	-198.9	2,257.7	0.00	0.00	0.00
9,040.0	90.61	359.18	6,863.1	2,290.5	-199.5	2,297.7	0.00	0.00	0.00
9,080.0	90.61	359.18	6,862.6	2,330.5	-200.1	2,337.6	0.00	0.00	0.00
9,120.0	90.61	359.18	6,862.2	2,370.5	-200.6	2,377.6	0.00	0.00	0.00
9,160.0	90.61	359.18	6,861.8	2,410.5	-201.2	2,417.6	0.00	0.00	0.00
9,200.0	90.61	359.18	6,861.4	2,450.5	-201.8	2,457.5	0.00	0.00	0.00
9,240.0	90.61	359.18	6,860.9	2,490.4	-202.4	2,497.5	0.00	0.00	0.00
9,280.0	90.61	359.18	6,860.5	2,530.4	-202.9	2,537.5	0.00	0.00	0.00
9,320.0	90.61	359.18	6,860.1	2,570.4	-203.5	2,577.5	0.00	0.00	0.00
9,360.0	90.61	359.18	6,859.7	2,610.4	-204.1	2,617.4	0.00	0.00	0.00
9,400.0	90.61	359.18	6,859.2	2,650.4	-204.7	2,657.4	0.00	0.00	0.00
9,440.0	90.61	359.18	6,858.8	2,690.4	-205.2	2,697.4	0.00	0.00	0.00
9,480.0	90.61	359.18	6,858.4	2,730.4	-205.8	2,737.3	0.00	0.00	0.00
9,520.0	90.61	359.18	6,858.0	2,770.4	-206.4	2,777.3	0.00	0.00	0.00
9,560.0	90.61	359.18	6,857.5	2,810.4	-207.0	2,817.3	0.00	0.00	0.00
9,600.0	90.61	359.18	6,857.1	2,850.4	-207.5	2,857.3	0.00	0.00	0.00
9,640.0	90.61	359.18	6,856.7	2,890.4	-208.1	2,897.2	0.00	0.00	0.00
9,680.0	90.61	359.18	6,856.2	2,930.4	-208.7	2,937.2	0.00	0.00	0.00
9,720.0	90.61	359.18	6,855.8	2,970.4	-209.3	2,977.2	0.00	0.00	0.00
9,760.0	90.61	359.18	6,855.4	3,010.4	-209.8	3,017.1	0.00	0.00	0.00
9,800.0	90.61	359.18	6,855.0	3,050.4	-210.4	3,057.1	0.00	0.00	0.00
9,840.0	90.61	359.18	6,854.5	3,090.4	-211.0	3,097.1	0.00	0.00	0.00
9,880.0	90.61	359.18	6,854.1	3,130.3	-211.6	3,137.1	0.00	0.00	0.00
9,920.0	90.61	359.18	6,853.7	3,170.3	-212.1	3,177.0	0.00	0.00	0.00
9,960.0	90.61	359.18	6,853.3	3,210.3	-212.7	3,217.0	0.00	0.00	0.00
10,000.0	90.61	359.18	6,852.8	3,250.3	-213.3	3,257.0	0.00	0.00	0.00
10,040.0	90.61	359.18	6,852.4	3,290.3	-213.9	3,296.9	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Project:</b>	SEC.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (2-07-13)		

Planned 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)
10,080.0	90.61	359.18	6,852.0	3,330.3	-214.4	3,336.9	0.00	0.00	0.00
10,120.0	90.61	359.18	6,851.6	3,370.3	-215.0	3,376.9	0.00	0.00	0.00
10,160.0	90.61	359.18	6,851.1	3,410.3	-215.6	3,416.9	0.00	0.00	0.00
10,200.0	90.61	359.18	6,850.7	3,450.3	-216.1	3,456.8	0.00	0.00	0.00
10,240.0	90.61	359.18	6,850.3	3,490.3	-216.7	3,496.8	0.00	0.00	0.00
10,280.0	90.61	359.18	6,849.9	3,530.3	-217.3	3,536.8	0.00	0.00	0.00
10,320.0	90.61	359.18	6,849.4	3,570.3	-217.9	3,576.7	0.00	0.00	0.00
10,360.0	90.61	359.18	6,849.0	3,610.3	-218.4	3,616.7	0.00	0.00	0.00
10,400.0	90.61	359.18	6,848.6	3,650.3	-219.0	3,656.7	0.00	0.00	0.00
10,440.0	90.61	359.18	6,848.2	3,690.3	-219.6	3,696.7	0.00	0.00	0.00
10,480.0	90.61	359.18	6,847.7	3,730.2	-220.2	3,736.6	0.00	0.00	0.00
10,520.0	90.61	359.18	6,847.3	3,770.2	-220.7	3,776.6	0.00	0.00	0.00
10,560.0	90.61	359.18	6,846.9	3,810.2	-221.3	3,816.6	0.00	0.00	0.00
10,600.0	90.61	359.18	6,846.5	3,850.2	-221.9	3,856.5	0.00	0.00	0.00
10,640.0	90.61	359.18	6,846.0	3,890.2	-222.5	3,896.5	0.00	0.00	0.00
10,680.0	90.61	359.18	6,845.6	3,930.2	-223.0	3,936.5	0.00	0.00	0.00
10,720.0	90.61	359.18	6,845.2	3,970.2	-223.6	3,976.4	0.00	0.00	0.00
10,760.0	90.61	359.18	6,844.7	4,010.2	-224.2	4,016.4	0.00	0.00	0.00
10,800.0	90.61	359.18	6,844.3	4,050.2	-224.8	4,056.4	0.00	0.00	0.00
10,840.0	90.61	359.18	6,843.9	4,090.2	-225.3	4,096.4	0.00	0.00	0.00
10,880.0	90.61	359.18	6,843.5	4,130.2	-225.9	4,136.3	0.00	0.00	0.00
10,920.0	90.61	359.18	6,843.0	4,170.2	-226.5	4,176.3	0.00	0.00	0.00
10,960.0	90.61	359.18	6,842.6	4,210.2	-227.1	4,216.3	0.00	0.00	0.00
11,000.0	90.61	359.18	6,842.2	4,250.2	-227.6	4,256.2	0.00	0.00	0.00
11,040.0	90.61	359.18	6,841.8	4,290.2	-228.2	4,296.2	0.00	0.00	0.00
11,080.0	90.61	359.18	6,841.3	4,330.2	-228.8	4,336.2	0.00	0.00	0.00
11,120.0	90.61	359.18	6,840.9	4,370.1	-229.4	4,376.2	0.00	0.00	0.00
11,160.0	90.61	359.18	6,840.5	4,410.1	-229.9	4,416.1	0.00	0.00	0.00
11,200.0	90.61	359.18	6,840.1	4,450.1	-230.5	4,456.1	0.00	0.00	0.00
11,240.0	90.61	359.18	6,839.6	4,490.1	-231.1	4,496.1	0.00	0.00	0.00
11,280.0	90.61	359.18	6,839.2	4,530.1	-231.7	4,536.0	0.00	0.00	0.00
11,300.0	90.61	359.18	6,839.0	4,550.1	-231.9	4,556.0	0.00	0.00	0.00
BHL 500'FNL, 1490'FEL									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
7,341.2	6,881.1	7"		7	8-3/4

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
3,000.0	3,000.0	0.0	0.0	KOP #1
6,133.1	6,117.2	-180.0	-164.0	KOP #2
7,341.2	6,881.1	592.0	-175.1	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.2-T2N-R64W**

**Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W**

**Waste Management 2T-201**

**Wellbore #1**

**Plan #1 (2-07-13)**

## **Anticollision Report**

**07 February, 2013**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2Q-221 - Wellbore #1 - Plan										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
1,500.0	1,500.0	1,481.3	1,472.1	3.3	4.0	-97.96	-26.1	-186.6	190.6	183.8	6.79	28.074		
1,600.0	1,600.0	1,580.1	1,569.8	3.5	4.4	-98.34	-29.5	-201.2	205.8	198.5	7.30	28.182		
1,700.0	1,700.0	1,679.0	1,667.5	3.7	4.7	-98.67	-32.9	-215.9	220.9	213.1	7.82	28.270		
1,800.0	1,800.0	1,777.8	1,765.2	3.9	5.1	-98.95	-36.3	-230.5	236.1	227.8	8.33	28.341		
1,900.0	1,900.0	1,876.6	1,862.8	4.2	5.5	-99.20	-39.7	-245.2	251.3	242.4	8.85	28.401		
2,000.0	2,000.0	1,975.5	1,960.5	4.4	5.8	-99.42	-43.1	-259.8	266.5	257.1	9.37	28.451		
2,100.0	2,100.0	2,074.3	2,058.2	4.6	6.2	-99.62	-46.5	-274.5	281.7	271.8	9.89	28.493		
2,200.0	2,200.0	2,173.2	2,155.9	4.8	6.5	-99.80	-49.9	-289.1	296.9	286.4	10.41	28.530		
2,300.0	2,300.0	2,272.0	2,253.6	5.1	6.9	-99.96	-53.3	-303.8	312.0	301.1	10.93	28.561		
2,400.0	2,400.0	2,370.8	2,351.3	5.3	7.3	-100.11	-56.8	-318.4	327.2	315.8	11.45	28.588		
2,500.0	2,500.0	2,469.7	2,449.0	5.5	7.6	-100.24	-60.2	-333.1	342.4	330.5	11.97	28.612		
2,600.0	2,600.0	2,568.5	2,546.6	5.7	8.0	-100.36	-63.6	-347.7	357.6	345.1	12.49	28.632		
2,700.0	2,700.0	2,667.3	2,644.3	6.0	8.4	-100.47	-67.0	-362.4	372.8	359.8	13.01	28.651		
2,800.0	2,800.0	2,766.2	2,742.0	6.2	8.7	-100.57	-70.4	-377.0	388.0	374.5	13.54	28.667		
2,900.0	2,900.0	2,865.0	2,839.7	6.4	9.1	-100.67	-73.8	-391.7	403.2	389.2	14.06	28.682		
3,000.0	3,000.0	2,963.8	2,937.4	6.6	9.5	-100.76	-77.2	-406.3	418.4	403.9	14.58	28.695		
3,100.0	3,100.0	3,062.9	3,035.3	6.8	9.8	36.80	-80.6	-421.0	432.3	418.3	13.95	30.990		
3,200.0	3,199.8	3,162.2	3,133.5	7.0	10.2	36.99	-84.0	-435.7	443.3	428.9	14.38	30.833		
3,300.0	3,299.5	3,261.8	3,231.8	7.2	10.6	37.47	-87.5	-450.5	451.6	436.8	14.81	30.502		
3,400.0	3,398.7	3,361.4	3,330.3	7.4	10.9	38.23	-90.9	-465.2	457.3	442.0	15.24	30.008		
3,500.0	3,497.8	3,461.0	3,428.8	7.6	11.3	39.14	-94.3	-480.0	462.0	446.3	15.69	29.442		
3,600.0	3,596.9	3,560.6	3,527.2	7.8	11.7	40.04	-97.8	-494.8	466.7	450.6	16.15	28.898		
3,700.0	3,696.0	3,660.3	3,625.7	8.0	12.0	40.91	-101.2	-509.5	471.7	455.0	16.62	28.375		
3,800.0	3,795.0	3,759.9	3,724.1	8.3	12.4	41.77	-104.6	-524.3	476.7	459.6	17.10	27.872		
3,900.0	3,894.1	3,859.5	3,822.6	8.5	12.8	42.60	-108.1	-539.1	481.8	464.2	17.59	27.388		
4,000.0	3,993.2	3,959.1	3,921.1	8.7	13.1	43.42	-111.5	-553.8	487.0	468.9	18.09	26.923		
4,100.0	4,092.3	4,058.7	4,019.5	9.0	13.5	44.23	-114.9	-568.6	492.3	473.7	18.59	26.476		
4,200.0	4,191.4	4,158.4	4,118.0	9.3	13.9	45.01	-118.4	-583.4	497.7	478.6	19.11	26.046		
4,300.0	4,290.5	4,258.0	4,216.5	9.5	14.2	45.78	-121.8	-598.1	503.2	483.6	19.63	25.632		
4,400.0	4,389.5	4,357.6	4,314.9	9.8	14.6	46.53	-125.2	-612.9	508.8	488.7	20.16	25.235		
4,500.0	4,488.6	4,457.2	4,413.4	10.1	15.0	47.27	-128.7	-627.6	514.5	493.8	20.70	24.853		
4,600.0	4,587.7	4,556.9	4,511.8	10.3	15.3	47.99	-132.1	-642.4	520.3	499.0	21.25	24.486		
4,700.0	4,686.8	4,656.5	4,610.3	10.6	15.7	48.69	-135.5	-657.2	526.1	504.3	21.80	24.133		
4,800.0	4,785.9	4,756.1	4,708.8	10.9	16.1	49.38	-139.0	-671.9	532.0	509.7	22.36	23.794		
4,900.0	4,885.0	4,855.7	4,807.2	11.2	16.5	50.05	-142.4	-686.7	538.0	515.1	22.93	23.468		
5,000.0	4,984.1	4,955.3	4,905.7	11.5	16.8	50.94	-145.8	-701.5	544.7	521.2	23.48	23.200		
5,100.0	5,084.1	5,054.2	5,003.4	11.7	17.2	-86.81	-149.2	-716.1	559.0	535.0	23.94	23.347		
5,200.0	5,184.1	5,153.0	5,101.1	11.9	17.6	-87.24	-152.7	-730.8	573.6	549.3	24.37	23.537		
5,300.0	5,284.1	5,251.9	5,198.8	12.1	17.9	-87.64	-156.1	-745.4	588.3	563.5	24.80	23.720		
5,400.0	5,384.1	5,350.7	5,296.5	12.3	18.3	-88.03	-159.5	-760.1	603.0	577.7	25.23	23.897		
5,500.0	5,484.1	5,449.6	5,394.1	12.5	18.7	-88.39	-162.9	-774.7	617.7	592.0	25.67	24.067		
5,600.0	5,584.1	5,548.4	5,491.8	12.7	19.0	-88.74	-166.3	-789.4	632.4	606.3	26.10	24.231		
5,700.0	5,684.1	5,654.5	5,596.7	12.9	19.4	-89.10	-169.9	-804.9	647.1	620.5	26.54	24.378		
5,800.0	5,784.1	5,782.0	5,723.3	13.1	19.7	-89.42	-173.3	-819.7	658.6	631.6	26.98	24.412		
5,900.0	5,884.1	5,910.6	5,851.6	13.3	19.9	-89.61	-175.5	-828.9	665.8	638.4	27.40	24.303		
6,000.0	5,984.1	6,039.9	5,980.8	13.5	20.1	-89.69	-176.3	-832.6	668.7	640.8	27.81	24.041		
6,100.0	6,084.1	6,144.2	6,085.1	13.7	20.3	-89.69	-176.4	-832.7	668.7	640.5	28.20	23.710		
6,200.0	6,184.0	6,243.1	6,184.0	13.9	20.4	-88.89	-173.8	-832.7	668.7	640.2	28.50	23.460		
6,300.0	6,282.8	6,341.5	6,281.2	14.0	20.5	-88.95	-159.4	-832.9	668.7	639.9	28.78	23.237		
6,400.0	6,378.7	6,439.9	6,375.8	14.2	20.6	-89.02	-132.7	-833.3	668.7	639.7	28.98	23.073		
6,458.4	6,432.8	6,497.5	6,429.3	14.2	20.6	-89.07	-111.5	-833.7	668.7	639.6	29.09	22.988		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2Q-221 - Wellbore #1 - Plan												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
6,500.0	6,470.2	6,538.5	6,466.4	14.3	20.6	-89.11	-94.0	-833.9	668.7	639.5	29.17	22.927	
6,600.0	6,555.6	6,637.1	6,551.3	14.4	20.7	-89.21	-43.9	-834.7	668.7	639.3	29.40	22.749	
6,700.0	6,633.5	6,736.0	6,629.2	14.5	20.7	-89.33	16.9	-835.6	668.7	639.0	29.75	22.479	
6,800.0	6,702.6	6,835.1	6,698.7	14.6	20.8	-89.46	87.4	-836.6	668.7	638.4	30.31	22.065	
6,900.0	6,761.7	6,934.3	6,758.7	15.0	20.9	-89.60	166.4	-837.8	668.7	637.6	31.14	21.474	
7,000.0	6,809.7	7,033.8	6,807.9	15.7	21.2	-89.75	252.7	-839.0	668.8	636.5	32.30	20.703	
7,100.0	6,845.9	7,133.5	6,845.7	16.5	21.5	-89.90	344.9	-840.4	668.8	635.0	33.81	19.781	
7,200.0	6,869.6	7,233.4	6,871.1	17.4	22.0	-90.05	441.4	-841.8	668.8	633.2	35.65	18.760	
7,300.0	6,880.5	7,333.6	6,883.8	18.5	22.7	-90.20	540.7	-843.3	668.9	631.1	37.79	17.702	
7,400.0	6,880.5	7,433.8	6,884.8	19.8	23.6	-90.28	640.9	-844.8	668.9	628.8	40.17	16.652	
7,500.0	6,879.5	7,533.8	6,883.9	21.1	24.6	-90.30	740.9	-846.3	669.0	626.2	42.76	15.645	
7,600.0	6,878.4	7,633.8	6,883.0	22.5	25.8	-90.31	840.8	-847.8	669.0	623.5	45.53	14.695	
7,700.0	6,877.3	7,733.8	6,882.1	24.0	27.1	-90.33	940.8	-849.2	669.1	620.6	48.44	13.811	
7,800.0	6,876.3	7,833.8	6,881.2	25.5	28.4	-90.34	1,040.8	-850.7	669.1	617.6	51.48	12.997	
7,900.0	6,875.2	7,933.8	6,880.4	27.1	29.8	-90.36	1,140.8	-852.2	669.2	614.5	54.62	12.251	
8,000.0	6,874.1	8,033.8	6,879.5	28.7	31.3	-90.37	1,240.8	-853.7	669.2	611.4	57.85	11.569	
8,100.0	6,873.1	8,133.8	6,878.6	30.4	32.8	-90.39	1,340.8	-855.1	669.3	608.1	61.14	10.946	
8,200.0	6,872.0	8,233.8	6,877.7	32.1	34.4	-90.40	1,440.8	-856.6	669.3	604.8	64.50	10.377	
8,300.0	6,870.9	8,333.8	6,876.8	33.8	36.0	-90.42	1,540.7	-858.1	669.3	601.4	67.91	9.856	
8,400.0	6,869.9	8,433.8	6,875.9	35.6	37.6	-90.43	1,640.7	-859.6	669.4	598.0	71.36	9.380	
8,500.0	6,868.8	8,533.8	6,875.0	37.3	39.3	-90.44	1,740.7	-861.1	669.4	594.6	74.86	8.943	
8,600.0	6,867.7	8,633.8	6,874.1	39.1	41.0	-90.46	1,840.7	-862.5	669.5	591.1	78.38	8.541	
8,700.0	6,866.7	8,733.8	6,873.2	40.9	42.7	-90.47	1,940.7	-864.0	669.5	587.6	81.93	8.171	
8,800.0	6,865.6	8,833.8	6,872.3	42.7	44.4	-90.49	2,040.7	-865.5	669.6	584.0	85.51	7.830	
8,900.0	6,864.6	8,933.8	6,871.4	44.5	46.1	-90.50	2,140.6	-867.0	669.6	580.5	89.12	7.514	
9,000.0	6,863.5	9,033.8	6,870.6	46.3	47.9	-90.52	2,240.6	-868.5	669.7	576.9	92.74	7.221	
9,100.0	6,862.4	9,133.8	6,869.7	48.1	49.7	-90.53	2,340.6	-869.9	669.7	573.3	96.38	6.949	
9,200.0	6,861.4	9,233.8	6,868.8	50.0	51.4	-90.55	2,440.6	-871.4	669.7	569.7	100.03	6.695	
9,300.0	6,860.3	9,333.8	6,867.9	51.8	53.2	-90.56	2,540.6	-872.9	669.8	566.1	103.70	6.459	
9,400.0	6,859.2	9,433.8	6,867.0	53.6	55.0	-90.58	2,640.6	-874.4	669.8	562.5	107.38	6.238	
9,500.0	6,858.2	9,533.8	6,866.1	55.5	56.8	-90.59	2,740.6	-875.9	669.9	558.8	111.07	6.031	
9,600.0	6,857.1	9,633.8	6,865.2	57.4	58.6	-90.61	2,840.5	-877.3	669.9	555.2	114.77	5.837	
9,700.0	6,856.0	9,733.8	6,864.3	59.2	60.5	-90.62	2,940.5	-878.8	670.0	551.5	118.48	5.655	
9,800.0	6,855.0	9,833.8	6,863.4	61.1	62.3	-90.64	3,040.5	-880.3	670.0	547.8	122.20	5.483	
9,900.0	6,853.9	9,933.8	6,862.5	62.9	64.1	-90.65	3,140.5	-881.8	670.1	544.1	125.93	5.321	
10,000.0	6,852.8	10,033.8	6,861.7	64.8	65.9	-90.67	3,240.5	-883.3	670.1	540.4	129.66	5.168	
10,100.0	6,851.8	10,133.8	6,860.8	66.7	67.8	-90.68	3,340.5	-884.7	670.2	536.8	133.40	5.024	
10,200.0	6,850.7	10,233.8	6,859.9	68.6	69.6	-90.70	3,440.5	-886.2	670.2	533.1	137.15	4.887	
10,300.0	6,849.6	10,333.8	6,859.0	70.4	71.5	-90.71	3,540.4	-887.7	670.2	529.3	140.90	4.757	
10,400.0	6,848.6	10,433.8	6,858.1	72.3	73.3	-90.73	3,640.4	-889.2	670.3	525.6	144.65	4.634	
10,500.0	6,847.5	10,533.8	6,857.2	74.2	75.2	-90.74	3,740.4	-890.7	670.3	521.9	148.41	4.517	
10,600.0	6,846.5	10,633.8	6,856.3	76.1	77.0	-90.76	3,840.4	-892.1	670.4	518.2	152.18	4.405	
10,700.0	6,845.4	10,733.8	6,855.4	78.0	78.9	-90.77	3,940.4	-893.6	670.4	514.5	155.95	4.299	
10,800.0	6,844.3	10,833.8	6,854.5	79.9	80.8	-90.79	4,040.4	-895.1	670.5	510.8	159.72	4.198	
10,900.0	6,843.3	10,933.8	6,853.6	81.8	82.6	-90.80	4,140.3	-896.6	670.5	507.0	163.50	4.101	
11,000.0	6,842.2	11,033.8	6,852.8	83.6	84.5	-90.82	4,240.3	-898.1	670.6	503.3	167.27	4.009	
11,100.0	6,841.1	11,133.8	6,851.9	85.5	86.4	-90.83	4,340.3	-899.5	670.6	499.6	171.06	3.920	
11,200.0	6,840.1	11,233.8	6,851.0	87.4	88.3	-90.85	4,440.3	-901.0	670.7	495.8	174.84	3.836	
11,300.0	6,839.0	11,333.7	6,850.1	89.3	90.1	-90.86	4,540.2	-902.5	670.7	492.1	178.63	3.755 SF	

Offset Design		Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2Q-401 - Wellbore #1 - Plan											Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	1.0	1.0	0.0	0.0	-87.67	3.6	-89.4	89.5	89.5	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	-87.67	3.6	-89.4	89.5	89.3	0.23	394.319		
166.3	166.3	167.3	167.3	0.3	0.3	-87.67	3.6	-89.4	89.5	89.0	0.53	170.445 CC		
200.0	200.0	200.0	200.0	0.3	0.3	-87.67	3.6	-89.4	89.5	88.8	0.67	132.762 ES		
300.0	300.0	298.0	297.9	0.6	0.5	-87.89	3.4	-91.1	91.2	90.1	1.11	82.295		
400.0	400.0	394.7	394.6	0.8	0.8	-88.48	2.6	-96.0	96.2	94.7	1.55	62.210		
500.0	500.0	491.1	490.6	1.0	1.0	-89.33	1.2	-104.0	104.5	102.5	2.00	52.313		
600.0	600.0	586.7	585.6	1.2	1.3	-90.32	-0.6	-115.2	116.2	113.7	2.46	47.154		
700.0	700.0	681.5	679.3	1.5	1.6	-91.33	-3.0	-129.3	131.1	128.2	2.95	44.500		
800.0	800.0	775.3	771.4	1.7	1.9	-92.28	-5.8	-146.2	149.3	145.9	3.45	43.278		
900.0	900.0	871.5	865.5	1.9	2.3	-93.15	-9.1	-166.0	170.0	166.0	3.98	42.738		
1,000.0	1,000.0	969.2	961.1	2.1	2.8	-93.84	-12.5	-186.2	190.9	186.4	4.52	42.238		
1,100.0	1,100.0	1,067.0	1,056.7	2.4	3.2	-94.40	-15.9	-206.5	211.8	206.7	5.07	41.787		
1,200.0	1,200.0	1,164.8	1,152.3	2.6	3.7	-94.86	-19.3	-226.8	232.7	227.1	5.63	41.376		
1,300.0	1,300.0	1,262.5	1,247.8	2.8	4.1	-95.24	-22.6	-247.0	253.7	247.5	6.19	41.007		
1,400.0	1,400.0	1,360.3	1,343.4	3.0	4.6	-95.56	-26.0	-267.3	274.6	267.9	6.75	40.679		
1,500.0	1,500.0	1,458.1	1,439.0	3.3	5.0	-95.84	-29.4	-287.5	295.6	288.3	7.32	40.386		
1,600.0	1,600.0	1,555.9	1,534.6	3.5	5.5	-96.08	-32.8	-307.8	316.6	308.7	7.89	40.124		
1,700.0	1,700.0	1,653.6	1,630.2	3.7	5.9	-96.29	-36.2	-328.1	337.5	329.1	8.46	39.890		
1,800.0	1,800.0	1,751.4	1,725.8	3.9	6.4	-96.48	-39.5	-348.3	358.5	349.5	9.04	39.679		
1,900.0	1,900.0	1,849.2	1,821.4	4.2	6.8	-96.64	-42.9	-368.6	379.5	369.9	9.61	39.489		
2,000.0	2,000.0	1,946.9	1,917.0	4.4	7.3	-96.79	-46.3	-388.8	400.5	390.3	10.19	39.317		
2,100.0	2,100.0	2,044.7	2,012.5	4.6	7.7	-96.92	-49.7	-409.1	421.5	410.7	10.76	39.161		
2,200.0	2,200.0	2,142.5	2,108.1	4.8	8.2	-97.05	-53.1	-429.3	442.5	431.1	11.34	39.018		
2,300.0	2,300.0	2,240.2	2,203.7	5.1	8.6	-97.16	-56.4	-449.6	463.4	451.5	11.92	38.887		
2,400.0	2,400.0	2,338.0	2,299.3	5.3	9.1	-97.26	-59.8	-469.9	484.4	471.9	12.50	38.767		
2,500.0	2,500.0	2,435.8	2,394.9	5.5	9.6	-97.35	-63.2	-490.1	505.4	492.4	13.07	38.656		
2,600.0	2,600.0	2,533.5	2,490.5	5.7	10.0	-97.43	-66.6	-510.4	526.4	512.8	13.65	38.554		
2,700.0	2,700.0	2,631.3	2,586.1	6.0	10.5	-97.51	-70.0	-530.6	547.4	533.2	14.23	38.459		
2,800.0	2,800.0	2,729.1	2,681.7	6.2	10.9	-97.58	-73.3	-550.9	568.4	553.6	14.81	38.371		
2,900.0	2,900.0	2,826.8	2,777.2	6.4	11.4	-97.65	-76.7	-571.1	589.4	574.0	15.39	38.289		
3,000.0	3,000.0	2,924.6	2,872.8	6.6	11.8	-97.71	-80.1	-591.4	610.4	594.4	15.97	38.212		
3,100.0	3,100.0	3,022.7	2,968.7	6.8	12.3	39.74	-83.5	-611.7	630.1	615.7	14.35	43.895		
3,200.0	3,199.8	3,121.1	3,065.0	7.0	12.8	39.76	-86.9	-632.1	647.1	632.3	14.81	43.695		
3,300.0	3,299.5	3,220.0	3,161.6	7.2	13.2	40.00	-90.3	-652.6	661.6	646.3	15.27	43.333		
3,400.0	3,398.7	3,319.0	3,258.4	7.4	13.7	40.46	-93.7	-673.1	673.4	657.7	15.73	42.820		
3,500.0	3,497.8	3,418.1	3,355.3	7.6	14.1	41.12	-97.2	-693.7	684.3	668.1	16.20	42.254		
3,600.0	3,596.9	3,517.2	3,452.2	7.8	14.6	41.75	-100.6	-714.2	695.3	678.6	16.67	41.701		
3,700.0	3,696.0	3,616.3	3,549.1	8.0	15.1	42.37	-104.0	-734.7	706.4	689.2	17.16	41.162		
3,800.0	3,795.0	3,715.4	3,646.0	8.3	15.5	42.96	-107.4	-755.3	717.5	699.9	17.66	40.637		
3,900.0	3,894.1	3,814.5	3,742.9	8.5	16.0	43.54	-110.9	-775.8	728.8	710.6	18.16	40.127		
4,000.0	3,993.2	3,913.6	3,839.8	8.7	16.5	44.10	-114.3	-796.3	740.1	721.4	18.67	39.630		
4,100.0	4,092.3	4,012.7	3,936.7	9.0	16.9	44.64	-117.7	-816.9	751.4	732.2	19.19	39.148		
4,200.0	4,191.4	4,111.8	4,033.6	9.3	17.4	45.17	-121.1	-837.4	762.8	743.1	19.72	38.680		
4,300.0	4,290.5	4,210.9	4,130.5	9.5	17.9	45.68	-124.6	-857.9	774.3	754.1	20.26	38.227		
4,400.0	4,389.5	4,310.1	4,227.4	9.8	18.3	46.17	-128.0	-878.5	785.9	765.1	20.80	37.787		
4,500.0	4,488.6	4,409.2	4,324.3	10.1	18.8	46.66	-131.4	-899.0	797.5	776.1	21.35	37.360		
4,600.0	4,587.7	4,508.3	4,421.1	10.3	19.2	47.12	-134.8	-919.5	809.2	787.3	21.90	36.947		
4,700.0	4,686.8	4,607.4	4,518.0	10.6	19.7	47.58	-138.3	-940.1	820.9	798.4	22.46	36.548		
4,800.0	4,785.9	4,706.5	4,614.9	10.9	20.2	48.02	-141.7	-960.6	832.6	809.6	23.03	36.161		
4,900.0	4,885.0	4,805.6	4,711.8	11.2	20.6	48.45	-145.1	-981.1	844.4	820.8	23.60	35.786		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,984.1	4,904.6	4,808.7	11.5	21.1	49.33	-148.5	-1,001.6	856.9	832.8	24.14	35.501 SF		
5,100.0	5,084.1	5,002.4	4,904.3	11.7	21.6	-88.13	-151.9	-1,021.9	877.2	852.6	24.64	35.606		
5,200.0	5,184.1	5,100.2	4,999.9	11.9	22.0	-88.39	-155.3	-1,042.2	897.8	872.8	25.08	35.792		
5,300.0	5,284.1	5,198.0	5,095.5	12.1	22.5	-88.64	-158.7	-1,062.4	918.5	892.9	25.53	35.970		
5,400.0	5,384.1	5,295.8	5,191.1	12.3	22.9	-88.88	-162.1	-1,082.7	939.1	913.1	25.99	36.140		
5,500.0	5,484.1	5,393.5	5,286.7	12.5	23.4	-89.11	-165.4	-1,102.9	959.8	933.4	26.44	36.304		
5,600.0	5,584.1	5,534.9	5,425.5	12.7	23.9	-89.40	-169.8	-1,129.4	978.6	951.6	26.95	36.316		
5,700.0	5,684.1	5,684.7	5,573.8	12.9	24.3	-89.61	-173.3	-1,150.1	992.4	964.9	27.42	36.190		



Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2T-441 - Wellbore #1 - Plan													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	1.0	1.0	0.0	0.0	-83.24	3.6	-30.7	31.0	31.0	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	-83.24	3.6	-30.7	31.0	30.7	0.23	136.382		
200.0	200.0	201.0	201.0	0.3	0.3	-83.24	3.6	-30.7	31.0	30.3	0.68	45.763		
300.0	300.0	301.0	301.0	0.6	0.6	-83.24	3.6	-30.7	31.0	29.8	1.13	27.494		
400.0	400.0	401.0	401.0	0.8	0.8	-83.24	3.6	-30.7	31.0	29.4	1.58	19.650		
500.0	500.0	501.0	501.0	1.0	1.0	-83.24	3.6	-30.7	31.0	28.9	2.03	15.288		
566.3	566.3	567.3	567.3	1.2	1.2	-83.24	3.6	-30.7	31.0	28.6	2.32	13.326 CC		
600.0	600.0	601.0	601.0	1.2	1.2	-83.24	3.6	-30.7	31.0	28.5	2.47	12.512 ES		
700.0	700.0	700.0	700.0	1.5	1.4	-84.67	3.0	-32.4	32.5	29.6	2.90	11.200		
800.0	800.0	798.8	798.6	1.7	1.6	-88.19	1.2	-37.2	37.3	33.9	3.33	11.201		
900.0	900.0	897.1	896.5	1.9	1.9	-92.38	-1.9	-45.1	45.4	41.6	3.76	12.060		
1,000.0	1,000.0	995.5	994.3	2.1	2.1	-96.14	-6.0	-55.9	56.6	52.4	4.21	13.453		
1,100.0	1,100.0	1,094.7	1,092.7	2.4	2.4	-98.78	-10.4	-67.3	68.6	64.0	4.66	14.718		
1,200.0	1,200.0	1,193.9	1,191.2	2.6	2.7	-100.63	-14.8	-78.7	80.7	75.6	5.12	15.750		
1,300.0	1,300.0	1,293.2	1,289.7	2.8	2.9	-102.00	-19.2	-90.2	92.9	87.3	5.59	16.601		
1,400.0	1,400.0	1,392.4	1,388.2	3.0	3.2	-103.05	-23.5	-101.6	105.1	99.0	6.07	17.311		
1,500.0	1,500.0	1,491.7	1,486.7	3.3	3.5	-103.88	-27.9	-113.0	117.3	110.7	6.55	17.910		
1,600.0	1,600.0	1,590.9	1,585.1	3.5	3.9	-104.56	-32.3	-124.4	129.5	122.5	7.03	18.420		
1,700.0	1,700.0	1,690.1	1,683.6	3.7	4.2	-105.11	-36.7	-135.8	141.8	134.2	7.52	18.860		
1,800.0	1,800.0	1,789.4	1,782.1	3.9	4.5	-105.58	-41.1	-147.2	154.0	146.0	8.00	19.243		
1,900.0	1,900.0	1,888.6	1,880.6	4.2	4.8	-105.98	-45.4	-158.7	166.3	157.8	8.49	19.578		
2,000.0	2,000.0	1,987.8	1,979.1	4.4	5.1	-106.33	-49.8	-170.1	178.6	169.6	8.99	19.875		
2,100.0	2,100.0	2,087.1	2,077.5	4.6	5.4	-106.63	-54.2	-181.5	190.9	181.4	9.48	20.138		
2,200.0	2,200.0	2,186.3	2,176.0	4.8	5.7	-106.90	-58.6	-192.9	203.2	193.2	9.97	20.373		
2,300.0	2,300.0	2,285.6	2,274.5	5.1	6.1	-107.13	-63.0	-204.3	215.4	205.0	10.47	20.585		
2,400.0	2,400.0	2,384.8	2,373.0	5.3	6.4	-107.34	-67.4	-215.7	227.7	216.8	10.96	20.777		
2,500.0	2,500.0	2,484.0	2,471.5	5.5	6.7	-107.53	-71.7	-227.2	240.0	228.6	11.46	20.950		
2,600.0	2,600.0	2,583.3	2,570.0	5.7	7.0	-107.70	-76.1	-238.6	252.3	240.4	11.95	21.109		
2,700.0	2,700.0	2,682.5	2,668.4	6.0	7.3	-107.85	-80.5	-250.0	264.6	252.2	12.45	21.254		
2,800.0	2,800.0	2,781.7	2,766.9	6.2	7.7	-107.99	-84.9	-261.4	277.0	264.0	12.95	21.388		
2,900.0	2,900.0	2,881.0	2,865.4	6.4	8.0	-108.12	-89.3	-272.8	289.3	275.8	13.45	21.510		
3,000.0	3,000.0	2,980.2	2,963.9	6.6	8.3	-108.24	-93.6	-284.2	301.6	287.6	13.95	21.624		
3,100.0	3,100.0	3,079.6	3,062.5	6.8	8.6	29.37	-98.0	-295.7	312.4	298.6	13.73	22.755		
3,200.0	3,199.8	3,179.3	3,161.4	7.0	9.0	29.65	-102.4	-307.1	320.1	306.0	14.14	22.637		
3,300.0	3,299.5	3,279.1	3,260.5	7.2	9.3	30.25	-106.8	-318.6	324.9	310.4	14.55	22.326		
3,400.0	3,398.7	3,379.0	3,359.6	7.4	9.6	31.16	-111.3	-330.1	326.8	311.8	14.97	21.834		
3,500.0	3,497.8	3,478.8	3,458.6	7.6	9.9	32.22	-115.7	-341.6	327.5	312.1	15.40	21.263		
3,600.0	3,596.9	3,578.6	3,557.7	7.8	10.3	33.26	-120.1	-353.1	328.4	312.6	15.85	20.718		
3,700.0	3,696.0	3,678.4	3,656.7	8.0	10.6	34.30	-124.5	-364.6	329.4	313.1	16.31	20.199		
3,800.0	3,795.0	3,778.2	3,755.8	8.3	10.9	35.34	-128.9	-376.0	330.6	313.8	16.78	19.705		
3,900.0	3,894.1	3,878.0	3,854.9	8.5	11.2	36.36	-133.3	-387.5	331.8	314.5	17.25	19.233		
4,000.0	3,993.2	3,977.9	3,953.9	8.7	11.6	37.38	-137.7	-399.0	333.1	315.4	17.73	18.784		
4,100.0	4,092.3	4,077.7	4,053.0	9.0	11.9	38.39	-142.1	-410.5	334.5	316.3	18.23	18.355		
4,200.0	4,191.4	4,177.5	4,152.0	9.3	12.2	39.39	-146.5	-422.0	336.1	317.3	18.73	17.946		
4,300.0	4,290.5	4,277.3	4,251.1	9.5	12.5	40.39	-150.9	-433.5	337.7	318.5	19.24	17.555		
4,400.0	4,389.5	4,377.1	4,350.1	9.8	12.9	41.37	-155.3	-444.9	339.4	319.7	19.75	17.183		
4,500.0	4,488.6	4,476.9	4,449.2	10.1	13.2	42.34	-159.7	-456.4	341.3	321.0	20.28	16.827		
4,600.0	4,587.7	4,576.7	4,548.2	10.3	13.5	43.30	-164.1	-467.9	343.2	322.4	20.82	16.487		
4,700.0	4,686.8	4,676.6	4,647.3	10.6	13.8	44.25	-168.5	-479.4	345.2	323.9	21.36	16.163		
4,800.0	4,785.9	4,789.3	4,759.4	10.9	14.1	45.43	-172.7	-490.3	345.5	323.6	21.89	15.782		
4,900.0	4,885.0	4,901.7	4,871.6	11.2	14.3	46.86	-175.3	-497.1	342.2	319.7	22.43	15.257		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2T-441 - Wellbore #1 - Plan										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,984.1	5,013.5	4,983.3	11.5	14.5	48.26	-176.3	-499.7	336.0	313.1	22.94	14.646		
5,044.7	5,028.8	5,060.0	5,029.8	11.6	14.5	48.49	-176.4	-499.7	334.8	311.7	23.11	14.484		
5,100.0	5,084.1	5,115.3	5,085.1	11.7	14.6	-89.38	-176.4	-499.7	335.8	312.4	23.34	14.387		
5,200.0	5,184.1	5,215.3	5,185.1	11.9	14.8	-89.38	-176.4	-499.7	335.8	312.0	23.72	14.156		
5,300.0	5,284.1	5,315.3	5,285.1	12.1	14.9	-89.38	-176.4	-499.7	335.8	311.7	24.10	13.930		
5,400.0	5,384.1	5,415.3	5,385.1	12.3	15.1	-89.38	-176.4	-499.7	335.8	311.3	24.49	13.711		
5,500.0	5,484.1	5,515.3	5,485.1	12.5	15.2	-89.38	-176.4	-499.7	335.8	310.9	24.88	13.497		
5,600.0	5,584.1	5,615.3	5,585.1	12.7	15.4	-89.38	-176.4	-499.7	335.8	310.5	25.27	13.289		
5,700.0	5,684.1	5,715.3	5,685.1	12.9	15.6	-89.38	-176.4	-499.7	335.8	310.1	25.66	13.086		
5,800.0	5,784.1	5,815.3	5,785.1	13.1	15.7	-89.38	-176.4	-499.7	335.8	309.7	26.05	12.889		
5,900.0	5,884.1	5,915.3	5,885.1	13.3	15.9	-89.38	-176.4	-499.7	335.8	309.3	26.45	12.696		
6,000.0	5,984.1	6,015.3	5,985.1	13.5	16.1	-89.38	-176.4	-499.7	335.8	308.9	26.84	12.508		
6,009.7	5,993.9	6,025.0	5,994.9	13.5	16.1	-89.38	-176.4	-499.7	335.8	308.9	26.88	12.490		
6,100.0	6,084.1	6,114.3	6,084.0	13.7	16.2	-88.79	-172.9	-499.8	335.9	308.6	27.26	12.323		
6,200.0	6,184.0	6,211.1	6,179.6	13.9	16.3	-85.80	-157.6	-500.0	336.6	308.9	27.65	12.173		
6,300.0	6,282.8	6,306.3	6,270.9	14.0	16.4	-83.59	-130.9	-500.4	337.8	309.8	27.99	12.067		
6,400.0	6,378.7	6,400.0	6,356.8	14.2	16.5	-81.52	-93.8	-500.9	339.4	311.2	28.25	12.016		
6,500.0	6,470.2	6,492.7	6,436.7	14.3	16.5	-79.61	-47.0	-501.6	341.3	312.9	28.44	12.001		
6,600.0	6,555.6	6,584.1	6,509.4	14.4	16.6	-77.89	8.3	-502.4	343.4	314.7	28.63	11.993		
6,700.0	6,633.5	6,674.5	6,574.4	14.5	16.7	-76.38	71.2	-503.3	345.4	316.5	28.88	11.959		
6,800.0	6,702.6	6,764.2	6,630.9	14.6	16.8	-75.09	140.6	-504.3	347.4	318.1	29.32	11.850		
6,900.0	6,761.7	6,853.1	6,678.7	15.0	17.0	-74.04	215.6	-505.3	349.1	319.1	29.99	11.643		
7,000.0	6,809.7	6,941.5	6,717.2	15.7	17.4	-73.23	295.2	-506.5	350.6	319.6	30.99	11.314		
7,100.0	6,845.9	7,029.6	6,746.1	16.5	17.9	-72.66	378.3	-507.7	351.6	319.2	32.36	10.866		
7,200.0	6,869.6	7,117.4	6,765.3	17.4	18.7	-72.35	463.9	-508.9	352.2	318.1	34.11	10.327		
7,300.0	6,880.5	7,205.1	6,774.4	18.5	19.6	-72.29	551.1	-510.1	352.3	316.1	36.20	9.732		
7,400.0	6,880.5	7,299.0	6,774.8	19.8	20.7	-72.36	644.9	-511.5	352.2	313.6	38.55	9.136		
7,500.0	6,879.5	7,399.0	6,773.9	21.1	21.9	-72.38	744.9	-512.9	352.1	311.0	41.09	8.569		
7,600.0	6,878.4	7,499.0	6,772.9	22.5	23.3	-72.40	844.9	-514.3	352.1	308.3	43.80	8.038		
7,700.0	6,877.3	7,599.0	6,772.0	24.0	24.7	-72.42	944.9	-515.8	352.0	305.4	46.65	7.547		
7,800.0	6,876.3	7,699.0	6,771.0	25.5	26.2	-72.43	1,044.9	-517.2	352.0	302.4	49.60	7.096		
7,900.0	6,875.2	7,799.0	6,770.1	27.1	27.8	-72.45	1,144.9	-518.6	351.9	299.3	52.66	6.684		
8,000.0	6,874.1	7,899.0	6,769.2	28.7	29.4	-72.47	1,244.9	-520.1	351.9	296.1	55.79	6.308		
8,100.0	6,873.1	7,999.0	6,768.2	30.4	31.0	-72.49	1,344.8	-521.5	351.9	292.9	58.98	5.965		
8,200.0	6,872.0	8,099.0	6,767.3	32.1	32.6	-72.51	1,444.8	-522.9	351.8	289.6	62.23	5.653		
8,300.0	6,870.9	8,199.0	6,766.3	33.8	34.3	-72.53	1,544.8	-524.3	351.8	286.2	65.53	5.368		
8,400.0	6,869.9	8,299.0	6,765.4	35.6	36.0	-72.55	1,644.8	-525.8	351.7	282.8	68.88	5.107		
8,500.0	6,868.8	8,399.0	6,764.4	37.3	37.8	-72.56	1,744.8	-527.2	351.7	279.4	72.25	4.867		
8,600.0	6,867.7	8,499.0	6,763.5	39.1	39.5	-72.58	1,844.8	-528.6	351.6	276.0	75.66	4.648		
8,700.0	6,866.7	8,599.0	6,762.6	40.9	41.3	-72.60	1,944.7	-530.1	351.6	272.5	79.10	4.445		
8,800.0	6,865.6	8,699.0	6,761.6	42.7	43.1	-72.62	2,044.7	-531.5	351.5	269.0	82.55	4.258		
8,900.0	6,864.6	8,799.0	6,760.7	44.5	44.9	-72.64	2,144.7	-532.9	351.5	265.5	86.03	4.086		
9,000.0	6,863.5	8,899.0	6,759.7	46.3	46.7	-72.66	2,244.7	-534.3	351.5	261.9	89.53	3.926		
9,100.0	6,862.4	8,999.0	6,758.8	48.1	48.5	-72.68	2,344.7	-535.8	351.4	258.4	93.04	3.777		
9,200.0	6,861.4	9,099.0	6,757.8	50.0	50.3	-72.70	2,444.7	-537.2	351.4	254.8	96.57	3.638		
9,300.0	6,860.3	9,199.0	6,756.9	51.8	52.1	-72.71	2,544.7	-538.6	351.3	251.2	100.12	3.509		
9,400.0	6,859.2	9,299.0	6,756.0	53.6	53.9	-72.73	2,644.6	-540.1	351.3	247.6	103.67	3.389		
9,500.0	6,858.2	9,399.0	6,755.0	55.5	55.8	-72.75	2,744.6	-541.5	351.2	244.0	107.24	3.275		
9,600.0	6,857.1	9,499.0	6,754.1	57.4	57.6	-72.77	2,844.6	-542.9	351.2	240.4	110.81	3.169		
9,700.0	6,856.0	9,599.0	6,753.1	59.2	59.5	-72.79	2,944.6	-544.4	351.2	236.8	114.39	3.070		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

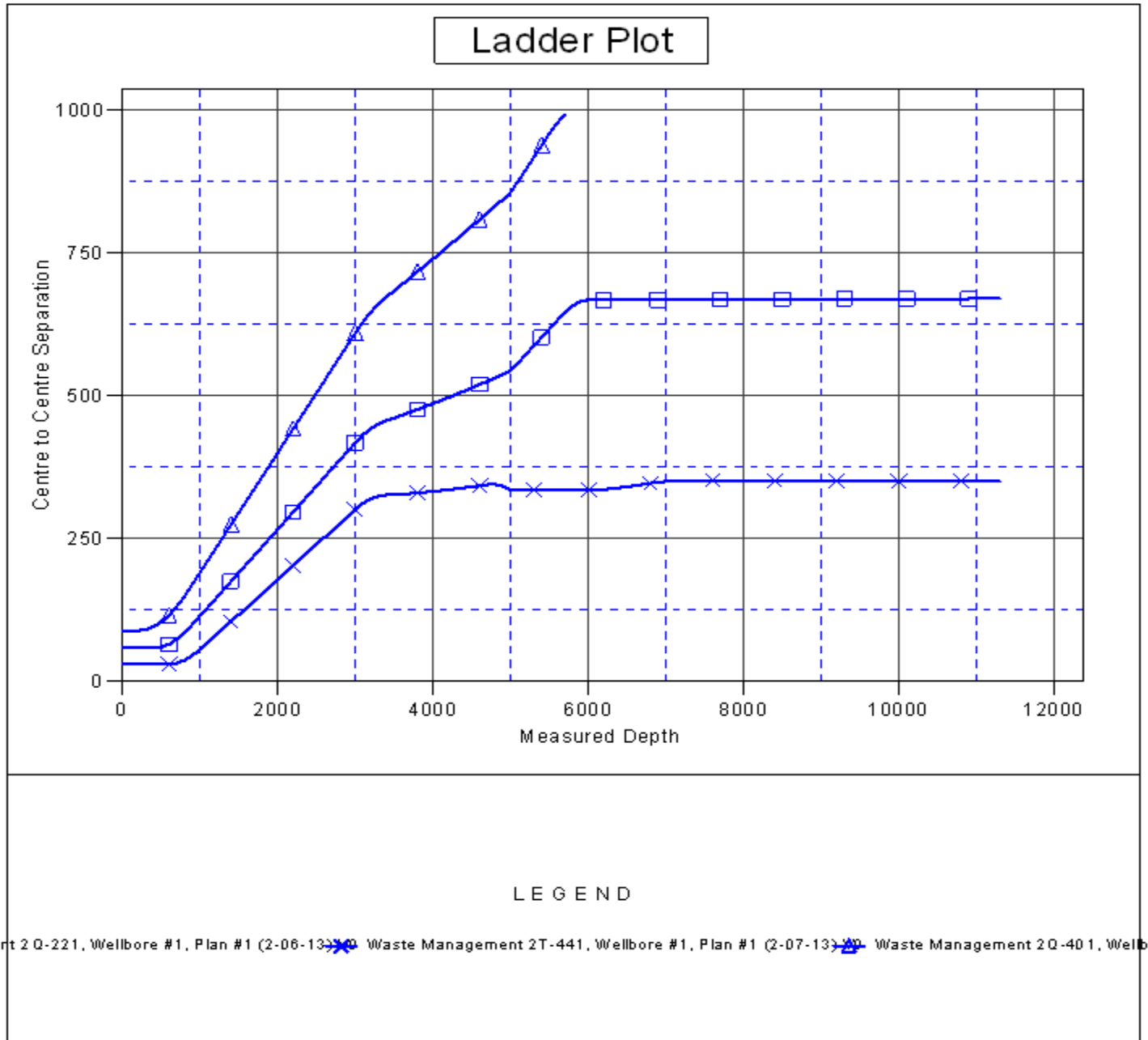
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W - Waste Management 2T-441 - Wellbore #1 - Plan													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,800.0	6,855.0	9,699.0	6,752.2	61.1	61.3	-72.81	3,044.6	-545.8	351.1	233.1	117.99	2.976	
9,900.0	6,853.9	9,799.0	6,751.2	62.9	63.2	-72.83	3,144.6	-547.2	351.1	229.5	121.59	2.887	
10,000.0	6,852.8	9,899.0	6,750.3	64.8	65.0	-72.85	3,244.6	-548.6	351.0	225.8	125.19	2.804	
10,100.0	6,851.8	9,999.0	6,749.4	66.7	66.9	-72.86	3,344.5	-550.1	351.0	222.2	128.81	2.725	
10,200.0	6,850.7	10,099.0	6,748.4	68.6	68.8	-72.88	3,444.5	-551.5	350.9	218.5	132.43	2.650	
10,300.0	6,849.6	10,199.0	6,747.5	70.4	70.6	-72.90	3,544.5	-552.9	350.9	214.8	136.05	2.579	
10,400.0	6,848.6	10,299.0	6,746.5	72.3	72.5	-72.92	3,644.5	-554.4	350.9	211.2	139.68	2.512	
10,500.0	6,847.5	10,399.0	6,745.6	74.2	74.4	-72.94	3,744.5	-555.8	350.8	207.5	143.31	2.448	
10,600.0	6,846.5	10,499.0	6,744.7	76.1	76.3	-72.96	3,844.5	-557.2	350.8	203.8	146.95	2.387	
10,700.0	6,845.4	10,599.0	6,743.7	78.0	78.2	-72.98	3,944.5	-558.6	350.7	200.1	150.60	2.329	
10,800.0	6,844.3	10,699.0	6,742.8	79.9	80.0	-72.99	4,044.4	-560.1	350.7	196.4	154.24	2.274	
10,900.0	6,843.3	10,799.0	6,741.8	81.8	81.9	-73.01	4,144.4	-561.5	350.6	192.7	157.90	2.221	
11,000.0	6,842.2	10,899.0	6,740.9	83.6	83.8	-73.03	4,244.4	-562.9	350.6	189.0	161.55	2.170	
11,100.0	6,841.1	10,999.0	6,739.9	85.5	85.7	-73.05	4,344.4	-564.4	350.6	185.3	165.21	2.122	
11,200.0	6,840.1	11,099.0	6,739.0	87.4	87.6	-73.07	4,444.4	-565.8	350.5	181.6	168.87	2.076	
11,300.0	6,839.0	11,198.9	6,738.1	89.3	89.5	-73.09	4,544.3	-567.2	350.5	177.9	172.53	2.031 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4909.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Waste Management 2T-201  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Waste Management 2T-201
<b>Project:</b>	SEC.2-T2N-R64W	<b>TVD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Reference Site:</b>	Waste Management 2T-HZ2 Pad Sec.2-T2N-R64W	<b>MD Reference:</b>	WELL @ 4909.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Waste Management 2T-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (2-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4909.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Waste Management 2T-201  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°

