

PETROLEUM DEVELOPMENT CORP Weld County CO

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

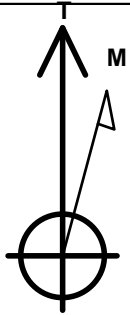
Surface Location: Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4894.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1302951.61	3275951.82	40.160780	-104.512650	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500' FNL & 150' FEL	6724.0	4553.7	765.7	Point



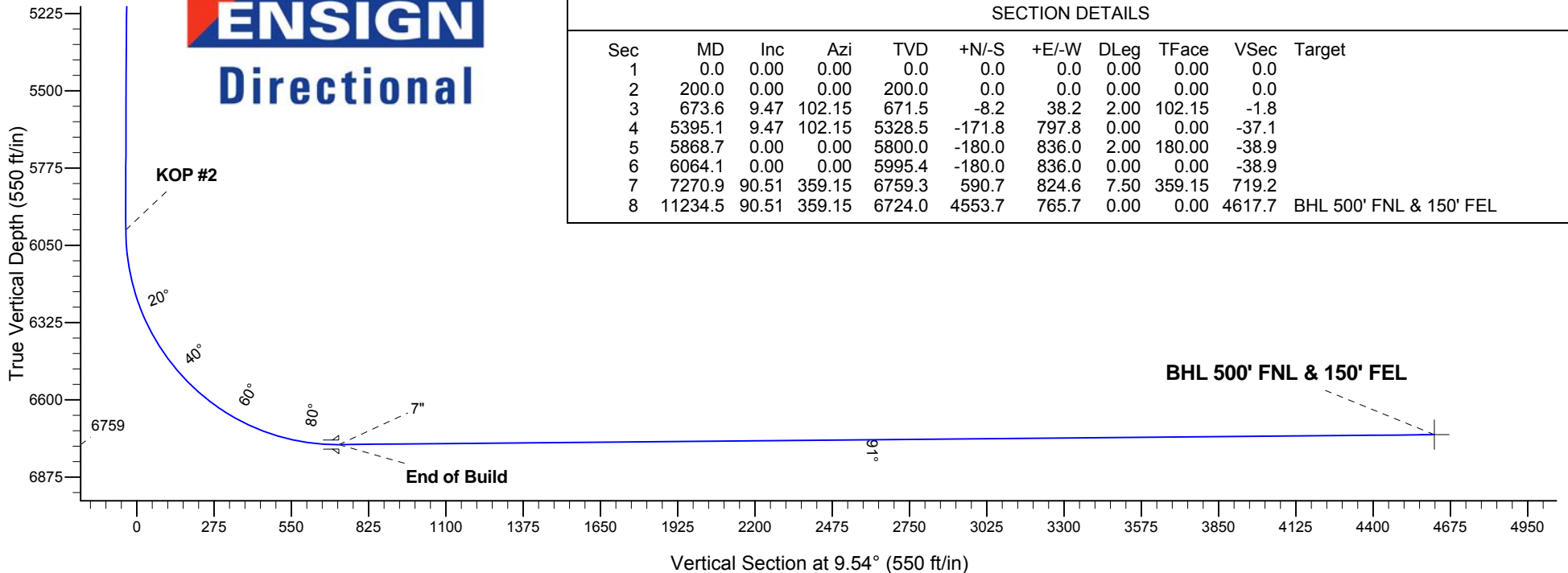
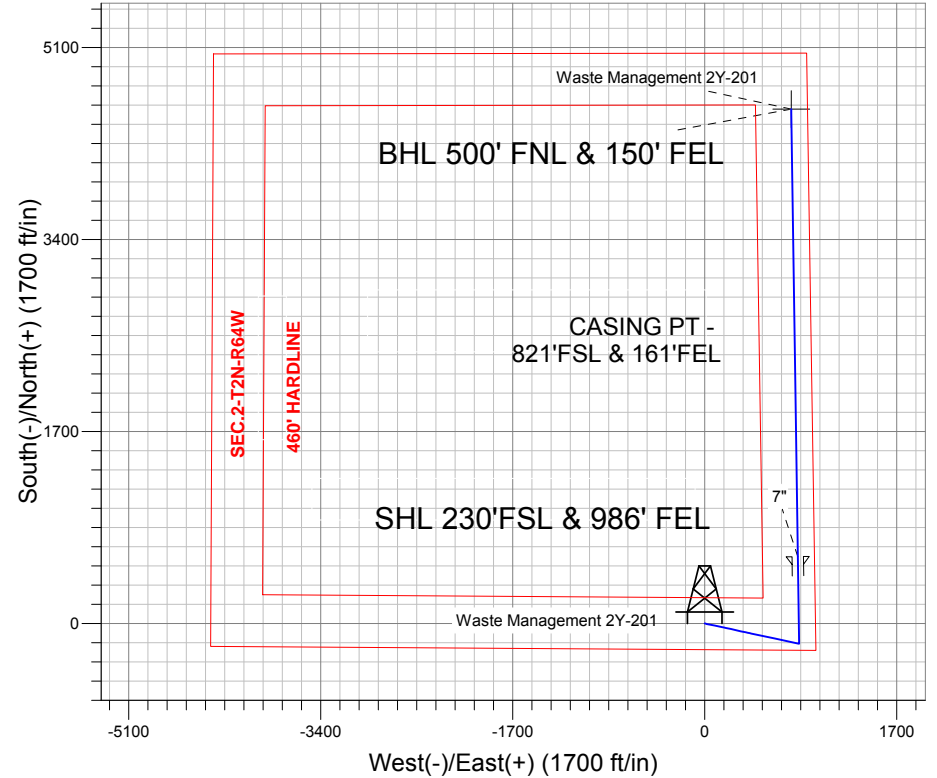
Azimuths to True North
Magnetic North: 8.49°

Magnetic Field
Strength: 52860.9nT
Dip Angle: 66.84°
Date: 1/28/2013
Model: IGRF2010

Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W
Waste Management 2Y-201
Plan #1 (01-28-13)
13:00, January 29 2013

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
5995.4	6064.1	KOP #2
6759.3	7270.9	End of Build



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	673.6	9.47	102.15	671.5	-8.2	38.2	2.00	102.15	-1.8	
4	5395.1	9.47	102.15	5328.5	-171.8	797.8	0.00	0.00	-37.1	
5	5868.7	0.00	0.00	5800.0	-180.0	836.0	2.00	180.00	-38.9	
6	6064.1	0.00	0.00	5995.4	-180.0	836.0	0.00	0.00	-38.9	
7	7270.9	90.51	359.15	6759.3	590.7	824.6	7.50	359.15	719.2	
8	11234.5	90.51	359.15	6724.0	4553.7	765.7	0.00	0.00	4617.7	BHL 500' FNL & 150' FEL



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.2-T2N-R64W

Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W

Waste Management 2Y-201

Wellbore #1

Plan: Plan #1 (01-28-13)

Standard Planning Report

29 January, 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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
673.6	9.47	102.15	671.5	-8.2	38.2	2.00	2.00	0.00	102.15	
5,395.1	9.47	102.15	5,328.5	-171.8	797.8	0.00	0.00	0.00	0.00	
5,868.7	0.00	0.00	5,800.0	-180.0	836.0	2.00	-2.00	0.00	180.00	
6,064.1	0.00	0.00	5,995.4	-180.0	836.0	0.00	0.00	0.00	0.00	
7,270.9	90.51	359.15	6,759.3	590.7	824.6	7.50	7.50	0.00	359.15	
11,234.5	90.51	359.15	6,724.0	4,553.7	765.7	0.00	0.00	0.00	0.00	BHL 500' FNL & 15

Database:	Landmark	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Project:	SEC.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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	0.80	102.15	240.0	-0.1	0.3	0.0	2.00	2.00	0.00
280.0	1.60	102.15	280.0	-0.2	1.1	-0.1	2.00	2.00	0.00
320.0	2.40	102.15	320.0	-0.5	2.5	-0.1	2.00	2.00	0.00
360.0	3.20	102.15	359.9	-0.9	4.4	-0.2	2.00	2.00	0.00
400.0	4.00	102.15	399.8	-1.5	6.8	-0.3	2.00	2.00	0.00
440.0	4.80	102.15	439.7	-2.1	9.8	-0.5	2.00	2.00	0.00
480.0	5.60	102.15	479.6	-2.9	13.4	-0.6	2.00	2.00	0.00
520.0	6.40	102.15	519.3	-3.8	17.5	-0.8	2.00	2.00	0.00
560.0	7.20	102.15	559.1	-4.8	22.1	-1.0	2.00	2.00	0.00
600.0	8.00	102.15	598.7	-5.9	27.3	-1.3	2.00	2.00	0.00
640.0	8.80	102.15	638.3	-7.1	33.0	-1.5	2.00	2.00	0.00
673.6	9.47	102.15	671.5	-8.2	38.2	-1.8	2.00	2.00	0.00
680.0	9.47	102.15	677.8	-8.4	39.2	-1.8	0.00	0.00	0.00
720.0	9.47	102.15	717.2	-9.8	45.6	-2.1	0.00	0.00	0.00
760.0	9.47	102.15	756.7	-11.2	52.1	-2.4	0.00	0.00	0.00
800.0	9.47	102.15	796.1	-12.6	58.5	-2.7	0.00	0.00	0.00
840.0	9.47	102.15	835.6	-14.0	65.0	-3.0	0.00	0.00	0.00
880.0	9.47	102.15	875.0	-15.4	71.4	-3.3	0.00	0.00	0.00
920.0	9.47	102.15	914.5	-16.8	77.8	-3.6	0.00	0.00	0.00
960.0	9.47	102.15	953.9	-18.1	84.3	-3.9	0.00	0.00	0.00
1,000.0	9.47	102.15	993.4	-19.5	90.7	-4.2	0.00	0.00	0.00
1,040.0	9.47	102.15	1,032.8	-20.9	97.1	-4.5	0.00	0.00	0.00
1,080.0	9.47	102.15	1,072.3	-22.3	103.6	-4.8	0.00	0.00	0.00
1,120.0	9.47	102.15	1,111.8	-23.7	110.0	-5.1	0.00	0.00	0.00
1,160.0	9.47	102.15	1,151.2	-25.1	116.4	-5.4	0.00	0.00	0.00
1,200.0	9.47	102.15	1,190.7	-26.5	122.9	-5.7	0.00	0.00	0.00
1,240.0	9.47	102.15	1,230.1	-27.8	129.3	-6.0	0.00	0.00	0.00
1,280.0	9.47	102.15	1,269.6	-29.2	135.7	-6.3	0.00	0.00	0.00
1,320.0	9.47	102.15	1,309.0	-30.6	142.2	-6.6	0.00	0.00	0.00
1,360.0	9.47	102.15	1,348.5	-32.0	148.6	-6.9	0.00	0.00	0.00
1,400.0	9.47	102.15	1,387.9	-33.4	155.1	-7.2	0.00	0.00	0.00
1,440.0	9.47	102.15	1,427.4	-34.8	161.5	-7.5	0.00	0.00	0.00
1,480.0	9.47	102.15	1,466.9	-36.2	167.9	-7.8	0.00	0.00	0.00
1,520.0	9.47	102.15	1,506.3	-37.5	174.4	-8.1	0.00	0.00	0.00
1,560.0	9.47	102.15	1,545.8	-38.9	180.8	-8.4	0.00	0.00	0.00
1,600.0	9.47	102.15	1,585.2	-40.3	187.2	-8.7	0.00	0.00	0.00
1,640.0	9.47	102.15	1,624.7	-41.7	193.7	-9.0	0.00	0.00	0.00
1,680.0	9.47	102.15	1,664.1	-43.1	200.1	-9.3	0.00	0.00	0.00
1,720.0	9.47	102.15	1,703.6	-44.5	206.5	-9.6	0.00	0.00	0.00
1,760.0	9.47	102.15	1,743.0	-45.9	213.0	-9.9	0.00	0.00	0.00
1,800.0	9.47	102.15	1,782.5	-47.2	219.4	-10.2	0.00	0.00	0.00
1,840.0	9.47	102.15	1,821.9	-48.6	225.8	-10.5	0.00	0.00	0.00
1,880.0	9.47	102.15	1,861.4	-50.0	232.3	-10.8	0.00	0.00	0.00
1,920.0	9.47	102.15	1,900.9	-51.4	238.7	-11.1	0.00	0.00	0.00
1,960.0	9.47	102.15	1,940.3	-52.8	245.2	-11.4	0.00	0.00	0.00
2,000.0	9.47	102.15	1,979.8	-54.2	251.6	-11.7	0.00	0.00	0.00

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Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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)
2,040.0	9.47	102.15	2,019.2	-55.6	258.0	-12.0	0.00	0.00	0.00
2,080.0	9.47	102.15	2,058.7	-56.9	264.5	-12.3	0.00	0.00	0.00
2,120.0	9.47	102.15	2,098.1	-58.3	270.9	-12.6	0.00	0.00	0.00
2,160.0	9.47	102.15	2,137.6	-59.7	277.3	-12.9	0.00	0.00	0.00
2,200.0	9.47	102.15	2,177.0	-61.1	283.8	-13.2	0.00	0.00	0.00
2,240.0	9.47	102.15	2,216.5	-62.5	290.2	-13.5	0.00	0.00	0.00
2,280.0	9.47	102.15	2,255.9	-63.9	296.6	-13.8	0.00	0.00	0.00
2,320.0	9.47	102.15	2,295.4	-65.3	303.1	-14.1	0.00	0.00	0.00
2,360.0	9.47	102.15	2,334.9	-66.6	309.5	-14.4	0.00	0.00	0.00
2,400.0	9.47	102.15	2,374.3	-68.0	315.9	-14.7	0.00	0.00	0.00
2,440.0	9.47	102.15	2,413.8	-69.4	322.4	-15.0	0.00	0.00	0.00
2,480.0	9.47	102.15	2,453.2	-70.8	328.8	-15.3	0.00	0.00	0.00
2,520.0	9.47	102.15	2,492.7	-72.2	335.2	-15.6	0.00	0.00	0.00
2,560.0	9.47	102.15	2,532.1	-73.6	341.7	-15.9	0.00	0.00	0.00
2,600.0	9.47	102.15	2,571.6	-75.0	348.1	-16.2	0.00	0.00	0.00
2,640.0	9.47	102.15	2,611.0	-76.3	354.6	-16.5	0.00	0.00	0.00
2,680.0	9.47	102.15	2,650.5	-77.7	361.0	-16.8	0.00	0.00	0.00
2,720.0	9.47	102.15	2,689.9	-79.1	367.4	-17.1	0.00	0.00	0.00
2,760.0	9.47	102.15	2,729.4	-80.5	373.9	-17.4	0.00	0.00	0.00
2,800.0	9.47	102.15	2,768.9	-81.9	380.3	-17.7	0.00	0.00	0.00
2,840.0	9.47	102.15	2,808.3	-83.3	386.7	-18.0	0.00	0.00	0.00
2,880.0	9.47	102.15	2,847.8	-84.7	393.2	-18.3	0.00	0.00	0.00
2,920.0	9.47	102.15	2,887.2	-86.0	399.6	-18.6	0.00	0.00	0.00
2,960.0	9.47	102.15	2,926.7	-87.4	406.0	-18.9	0.00	0.00	0.00
3,000.0	9.47	102.15	2,966.1	-88.8	412.5	-19.2	0.00	0.00	0.00
3,040.0	9.47	102.15	3,005.6	-90.2	418.9	-19.5	0.00	0.00	0.00
3,080.0	9.47	102.15	3,045.0	-91.6	425.3	-19.8	0.00	0.00	0.00
3,120.0	9.47	102.15	3,084.5	-93.0	431.8	-20.1	0.00	0.00	0.00
3,160.0	9.47	102.15	3,123.9	-94.4	438.2	-20.4	0.00	0.00	0.00
3,200.0	9.47	102.15	3,163.4	-95.7	444.7	-20.7	0.00	0.00	0.00
3,240.0	9.47	102.15	3,202.9	-97.1	451.1	-21.0	0.00	0.00	0.00
3,280.0	9.47	102.15	3,242.3	-98.5	457.5	-21.3	0.00	0.00	0.00
3,320.0	9.47	102.15	3,281.8	-99.9	464.0	-21.6	0.00	0.00	0.00
3,360.0	9.47	102.15	3,321.2	-101.3	470.4	-21.9	0.00	0.00	0.00
3,400.0	9.47	102.15	3,360.7	-102.7	476.8	-22.2	0.00	0.00	0.00
3,440.0	9.47	102.15	3,400.1	-104.1	483.3	-22.5	0.00	0.00	0.00
3,480.0	9.47	102.15	3,439.6	-105.4	489.7	-22.8	0.00	0.00	0.00
3,520.0	9.47	102.15	3,479.0	-106.8	496.1	-23.1	0.00	0.00	0.00
3,560.0	9.47	102.15	3,518.5	-108.2	502.6	-23.4	0.00	0.00	0.00
3,600.0	9.47	102.15	3,557.9	-109.6	509.0	-23.7	0.00	0.00	0.00
3,640.0	9.47	102.15	3,597.4	-111.0	515.4	-24.0	0.00	0.00	0.00
3,680.0	9.47	102.15	3,636.9	-112.4	521.9	-24.3	0.00	0.00	0.00
3,720.0	9.47	102.15	3,676.3	-113.8	528.3	-24.6	0.00	0.00	0.00
3,760.0	9.47	102.15	3,715.8	-115.1	534.7	-24.9	0.00	0.00	0.00
3,800.0	9.47	102.15	3,755.2	-116.5	541.2	-25.2	0.00	0.00	0.00
3,840.0	9.47	102.15	3,794.7	-117.9	547.6	-25.5	0.00	0.00	0.00
3,880.0	9.47	102.15	3,834.1	-119.3	554.1	-25.8	0.00	0.00	0.00
3,920.0	9.47	102.15	3,873.6	-120.7	560.5	-26.1	0.00	0.00	0.00
3,960.0	9.47	102.15	3,913.0	-122.1	566.9	-26.4	0.00	0.00	0.00
4,000.0	9.47	102.15	3,952.5	-123.5	573.4	-26.7	0.00	0.00	0.00
4,040.0	9.47	102.15	3,991.9	-124.8	579.8	-27.0	0.00	0.00	0.00
4,080.0	9.47	102.15	4,031.4	-126.2	586.2	-27.3	0.00	0.00	0.00

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Project:	SEC.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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)
4,120.0	9.47	102.15	4,070.9	-127.6	592.7	-27.6	0.00	0.00	0.00
4,160.0	9.47	102.15	4,110.3	-129.0	599.1	-27.9	0.00	0.00	0.00
4,200.0	9.47	102.15	4,149.8	-130.4	605.5	-28.2	0.00	0.00	0.00
4,240.0	9.47	102.15	4,189.2	-131.8	612.0	-28.5	0.00	0.00	0.00
4,280.0	9.47	102.15	4,228.7	-133.2	618.4	-28.8	0.00	0.00	0.00
4,320.0	9.47	102.15	4,268.1	-134.5	624.8	-29.1	0.00	0.00	0.00
4,360.0	9.47	102.15	4,307.6	-135.9	631.3	-29.4	0.00	0.00	0.00
4,400.0	9.47	102.15	4,347.0	-137.3	637.7	-29.7	0.00	0.00	0.00
4,440.0	9.47	102.15	4,386.5	-138.7	644.2	-30.0	0.00	0.00	0.00
4,480.0	9.47	102.15	4,425.9	-140.1	650.6	-30.3	0.00	0.00	0.00
4,520.0	9.47	102.15	4,465.4	-141.5	657.0	-30.6	0.00	0.00	0.00
4,560.0	9.47	102.15	4,504.9	-142.9	663.5	-30.9	0.00	0.00	0.00
4,600.0	9.47	102.15	4,544.3	-144.2	669.9	-31.2	0.00	0.00	0.00
4,640.0	9.47	102.15	4,583.8	-145.6	676.3	-31.5	0.00	0.00	0.00
4,680.0	9.47	102.15	4,623.2	-147.0	682.8	-31.8	0.00	0.00	0.00
4,720.0	9.47	102.15	4,662.7	-148.4	689.2	-32.1	0.00	0.00	0.00
4,760.0	9.47	102.15	4,702.1	-149.8	695.6	-32.4	0.00	0.00	0.00
4,800.0	9.47	102.15	4,741.6	-151.2	702.1	-32.7	0.00	0.00	0.00
4,840.0	9.47	102.15	4,781.0	-152.5	708.5	-33.0	0.00	0.00	0.00
4,880.0	9.47	102.15	4,820.5	-153.9	714.9	-33.3	0.00	0.00	0.00
4,920.0	9.47	102.15	4,859.9	-155.3	721.4	-33.6	0.00	0.00	0.00
4,960.0	9.47	102.15	4,899.4	-156.7	727.8	-33.9	0.00	0.00	0.00
5,000.0	9.47	102.15	4,938.9	-158.1	734.3	-34.1	0.00	0.00	0.00
5,040.0	9.47	102.15	4,978.3	-159.5	740.7	-34.4	0.00	0.00	0.00
5,080.0	9.47	102.15	5,017.8	-160.9	747.1	-34.7	0.00	0.00	0.00
5,120.0	9.47	102.15	5,057.2	-162.2	753.6	-35.0	0.00	0.00	0.00
5,160.0	9.47	102.15	5,096.7	-163.6	760.0	-35.3	0.00	0.00	0.00
5,200.0	9.47	102.15	5,136.1	-165.0	766.4	-35.6	0.00	0.00	0.00
5,240.0	9.47	102.15	5,175.6	-166.4	772.9	-35.9	0.00	0.00	0.00
5,280.0	9.47	102.15	5,215.0	-167.8	779.3	-36.2	0.00	0.00	0.00
5,320.0	9.47	102.15	5,254.5	-169.2	785.7	-36.5	0.00	0.00	0.00
5,360.0	9.47	102.15	5,293.9	-170.6	792.2	-36.8	0.00	0.00	0.00
5,395.1	9.47	102.15	5,328.5	-171.8	797.8	-37.1	0.00	0.00	0.00
5,400.0	9.37	102.15	5,333.4	-171.9	798.6	-37.1	2.00	-2.00	0.00
5,440.0	8.57	102.15	5,372.9	-173.3	804.7	-37.4	2.00	-2.00	0.00
5,480.0	7.77	102.15	5,412.5	-174.5	810.3	-37.7	2.00	-2.00	0.00
5,520.0	6.97	102.15	5,452.2	-175.5	815.3	-37.9	2.00	-2.00	0.00
5,560.0	6.17	102.15	5,491.9	-176.5	819.8	-38.1	2.00	-2.00	0.00
5,600.0	5.37	102.15	5,531.7	-177.3	823.7	-38.3	2.00	-2.00	0.00
5,640.0	4.57	102.15	5,571.6	-178.1	827.1	-38.5	2.00	-2.00	0.00
5,680.0	3.77	102.15	5,611.4	-178.7	829.9	-38.6	2.00	-2.00	0.00
5,720.0	2.97	102.15	5,651.4	-179.2	832.2	-38.7	2.00	-2.00	0.00
5,760.0	2.17	102.15	5,691.3	-179.6	834.0	-38.8	2.00	-2.00	0.00
5,800.0	1.37	102.15	5,731.3	-179.8	835.2	-38.8	2.00	-2.00	0.00
5,840.0	0.57	102.15	5,771.3	-180.0	835.9	-38.9	2.00	-2.00	0.00
5,868.7	0.00	0.00	5,800.0	-180.0	836.0	-38.9	2.00	-2.00	0.00
5,880.0	0.00	0.00	5,811.3	-180.0	836.0	-38.9	0.00	0.00	0.00
5,920.0	0.00	0.00	5,851.3	-180.0	836.0	-38.9	0.00	0.00	0.00
5,960.0	0.00	0.00	5,891.3	-180.0	836.0	-38.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,931.3	-180.0	836.0	-38.9	0.00	0.00	0.00
6,040.0	0.00	0.00	5,971.3	-180.0	836.0	-38.9	0.00	0.00	0.00
6,064.1	0.00	0.00	5,995.4	-180.0	836.0	-38.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Project:	SEC.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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	1.20	359.15	6,011.3	-179.8	836.0	-38.7	7.50	7.50	0.00
6,120.0	4.20	359.15	6,051.3	-178.0	836.0	-36.9	7.50	7.50	0.00
6,160.0	7.20	359.15	6,091.1	-174.0	835.9	-33.0	7.50	7.50	0.00
6,200.0	10.20	359.15	6,130.6	-167.9	835.8	-27.0	7.50	7.50	0.00
6,240.0	13.20	359.15	6,169.8	-159.8	835.7	-19.0	7.50	7.50	0.00
6,280.0	16.20	359.15	6,208.4	-149.7	835.5	-9.1	7.50	7.50	0.00
6,320.0	19.20	359.15	6,246.6	-137.5	835.4	2.9	7.50	7.50	0.00
6,360.0	22.20	359.15	6,284.0	-123.4	835.2	16.8	7.50	7.50	0.00
6,400.0	25.20	359.15	6,320.6	-107.3	834.9	32.6	7.50	7.50	0.00
6,440.0	28.20	359.15	6,356.3	-89.4	834.7	50.3	7.50	7.50	0.00
6,480.0	31.20	359.15	6,391.1	-69.5	834.4	69.8	7.50	7.50	0.00
6,520.0	34.20	359.15	6,424.7	-47.9	834.0	91.0	7.50	7.50	0.00
6,560.0	37.20	359.15	6,457.2	-24.6	833.7	114.0	7.50	7.50	0.00
6,600.0	40.20	359.15	6,488.4	0.4	833.3	138.6	7.50	7.50	0.00
6,640.0	43.20	359.15	6,518.3	27.0	832.9	164.7	7.50	7.50	0.00
6,680.0	46.20	359.15	6,546.7	55.1	832.5	192.4	7.50	7.50	0.00
6,720.0	49.20	359.15	6,573.6	84.7	832.1	221.5	7.50	7.50	0.00
6,760.0	52.20	359.15	6,599.0	115.6	831.6	251.9	7.50	7.50	0.00
6,800.0	55.20	359.15	6,622.6	147.9	831.1	283.6	7.50	7.50	0.00
6,840.0	58.20	359.15	6,644.6	181.3	830.6	316.5	7.50	7.50	0.00
6,880.0	61.20	359.15	6,664.8	215.8	830.1	350.5	7.50	7.50	0.00
6,920.0	64.20	359.15	6,683.1	251.4	829.6	385.4	7.50	7.50	0.00
6,960.0	67.20	359.15	6,699.6	287.8	829.1	421.3	7.50	7.50	0.00
7,000.0	70.20	359.15	6,714.1	325.1	828.5	457.9	7.50	7.50	0.00
7,040.0	73.20	359.15	6,726.7	363.0	827.9	495.3	7.50	7.50	0.00
7,080.0	76.20	359.15	6,737.2	401.6	827.4	533.2	7.50	7.50	0.00
7,120.0	79.20	359.15	6,745.8	440.7	826.8	571.7	7.50	7.50	0.00
7,160.0	82.20	359.15	6,752.2	480.1	826.2	610.5	7.50	7.50	0.00
7,200.0	85.20	359.15	6,756.6	519.9	825.6	649.6	7.50	7.50	0.00
7,240.0	88.20	359.15	6,758.9	559.8	825.0	688.9	7.50	7.50	0.00
7,270.9	90.51	359.15	6,759.3	590.7	824.6	719.2	7.50	7.50	0.00
7,280.0	90.51	359.15	6,759.2	599.8	824.4	728.2	0.00	0.00	0.00
7,320.0	90.51	359.15	6,758.8	639.8	823.8	767.5	0.00	0.00	0.00
7,360.0	90.51	359.15	6,758.5	679.8	823.2	806.9	0.00	0.00	0.00
7,400.0	90.51	359.15	6,758.1	719.8	822.6	846.2	0.00	0.00	0.00
7,440.0	90.51	359.15	6,757.8	759.8	822.0	885.6	0.00	0.00	0.00
7,480.0	90.51	359.15	6,757.4	799.8	821.5	924.9	0.00	0.00	0.00
7,520.0	90.51	359.15	6,757.1	839.8	820.9	964.3	0.00	0.00	0.00
7,560.0	90.51	359.15	6,756.7	879.8	820.3	1,003.6	0.00	0.00	0.00
7,600.0	90.51	359.15	6,756.4	919.8	819.7	1,042.9	0.00	0.00	0.00
7,640.0	90.51	359.15	6,756.0	959.7	819.1	1,082.3	0.00	0.00	0.00
7,680.0	90.51	359.15	6,755.6	999.7	818.5	1,121.6	0.00	0.00	0.00
7,720.0	90.51	359.15	6,755.3	1,039.7	817.9	1,161.0	0.00	0.00	0.00
7,760.0	90.51	359.15	6,754.9	1,079.7	817.3	1,200.3	0.00	0.00	0.00
7,800.0	90.51	359.15	6,754.6	1,119.7	816.7	1,239.6	0.00	0.00	0.00
7,840.0	90.51	359.15	6,754.2	1,159.7	816.1	1,279.0	0.00	0.00	0.00
7,880.0	90.51	359.15	6,753.9	1,199.7	815.5	1,318.3	0.00	0.00	0.00
7,920.0	90.51	359.15	6,753.5	1,239.7	814.9	1,357.7	0.00	0.00	0.00
7,960.0	90.51	359.15	6,753.1	1,279.7	814.3	1,397.0	0.00	0.00	0.00
8,000.0	90.51	359.15	6,752.8	1,319.7	813.7	1,436.4	0.00	0.00	0.00
8,040.0	90.51	359.15	6,752.4	1,359.7	813.1	1,475.7	0.00	0.00	0.00
8,080.0	90.51	359.15	6,752.1	1,399.7	812.5	1,515.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Project:	SEC.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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)
8,120.0	90.51	359.15	6,751.7	1,439.7	811.9	1,554.4	0.00	0.00	0.00
8,160.0	90.51	359.15	6,751.4	1,479.7	811.4	1,593.7	0.00	0.00	0.00
8,200.0	90.51	359.15	6,751.0	1,519.7	810.8	1,633.1	0.00	0.00	0.00
8,240.0	90.51	359.15	6,750.7	1,559.7	810.2	1,672.4	0.00	0.00	0.00
8,280.0	90.51	359.15	6,750.3	1,599.7	809.6	1,711.7	0.00	0.00	0.00
8,320.0	90.51	359.15	6,749.9	1,639.6	809.0	1,751.1	0.00	0.00	0.00
8,360.0	90.51	359.15	6,749.6	1,679.6	808.4	1,790.4	0.00	0.00	0.00
8,400.0	90.51	359.15	6,749.2	1,719.6	807.8	1,829.8	0.00	0.00	0.00
8,440.0	90.51	359.15	6,748.9	1,759.6	807.2	1,869.1	0.00	0.00	0.00
8,480.0	90.51	359.15	6,748.5	1,799.6	806.6	1,908.5	0.00	0.00	0.00
8,520.0	90.51	359.15	6,748.2	1,839.6	806.0	1,947.8	0.00	0.00	0.00
8,560.0	90.51	359.15	6,747.8	1,879.6	805.4	1,987.1	0.00	0.00	0.00
8,600.0	90.51	359.15	6,747.5	1,919.6	804.8	2,026.5	0.00	0.00	0.00
8,640.0	90.51	359.15	6,747.1	1,959.6	804.2	2,065.8	0.00	0.00	0.00
8,680.0	90.51	359.15	6,746.7	1,999.6	803.6	2,105.2	0.00	0.00	0.00
8,720.0	90.51	359.15	6,746.4	2,039.6	803.0	2,144.5	0.00	0.00	0.00
8,760.0	90.51	359.15	6,746.0	2,079.6	802.4	2,183.9	0.00	0.00	0.00
8,800.0	90.51	359.15	6,745.7	2,119.6	801.9	2,223.2	0.00	0.00	0.00
8,840.0	90.51	359.15	6,745.3	2,159.6	801.3	2,262.5	0.00	0.00	0.00
8,880.0	90.51	359.15	6,745.0	2,199.6	800.7	2,301.9	0.00	0.00	0.00
8,920.0	90.51	359.15	6,744.6	2,239.6	800.1	2,341.2	0.00	0.00	0.00
8,960.0	90.51	359.15	6,744.2	2,279.6	799.5	2,380.6	0.00	0.00	0.00
9,000.0	90.51	359.15	6,743.9	2,319.5	798.9	2,419.9	0.00	0.00	0.00
9,040.0	90.51	359.15	6,743.5	2,359.5	798.3	2,459.2	0.00	0.00	0.00
9,080.0	90.51	359.15	6,743.2	2,399.5	797.7	2,498.6	0.00	0.00	0.00
9,120.0	90.51	359.15	6,742.8	2,439.5	797.1	2,537.9	0.00	0.00	0.00
9,160.0	90.51	359.15	6,742.5	2,479.5	796.5	2,577.3	0.00	0.00	0.00
9,200.0	90.51	359.15	6,742.1	2,519.5	795.9	2,616.6	0.00	0.00	0.00
9,240.0	90.51	359.15	6,741.8	2,559.5	795.3	2,656.0	0.00	0.00	0.00
9,280.0	90.51	359.15	6,741.4	2,599.5	794.7	2,695.3	0.00	0.00	0.00
9,320.0	90.51	359.15	6,741.0	2,639.5	794.1	2,734.6	0.00	0.00	0.00
9,360.0	90.51	359.15	6,740.7	2,679.5	793.5	2,774.0	0.00	0.00	0.00
9,400.0	90.51	359.15	6,740.3	2,719.5	792.9	2,813.3	0.00	0.00	0.00
9,440.0	90.51	359.15	6,740.0	2,759.5	792.3	2,852.7	0.00	0.00	0.00
9,480.0	90.51	359.15	6,739.6	2,799.5	791.8	2,892.0	0.00	0.00	0.00
9,520.0	90.51	359.15	6,739.3	2,839.5	791.2	2,931.3	0.00	0.00	0.00
9,560.0	90.51	359.15	6,738.9	2,879.5	790.6	2,970.7	0.00	0.00	0.00
9,600.0	90.51	359.15	6,738.5	2,919.5	790.0	3,010.0	0.00	0.00	0.00
9,640.0	90.51	359.15	6,738.2	2,959.4	789.4	3,049.4	0.00	0.00	0.00
9,680.0	90.51	359.15	6,737.8	2,999.4	788.8	3,088.7	0.00	0.00	0.00
9,720.0	90.51	359.15	6,737.5	3,039.4	788.2	3,128.1	0.00	0.00	0.00
9,760.0	90.51	359.15	6,737.1	3,079.4	787.6	3,167.4	0.00	0.00	0.00
9,800.0	90.51	359.15	6,736.8	3,119.4	787.0	3,206.7	0.00	0.00	0.00
9,840.0	90.51	359.15	6,736.4	3,159.4	786.4	3,246.1	0.00	0.00	0.00
9,880.0	90.51	359.15	6,736.1	3,199.4	785.8	3,285.4	0.00	0.00	0.00
9,920.0	90.51	359.15	6,735.7	3,239.4	785.2	3,324.8	0.00	0.00	0.00
9,960.0	90.51	359.15	6,735.3	3,279.4	784.6	3,364.1	0.00	0.00	0.00
10,000.0	90.51	359.15	6,735.0	3,319.4	784.0	3,403.4	0.00	0.00	0.00
10,040.0	90.51	359.15	6,734.6	3,359.4	783.4	3,442.8	0.00	0.00	0.00
10,080.0	90.51	359.15	6,734.3	3,399.4	782.8	3,482.1	0.00	0.00	0.00
10,120.0	90.51	359.15	6,733.9	3,439.4	782.3	3,521.5	0.00	0.00	0.00
10,160.0	90.51	359.15	6,733.6	3,479.4	781.7	3,560.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Project:	SEC.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	North Reference:	True
Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (01-28-13)		

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)
10,200.0	90.51	359.15	6,733.2	3,519.4	781.1	3,600.2	0.00	0.00	0.00
10,240.0	90.51	359.15	6,732.9	3,559.4	780.5	3,639.5	0.00	0.00	0.00
10,280.0	90.51	359.15	6,732.5	3,599.4	779.9	3,678.8	0.00	0.00	0.00
10,320.0	90.51	359.15	6,732.1	3,639.3	779.3	3,718.2	0.00	0.00	0.00
10,360.0	90.51	359.15	6,731.8	3,679.3	778.7	3,757.5	0.00	0.00	0.00
10,400.0	90.51	359.15	6,731.4	3,719.3	778.1	3,796.9	0.00	0.00	0.00
10,440.0	90.51	359.15	6,731.1	3,759.3	777.5	3,836.2	0.00	0.00	0.00
10,480.0	90.51	359.15	6,730.7	3,799.3	776.9	3,875.6	0.00	0.00	0.00
10,520.0	90.51	359.15	6,730.4	3,839.3	776.3	3,914.9	0.00	0.00	0.00
10,560.0	90.51	359.15	6,730.0	3,879.3	775.7	3,954.2	0.00	0.00	0.00
10,600.0	90.51	359.15	6,729.6	3,919.3	775.1	3,993.6	0.00	0.00	0.00
10,640.0	90.51	359.15	6,729.3	3,959.3	774.5	4,032.9	0.00	0.00	0.00
10,680.0	90.51	359.15	6,728.9	3,999.3	773.9	4,072.3	0.00	0.00	0.00
10,720.0	90.51	359.15	6,728.6	4,039.3	773.3	4,111.6	0.00	0.00	0.00
10,760.0	90.51	359.15	6,728.2	4,079.3	772.7	4,150.9	0.00	0.00	0.00
10,800.0	90.51	359.15	6,727.9	4,119.3	772.2	4,190.3	0.00	0.00	0.00
10,840.0	90.51	359.15	6,727.5	4,159.3	771.6	4,229.6	0.00	0.00	0.00
10,880.0	90.51	359.15	6,727.2	4,199.3	771.0	4,269.0	0.00	0.00	0.00
10,920.0	90.51	359.15	6,726.8	4,239.3	770.4	4,308.3	0.00	0.00	0.00
10,960.0	90.51	359.15	6,726.4	4,279.3	769.8	4,347.7	0.00	0.00	0.00
11,000.0	90.51	359.15	6,726.1	4,319.2	769.2	4,387.0	0.00	0.00	0.00
11,040.0	90.51	359.15	6,725.7	4,359.2	768.6	4,426.3	0.00	0.00	0.00
11,080.0	90.51	359.15	6,725.4	4,399.2	768.0	4,465.7	0.00	0.00	0.00
11,120.0	90.51	359.15	6,725.0	4,439.2	767.4	4,505.0	0.00	0.00	0.00
11,160.0	90.51	359.15	6,724.7	4,479.2	766.8	4,544.4	0.00	0.00	0.00
11,200.0	90.51	359.15	6,724.3	4,519.2	766.2	4,583.7	0.00	0.00	0.00
11,234.5	90.51	359.15	6,724.0	4,553.7	765.7	4,617.7	0.00	0.00	0.00

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,270.9	6,759.3	7"	7	8-3/4

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP #1
6,064.1	5,995.4	-180.0	836.0	KOP #2
7,270.9	6,759.3	590.7	824.6	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.2-T2N-R64W

Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W

Waste Management 2Y-201

Wellbore #1

Plan #1 (01-28-13)

Anticollision Report

29 January, 2013

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2T-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		
2,000.0	1,979.8	2,004.7	2,000.1	6.6	4.5	168.65	-50.9	13.8	238.8	229.7	9.07	26.315		
2,100.0	2,078.4	2,104.4	2,099.2	7.0	4.8	168.04	-56.9	22.6	246.1	236.5	9.59	25.658		
2,200.0	2,177.0	2,204.1	2,198.4	7.3	5.1	167.47	-62.8	31.4	253.4	243.3	10.11	25.060		
2,300.0	2,275.7	2,303.8	2,297.5	7.7	5.4	166.93	-68.8	40.2	260.7	250.1	10.64	24.512		
2,400.0	2,374.3	2,403.5	2,396.6	8.1	5.7	166.42	-74.8	49.0	268.0	256.9	11.16	24.011		
2,500.0	2,472.9	2,503.2	2,495.8	8.5	5.9	165.94	-80.7	57.8	275.4	263.7	11.70	23.549		
2,600.0	2,571.6	2,602.9	2,594.9	8.9	6.2	165.48	-86.7	66.6	282.8	270.6	12.23	23.123		
2,700.0	2,670.2	2,702.6	2,694.0	9.3	6.5	165.04	-92.6	75.4	290.2	277.4	12.77	22.729		
2,800.0	2,768.9	2,802.3	2,793.2	9.7	6.8	164.63	-98.6	84.2	297.6	284.3	13.31	22.364		
2,900.0	2,867.5	2,902.0	2,892.3	10.1	7.1	164.24	-104.6	93.0	305.0	291.2	13.85	22.024		
3,000.0	2,966.1	3,001.7	2,991.4	10.4	7.4	163.86	-110.5	101.8	312.5	298.1	14.40	21.708		
3,100.0	3,064.8	3,101.4	3,090.6	10.8	7.7	163.51	-116.5	110.7	320.0	305.0	14.94	21.413		
3,200.0	3,163.4	3,201.1	3,189.7	11.2	8.0	163.17	-122.4	119.5	327.4	311.9	15.49	21.136		
3,300.0	3,262.0	3,300.8	3,288.8	11.6	8.3	162.84	-128.4	128.3	334.9	318.9	16.04	20.877		
3,400.0	3,360.7	3,400.5	3,388.0	12.0	8.6	162.53	-134.4	137.1	342.4	325.8	16.59	20.634		
3,500.0	3,459.3	3,500.2	3,487.1	12.4	8.9	162.23	-140.3	145.9	349.9	332.7	17.15	20.405		
3,600.0	3,557.9	3,599.9	3,586.2	12.8	9.2	161.95	-146.3	154.7	357.4	339.7	17.70	20.190		
3,700.0	3,656.6	3,699.6	3,685.4	13.2	9.5	161.67	-152.3	163.5	364.9	346.7	18.26	19.987		
3,800.0	3,755.2	3,799.3	3,784.5	13.5	9.8	161.41	-158.2	172.3	372.4	353.6	18.82	19.794		
3,900.0	3,853.9	3,899.0	3,883.6	13.9	10.1	161.16	-164.2	181.1	380.0	360.6	19.37	19.613		
4,000.0	3,952.5	3,998.7	3,982.8	14.3	10.4	160.92	-170.1	189.9	387.5	367.6	19.93	19.440		
4,100.0	4,051.1	4,090.1	4,073.7	14.7	10.6	160.81	-175.0	197.1	396.0	375.6	20.43	19.381		
4,200.0	4,149.8	4,180.0	4,163.4	15.1	10.8	160.97	-178.2	201.8	406.8	385.9	20.87	19.497		
4,300.0	4,248.4	4,269.3	4,252.7	15.5	10.9	161.37	-179.8	204.2	420.0	398.7	21.26	19.755		
4,400.0	4,347.0	4,362.6	4,346.0	15.9	11.1	161.99	-180.0	204.5	435.3	413.7	21.64	20.114		
4,500.0	4,445.7	4,461.3	4,444.7	16.3	11.3	162.64	-180.0	204.5	451.0	429.0	22.03	20.472		
4,600.0	4,544.3	4,559.9	4,543.3	16.6	11.4	163.24	-180.0	204.5	466.8	444.3	22.42	20.817		
4,700.0	4,642.9	4,658.5	4,641.9	17.0	11.6	163.80	-180.0	204.5	482.6	459.7	22.82	21.147		
4,800.0	4,741.6	4,757.2	4,740.6	17.4	11.8	164.33	-180.0	204.5	498.4	475.2	23.22	21.465		
4,900.0	4,840.2	4,855.8	4,839.2	17.8	12.0	164.82	-180.0	204.5	514.3	490.7	23.62	21.769		
5,000.0	4,938.9	4,954.4	4,937.9	18.2	12.1	165.29	-180.0	204.5	530.2	506.2	24.03	22.061		
5,100.0	5,037.5	5,053.1	5,036.5	18.6	12.3	165.73	-180.0	204.5	546.1	521.7	24.44	22.342		
5,200.0	5,136.1	5,151.7	5,135.1	19.0	12.5	166.14	-180.0	204.5	562.1	537.3	24.86	22.611		
5,300.0	5,234.8	5,250.4	5,233.8	19.4	12.7	166.53	-180.0	204.5	578.1	552.8	25.28	22.870		
5,400.0	5,333.4	5,349.0	5,332.4	19.7	12.9	166.90	-180.0	204.5	594.1	568.4	25.70	23.120		
5,500.0	5,432.3	5,447.9	5,431.3	20.0	13.0	167.28	-180.0	204.5	608.4	582.3	26.08	23.326		
5,600.0	5,531.7	5,547.3	5,530.7	20.2	13.2	167.55	-180.0	204.5	619.2	592.7	26.44	23.420		
5,700.0	5,631.4	5,647.0	5,630.4	20.4	13.4	167.73	-180.0	204.5	626.6	599.9	26.77	23.407		
5,800.0	5,731.3	5,746.9	5,730.3	20.6	13.6	167.83	-180.0	204.5	630.7	603.6	27.08	23.292		
5,900.0	5,831.3	5,846.9	5,830.3	20.7	13.8	-90.00	-180.0	204.5	631.5	604.2	27.33	23.109		
6,000.0	5,931.3	5,946.9	5,930.3	20.8	14.0	-90.00	-180.0	204.5	631.5	603.8	27.70	22.800		
6,066.4	5,997.7	6,013.3	5,996.7	20.9	14.1	-89.24	-180.0	204.5	631.5	603.5	28.02	22.537		
6,100.0	6,031.3	6,046.3	6,029.7	21.0	14.2	-89.17	-179.4	204.5	631.5	603.4	28.13	22.446		
6,200.0	6,130.6	6,144.6	6,127.4	21.1	14.3	-89.24	-169.2	204.3	631.6	603.1	28.43	22.216		
6,300.0	6,227.6	6,243.0	6,223.0	21.1	14.4	-89.32	-146.5	203.8	631.7	603.1	28.65	22.048		
6,400.0	6,320.6	6,341.5	6,315.1	21.2	14.5	-89.42	-111.7	203.0	632.0	603.1	28.84	21.911		
6,500.0	6,408.0	6,440.1	6,402.1	21.2	14.6	-89.52	-65.2	201.9	632.3	603.3	29.06	21.759		
6,600.0	6,488.4	6,539.0	6,482.5	21.2	14.7	-89.63	-7.8	200.6	632.8	603.4	29.38	21.540		
6,700.0	6,560.4	6,638.1	6,555.0	21.3	14.7	-89.75	59.6	199.1	633.3	603.4	29.87	21.200		
6,800.0	6,622.6	6,737.4	6,618.3	21.4	14.8	-89.87	136.0	197.4	633.9	603.3	30.62	20.701		
6,900.0	6,674.2	6,837.0	6,671.2	21.5	15.3	-90.00	220.2	195.5	634.5	602.8	31.68	20.029		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2T-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		
7,000.0	6,714.1	6,936.8	6,712.8	21.8	16.0	-90.12	310.8	193.4	635.2	602.1	33.08	19.200		
7,100.0	6,741.8	7,036.9	6,742.4	22.2	16.9	-90.24	406.3	191.3	636.0	601.1	34.83	18.258		
7,200.0	6,756.6	7,137.2	6,759.2	22.7	18.0	-90.36	505.2	189.1	636.7	599.8	36.89	17.259		
7,300.0	6,759.0	7,237.7	6,763.1	23.5	19.2	-90.45	605.5	186.8	637.5	598.3	39.21	16.258		
7,400.0	6,758.1	7,337.7	6,762.2	24.5	20.5	-90.45	705.4	184.5	638.3	596.5	41.74	15.292		
7,500.0	6,757.2	7,437.6	6,761.3	25.6	21.9	-90.45	805.4	182.3	639.1	594.6	44.45	14.376		
7,600.0	6,756.4	7,537.6	6,760.5	26.8	23.3	-90.45	905.4	180.0	639.8	592.5	47.32	13.521		
7,700.0	6,755.5	7,637.6	6,759.6	28.1	24.8	-90.45	1,005.3	177.8	640.6	590.3	50.32	12.730		
7,800.0	6,754.6	7,737.6	6,758.7	29.5	26.4	-90.45	1,105.3	175.5	641.4	587.9	53.43	12.003		
7,900.0	6,753.7	7,837.6	6,757.8	31.0	28.0	-90.45	1,205.3	173.3	642.1	585.5	56.63	11.338		
8,000.0	6,752.8	7,937.6	6,756.9	32.5	29.7	-90.45	1,305.2	171.0	642.9	583.0	59.91	10.731		
8,100.0	6,751.9	8,037.6	6,756.0	34.0	31.4	-90.45	1,405.2	168.7	643.7	580.4	63.25	10.176		
8,200.0	6,751.0	8,137.6	6,755.1	35.6	33.1	-90.45	1,505.2	166.5	644.5	577.8	66.65	9.669		
8,300.0	6,750.1	8,237.6	6,754.2	37.2	34.8	-90.45	1,605.1	164.2	645.2	575.1	70.09	9.205		
8,400.0	6,749.2	8,337.6	6,753.3	38.9	36.6	-90.45	1,705.1	162.0	646.0	572.4	73.58	8.780		
8,500.0	6,748.3	8,437.6	6,752.4	40.6	38.3	-90.45	1,805.1	159.7	646.8	569.7	77.10	8.389		
8,600.0	6,747.5	8,537.6	6,751.6	42.3	40.1	-90.45	1,905.0	157.5	647.5	566.9	80.65	8.029		
8,700.0	6,746.6	8,637.6	6,750.7	44.0	41.9	-90.45	2,005.0	155.2	648.3	564.1	84.22	7.698		
8,800.0	6,745.7	8,737.6	6,749.8	45.7	43.7	-90.45	2,105.0	153.0	649.1	561.3	87.82	7.391		
8,900.0	6,744.8	8,837.6	6,748.9	47.5	45.5	-90.45	2,204.9	150.7	649.8	558.4	91.44	7.107		
9,000.0	6,743.9	8,937.6	6,748.0	49.2	47.3	-90.45	2,304.9	148.4	650.6	555.5	95.08	6.843		
9,100.0	6,743.0	9,037.6	6,747.1	51.0	49.2	-90.44	2,404.9	146.2	651.4	552.7	98.73	6.598		
9,200.0	6,742.1	9,137.6	6,746.2	52.8	51.0	-90.44	2,504.9	143.9	652.2	549.8	102.40	6.369		
9,300.0	6,741.2	9,237.6	6,745.3	54.6	52.9	-90.44	2,604.8	141.7	652.9	546.9	106.08	6.155		
9,400.0	6,740.3	9,337.6	6,744.4	56.4	54.7	-90.44	2,704.8	139.4	653.7	543.9	109.77	5.955		
9,500.0	6,739.4	9,437.6	6,743.5	58.2	56.6	-90.44	2,804.8	137.2	654.5	541.0	113.47	5.768		
9,600.0	6,738.5	9,537.6	6,742.6	60.0	58.4	-90.44	2,904.7	134.9	655.2	538.1	117.19	5.591		
9,700.0	6,737.7	9,637.6	6,741.8	61.8	60.3	-90.44	3,004.7	132.7	656.0	535.1	120.91	5.426		
9,800.0	6,736.8	9,737.6	6,740.9	63.6	62.2	-90.44	3,104.7	130.4	656.8	532.1	124.64	5.270		
9,900.0	6,735.9	9,837.6	6,740.0	65.5	64.0	-90.44	3,204.6	128.2	657.6	529.2	128.37	5.122		
10,000.0	6,735.0	9,937.6	6,739.1	67.3	65.9	-90.44	3,304.6	125.9	658.3	526.2	132.11	4.983		
10,100.0	6,734.1	10,037.6	6,738.2	69.1	67.8	-90.44	3,404.6	123.6	659.1	523.2	135.86	4.851		
10,200.0	6,733.2	10,137.6	6,737.3	71.0	69.7	-90.44	3,504.5	121.4	659.9	520.2	139.62	4.726		
10,300.0	6,732.3	10,237.6	6,736.4	72.8	71.5	-90.44	3,604.5	119.1	660.6	517.3	143.38	4.608		
10,400.0	6,731.4	10,337.6	6,735.5	74.7	73.4	-90.44	3,704.5	116.9	661.4	514.3	147.14	4.495		
10,500.0	6,730.5	10,437.6	6,734.6	76.5	75.3	-90.44	3,804.4	114.6	662.2	511.3	150.91	4.388		
10,600.0	6,729.6	10,537.6	6,733.7	78.4	77.2	-90.44	3,904.4	112.4	662.9	508.3	154.68	4.286		
10,700.0	6,728.8	10,637.6	6,732.9	80.3	79.1	-90.44	4,004.4	110.1	663.7	505.3	158.45	4.189		
10,800.0	6,727.9	10,737.6	6,732.0	82.1	81.0	-90.44	4,104.3	107.9	664.5	502.3	162.23	4.096		
10,900.0	6,727.0	10,837.5	6,731.1	84.0	82.9	-90.44	4,204.3	105.6	665.3	499.2	166.02	4.007		
11,000.0	6,726.1	10,937.5	6,730.2	85.9	84.8	-90.43	4,304.3	103.3	666.0	496.2	169.80	3.922		
11,100.0	6,725.2	11,037.5	6,729.3	87.8	86.7	-90.43	4,404.2	101.1	666.8	493.2	173.59	3.841		
11,200.0	6,724.3	11,137.5	6,728.4	89.6	88.4	-90.43	4,504.2	98.8	667.6	490.3	177.24	3.766		
11,234.5	6,724.0	11,172.1	6,728.1	90.3	89.0	-90.43	4,538.7	98.1	667.8	489.4	178.43	3.743 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2T-401 - Wellbore #1 - Plan														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
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	0.0	0.0	0.0	0.0	-90.00	0.0	-89.4	89.5						
100.0	100.0	98.0	98.0	0.1	0.1	-90.00	0.0	-89.4	89.4	89.2	0.22	401.945			
200.0	200.0	198.0	198.0	0.3	0.3	-90.00	0.0	-89.4	89.4	88.8	0.67	133.534	CC, ES		
300.0	300.0	298.0	298.0	0.6	0.6	168.08	0.0	-89.4	91.1	90.0	1.11	81.918			
400.0	399.8	397.8	397.8	0.8	0.8	168.70	0.0	-89.4	96.3	94.7	1.56	61.783			
500.0	499.5	497.5	497.5	1.0	1.0	169.60	0.0	-89.4	104.8	102.8	2.01	52.098			
600.0	598.7	596.7	596.7	1.3	1.2	170.64	0.0	-89.4	116.8	114.4	2.47	47.286			
700.0	697.5	695.5	695.5	1.6	1.5	171.70	0.0	-89.4	132.2	129.3	2.93	45.113			
800.0	796.1	794.1	794.1	2.0	1.7	172.62	0.0	-89.4	148.5	145.1	3.39	43.855			
900.0	894.8	892.8	892.8	2.4	1.9	173.35	0.0	-89.4	164.8	161.0	3.85	42.858			
1,000.0	993.4	991.4	991.4	2.7	2.1	173.96	0.0	-89.4	181.2	176.9	4.31	42.053			
1,100.0	1,092.0	1,090.0	1,090.0	3.1	2.3	174.46	0.0	-89.4	197.6	192.8	4.77	41.392			
1,200.0	1,190.7	1,188.7	1,188.7	3.5	2.6	174.88	0.0	-89.4	214.0	208.7	5.24	40.840			
1,300.0	1,289.3	1,287.3	1,287.3	3.9	2.8	175.25	0.0	-89.4	230.4	224.7	5.71	40.373			
1,400.0	1,387.9	1,385.9	1,385.9	4.3	3.0	175.57	0.0	-89.4	246.8	240.6	6.17	39.972			
1,500.0	1,486.6	1,484.6	1,484.6	4.6	3.2	175.84	0.0	-89.4	263.2	256.5	6.64	39.625			
1,600.0	1,585.2	1,583.2	1,583.2	5.0	3.4	176.09	0.0	-89.4	279.6	272.5	7.11	39.321			
1,700.0	1,683.9	1,681.9	1,681.9	5.4	3.7	176.30	0.0	-89.4	296.0	288.4	7.58	39.054			
1,800.0	1,782.5	1,780.5	1,780.5	5.8	3.9	176.50	0.0	-89.4	312.4	304.4	8.05	38.816			
1,900.0	1,881.1	1,879.1	1,879.1	6.2	4.1	176.67	0.0	-89.4	328.9	320.4	8.52	38.604			
2,000.0	1,979.8	1,977.8	1,977.8	6.6	4.3	176.83	0.0	-89.4	345.3	336.3	8.99	38.413			
2,100.0	2,078.4	2,076.4	2,076.4	7.0	4.6	176.98	0.0	-89.4	361.7	352.3	9.46	38.240			
2,200.0	2,177.0	2,175.0	2,175.0	7.3	4.8	177.11	0.0	-89.4	378.2	368.2	9.93	38.083			
2,300.0	2,275.7	2,273.7	2,273.7	7.7	5.0	177.23	0.0	-89.4	394.6	384.2	10.40	37.940			
2,400.0	2,374.3	2,372.3	2,372.3	8.1	5.2	177.34	0.0	-89.4	411.1	400.2	10.87	37.809			
2,500.0	2,472.9	2,470.9	2,470.9	8.5	5.4	177.44	0.0	-89.4	427.5	416.1	11.34	37.688			
2,600.0	2,571.6	2,569.6	2,569.6	8.9	5.7	177.54	0.0	-89.4	443.9	432.1	11.81	37.577			
2,700.0	2,670.2	2,668.2	2,668.2	9.3	5.9	177.62	0.0	-89.4	460.4	448.1	12.29	37.474			
2,800.0	2,768.9	2,766.9	2,766.9	9.7	6.1	177.71	0.0	-89.4	476.8	464.1	12.76	37.378			
2,900.0	2,867.5	2,865.5	2,865.5	10.1	6.3	177.78	0.0	-89.4	493.3	480.0	13.23	37.289			
3,000.0	2,966.1	2,964.1	2,964.1	10.4	6.5	177.85	0.0	-89.4	509.7	496.0	13.70	37.206			
3,100.0	3,064.8	3,062.2	3,060.1	10.8	6.7	177.85	-0.6	-89.7	526.3	512.2	14.15	37.197	SF		
3,200.0	3,163.4	3,154.4	3,154.3	11.2	6.9	177.55	-3.8	-91.1	543.6	529.1	14.57	37.300			
3,300.0	3,262.0	3,248.1	3,247.8	11.6	7.1	176.95	-9.8	-93.8	561.8	546.8	15.00	37.464			
3,400.0	3,360.7	3,341.3	3,340.5	12.0	7.3	176.10	-18.6	-97.6	580.8	565.4	15.43	37.654			
3,500.0	3,459.3	3,438.8	3,437.4	12.4	7.4	175.13	-29.1	-102.2	600.4	584.5	15.88	37.819			
3,600.0	3,557.9	3,536.4	3,534.3	12.8	7.6	174.23	-39.6	-106.8	620.2	603.8	16.34	37.962			
3,700.0	3,656.6	3,634.0	3,631.2	13.2	7.8	173.37	-50.1	-111.4	640.0	623.2	16.81	38.085			
3,800.0	3,755.2	3,731.6	3,728.0	13.5	8.0	172.57	-60.5	-116.0	660.1	642.8	17.28	38.190			
3,900.0	3,853.9	3,829.1	3,824.9	13.9	8.2	171.82	-71.0	-120.6	680.2	662.4	17.77	38.279			
4,000.0	3,952.5	3,926.7	3,921.8	14.3	8.5	171.10	-81.5	-125.2	700.4	682.2	18.26	38.355			
4,100.0	4,051.1	4,024.3	4,018.7	14.7	8.7	170.43	-92.0	-129.8	720.8	702.0	18.76	38.419			
4,200.0	4,149.8	4,121.8	4,115.6	15.1	8.9	169.80	-102.5	-134.4	741.2	721.9	19.27	38.473			
4,300.0	4,248.4	4,219.4	4,212.5	15.5	9.1	169.20	-113.0	-139.0	761.7	741.9	19.78	38.518			
4,400.0	4,347.0	4,317.0	4,309.4	15.9	9.4	168.63	-123.5	-143.6	782.3	762.0	20.29	38.556			
4,500.0	4,445.7	4,414.5	4,406.3	16.3	9.6	168.09	-134.0	-148.2	803.0	782.1	20.81	38.587			
4,600.0	4,544.3	4,512.1	4,503.2	16.6	9.9	167.57	-144.5	-152.9	823.7	802.3	21.33	38.613			
4,700.0	4,642.9	4,609.7	4,600.1	17.0	10.1	167.08	-155.0	-157.5	844.5	822.6	21.86	38.633			
4,800.0	4,741.6	4,712.1	4,701.8	17.4	10.4	166.61	-165.7	-162.2	865.2	842.8	22.40	38.628			
4,900.0	4,840.2	4,824.6	4,813.9	17.8	10.7	166.32	-174.5	-166.0	884.7	861.8	22.94	38.564			
5,000.0	4,938.9	4,927.1	4,917.1	18.2	10.9	166.31	-179.1	-168.1	902.6	879.2	23.46	38.481			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design		Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2T-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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,037.5	5,046.3	5,035.5	18.6	11.1	166.52	-180.0	-168.4	919.0	895.0	23.93	38.403		
5,200.0	5,136.1	5,144.9	5,134.1	19.0	11.3	166.76	-180.0	-168.4	935.0	910.6	24.38	38.353		
5,300.0	5,234.8	5,243.6	5,232.8	19.4	11.5	166.98	-180.0	-168.4	951.0	926.2	24.83	38.298		
5,400.0	5,333.4	5,342.2	5,331.4	19.7	11.7	167.21	-180.0	-168.4	967.1	941.8	25.29	38.242		
5,500.0	5,432.3	5,441.1	5,430.3	20.0	12.0	167.46	-180.0	-168.4	981.3	955.6	25.72	38.149		
5,600.0	5,531.7	5,540.5	5,529.7	20.2	12.2	167.64	-180.0	-168.4	992.1	966.0	26.13	37.971		
5,700.0	5,631.4	5,640.2	5,629.4	20.4	12.4	167.77	-180.0	-168.4	999.6	973.1	26.50	37.714		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2Y-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		
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-30.7	30.8					
100.0	100.0	99.0	99.0	0.1	0.1	-89.99	0.0	-30.7	30.7	30.5	0.22	137.475		
200.0	200.0	199.0	199.0	0.3	0.3	-89.99	0.0	-30.7	30.7	30.1	0.67	45.749 CC, ES		
300.0	300.0	299.0	299.0	0.6	0.6	168.50	0.0	-30.7	32.5	31.3	1.11	29.109		
400.0	399.8	398.8	398.8	0.8	0.8	170.07	0.0	-30.7	37.6	36.0	1.56	24.093		
500.0	499.5	500.0	500.0	1.0	1.0	171.37	-0.6	-29.1	44.5	42.6	1.99	22.348		
600.0	598.7	601.4	601.2	1.3	1.2	171.86	-2.3	-24.0	51.5	49.1	2.42	21.302		
700.0	697.5	703.0	702.5	1.6	1.4	171.82	-5.1	-15.6	58.5	55.6	2.86	20.410		
800.0	796.1	803.5	802.3	2.0	1.7	171.29	-8.8	-4.6	63.7	60.3	3.33	19.137		
900.0	894.8	903.4	901.5	2.4	2.0	170.81	-12.6	6.4	68.7	64.9	3.81	18.056		
1,000.0	993.4	1,003.3	1,000.7	2.7	2.3	170.39	-16.3	17.5	73.8	69.5	4.29	17.184		
1,100.0	1,092.0	1,103.1	1,099.9	3.1	2.6	170.02	-20.1	28.5	78.8	74.0	4.78	16.470		
1,200.0	1,190.7	1,203.0	1,199.0	3.5	2.9	169.70	-23.8	39.6	83.9	78.6	5.28	15.877		
1,300.0	1,289.3	1,302.9	1,298.2	3.9	3.2	169.42	-27.6	50.6	88.9	83.1	5.78	15.376		
1,400.0	1,387.9	1,402.8	1,397.4	4.3	3.5	169.16	-31.3	61.7	94.0	87.7	6.28	14.950		
1,500.0	1,486.6	1,502.6	1,496.6	4.6	3.8	168.93	-35.1	72.8	99.0	92.2	6.79	14.582		
1,600.0	1,585.2	1,602.5	1,595.8	5.0	4.1	168.73	-38.8	83.8	104.1	96.8	7.30	14.261		
1,700.0	1,683.9	1,702.4	1,695.0	5.4	4.4	168.54	-42.6	94.9	109.1	101.3	7.81	13.980		
1,800.0	1,782.5	1,802.2	1,794.2	5.8	4.7	168.37	-46.3	105.9	114.2	105.9	8.32	13.731		
1,900.0	1,881.1	1,902.1	1,893.4	6.2	5.0	168.21	-50.1	117.0	119.3	110.4	8.83	13.509		
2,000.0	1,979.8	2,002.0	1,992.5	6.6	5.3	168.07	-53.8	128.0	124.3	115.0	9.34	13.310		
2,100.0	2,078.4	2,101.9	2,091.7	7.0	5.7	167.94	-57.6	139.1	129.4	119.5	9.85	13.131		
2,200.0	2,177.0	2,201.7	2,190.9	7.3	6.0	167.82	-61.3	150.1	134.4	124.1	10.37	12.969		
2,300.0	2,275.7	2,301.6	2,290.1	7.7	6.3	167.70	-65.1	161.2	139.5	128.6	10.88	12.822		
2,400.0	2,374.3	2,401.5	2,389.3	8.1	6.6	167.60	-68.8	172.3	144.6	133.2	11.40	12.687		
2,500.0	2,472.9	2,501.3	2,488.5	8.5	6.9	167.50	-72.6	183.3	149.6	137.7	11.91	12.563		
2,600.0	2,571.6	2,601.2	2,587.7	8.9	7.2	167.41	-76.3	194.4	154.7	142.3	12.43	12.449		
2,700.0	2,670.2	2,701.1	2,686.9	9.3	7.5	167.32	-80.1	205.4	159.8	146.8	12.94	12.344		
2,800.0	2,768.9	2,801.0	2,786.0	9.7	7.9	167.24	-83.8	216.5	164.8	151.4	13.46	12.247		
2,900.0	2,867.5	2,900.8	2,885.2	10.1	8.2	167.17	-87.5	227.5	169.9	155.9	13.98	12.157		
3,000.0	2,966.1	3,000.7	2,984.4	10.4	8.5	167.09	-91.3	238.6	175.0	160.5	14.49	12.073		
3,100.0	3,064.8	3,100.6	3,083.6	10.8	8.8	167.03	-95.0	249.6	180.0	165.0	15.01	11.994		
3,200.0	3,163.4	3,200.4	3,182.8	11.2	9.1	166.96	-98.8	260.7	185.1	169.6	15.53	11.921		
3,300.0	3,262.0	3,300.3	3,282.0	11.6	9.4	166.90	-102.5	271.8	190.2	174.1	16.05	11.852		
3,400.0	3,360.7	3,400.2	3,381.2	12.0	9.8	166.84	-106.3	282.8	195.2	178.7	16.56	11.787		
3,500.0	3,459.3	3,500.1	3,480.3	12.4	10.1	166.79	-110.0	293.9	200.3	183.2	17.08	11.726		
3,600.0	3,557.9	3,599.9	3,579.5	12.8	10.4	166.74	-113.8	304.9	205.4	187.8	17.60	11.669		
3,700.0	3,656.6	3,699.8	3,678.7	13.2	10.7	166.69	-117.5	316.0	210.4	192.3	18.12	11.614		
3,800.0	3,755.2	3,799.7	3,777.9	13.5	11.0	166.64	-121.3	327.0	215.5	196.9	18.64	11.563		
3,900.0	3,853.9	3,899.5	3,877.1	13.9	11.3	166.60	-125.0	338.1	220.6	201.4	19.16	11.515		
4,000.0	3,952.5	3,999.4	3,976.3	14.3	11.6	166.56	-128.8	349.1	225.6	206.0	19.68	11.469		
4,100.0	4,051.1	4,099.3	4,075.5	14.7	12.0	166.51	-132.5	360.2	230.7	210.5	20.19	11.425		
4,200.0	4,149.8	4,199.2	4,174.7	15.1	12.3	166.48	-136.3	371.3	235.8	215.1	20.71	11.383		
4,300.0	4,248.4	4,299.0	4,273.8	15.5	12.6	166.44	-140.0	382.3	240.9	219.6	21.23	11.343		
4,400.0	4,347.0	4,398.9	4,373.0	15.9	12.9	166.40	-143.8	393.4	245.9	224.2	21.75	11.306		
4,500.0	4,445.7	4,498.8	4,472.2	16.3	13.2	166.37	-147.5	404.4	251.0	228.7	22.27	11.270		
4,600.0	4,544.3	4,598.6	4,571.4	16.6	13.5	166.33	-151.3	415.5	256.1	233.3	22.79	11.235		
4,700.0	4,642.9	4,698.5	4,670.6	17.0	13.9	166.30	-155.0	426.5	261.1	237.8	23.31	11.202		
4,800.0	4,741.6	4,798.4	4,769.8	17.4	14.2	166.27	-158.8	437.6	266.2	242.4	23.83	11.171		
4,900.0	4,840.2	4,898.3	4,869.0	17.8	14.5	166.24	-162.5	448.6	271.3	246.9	24.35	11.140		
5,000.0	4,938.9	4,998.1	4,968.1	18.2	14.8	166.21	-166.2	459.7	276.3	251.5	24.87	11.111		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design		Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2Y-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		
5,100.0	5,037.5	5,098.0	5,067.3	18.6	15.1	166.19	-170.0	470.8	281.4	256.0	25.39	11.083		
5,200.0	5,136.1	5,197.8	5,166.4	19.0	15.4	166.16	-173.7	481.8	286.5	260.6	25.91	11.057		
5,300.0	5,234.8	5,288.9	5,257.1	19.4	15.6	166.24	-176.7	490.5	293.1	266.7	26.33	11.129		
5,400.0	5,333.4	5,379.6	5,347.5	19.7	15.8	166.51	-178.7	496.4	302.6	275.9	26.73	11.323		
5,500.0	5,432.3	5,469.8	5,437.7	20.0	16.0	166.91	-179.8	499.6	313.3	286.3	27.04	11.586		
5,600.0	5,531.7	5,562.8	5,530.7	20.2	16.1	167.33	-180.0	500.3	323.4	296.1	27.33	11.834		
5,700.0	5,631.4	5,662.5	5,630.4	20.4	16.2	167.65	-180.0	500.3	330.9	303.3	27.61	11.984		
5,800.0	5,731.3	5,762.4	5,730.3	20.6	16.4	167.82	-180.0	500.3	334.9	307.1	27.87	12.017		
5,900.0	5,831.3	5,862.4	5,830.3	20.7	16.6	-90.00	-180.0	500.3	335.7	307.7	28.07	11.961		
6,000.0	5,931.3	5,962.4	5,930.3	20.8	16.7	-90.00	-180.0	500.3	335.7	307.3	28.42	11.813		
6,100.0	6,031.3	6,062.4	6,030.3	21.0	16.9	-89.29	-180.0	500.3	335.7	306.9	28.87	11.628		
6,151.4	6,082.5	6,113.6	6,081.5	21.0	16.9	-90.00	-180.0	500.3	335.7	306.6	29.11	11.532		
6,200.0	6,130.6	6,161.7	6,129.6	21.1	17.0	-91.19	-180.0	500.3	335.8	306.4	29.40	11.422		
6,300.0	6,227.6	6,259.3	6,227.1	21.1	17.2	-95.06	-179.9	500.3	337.1	307.0	30.13	11.189		
6,400.0	6,320.6	6,361.1	6,328.6	21.2	17.3	-99.66	-171.2	500.1	341.0	310.1	30.86	11.050		
6,500.0	6,408.0	6,467.4	6,432.2	21.2	17.4	-104.09	-147.9	499.8	347.0	315.6	31.34	11.071		
6,600.0	6,488.4	6,578.4	6,535.9	21.2	17.5	-108.24	-108.5	499.2	354.8	323.2	31.53	11.251		
6,700.0	6,560.4	6,694.6	6,637.0	21.3	17.5	-112.02	-51.7	498.4	363.7	332.2	31.47	11.558		
6,800.0	6,622.6	6,816.0	6,732.3	21.4	17.6	-115.35	23.4	497.2	373.1	341.8	31.31	11.917		
6,900.0	6,674.2	6,942.8	6,817.7	21.5	17.7	-118.15	116.8	495.9	382.2	350.9	31.31	12.206		
7,000.0	6,714.1	7,074.4	6,888.8	21.8	17.9	-120.37	227.4	494.2	390.1	358.4	31.74	12.291		
7,100.0	6,741.8	7,210.1	6,941.2	22.2	18.5	-121.96	352.4	492.4	396.2	363.3	32.87	12.050		
7,200.0	6,756.6	7,348.7	6,971.0	22.7	19.6	-122.87	487.5	490.4	399.8	364.9	34.86	11.468		
7,300.0	6,759.0	7,456.4	6,982.4	23.5	20.7	-123.73	594.7	488.8	404.3	367.2	37.03	10.919		
7,400.0	6,758.1	7,577.4	6,986.9	24.5	22.2	-124.39	715.4	487.0	406.8	367.6	39.24	10.368		
7,500.0	6,757.2	7,677.4	6,986.7	25.6	23.5	-124.47	815.4	485.5	407.2	365.6	41.52	9.806		
7,600.0	6,756.4	7,777.4	6,986.4	26.8	24.8	-124.54	915.4	484.0	407.5	363.6	43.92	9.278		
7,700.0	6,755.5	7,877.4	6,986.1	28.1	26.3	-124.61	1,015.4	482.5	407.9	361.4	46.43	8.785		
7,800.0	6,754.6	7,977.4	6,985.9	29.5	27.8	-124.69	1,115.4	481.1	408.2	359.2	49.02	8.328		
7,900.0	6,753.7	8,077.4	6,985.6	31.0	29.4	-124.76	1,215.4	479.6	408.6	356.9	51.68	7.906		
8,000.0	6,752.8	8,177.4	6,985.4	32.5	30.9	-124.83	1,315.3	478.1	408.9	354.5	54.40	7.517		
8,100.0	6,751.9	8,277.3	6,985.1	34.0	32.6	-124.91	1,415.3	476.6	409.3	352.1	57.17	7.159		
8,200.0	6,751.0	8,377.3	6,984.9	35.6	34.2	-124.98	1,515.3	475.2	409.6	349.6	59.98	6.829		
8,300.0	6,750.1	8,477.3	6,984.6	37.2	35.9	-125.05	1,615.3	473.7	410.0	347.2	62.83	6.525		
8,400.0	6,749.2	8,577.3	6,984.3	38.9	37.6	-125.13	1,715.3	472.2	410.3	344.6	65.71	6.245		
8,500.0	6,748.3	8,677.3	6,984.1	40.6	39.4	-125.20	1,815.3	470.7	410.7	342.1	68.62	5.985		
8,600.0	6,747.5	8,777.3	6,983.8	42.3	41.1	-125.27	1,915.3	469.3	411.1	339.5	71.55	5.745		
8,700.0	6,746.6	8,877.3	6,983.6	44.0	42.9	-125.34	2,015.3	467.8	411.4	336.9	74.50	5.522		
8,800.0	6,745.7	8,977.3	6,983.3	45.7	44.6	-125.42	2,115.2	466.3	411.8	334.3	77.46	5.316		
8,900.0	6,744.8	9,077.3	6,983.0	47.5	46.4	-125.49	2,215.2	464.8	412.1	331.7	80.44	5.123		
9,000.0	6,743.9	9,177.3	6,982.8	49.2	48.2	-125.56	2,315.2	463.4	412.5	329.1	83.44	4.944		
9,100.0	6,743.0	9,277.3	6,982.5	51.0	50.0	-125.63	2,415.2	461.9	412.8	326.4	86.44	4.776		
9,200.0	6,742.1	9,377.3	6,982.3	52.8	51.8	-125.70	2,515.2	460.4	413.2	323.8	89.45	4.619		
9,300.0	6,741.2	9,477.3	6,982.0	54.6	53.6	-125.78	2,615.2	458.9	413.6	321.1	92.47	4.473		
9,400.0	6,740.3	9,577.3	6,981.7	56.4	55.5	-125.85	2,715.2	457.4	413.9	318.4	95.50	4.335		
9,500.0	6,739.4	9,677.3	6,981.5	58.2	57.3	-125.92	2,815.1	456.0	414.3	315.8	98.53	4.205		
9,600.0	6,738.5	9,777.3	6,981.2	60.0	59.1	-125.99	2,915.1	454.5	414.7	313.1	101.56	4.083		
9,700.0	6,737.7	9,877.3	6,981.0	61.8	61.0	-126.06	3,015.1	453.0	415.0	310.4	104.60	3.968		
9,800.0	6,736.8	9,977.3	6,980.7	63.6	62.8	-126.13	3,115.1	451.5	415.4	307.8	107.64	3.859		
9,900.0	6,735.9	10,077.3	6,980.5	65.5	64.7	-126.20	3,215.1	450.1	415.8	305.1	110.68	3.756		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	Offset Datum

Offset Design									Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W - Waste Management 2Y-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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
							+N/-S (ft)	+E/-W (ft)								
10,000.0	6,735.0	10,177.3	6,980.2	67.3	66.5	-126.27	3,315.1	448.6	416.1	302.4	113.73	3.659				
10,100.0	6,734.1	10,277.3	6,979.9	69.1	68.4	-126.35	3,415.1	447.1	416.5	299.7	116.77	3.567				
10,200.0	6,733.2	10,377.3	6,979.7	71.0	70.3	-126.42	3,515.1	445.6	416.9	297.0	119.82	3.479				
10,300.0	6,732.3	10,477.3	6,979.4	72.8	72.1	-126.49	3,615.0	444.2	417.2	294.4	122.87	3.396				
10,400.0	6,731.4	10,577.3	6,979.2	74.7	74.0	-126.56	3,715.0	442.7	417.6	291.7	125.92	3.316				
10,500.0	6,730.5	10,677.3	6,978.9	76.5	75.9	-126.63	3,815.0	441.2	418.0	289.0	128.96	3.241				
10,600.0	6,729.6	10,777.3	6,978.6	78.4	77.8	-126.70	3,915.0	439.7	418.3	286.3	132.01	3.169				
10,700.0	6,728.8	10,877.3	6,978.4	80.3	79.6	-126.77	4,015.0	438.3	418.7	283.7	135.05	3.100				
10,800.0	6,727.9	10,977.3	6,978.1	82.1	81.5	-126.84	4,115.0	436.8	419.1	281.0	138.10	3.035				
10,900.0	6,727.0	11,077.3	6,977.9	84.0	83.4	-126.91	4,215.0	435.3	419.5	278.3	141.14	2.972				
11,000.0	6,726.1	11,177.3	6,977.6	85.9	85.3	-126.98	4,314.9	433.8	419.8	275.6	144.18	2.912				
11,100.0	6,725.2	11,277.3	6,977.3	87.8	87.2	-127.05	4,414.9	432.3	420.2	273.0	147.22	2.854				
11,200.0	6,724.3	11,377.3	6,977.1	89.6	89.0	-127.12	4,514.9	430.9	420.6	270.3	150.26	2.799				
11,234.5	6,724.0	11,411.8	6,977.0	90.3	89.7	-127.14	4,549.5	430.4	420.7	269.4	151.31	2.780 SF				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	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 2Y-201
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Waste Management 2Y-201
Project:	SEC.2-T2N-R64W	TVD Reference:	WELL @ 4909.0ft (RKB -15')
Reference Site:	Waste Management 2T-HZ1 Pad Sec.2-T2N-R64W	MD Reference:	WELL @ 4909.0ft (RKB -15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Waste Management 2Y-201	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (01-28-13)	Offset TVD Reference:	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 2Y-201
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°

