

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Maxey 24P-312**

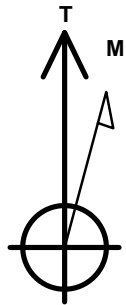
Surface Location: Maxey 24O-HZ Pad Sec.24-T5N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4637.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1383922.41	3247686.72	40.383860	-104.610870	

RKB - 15' WELL @ 4652.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 1728'FSL & 2081'FWL, Sec.19	6799.0	-644.4	4576.9	Point



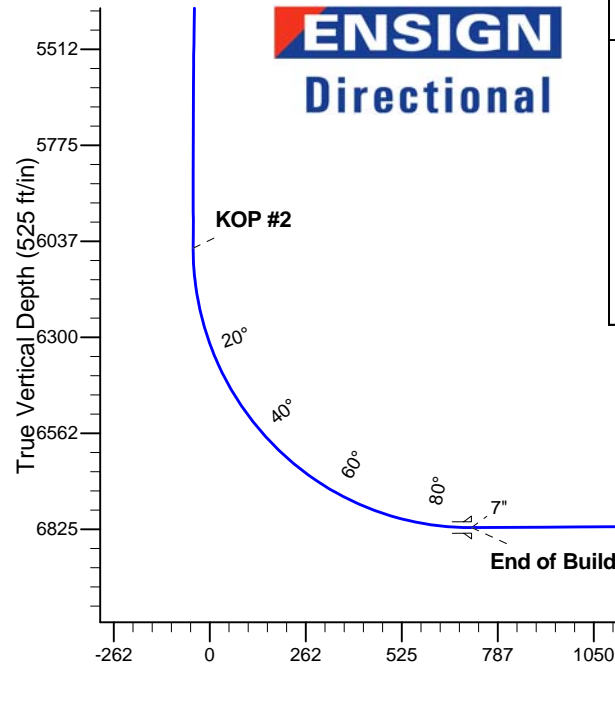
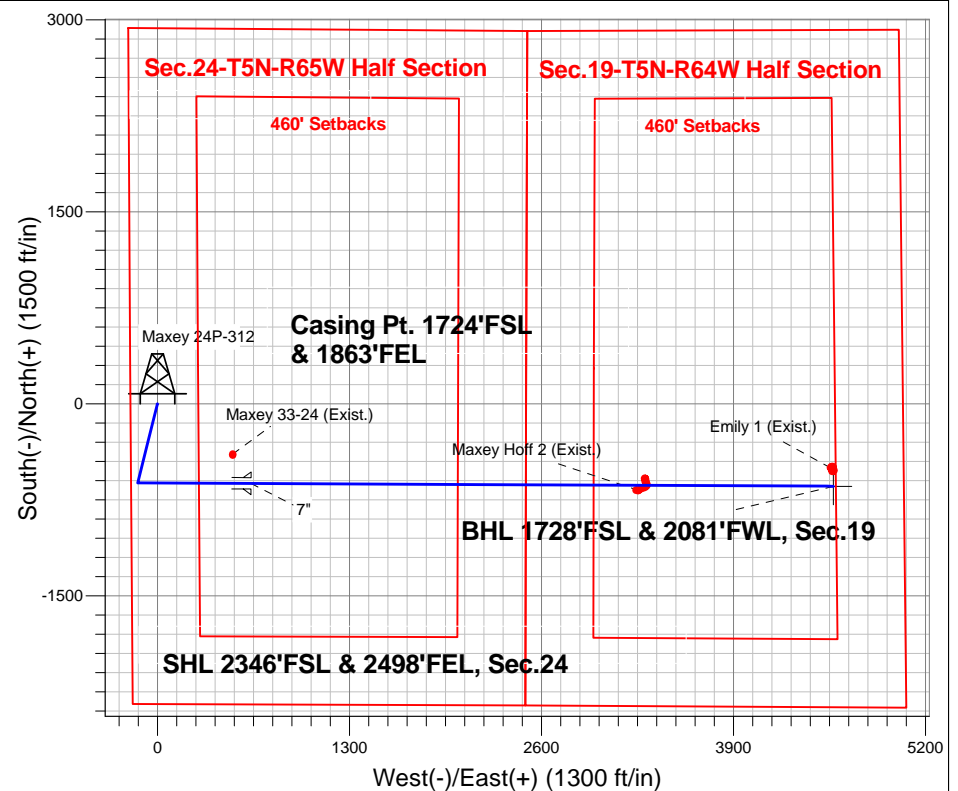
Azimuths to True North
 Magnetic North: 8.49°

Magnetic Field
 Strength: 52914.0snT
 Dip Angle: 66.99°
 Date: 8/9/2013
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
6056.4	6099.3	KOP #2
6820.3	7303.4	End of Build

Maxey 24O-HZ Pad Sec.24-T5N-R65W
 Maxey 24P-312
 Plan #2 (8-9-13)
 10:56, August 12 2013



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	Target	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1399.9	8.00	192.15	1398.6	-27.2	-5.9	2.00	192.15	-2.0	
4	5543.0	8.00	192.15	5501.4	-590.8	-127.1	0.00	0.00	-43.5	
5	5942.9	0.00	0.00	5900.0	-618.0	-133.0	2.00	180.00	-45.5	
6	6099.3	0.00	0.00	6056.4	-618.0	-133.0	0.00	0.00	-45.5	
7	7303.4	90.31	90.32	6820.3	-622.3	635.1	7.50	90.32	715.6	
8	11245.3	90.31	90.32	6799.0	-644.4	4576.9	0.00	0.00	4622.0	BHL 1728'FSL & 2081'FWL, Sec.19

BHL 1728'FSL & 2081'FWL, Sec.19



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.24-T5N-R65W

Maxey 24O-HZ Pad Sec.24-T5N-R65W

Maxey 24P-312

Wellbore #1

Plan: Plan #2 (8-9-13)

Standard Planning Report

12 August, 2013

Database:	Landmark	Local Co-ordinate Reference:	Well Maxey 24P-312
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Project:	SEC.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	North Reference:	True
Well:	Maxey 24P-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (8-9-13)		

Project	SEC.24-T5N-R65W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Maxey 24O-HZ Pad Sec.24-T5N-R65W											
Site Position:						Northing:			1,383,922.11 ft			Latitude:			40.383860		
From:			Lat/Long			Easting:			3,247,656.08 ft			Longitude:			-104.610980		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.57 °		

Well	Maxey 24P-312					
Well Position	+N-S	0.0 ft	Northing:	1,383,922.41 ft	Latitude:	40.383860
	+E-W	30.6 ft	Easting:	3,247,686.72 ft	Longitude:	-104.610870
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,637.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/9/2013	8.49	66.99	52,914

Design	Plan #2 (8-9-13)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	98.01

Plan Sections										
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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,399.9	8.00	192.15	1,398.6	-27.2	-5.9	2.00	2.00	0.00	192.15	
5,543.0	8.00	192.15	5,501.4	-590.8	-127.1	0.00	0.00	0.00	0.00	
5,942.9	0.00	0.00	5,900.0	-618.0	-133.0	2.00	-2.00	0.00	180.00	
6,099.3	0.00	0.00	6,056.4	-618.0	-133.0	0.00	0.00	0.00	0.00	
7,303.4	90.31	90.32	6,820.3	-622.3	635.1	7.50	7.50	0.00	90.32	
11,245.3	90.31	90.32	6,799.0	-644.4	4,576.9	0.00	0.00	0.00	0.00	BHL 1728'FSL & 2C

Database:	Landmark	Local Co-ordinate Reference:	Well Maxey 24P-312
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Project:	SEC.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	North Reference:	True
Well:	Maxey 24P-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (8-9-13)		

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
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	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
700.0	0.00	0.00	700.0	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
900.0	0.00	0.00	900.0	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
KOP #1									
1,100.0	2.00	192.15	1,100.0	-1.7	-0.4	-0.1	2.00	2.00	0.00
1,200.0	4.00	192.15	1,199.8	-6.8	-1.5	-0.5	2.00	2.00	0.00
1,300.0	6.00	192.15	1,299.5	-15.3	-3.3	-1.1	2.00	2.00	0.00
1,399.9	8.00	192.15	1,398.6	-27.2	-5.9	-2.0	2.00	2.00	0.00
1,400.0	8.00	192.15	1,398.7	-27.3	-5.9	-2.0	0.00	0.00	0.00
1,500.0	8.00	192.15	1,497.7	-40.9	-8.8	-3.0	0.00	0.00	0.00
1,600.0	8.00	192.15	1,596.8	-54.5	-11.7	-4.0	0.00	0.00	0.00
1,700.0	8.00	192.15	1,695.8	-68.1	-14.6	-5.0	0.00	0.00	0.00
1,800.0	8.00	192.15	1,794.8	-81.7	-17.6	-6.0	0.00	0.00	0.00
1,900.0	8.00	192.15	1,893.8	-95.3	-20.5	-7.0	0.00	0.00	0.00
2,000.0	8.00	192.15	1,992.9	-108.9	-23.4	-8.0	0.00	0.00	0.00
2,100.0	8.00	192.15	2,091.9	-122.5	-26.4	-9.0	0.00	0.00	0.00
2,200.0	8.00	192.15	2,190.9	-136.1	-29.3	-10.0	0.00	0.00	0.00
2,300.0	8.00	192.15	2,289.9	-149.7	-32.2	-11.0	0.00	0.00	0.00
2,400.0	8.00	192.15	2,389.0	-163.3	-35.1	-12.0	0.00	0.00	0.00
2,500.0	8.00	192.15	2,488.0	-176.9	-38.1	-13.0	0.00	0.00	0.00
2,600.0	8.00	192.15	2,587.0	-190.5	-41.0	-14.0	0.00	0.00	0.00
2,700.0	8.00	192.15	2,686.1	-204.1	-43.9	-15.0	0.00	0.00	0.00
2,800.0	8.00	192.15	2,785.1	-217.7	-46.8	-16.0	0.00	0.00	0.00
2,900.0	8.00	192.15	2,884.1	-231.3	-49.8	-17.0	0.00	0.00	0.00
3,000.0	8.00	192.15	2,983.1	-244.9	-52.7	-18.0	0.00	0.00	0.00
3,100.0	8.00	192.15	3,082.2	-258.5	-55.6	-19.0	0.00	0.00	0.00
3,200.0	8.00	192.15	3,181.2	-272.1	-58.6	-20.1	0.00	0.00	0.00
3,300.0	8.00	192.15	3,280.2	-285.7	-61.5	-21.1	0.00	0.00	0.00
3,400.0	8.00	192.15	3,379.3	-299.3	-64.4	-22.1	0.00	0.00	0.00
3,500.0	8.00	192.15	3,478.3	-312.9	-67.3	-23.1	0.00	0.00	0.00
3,600.0	8.00	192.15	3,577.3	-326.5	-70.3	-24.1	0.00	0.00	0.00
3,700.0	8.00	192.15	3,676.3	-340.1	-73.2	-25.1	0.00	0.00	0.00
3,800.0	8.00	192.15	3,775.4	-353.7	-76.1	-26.1	0.00	0.00	0.00
3,900.0	8.00	192.15	3,874.4	-367.3	-79.0	-27.1	0.00	0.00	0.00
4,000.0	8.00	192.15	3,973.4	-380.9	-82.0	-28.1	0.00	0.00	0.00
4,100.0	8.00	192.15	4,072.4	-394.5	-84.9	-29.1	0.00	0.00	0.00
4,200.0	8.00	192.15	4,171.5	-408.1	-87.8	-30.1	0.00	0.00	0.00
4,300.0	8.00	192.15	4,270.5	-421.7	-90.8	-31.1	0.00	0.00	0.00
4,400.0	8.00	192.15	4,369.5	-435.3	-93.7	-32.1	0.00	0.00	0.00
4,500.0	8.00	192.15	4,468.6	-448.9	-96.6	-33.1	0.00	0.00	0.00
4,600.0	8.00	192.15	4,567.6	-462.5	-99.5	-34.1	0.00	0.00	0.00
4,700.0	8.00	192.15	4,666.6	-476.1	-102.5	-35.1	0.00	0.00	0.00
4,800.0	8.00	192.15	4,765.6	-489.7	-105.4	-36.1	0.00	0.00	0.00
4,900.0	8.00	192.15	4,864.7	-503.3	-108.3	-37.1	0.00	0.00	0.00
5,000.0	8.00	192.15	4,963.7	-516.9	-111.2	-38.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Maxey 24P-312
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Project:	SEC.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	North Reference:	True
Well:	Maxey 24P-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (8-9-13)		

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)
5,100.0	8.00	192.15	5,062.7	-530.5	-114.2	-39.1	0.00	0.00	0.00
5,200.0	8.00	192.15	5,161.7	-544.1	-117.1	-40.1	0.00	0.00	0.00
5,300.0	8.00	192.15	5,260.8	-557.7	-120.0	-41.1	0.00	0.00	0.00
5,400.0	8.00	192.15	5,359.8	-571.3	-123.0	-42.1	0.00	0.00	0.00
5,500.0	8.00	192.15	5,458.8	-584.9	-125.9	-43.1	0.00	0.00	0.00
5,543.0	8.00	192.15	5,501.4	-590.8	-127.1	-43.5	0.00	0.00	0.00
5,600.0	6.86	192.15	5,557.9	-598.0	-128.7	-44.1	2.00	-2.00	0.00
5,700.0	4.86	192.15	5,657.4	-607.9	-130.8	-44.8	2.00	-2.00	0.00
5,800.0	2.86	192.15	5,757.2	-614.5	-132.3	-45.3	2.00	-2.00	0.00
5,900.0	0.86	192.15	5,857.1	-617.7	-132.9	-45.5	2.00	-2.00	0.00
5,942.9	0.00	0.00	5,900.0	-618.0	-133.0	-45.5	2.00	-2.00	0.00
6,000.0	0.00	0.00	5,957.1	-618.0	-133.0	-45.5	0.00	0.00	0.00
6,099.3	0.00	0.00	6,056.4	-618.0	-133.0	-45.5	0.00	0.00	0.00
KOP #2									
6,100.0	0.05	90.32	6,057.1	-618.0	-133.0	-45.5	7.70	7.70	0.00
6,200.0	7.55	90.32	6,156.8	-618.0	-126.4	-39.0	7.50	7.50	0.00
6,300.0	15.05	90.32	6,254.8	-618.1	-106.8	-19.6	7.50	7.50	0.00
6,400.0	22.55	90.32	6,349.4	-618.3	-74.6	12.4	7.50	7.50	0.00
6,500.0	30.05	90.32	6,439.0	-618.6	-30.3	56.2	7.50	7.50	0.00
6,600.0	37.55	90.32	6,522.0	-618.9	25.3	111.3	7.50	7.50	0.00
6,700.0	45.05	90.32	6,597.1	-619.2	91.3	176.7	7.50	7.50	0.00
6,800.0	52.55	90.32	6,662.9	-619.7	166.4	251.2	7.50	7.50	0.00
6,900.0	60.05	90.32	6,718.3	-620.1	249.6	333.6	7.50	7.50	0.00
7,000.0	67.55	90.32	6,762.5	-620.6	339.3	422.5	7.50	7.50	0.00
7,100.0	75.05	90.32	6,794.5	-621.2	433.9	516.3	7.50	7.50	0.00
7,200.0	82.55	90.32	6,813.9	-621.7	531.9	613.4	7.50	7.50	0.00
7,300.0	90.05	90.32	6,820.3	-622.3	631.6	712.2	7.50	7.50	0.00
7,303.4	90.31	90.32	6,820.3	-622.3	635.0	715.6	7.50	7.50	0.00
End of Build - 7"									
7,400.0	90.31	90.32	6,819.8	-622.8	731.6	811.3	0.00	0.00	0.00
7,500.0	90.31	90.32	6,819.3	-623.4	831.6	910.4	0.00	0.00	0.00
7,600.0	90.31	90.32	6,818.7	-624.0	931.6	1,009.5	0.00	0.00	0.00
7,700.0	90.31	90.32	6,818.2	-624.5	1,031.6	1,108.6	0.00	0.00	0.00
7,800.0	90.31	90.32	6,817.6	-625.1	1,131.6	1,207.7	0.00	0.00	0.00
7,900.0	90.31	90.32	6,817.1	-625.6	1,231.6	1,306.8	0.00	0.00	0.00
8,000.0	90.31	90.32	6,816.6	-626.2	1,331.6	1,405.9	0.00	0.00	0.00
8,100.0	90.31	90.32	6,816.0	-626.8	1,431.6	1,505.0	0.00	0.00	0.00
8,200.0	90.31	90.32	6,815.5	-627.3	1,531.6	1,604.1	0.00	0.00	0.00
8,300.0	90.31	90.32	6,814.9	-627.9	1,631.6	1,703.2	0.00	0.00	0.00
8,400.0	90.31	90.32	6,814.4	-628.4	1,731.6	1,802.3	0.00	0.00	0.00
8,500.0	90.31	90.32	6,813.9	-629.0	1,831.6	1,901.4	0.00	0.00	0.00
8,600.0	90.31	90.32	6,813.3	-629.6	1,931.6	2,000.5	0.00	0.00	0.00
8,700.0	90.31	90.32	6,812.8	-630.1	2,031.6	2,099.6	0.00	0.00	0.00
8,800.0	90.31	90.32	6,812.2	-630.7	2,131.6	2,198.7	0.00	0.00	0.00
8,900.0	90.31	90.32	6,811.7	-631.2	2,231.6	2,297.8	0.00	0.00	0.00
9,000.0	90.31	90.32	6,811.1	-631.8	2,331.6	2,396.9	0.00	0.00	0.00
9,100.0	90.31	90.32	6,810.6	-632.4	2,431.6	2,496.0	0.00	0.00	0.00
9,200.0	90.31	90.32	6,810.1	-632.9	2,531.6	2,595.1	0.00	0.00	0.00
9,300.0	90.31	90.32	6,809.5	-633.5	2,631.6	2,694.2	0.00	0.00	0.00
9,400.0	90.31	90.32	6,809.0	-634.0	2,731.6	2,793.3	0.00	0.00	0.00
9,500.0	90.31	90.32	6,808.4	-634.6	2,831.6	2,892.4	0.00	0.00	0.00
9,600.0	90.31	90.32	6,807.9	-635.2	2,931.6	2,991.5	0.00	0.00	0.00
9,700.0	90.31	90.32	6,807.4	-635.7	3,031.6	3,090.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Maxey 24P-312
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Project:	SEC.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	North Reference:	True
Well:	Maxey 24P-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (8-9-13)		

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)
9,800.0	90.31	90.32	6,806.8	-636.3	3,131.6	3,189.7	0.00	0.00	0.00
9,900.0	90.31	90.32	6,806.3	-636.8	3,231.6	3,288.8	0.00	0.00	0.00
10,000.0	90.31	90.32	6,805.7	-637.4	3,331.6	3,387.9	0.00	0.00	0.00
10,100.0	90.31	90.32	6,805.2	-638.0	3,431.6	3,487.0	0.00	0.00	0.00
10,200.0	90.31	90.32	6,804.7	-638.5	3,531.6	3,586.1	0.00	0.00	0.00
10,300.0	90.31	90.32	6,804.1	-639.1	3,631.6	3,685.2	0.00	0.00	0.00
10,400.0	90.31	90.32	6,803.6	-639.6	3,731.6	3,784.3	0.00	0.00	0.00
10,500.0	90.31	90.32	6,803.0	-640.2	3,831.6	3,883.4	0.00	0.00	0.00
10,600.0	90.31	90.32	6,802.5	-640.8	3,931.5	3,982.5	0.00	0.00	0.00
10,700.0	90.31	90.32	6,802.0	-641.3	4,031.5	4,081.6	0.00	0.00	0.00
10,800.0	90.31	90.32	6,801.4	-641.9	4,131.5	4,180.7	0.00	0.00	0.00
10,900.0	90.31	90.32	6,800.9	-642.5	4,231.5	4,279.8	0.00	0.00	0.00
11,000.0	90.31	90.32	6,800.3	-643.0	4,331.5	4,378.9	0.00	0.00	0.00
11,100.0	90.31	90.32	6,799.8	-643.6	4,431.5	4,478.0	0.00	0.00	0.00
11,200.0	90.31	90.32	6,799.2	-644.1	4,531.5	4,577.1	0.00	0.00	0.00
11,245.3	90.31	90.32	6,799.0	-644.4	4,576.9	4,622.0	0.00	0.00	0.00

BHL 1728'FSL & 2081'FWL, Sec.19

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,303.4	6,820.3	7"	7	7-1/2

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
1,000.0	1,000.0	0.0	0.0	KOP #1
6,099.3	6,056.4	-618.0	-133.0	KOP #2
7,303.4	6,820.3	-622.3	635.0	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.24-T5N-R65W

Maxey 24O-HZ Pad Sec.24-T5N-R65W

Maxey 24P-312

Wellbore #1

Plan #2 (8-9-13)

Anticollision Report

12 August, 2013



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (8-9-13)
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,000.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	8/9/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,245.3	Plan #2 (8-9-13) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Maxey 24O-HZ Pad Sec.24-T5N-R65W						
Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)	1,000.0	999.0	30.6	26.4	7.180	CC
Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)	1,100.0	1,099.0	31.1	26.4	6.624	ES
Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)	11,245.3	11,137.6	339.2	87.3	1.347	Level 3, SF
Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)	1,000.0	999.0	58.6	54.3	13.733	CC
Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)	1,100.0	1,099.0	58.9	54.2	12.562	ES
Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)	11,245.3	11,295.6	687.1	432.5	2.699	SF
Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)	200.0	200.0	30.6	30.0	45.447	CC
Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)	300.0	299.9	30.9	29.8	28.065	ES
Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)	11,245.3	11,349.1	319.4	77.5	1.321	Level 3, SF
Maxey 24Q-HZ Pad Sec.24-T5N-R65W						
Emily 1 (Exist.) - Wellbore #1 - Wellbore #1	11,225.6	6,600.0	226.7	134.4	2.457	CC, ES
Emily 1 (Exist.) - Wellbore #1 - Wellbore #1	11,245.3	6,600.0	227.5	134.9	2.457	SF
Maxey 33-24 (Exist.) - Wellbore #1 - Wellbore #1	7,176.4	6,794.5	228.1	199.8	8.053	CC, ES
Maxey 33-24 (Exist.) - Wellbore #1 - Wellbore #1	7,200.0	6,797.9	229.3	200.6	7.968	SF
Maxey Hoff 2 (Exist.) - Wellbore #1 - Wellbore #1	9,926.6	6,788.2	38.9	-67.8	0.365	Level 1, CC, ES, SF

Offset Design												
Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)												
Survey Program: 0-MWD												
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)	Offset Wellbore Centre +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	90.01	0.0	30.6	30.7			
100.0	100.0	99.0	99.0	0.1	0.1	90.01	0.0	30.6	30.6	30.4	0.22	137.025
200.0	200.0	199.0	199.0	0.3	0.3	90.01	0.0	30.6	30.6	30.0	0.67	45.599
300.0	300.0	299.0	299.0	0.6	0.6	90.01	0.0	30.6	30.6	29.5	1.12	27.323
400.0	400.0	399.0	399.0	0.8	0.8	90.01	0.0	30.6	30.6	29.1	1.57	19.505
500.0	500.0	499.0	499.0	1.0	1.0	90.01	0.0	30.6	30.6	28.6	2.02	15.166
600.0	600.0	599.0	599.0	1.2	1.2	90.01	0.0	30.6	30.6	28.2	2.47	12.406
700.0	700.0	699.0	699.0	1.5	1.5	90.01	0.0	30.6	30.6	27.7	2.92	10.496
800.0	800.0	799.0	799.0	1.7	1.7	90.01	0.0	30.6	30.6	27.3	3.37	9.095
900.0	900.0	899.0	899.0	1.9	1.9	90.01	0.0	30.6	30.6	26.8	3.82	8.025
1,000.0	1,000.0	999.0	999.0	2.1	2.1	90.01	0.0	30.6	30.6	26.4	4.27	7.180
Warning												

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.4	-105.28		0.0	30.6	31.1	26.4	4.69	6.624 ES	
1,200.0	1,199.8	1,198.8	1,198.8	2.5	2.6	-114.08		0.0	30.6	32.8	27.7	5.09	6.452	
1,300.0	1,299.5	1,298.5	1,298.5	2.7	2.8	-126.31		0.0	30.6	37.3	31.8	5.50	6.777	
1,400.0	1,398.7	1,397.7	1,397.7	2.9	3.0	-138.61		0.0	30.6	45.6	39.7	5.91	7.711	
1,500.0	1,497.7	1,496.7	1,496.7	3.2	3.3	-147.90		0.0	30.6	56.8	50.5	6.33	8.969	
1,600.0	1,596.8	1,598.1	1,598.0	3.4	3.5	-153.93		-1.5	29.8	67.4	60.6	6.73	10.004	
1,700.0	1,695.8	1,700.2	1,700.0	3.7	3.6	-158.06		-6.1	27.3	75.0	67.8	7.12	10.528	
1,800.0	1,794.8	1,802.7	1,802.2	4.0	3.8	-161.32		-14.0	23.0	79.3	71.8	7.52	10.548	
1,900.0	1,893.8	1,902.9	1,901.8	4.3	4.0	-164.18		-23.6	17.7	81.7	73.8	7.92	10.313	
2,000.0	1,992.9	2,002.8	2,001.1	4.6	4.2	-166.86		-33.2	12.4	84.3	75.9	8.33	10.113	
2,100.0	2,091.9	2,102.7	2,100.4	4.9	4.5	-169.38		-42.8	7.2	87.0	78.2	8.75	9.944	
2,200.0	2,190.9	2,202.6	2,199.6	5.2	4.7	-171.74		-52.3	1.9	89.9	80.7	9.17	9.800	
2,300.0	2,289.9	2,302.5	2,298.9	5.5	4.9	-173.95		-61.9	-3.3	92.9	83.3	9.60	9.677	
2,400.0	2,389.0	2,402.4	2,398.2	5.9	5.2	-176.02		-71.5	-8.6	96.1	86.1	10.04	9.570	
2,500.0	2,488.0	2,502.3	2,497.5	6.2	5.5	-177.96		-81.1	-13.8	99.4	88.9	10.49	9.478	
2,600.0	2,587.0	2,602.2	2,596.8	6.5	5.7	-179.77		-90.6	-19.1	102.8	91.8	10.94	9.396	
2,700.0	2,686.1	2,702.1	2,696.1	6.8	6.0	178.54		-100.2	-24.3	106.3	94.9	11.40	9.323	
2,800.0	2,785.1	2,802.0	2,795.4	7.2	6.3	176.96		-109.8	-29.6	109.8	98.0	11.86	9.257	
2,900.0	2,884.1	2,901.8	2,894.7	7.5	6.5	175.47		-119.4	-34.8	113.5	101.1	12.34	9.198	
3,000.0	2,983.1	3,001.7	2,994.0	7.9	6.8	174.08		-129.0	-40.1	117.2	104.4	12.82	9.144	
3,100.0	3,082.2	3,101.6	3,093.3	8.2	7.1	172.78		-138.5	-45.4	121.0	107.7	13.30	9.095	
3,200.0	3,181.2	3,201.5	3,192.6	8.5	7.4	171.56		-148.1	-50.6	124.8	111.0	13.80	9.049	
3,300.0	3,280.2	3,301.4	3,291.9	8.9	7.7	170.41		-157.7	-55.9	128.7	114.4	14.29	9.007	
3,400.0	3,379.3	3,401.3	3,391.2	9.2	7.9	169.33		-167.3	-61.1	132.7	117.9	14.80	8.967	
3,500.0	3,478.3	3,501.2	3,490.5	9.6	8.2	168.31		-176.8	-66.4	136.7	121.4	15.31	8.930	
3,600.0	3,577.3	3,601.1	3,589.7	9.9	8.5	167.35		-186.4	-71.6	140.7	124.9	15.82	8.895	
3,700.0	3,676.3	3,701.0	3,689.0	10.2	8.8	166.44		-196.0	-76.9	144.8	128.4	16.34	8.863	
3,800.0	3,775.4	3,800.9	3,788.3	10.6	9.1	165.58		-205.6	-82.1	148.9	132.0	16.86	8.832	
3,900.0	3,874.4	3,900.8	3,887.6	10.9	9.4	164.77		-215.2	-87.4	153.0	135.6	17.38	8.803	
4,000.0	3,973.4	4,000.7	3,986.9	11.3	9.7	164.00		-224.7	-92.6	157.2	139.3	17.91	8.775	
4,100.0	4,072.4	4,100.5	4,086.2	11.6	10.0	163.27		-234.3	-97.9	161.4	142.9	18.45	8.749	
4,200.0	4,171.5	4,200.4	4,185.5	12.0	10.3	162.58		-243.9	-103.2	165.6	146.6	18.98	8.725	
4,300.0	4,270.5	4,300.3	4,284.8	12.3	10.6	161.92		-253.5	-108.4	169.8	150.3	19.52	8.701	
4,400.0	4,369.5	4,400.2	4,384.1	12.7	10.9	161.30		-263.0	-113.7	174.1	154.0	20.06	8.679	
4,500.0	4,468.6	4,500.1	4,483.4	13.0	11.2	160.70		-272.6	-118.9	178.4	157.8	20.60	8.657	
4,600.0	4,567.6	4,595.3	4,578.1	13.3	11.4	160.43		-280.5	-123.2	183.9	162.8	21.10	8.718	
4,700.0	4,666.6	4,689.9	4,672.5	13.7	11.6	160.74		-285.5	-126.0	192.1	170.6	21.53	8.926	
4,800.0	4,765.6	4,784.0	4,766.6	14.0	11.8	161.53		-287.8	-127.3	203.1	181.1	21.91	9.267	
4,900.0	4,864.7	4,881.1	4,863.7	14.4	12.0	162.64		-288.0	-127.4	216.1	193.9	22.28	9.700	
5,000.0	4,963.7	4,980.1	4,962.7	14.7	12.1	163.68		-288.0	-127.4	229.5	206.8	22.66	10.128	
5,100.0	5,062.7	5,079.1	5,061.7	15.1	12.3	164.60		-288.0	-127.4	242.9	219.8	23.04	10.541	
5,200.0	5,161.7	5,178.1	5,160.7	15.4	12.5	165.42		-288.0	-127.4	256.3	232.9	23.43	10.939	
5,300.0	5,260.8	5,277.2	5,259.8	15.8	12.7	166.17		-288.0	-127.4	269.8	246.0	23.83	11.323	
5,400.0	5,359.8	5,376.2	5,358.8	16.1	12.8	166.84		-288.0	-127.4	283.3	259.1	24.23	11.693	
5,500.0	5,458.8	5,475.2	5,457.8	16.5	13.0	167.45		-288.0	-127.4	296.9	272.3	24.64	12.050	
5,600.0	5,557.9	5,574.3	5,556.9	16.8	13.2	168.02		-288.0	-127.4	310.0	284.9	25.06	12.371	
5,700.0	5,657.4	5,673.8	5,656.4	17.0	13.4	168.44		-288.0	-127.4	319.9	294.5	25.44	12.577	
5,800.0	5,757.2	5,773.6	5,756.2	17.2	13.5	168.70		-288.0	-127.4	326.5	300.7	25.80	12.655	
5,900.0	5,857.1	5,873.5	5,856.1	17.4	13.7	168.82		-288.0	-127.4	329.7	303.6	26.14	12.612	
6,000.0	5,957.1	5,973.5	5,956.1	17.5	13.9	0.98		-288.0	-127.4	330.0	299.1	30.98	10.655	
6,024.0	5,981.1	5,997.5	5,980.1	17.5	14.0	-89.34		-288.0	-127.4	330.0	303.4	26.60	12.407	

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)													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	Offset	Semi Major Axis	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	Warning
6,100.0	6,057.1	6,072.9	6,055.4	17.6	14.1	-88.69	-288.0	-123.6	330.1	303.3	26.83	12.301		
6,200.0	6,156.8	6,170.8	6,151.9	17.8	14.2	-87.03	-288.1	-107.7	330.5	303.4	27.06	12.212		
6,300.0	6,254.8	6,267.6	6,244.6	17.9	14.3	-85.42	-288.3	-80.0	331.1	303.8	27.25	12.148		
6,400.0	6,349.4	6,363.3	6,332.1	18.0	14.4	-83.91	-288.5	-41.4	331.9	304.5	27.47	12.082		
6,500.0	6,439.0	6,458.0	6,413.2	18.1	14.5	-82.50	-288.7	7.4	332.9	305.1	27.79	11.979		
6,600.0	6,522.0	6,551.9	6,487.1	18.2	14.6	-81.23	-289.0	65.3	334.0	305.7	28.31	11.798		
6,700.0	6,597.1	6,645.1	6,552.8	18.3	14.7	-80.11	-289.4	131.2	335.1	305.9	29.15	11.497		
6,800.0	6,662.9	6,737.6	6,609.7	18.5	15.3	-79.15	-289.8	204.1	336.1	305.7	30.41	11.053		
6,900.0	6,718.3	6,829.5	6,657.0	18.9	16.3	-78.37	-290.2	282.8	337.1	304.9	32.18	10.473		
7,000.0	6,762.5	6,921.1	6,694.5	19.5	17.6	-77.77	-290.6	366.3	337.8	303.3	34.49	9.794		
7,100.0	6,794.5	7,012.3	6,721.6	20.7	19.1	-77.36	-291.1	453.4	338.4	301.1	37.32	9.068		
7,200.0	6,813.9	7,103.4	6,738.1	22.2	20.8	-77.15	-291.5	542.9	338.7	298.1	40.59	8.344		
7,300.0	6,820.3	7,194.4	6,743.9	24.1	22.7	-77.13	-292.0	633.7	338.8	294.6	44.22	7.662		
7,330.3	6,820.3	7,224.0	6,743.8	24.7	23.3	-77.12	-292.2	663.3	338.8	293.3	45.48	7.449		
7,400.0	6,819.8	7,293.8	6,743.4	26.2	24.8	-77.15	-292.6	733.1	338.8	290.3	48.45	6.992		
7,500.0	6,819.3	7,393.8	6,743.0	28.4	27.1	-77.16	-293.1	833.0	338.8	285.9	52.93	6.400		
7,600.0	6,818.7	7,493.8	6,742.5	30.7	29.5	-77.18	-293.6	933.0	338.8	281.2	57.59	5.883		
7,700.0	6,818.2	7,593.8	6,742.1	33.1	32.0	-77.19	-294.1	1,033.0	338.8	276.4	62.39	5.431		
7,800.0	6,817.6	7,693.8	6,741.6	35.5	34.5	-77.21	-294.7	1,133.0	338.8	271.5	67.29	5.035		
7,900.0	6,817.1	7,793.8	6,741.2	38.0	37.0	-77.22	-295.2	1,233.0	338.8	266.6	72.28	4.688		
8,000.0	6,816.6	7,893.8	6,740.7	40.6	39.6	-77.24	-295.7	1,333.0	338.8	261.5	77.34	4.382		
8,100.0	6,816.0	7,993.8	6,740.3	43.1	42.2	-77.26	-296.3	1,433.0	338.9	256.4	82.45	4.110		
8,200.0	6,815.5	8,093.8	6,739.8	45.7	44.9	-77.27	-296.8	1,533.0	338.9	251.3	87.61	3.868		
8,300.0	6,814.9	8,193.8	6,739.4	48.4	47.5	-77.29	-297.3	1,633.0	338.9	246.1	92.81	3.651		
8,400.0	6,814.4	8,293.8	6,738.9	51.0	50.2	-77.30	-297.8	1,733.0	338.9	240.8	98.04	3.457		
8,500.0	6,813.9	8,393.8	6,738.5	53.7	52.9	-77.32	-298.4	1,833.0	338.9	235.6	103.31	3.281		
8,600.0	6,813.3	8,493.8	6,738.0	56.4	55.6	-77.33	-298.9	1,933.0	338.9	230.3	108.59	3.121		
8,700.0	6,812.8	8,593.8	6,737.5	59.0	58.3	-77.35	-299.4	2,033.0	338.9	225.0	113.90	2.976		
8,800.0	6,812.2	8,693.8	6,737.1	61.7	61.0	-77.36	-300.0	2,133.0	338.9	219.7	119.22	2.843		
8,900.0	6,811.7	8,793.8	6,736.6	64.5	63.7	-77.38	-300.5	2,233.0	339.0	214.4	124.56	2.721		
9,000.0	6,811.1	8,893.8	6,736.2	67.2	66.5	-77.40	-301.0	2,333.0	339.0	209.0	129.92	2.609		
9,100.0	6,810.6	8,993.8	6,735.7	69.9	69.2	-77.41	-301.5	2,433.0	339.0	203.7	135.29	2.506		
9,200.0	6,810.1	9,093.8	6,735.3	72.6	72.0	-77.43	-302.1	2,533.0	339.0	198.3	140.66	2.410		
9,300.0	6,809.5	9,193.8	6,734.8	75.4	74.7	-77.44	-302.6	2,633.0	339.0	193.0	146.05	2.321		
9,400.0	6,809.0	9,293.8	6,734.4	78.1	77.5	-77.46	-303.1	2,733.0	339.0	187.6	151.45	2.238		
9,500.0	6,808.4	9,393.8	6,733.9	80.9	80.2	-77.47	-303.7	2,833.0	339.0	182.2	156.85	2.161		
9,600.0	6,807.9	9,493.8	6,733.5	83.6	83.0	-77.49	-304.2	2,933.0	339.0	176.8	162.27	2.089		
9,700.0	6,807.4	9,593.8	6,733.0	86.4	85.7	-77.50	-304.7	3,033.0	339.1	171.4	167.68	2.022		
9,800.0	6,806.8	9,693.8	6,732.6	89.1	88.5	-77.52	-305.2	3,133.0	339.1	166.0	173.11	1.959		
9,900.0	6,806.3	9,793.8	6,732.1	91.9	91.3	-77.54	-305.8	3,233.0	339.1	160.5	178.54	1.899		
10,000.0	6,805.7	9,893.8	6,731.6	94.6	94.0	-77.55	-306.3	3,333.0	339.1	155.1	183.98	1.843		
10,100.0	6,805.2	9,993.8	6,731.2	97.4	96.8	-77.57	-306.8	3,433.0	339.1	149.7	189.42	1.790		
10,200.0	6,804.7	10,093.8	6,730.7	100.2	99.6	-77.58	-307.4	3,533.0	339.1	144.3	194.86	1.740		
10,300.0	6,804.1	10,193.8	6,730.3	102.9	102.4	-77.60	-307.9	3,633.0	339.1	138.8	200.31	1.693		
10,400.0	6,803.6	10,293.8	6,729.8	105.7	105.2	-77.61	-308.4	3,733.0	339.1	133.4	205.76	1.648		
10,500.0	6,803.0	10,393.8	6,729.4	108.5	107.9	-77.63	-308.9	3,833.0	339.1	127.9	211.22	1.606		
10,600.0	6,802.5	10,493.8	6,728.9	111.3	110.7	-77.64	-309.5	3,933.0	339.2	122.5	216.68	1.565		
10,700.0	6,802.0	10,593.8	6,728.5	114.1	113.5	-77.66	-310.0	4,033.0	339.2	117.0	222.14	1.527		
10,800.0	6,801.4	10,693.8	6,728.0	116.8	116.3	-77.68	-310.5	4,133.0	339.2	111.6	227.61	1.490 Level 3		
10,900.0	6,800.9	10,793.8	6,727.6	119.6	119.1	-77.69	-311.1	4,233.0	339.2	106.1	233.08	1.455 Level 3		
11,000.0	6,800.3	10,893.8	6,727.1	122.4	121.9	-77.71	-311.6	4,333.0	339.2	100.7	238.55	1.422 Level 3		

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design											Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-232 - Wellbore #1 - Plan #2 (8-9-13)			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)					
11,100.0	6,799.8	10,993.8	6,726.7	125.2	124.6	-77.72	-312.1	4,433.0	339.2	95.2	244.02	1.390	Level 3			
11,200.0	6,799.2	11,093.8	6,726.2	128.0	127.4	-77.74	-312.6	4,533.0	339.2	89.7	249.50	1.360	Level 3			
11,223.5	6,799.1	11,117.2	6,726.1	128.6	128.1	-77.74	-312.8	4,556.4	339.2	88.5	250.78	1.353	Level 3			
11,245.3	6,799.0	11,137.6	6,726.0	129.2	128.7	-77.74	-312.9	4,576.8	339.2	87.3	251.94	1.347	Level 3, SF			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)													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	Offset	Semi Major Axis (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	Warning
0.0	0.0	0.0	0.0	0.0	0.0	93.56		-3.6	58.5	58.6				
100.0	100.0	99.0	99.0	0.1	0.1	93.56		-3.6	58.5	58.6	58.4	0.22	262.099	
200.0	200.0	199.0	199.0	0.3	0.3	93.56		-3.6	58.5	58.6	57.9	0.67	87.221	
300.0	300.0	299.0	299.0	0.6	0.6	93.56		-3.6	58.5	58.6	57.5	1.12	52.263	
400.0	400.0	399.0	399.0	0.8	0.8	93.56		-3.6	58.5	58.6	57.0	1.57	37.309	
500.0	500.0	499.0	499.0	1.0	1.0	93.56		-3.6	58.5	58.6	56.6	2.02	29.009	
600.0	600.0	599.0	599.0	1.2	1.2	93.56		-3.6	58.5	58.6	56.1	2.47	23.730	
700.0	700.0	699.0	699.0	1.5	1.5	93.56		-3.6	58.5	58.6	55.7	2.92	20.076	
800.0	800.0	799.0	799.0	1.7	1.7	93.56		-3.6	58.5	58.6	55.2	3.37	17.398	
900.0	900.0	899.0	899.0	1.9	1.9	93.56		-3.6	58.5	58.6	54.8	3.82	15.350	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	93.56		-3.6	58.5	58.6	54.3	4.27	13.733 CC	
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.4	-100.25		-3.6	58.5	58.9	54.2	4.69	12.562 ES	
1,200.0	1,199.8	1,198.8	1,198.8	2.5	2.6	-105.14		-3.6	58.5	60.1	55.0	5.09	11.802	
1,300.0	1,299.5	1,298.5	1,298.5	2.7	2.8	-112.75		-3.6	58.5	62.9	57.4	5.50	11.435	
1,400.0	1,398.7	1,397.7	1,397.7	2.9	3.0	-122.04		-3.6	58.5	68.6	62.6	5.93	11.571	
1,500.0	1,497.7	1,496.7	1,496.7	3.2	3.3	-130.81		-3.6	58.5	76.9	70.5	6.36	12.088	
1,600.0	1,596.8	1,595.8	1,595.8	3.4	3.5	-137.76		-3.6	58.5	86.7	79.9	6.80	12.746	
1,700.0	1,695.8	1,694.8	1,694.8	3.7	3.7	-143.24		-3.6	58.5	97.5	90.2	7.24	13.461	
1,800.0	1,794.8	1,793.8	1,793.8	4.0	3.9	-147.61		-3.6	58.5	109.0	101.3	7.68	14.185	
1,900.0	1,893.8	1,892.8	1,892.8	4.3	4.1	-151.14		-3.6	58.5	121.0	112.9	8.12	14.892	
2,000.0	1,992.9	1,991.9	1,991.9	4.6	4.4	-154.02		-3.6	58.5	133.4	124.8	8.57	15.566	
2,100.0	2,091.9	2,092.3	2,092.3	4.9	4.6	-157.00		-3.2	57.1	145.6	136.6	9.00	16.171	
2,200.0	2,190.9	2,192.6	2,192.5	5.2	4.8	-160.74		-1.7	52.3	157.2	147.8	9.42	16.687	
2,300.0	2,289.9	2,292.4	2,291.9	5.5	5.0	-165.10		0.8	44.3	168.8	159.0	9.84	17.152	
2,400.0	2,389.0	2,390.8	2,389.8	5.9	5.2	-169.49		3.9	34.3	181.0	170.7	10.27	17.624	
2,500.0	2,488.0	2,489.2	2,487.5	6.2	5.5	-173.33		7.0	24.4	194.2	183.4	10.71	18.120	
2,600.0	2,587.0	2,587.5	2,585.3	6.5	5.7	-176.67		10.1	14.4	208.0	196.9	11.17	18.620	
2,700.0	2,686.1	2,685.8	2,683.1	6.8	5.9	-179.59		13.2	4.5	222.6	210.9	11.64	19.116	
2,800.0	2,785.1	2,784.2	2,780.9	7.2	6.2	-177.85		16.3	-5.5	237.6	225.5	12.12	19.597	
2,900.0	2,884.1	2,882.5	2,878.7	7.5	6.4	-175.60		19.4	-15.5	253.0	240.4	12.61	20.061	
3,000.0	2,983.1	2,980.8	2,976.5	7.9	6.7	-173.60		22.4	-25.4	268.8	255.7	13.11	20.504	
3,100.0	3,082.2	3,079.2	3,074.2	8.2	7.0	-171.83		25.5	-35.4	284.8	271.2	13.61	20.925	
3,200.0	3,181.2	3,177.5	3,172.0	8.5	7.2	-170.24		28.6	-45.3	301.1	287.0	14.12	21.325	
3,300.0	3,280.2	3,275.9	3,269.8	8.9	7.5	-168.82		31.7	-55.3	317.6	303.0	14.63	21.704	
3,400.0	3,379.3	3,374.2	3,367.6	9.2	7.7	-167.54		34.8	-65.2	334.3	319.1	15.15	22.063	
3,500.0	3,478.3	3,472.5	3,465.4	9.6	8.0	-166.38		37.9	-75.2	351.1	335.4	15.67	22.403	
3,600.0	3,577.3	3,570.9	3,563.2	9.9	8.3	-165.32		41.0	-85.2	368.0	351.8	16.20	22.724	
3,700.0	3,676.3	3,669.2	3,660.9	10.2	8.6	-164.36		44.1	-95.1	385.1	368.4	16.72	23.028	
3,800.0	3,775.4	3,767.5	3,758.7	10.6	8.8	-163.48		47.2	-105.1	402.2	385.0	17.25	23.316	
3,900.0	3,874.4	3,865.9	3,856.5	10.9	9.1	-162.68		50.3	-115.0	419.5	401.7	17.78	23.589	
4,000.0	3,973.4	3,967.9	3,958.0	11.3	9.4	-161.99		53.3	-124.7	436.5	418.2	18.30	23.853	
4,100.0	4,072.4	4,073.0	4,062.9	11.6	9.6	-161.74		55.4	-131.4	452.3	433.6	18.77	24.096	
4,200.0	4,171.5	4,178.6	4,168.5	12.0	9.8	-161.96		56.3	-134.3	466.7	447.5	19.21	24.295	
4,300.0	4,270.5	4,279.7	4,269.5	12.3	10.0	-162.47		56.4	-134.5	480.0	460.4	19.64	24.448	
4,400.0	4,369.5	4,378.7	4,368.5	12.7	10.2	-162.95		56.4	-134.5	493.3	473.3	20.08	24.574	
4,500.0	4,468.6	4,477.7	4,467.6	13.0	10.4	-163.41		56.4	-134.5	506.7	486.1	20.52	24.691	
4,600.0	4,567.6	4,576.8	4,566.6	13.3	10.6	-163.85		56.4	-134.5	520.0	499.1	20.97	24.803	
4,700.0	4,666.6	4,675.8	4,665.6	13.7	10.8	-164.27		56.4	-134.5	533.4	512.0	21.41	24.912	
4,800.0	4,765.6	4,774.8	4,764.6	14.0	11.0	-164.66		56.4	-134.5	546.8	525.0	21.86	25.016	
4,900.0	4,864.7	4,873.8	4,863.7	14.4	11.2	-165.04		56.4	-134.5	560.3	538.0	22.31	25.117	
5,000.0	4,963.7	4,972.9	4,962.7	14.7	11.4	-165.40		56.4	-134.5	573.7	551.0	22.75	25.214	

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)													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	Offset	Semi Major Axis	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	Warning
5,100.0	5,062.7	5,071.9	5,061.7	15.1	11.6	165.74		56.4	-134.5	587.2	564.0	23.20	25.308	
5,200.0	5,161.7	5,170.9	5,160.7	15.4	11.8	166.06		56.4	-134.5	600.7	577.1	23.65	25.399	
5,300.0	5,260.8	5,269.9	5,259.8	15.8	12.0	166.38		56.4	-134.5	614.2	590.1	24.10	25.486	
5,400.0	5,359.8	5,369.0	5,358.8	16.1	12.2	166.68		56.4	-134.5	627.8	603.2	24.55	25.570	
5,500.0	5,458.8	5,468.0	5,457.8	16.5	12.4	166.96		56.4	-134.5	641.3	616.3	25.00	25.652	
5,600.0	5,557.9	5,567.1	5,556.9	16.8	12.7	167.26		56.4	-134.5	654.3	628.9	25.47	25.691	
5,700.0	5,657.4	5,666.6	5,656.4	17.0	12.9	167.50		56.4	-134.5	664.3	638.4	25.91	25.640	
5,800.0	5,757.2	5,766.3	5,756.2	17.2	13.1	167.65		56.4	-134.5	670.9	644.5	26.32	25.489	
5,900.0	5,857.1	5,866.3	5,856.1	17.4	13.3	167.72		56.4	-134.5	674.0	647.3	26.70	25.244	
6,000.0	5,957.1	5,966.3	5,956.1	17.5	13.5	-0.13		56.4	-134.5	674.4	644.0	30.32	22.244	
6,066.4	6,023.5	6,032.7	6,022.5	17.6	13.6	-90.45		56.4	-134.5	674.4	647.0	27.35	24.656	
6,100.0	6,057.1	6,066.3	6,056.1	17.6	13.7	-90.45		56.4	-134.5	674.4	646.9	27.48	24.539	
6,200.0	6,156.8	6,166.3	6,156.1	17.8	13.9	-90.99		56.4	-134.3	674.4	646.6	27.87	24.201	
6,300.0	6,254.8	6,267.9	6,257.2	17.9	14.1	-91.88		56.3	-125.1	674.7	646.5	28.18	23.941	
6,400.0	6,349.4	6,371.0	6,357.7	18.0	14.2	-92.76		56.2	-102.1	675.1	646.7	28.44	23.735	
6,500.0	6,439.0	6,475.6	6,455.5	18.1	14.3	-93.58		56.0	-65.2	675.7	647.0	28.71	23.533	
6,600.0	6,522.0	6,581.7	6,548.6	18.2	14.5	-94.35		55.8	-14.5	676.4	647.3	29.10	23.246	
6,700.0	6,597.1	6,689.1	6,634.8	18.3	14.8	-95.05		55.5	49.5	677.1	647.4	29.74	22.764	
6,800.0	6,662.9	6,797.9	6,712.0	18.5	15.3	-95.65		55.1	125.8	677.8	647.0	30.84	21.978	
6,900.0	6,718.3	6,907.7	6,778.2	18.9	16.2	-96.15		54.6	213.4	678.5	645.9	32.57	20.833	
7,000.0	6,762.5	7,018.5	6,831.6	19.5	17.4	-96.54		54.2	310.3	679.1	644.0	35.02	19.388	
7,100.0	6,794.5	7,130.0	6,870.7	20.7	19.1	-96.81		53.7	414.6	679.5	641.3	38.21	17.784	
7,200.0	6,813.9	7,241.9	6,894.2	22.2	21.1	-96.94		53.1	523.9	679.8	637.7	42.02	16.177	
7,300.0	6,820.3	7,344.7	6,905.4	24.1	23.1	-97.26		52.6	626.1	680.4	634.3	46.10	14.760	
7,400.0	6,819.8	7,453.0	6,911.3	26.2	25.4	-97.80		52.1	734.3	681.2	630.7	50.50	13.489	
7,500.0	6,819.3	7,553.7	6,911.3	28.4	27.7	-97.85		51.6	834.9	681.4	626.4	55.01	12.386	
7,600.0	6,818.7	7,653.7	6,911.4	30.7	30.0	-97.90		51.1	934.9	681.5	621.9	59.68	11.420	
7,700.0	6,818.2	7,753.7	6,911.4	33.1	32.4	-97.94		50.6	1,034.9	681.7	617.2	64.49	10.571	
7,800.0	6,817.6	7,853.7	6,911.4	35.5	34.9	-97.99		50.1	1,134.9	681.8	612.4	69.41	9.824	
7,900.0	6,817.1	7,953.7	6,911.4	38.0	37.4	-98.03		49.6	1,234.9	682.0	607.6	74.41	9.165	
8,000.0	6,816.6	8,053.7	6,911.4	40.6	40.0	-98.08		49.1	1,334.9	682.1	602.6	79.49	8.581	
8,100.0	6,816.0	8,153.7	6,911.5	43.1	42.6	-98.13		48.6	1,434.9	682.3	597.6	84.63	8.061	
8,200.0	6,815.5	8,253.7	6,911.5	45.7	45.2	-98.17		48.2	1,534.9	682.4	592.6	89.82	7.597	
8,300.0	6,814.9	8,353.7	6,911.5	48.4	47.9	-98.22		47.7	1,634.9	682.6	587.5	95.05	7.181	
8,400.0	6,814.4	8,453.7	6,911.5	51.0	50.5	-98.26		47.2	1,734.9	682.7	582.4	100.32	6.806	
8,500.0	6,813.9	8,553.7	6,911.5	53.7	53.2	-98.31		46.7	1,834.9	682.9	577.3	105.61	6.466	
8,600.0	6,813.3	8,653.7	6,911.5	56.4	55.9	-98.35		46.2	1,934.9	683.0	572.1	110.92	6.158	
8,700.0	6,812.8	8,753.7	6,911.6	59.0	58.6	-98.40		45.7	2,034.9	683.2	566.9	116.26	5.876	
8,800.0	6,812.2	8,853.7	6,911.6	61.7	61.3	-98.44		45.2	2,134.9	683.3	561.7	121.61	5.619	
8,900.0	6,811.7	8,953.7	6,911.6	64.5	64.0	-98.49		44.7	2,234.9	683.5	556.5	126.98	5.382	
9,000.0	6,811.1	9,053.7	6,911.6	67.2	66.7	-98.53		44.2	2,334.9	683.6	551.2	132.37	5.165	
9,100.0	6,810.6	9,153.7	6,911.6	69.9	69.5	-98.58		43.7	2,434.9	683.8	546.0	137.76	4.963	
9,200.0	6,810.1	9,253.7	6,911.6	72.6	72.2	-98.63		43.2	2,534.9	683.9	540.8	143.17	4.777	
9,300.0	6,809.5	9,353.7	6,911.7	75.4	74.9	-98.67		42.8	2,634.9	684.1	535.5	148.58	4.604	
9,400.0	6,809.0	9,453.7	6,911.7	78.1	77.7	-98.72		42.3	2,734.9	684.2	530.2	154.00	4.443	
9,500.0	6,808.4	9,553.7	6,911.7	80.9	80.4	-98.76		41.8	2,834.9	684.4	524.9	159.43	4.293	
9,600.0	6,807.9	9,653.7	6,911.7	83.6	83.2	-98.81		41.3	2,934.9	684.5	519.7	164.87	4.152	
9,700.0	6,807.4	9,753.7	6,911.7	86.4	85.9	-98.85		40.8	3,034.9	684.7	514.4	170.31	4.020	
9,800.0	6,806.8	9,853.7	6,911.7	89.1	88.7	-98.90		40.3	3,134.9	684.8	509.1	175.75	3.897	
9,900.0	6,806.3	9,953.7	6,911.8	91.9	91.5	-98.94		39.8	3,234.9	685.0	503.8	181.20	3.780	
10,000.0	6,805.7	10,053.7	6,911.8	94.6	94.2	-98.99		39.3	3,334.9	685.1	498.5	186.65	3.671	

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24O-402 - Wellbore #1 - Plan #2 (8-9-13)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,100.0	6,805.2	10,153.7	6,911.8	97.4	97.0	-99.03	38.8	3,434.9	685.3	493.2	192.11	3.567	
10,200.0	6,804.7	10,253.7	6,911.8	100.2	99.8	-99.08	38.3	3,534.9	685.5	487.9	197.56	3.470	
10,300.0	6,804.1	10,353.7	6,911.8	102.9	102.6	-99.12	37.8	3,634.9	685.6	482.6	203.03	3.377	
10,400.0	6,803.6	10,453.7	6,911.9	105.7	105.3	-99.17	37.4	3,734.9	685.8	477.3	208.49	3.289	
10,500.0	6,803.0	10,553.7	6,911.9	108.5	108.1	-99.21	36.9	3,834.9	685.9	472.0	213.95	3.206	
10,600.0	6,802.5	10,653.7	6,911.9	111.3	110.9	-99.26	36.4	3,934.9	686.1	466.7	219.42	3.127	
10,700.0	6,802.0	10,753.7	6,911.9	114.1	113.7	-99.30	35.9	4,034.9	686.3	461.4	224.89	3.052	
10,800.0	6,801.4	10,853.7	6,911.9	116.8	116.5	-99.35	35.4	4,134.9	686.4	456.1	230.36	2.980	
10,900.0	6,800.9	10,953.7	6,911.9	119.6	119.2	-99.39	34.9	4,234.8	686.6	450.7	235.83	2.911	
11,000.0	6,800.3	11,053.7	6,912.0	122.4	122.0	-99.44	34.4	4,334.8	686.7	445.4	241.30	2.846	
11,100.0	6,799.8	11,153.7	6,912.0	125.2	124.8	-99.48	33.9	4,434.8	686.9	440.1	246.77	2.784	
11,200.0	6,799.2	11,253.7	6,912.0	128.0	127.6	-99.53	33.4	4,534.8	687.0	434.8	252.24	2.724	
11,245.3	6,799.0	11,295.6	6,912.0	129.2	128.8	-99.55	33.2	4,576.8	687.1	432.5	254.63	2.699 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)												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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-30.6	30.6					
100.0	100.0	100.0	100.0	0.1	0.1	-90.01	0.0	-30.6	30.6	30.4	0.22	136.341		
200.0	200.0	200.0	200.0	0.3	0.3	-90.01	0.0	-30.6	30.6	30.0	0.67	45.447 CC		
300.0	300.0	299.9	299.8	0.6	0.5	-93.22	-1.7	-30.8	30.9	29.8	1.10	28.065 ES		
400.0	400.0	399.5	399.3	0.8	0.7	-102.43	-6.9	-31.3	32.1	30.6	1.53	20.958		
500.0	500.0	498.6	498.1	1.0	1.0	-115.66	-15.5	-32.2	35.8	33.8	1.99	17.973		
600.0	600.0	597.0	595.7	1.2	1.3	-129.28	-27.3	-33.4	43.4	40.9	2.46	17.633		
700.0	700.0	694.5	692.1	1.5	1.6	-140.49	-42.4	-34.9	55.5	52.6	2.93	18.954		
800.0	800.0	793.0	789.1	1.7	2.0	-148.23	-59.2	-36.6	70.4	67.0	3.38	20.822		
900.0	900.0	891.6	886.2	1.9	2.3	-153.22	-76.0	-38.3	86.2	82.4	3.83	22.489		
1,000.0	1,000.0	990.1	983.3	2.1	2.7	-156.65	-92.7	-40.0	102.4	98.1	4.29	23.884		
1,100.0	1,100.0	1,088.9	1,080.6	2.3	3.1	8.79	-109.6	-41.7	117.2	112.4	4.77	24.584		
1,200.0	1,199.8	1,188.1	1,178.4	2.5	3.5	7.12	-126.5	-43.5	128.6	123.5	5.18	24.841		
1,300.0	1,299.5	1,287.8	1,276.5	2.7	3.9	5.88	-143.5	-45.2	136.8	131.2	5.60	24.416		
1,400.0	1,398.7	1,387.6	1,374.9	2.9	4.3	4.90	-160.5	-46.9	141.4	135.4	6.03	23.451		
1,500.0	1,497.7	1,487.6	1,473.4	3.2	4.6	4.05	-177.6	-48.6	144.4	138.0	6.48	22.284		
1,600.0	1,596.8	1,587.5	1,571.8	3.4	5.0	3.22	-194.6	-50.4	147.5	140.5	6.94	21.256		
1,700.0	1,695.8	1,687.4	1,670.3	3.7	5.4	2.44	-211.6	-52.1	150.5	143.1	7.40	20.345		
1,800.0	1,794.8	1,787.4	1,768.7	4.0	5.8	1.68	-228.7	-53.8	153.6	145.8	7.86	19.535		
1,900.0	1,893.8	1,887.3	1,867.2	4.3	6.2	0.95	-245.7	-55.5	156.7	148.4	8.33	18.810		
2,000.0	1,992.9	1,987.2	1,965.7	4.6	6.6	0.25	-262.7	-57.3	159.9	151.1	8.80	18.159		
2,100.0	2,091.9	2,087.2	2,064.1	4.9	7.0	-0.42	-279.8	-59.0	163.0	153.8	9.28	17.571		
2,200.0	2,190.9	2,187.1	2,162.6	5.2	7.4	-1.07	-296.8	-60.7	166.2	156.5	9.76	17.038		
2,300.0	2,289.9	2,287.0	2,261.0	5.5	7.8	-1.69	-313.8	-62.4	169.4	159.2	10.23	16.553		
2,400.0	2,389.0	2,386.9	2,359.5	5.9	8.2	-2.29	-330.9	-64.2	172.6	161.9	10.72	16.110		
2,500.0	2,488.0	2,486.9	2,457.9	6.2	8.6	-2.86	-347.9	-65.9	175.9	164.7	11.20	15.703		
2,600.0	2,587.0	2,586.8	2,556.4	6.5	9.0	-3.42	-364.9	-67.6	179.1	167.4	11.69	15.329		
2,700.0	2,686.1	2,686.7	2,654.8	6.8	9.4	-3.96	-382.0	-69.3	182.4	170.2	12.17	14.984		
2,800.0	2,785.1	2,786.7	2,753.3	7.2	9.8	-4.47	-399.0	-71.1	185.7	173.0	12.66	14.664		
2,900.0	2,884.1	2,886.6	2,851.7	7.5	10.2	-4.97	-416.0	-72.8	189.0	175.8	13.15	14.368		
3,000.0	2,983.1	2,986.5	2,950.2	7.9	10.6	-5.45	-433.1	-74.5	192.3	178.7	13.65	14.091		
3,100.0	3,082.2	3,086.5	3,048.6	8.2	11.0	-5.92	-450.1	-76.2	195.6	181.5	14.14	13.834		
3,200.0	3,181.2	3,186.4	3,147.1	8.5	11.4	-6.37	-467.2	-78.0	199.0	184.3	14.64	13.593		
3,300.0	3,280.2	3,286.3	3,245.6	8.9	11.8	-6.80	-484.2	-79.7	202.3	187.2	15.14	13.367		
3,400.0	3,379.3	3,386.3	3,344.0	9.2	12.2	-7.23	-501.2	-81.4	205.7	190.1	15.64	13.155		
3,500.0	3,478.3	3,486.2	3,442.5	9.6	12.6	-7.63	-518.3	-83.1	209.1	192.9	16.14	12.955		
3,600.0	3,577.3	3,586.1	3,540.9	9.9	13.0	-8.03	-535.3	-84.9	212.5	195.8	16.64	12.767		
3,700.0	3,676.3	3,686.1	3,639.4	10.2	13.4	-8.41	-552.3	-86.6	215.9	198.7	17.15	12.589		
3,800.0	3,775.4	3,786.0	3,737.8	10.6	13.8	-8.78	-569.4	-88.3	219.3	201.6	17.65	12.422		
3,900.0	3,874.4	3,885.9	3,836.3	10.9	14.2	-9.14	-586.4	-90.1	222.7	204.5	18.16	12.263		
4,000.0	3,973.4	3,985.9	3,934.7	11.3	14.6	-9.49	-603.4	-91.8	226.1	207.4	18.67	12.112		
4,100.0	4,072.4	4,085.8	4,033.2	11.6	15.0	-9.82	-620.5	-93.5	229.5	210.3	19.18	11.969		
4,200.0	4,171.5	4,185.7	4,131.6	12.0	15.4	-10.15	-637.5	-95.2	233.0	213.3	19.69	11.832		
4,300.0	4,270.5	4,285.7	4,230.1	12.3	15.8	-10.47	-654.5	-97.0	236.4	216.2	20.20	11.703		
4,400.0	4,369.5	4,385.6	4,328.6	12.7	16.2	-10.78	-671.6	-98.7	239.9	219.1	20.71	11.579		
4,500.0	4,468.6	4,485.5	4,427.0	13.0	16.6	-11.08	-688.6	-100.4	243.3	222.1	21.23	11.461		
4,600.0	4,567.6	4,585.5	4,525.5	13.3	17.0	-11.37	-705.6	-102.1	246.8	225.0	21.75	11.349		
4,700.0	4,666.6	4,685.4	4,623.9	13.7	17.4	-11.65	-722.7	-103.9	250.3	228.0	22.26	11.241		
4,800.0	4,765.6	4,785.3	4,722.4	14.0	17.8	-11.93	-739.7	-105.6	253.7	231.0	22.78	11.138		
4,900.0	4,864.7	4,885.3	4,820.8	14.4	18.2	-12.20	-756.7	-107.3	257.2	233.9	23.30	11.039		
5,000.0	4,963.7	4,985.2	4,919.3	14.7	18.6	-12.46	-773.8	-109.0	260.7	236.9	23.82	10.944		

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,062.7	5,085.1	5,017.7	15.1	19.0	-12.71	-790.8	-110.8	264.2	239.9	24.34	10.854		
5,200.0	5,161.7	5,185.0	5,116.2	15.4	19.4	-12.96	-807.9	-112.5	267.7	242.8	24.86	10.766		
5,300.0	5,260.8	5,285.0	5,214.6	15.8	19.8	-13.20	-824.9	-114.2	271.2	245.8	25.39	10.682		
5,400.0	5,359.8	5,384.9	5,313.1	16.1	20.2	-13.44	-841.9	-115.9	274.7	248.8	25.91	10.602		
5,500.0	5,458.8	5,484.8	5,411.6	16.5	20.6	-13.67	-859.0	-117.7	278.2	251.8	26.44	10.524		
5,600.0	5,557.9	5,584.8	5,510.1	16.8	21.0	-13.87	-876.0	-119.4	282.3	255.4	26.94	10.477		
5,700.0	5,657.4	5,695.6	5,619.6	17.0	21.3	-14.00	-892.8	-121.1	287.5	260.1	27.35	10.511		
5,800.0	5,757.2	5,806.7	5,729.9	17.2	21.5	-14.05	-905.3	-122.4	292.2	264.5	27.70	10.550		
5,900.0	5,857.1	5,917.9	5,840.8	17.4	21.7	-14.02	-913.6	-123.2	296.5	268.5	28.00	10.592		
6,000.0	5,957.1	6,029.3	5,952.1	17.5	21.9	178.20	-917.6	-123.6	299.8	260.8	39.02	7.682		
6,100.0	6,057.1	6,134.3	6,057.1	17.6	22.0	87.89	-918.0	-123.6	300.1	271.5	28.68	10.466		
6,200.0	6,156.8	6,233.9	6,156.7	17.8	22.1	89.12	-918.0	-123.4	300.0	271.1	28.91	10.376		
6,244.1	6,200.3	6,277.6	6,200.3	17.8	22.1	90.01	-918.0	-121.1	299.9	271.0	28.97	10.352		
6,300.0	6,254.8	6,333.4	6,255.8	17.9	22.2	91.15	-918.0	-114.4	300.0	270.9	29.06	10.324		
6,400.0	6,349.4	6,434.4	6,354.2	18.0	22.3	93.18	-918.2	-92.3	300.4	271.2	29.22	10.280		
6,500.0	6,439.0	6,536.8	6,450.1	18.1	22.4	95.15	-918.4	-56.8	301.2	271.7	29.46	10.221		
6,600.0	6,522.0	6,640.7	6,541.8	18.2	22.5	97.04	-918.6	-8.0	302.2	272.4	29.87	10.118		
6,700.0	6,597.1	6,746.0	6,627.0	18.3	22.6	98.81	-918.9	53.8	303.5	273.0	30.53	9.940		
6,800.0	6,662.9	6,852.8	6,704.0	18.5	22.8	100.42	-919.3	127.7	304.9	273.4	31.58	9.657		
6,900.0	6,718.3	6,960.9	6,770.6	18.9	23.1	101.84	-919.8	212.7	306.4	273.3	33.11	9.255		
7,000.0	6,762.5	7,070.2	6,825.1	19.5	23.5	103.04	-920.3	307.3	307.8	272.6	35.19	8.748		
7,100.0	6,794.5	7,180.5	6,865.9	20.7	24.2	104.00	-920.8	409.7	309.0	271.2	37.83	8.168		
7,200.0	6,813.9	7,291.6	6,891.6	22.2	25.3	104.71	-921.4	517.7	309.9	268.9	41.00	7.560		
7,300.0	6,820.3	7,395.9	6,903.7	24.1	26.7	105.54	-922.0	621.3	311.3	266.9	44.35	7.019		
7,400.0	6,819.8	7,502.9	6,911.0	26.2	28.5	106.93	-922.6	728.0	313.3	265.1	48.21	6.499		
7,500.0	6,819.3	7,605.0	6,911.3	28.4	30.4	107.08	-923.1	830.0	313.5	261.0	52.55	5.966		
7,600.0	6,818.7	7,705.0	6,911.4	30.7	32.5	107.18	-923.6	930.0	313.7	256.6	57.04	5.499		
7,700.0	6,818.2	7,805.0	6,911.4	33.1	34.7	107.28	-924.2	1,030.0	313.8	252.2	61.66	5.090		
7,800.0	6,817.6	7,905.0	6,911.4	35.5	37.0	107.38	-924.7	1,130.0	314.0	247.6	66.38	4.729		
7,900.0	6,817.1	8,005.0	6,911.4	38.0	39.4	107.47	-925.2	1,230.0	314.1	242.9	71.19	4.412		
8,000.0	6,816.6	8,105.0	6,911.4	40.6	41.9	107.57	-925.8	1,330.0	314.2	238.2	76.07	4.131		
8,100.0	6,816.0	8,205.0	6,911.5	43.1	44.4	107.67	-926.3	1,430.0	314.4	233.4	81.00	3.881		
8,200.0	6,815.5	8,305.0	6,911.5	45.7	46.9	107.77	-926.8	1,530.0	314.5	228.6	85.97	3.659		
8,300.0	6,814.9	8,405.0	6,911.5	48.4	49.4	107.87	-927.4	1,630.0	314.7	223.7	90.98	3.459		
8,400.0	6,814.4	8,505.0	6,911.5	51.0	52.0	107.97	-927.9	1,730.0	314.8	218.8	96.02	3.279		
8,500.0	6,813.9	8,605.0	6,911.5	53.7	54.6	108.06	-928.4	1,830.0	315.0	213.9	101.08	3.116		
8,600.0	6,813.3	8,705.0	6,911.5	56.4	57.3	108.16	-929.0	1,930.0	315.1	209.0	106.15	2.968		
8,700.0	6,812.8	8,805.0	6,911.6	59.0	59.9	108.26	-929.5	2,030.0	315.3	204.0	111.25	2.834		
8,800.0	6,812.2	8,905.0	6,911.6	61.7	62.6	108.36	-930.0	2,130.0	315.4	199.1	116.36	2.711		
8,900.0	6,811.7	9,004.9	6,911.6	64.5	65.3	108.46	-930.6	2,230.0	315.6	194.1	121.48	2.598		
9,000.0	6,811.1	9,104.9	6,911.6	67.2	67.9	108.55	-931.1	2,330.0	315.7	189.1	126.60	2.494		
9,100.0	6,810.6	9,204.9	6,911.6	69.9	70.6	108.65	-931.7	2,430.0	315.9	184.1	131.74	2.398		
9,200.0	6,810.1	9,304.9	6,911.6	72.6	73.3	108.75	-932.2	2,530.0	316.0	179.2	136.88	2.309		
9,300.0	6,809.5	9,404.9	6,911.7	75.4	76.1	108.85	-932.7	2,630.0	316.2	174.2	142.02	2.226		
9,400.0	6,809.0	9,504.9	6,911.7	78.1	78.8	108.94	-933.3	2,730.0	316.3	169.2	147.16	2.150		
9,500.0	6,808.4	9,604.9	6,911.7	80.9	81.5	109.04	-933.8	2,830.0	316.5	164.2	152.31	2.078		
9,600.0	6,807.9	9,704.9	6,911.7	83.6	84.2	109.14	-934.3	2,930.0	316.7	159.2	157.46	2.011		
9,700.0	6,807.4	9,804.9	6,911.7	86.4	87.0	109.23	-934.9	3,030.0	316.8	154.2	162.61	1.948		
9,800.0	6,806.8	9,904.9	6,911.7	89.1	89.7	109.33	-935.4	3,130.0	317.0	149.2	167.76	1.890		
9,900.0	6,806.3	10,004.9	6,911.8	91.9	92.5	109.43	-935.9	3,230.0	317.1	144.2	172.91	1.834		
10,000.0	6,805.7	10,104.9	6,911.8	94.6	95.2	109.52	-936.5	3,330.0	317.3	139.3	178.05	1.782		

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24O-HZ Pad Sec.24-T5N-R65W - Maxey 24P-402 - Wellbore #1 - Plan #2 (8-9-13)												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)	Semi Major Axis 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
10,100.0	6,805.2	10,204.9	6,911.8	97.4	98.0	109.62	-937.0	3,429.9	317.5	134.3	183.20	1.733	
10,200.0	6,804.7	10,304.9	6,911.8	100.2	100.7	109.72	-937.5	3,529.9	317.6	129.3	188.34	1.686	
10,300.0	6,804.1	10,404.9	6,911.8	102.9	103.5	109.81	-938.1	3,629.9	317.8	124.3	193.48	1.643	
10,400.0	6,803.6	10,504.9	6,911.9	105.7	106.2	109.91	-938.6	3,729.9	318.0	119.3	198.62	1.601	
10,500.0	6,803.0	10,604.9	6,911.9	108.5	109.0	110.01	-939.1	3,829.9	318.1	114.4	203.75	1.561	
10,600.0	6,802.5	10,704.9	6,911.9	111.3	111.8	110.10	-939.7	3,929.9	318.3	109.4	208.89	1.524	
10,700.0	6,802.0	10,804.9	6,911.9	114.1	114.5	110.20	-940.2	4,029.9	318.5	104.5	214.01	1.488	Level 3
10,800.0	6,801.4	10,904.9	6,911.9	116.8	117.3	110.29	-940.7	4,129.9	318.6	99.5	219.14	1.454	Level 3
10,900.0	6,800.9	11,004.9	6,911.9	119.6	120.1	110.39	-941.3	4,229.9	318.8	94.5	224.26	1.422	Level 3
11,000.0	6,800.3	11,104.9	6,912.0	122.4	122.9	110.48	-941.8	4,329.9	319.0	89.6	229.37	1.391	Level 3
11,100.0	6,799.8	11,204.9	6,912.0	125.2	125.6	110.58	-942.3	4,429.9	319.1	84.7	234.48	1.361	Level 3
11,200.0	6,799.2	11,304.9	6,912.0	128.0	128.4	110.68	-942.9	4,529.9	319.3	79.7	239.59	1.333	Level 3
11,245.3	6,799.0	11,349.1	6,912.0	129.2	129.6	110.72	-943.1	4,574.1	319.4	77.5	241.87	1.321	Level 3, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24Q-HZ Pad Sec.24-T5N-R65W - Emily 1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
10,300.0	6,804.1	6,600.0	6,599.0	102.9	11.5	-39.03	-501.5	4,557.0	953.0	877.8	75.17	12.678	
10,400.0	6,803.6	6,600.0	6,599.0	105.7	11.5	-39.03	-501.5	4,557.0	856.2	779.2	77.01	11.118	
10,500.0	6,803.0	6,600.0	6,599.0	108.5	11.5	-39.03	-501.5	4,557.0	760.2	681.4	78.85	9.641	
10,600.0	6,802.5	6,600.0	6,599.0	111.3	11.5	-39.03	-501.5	4,557.0	665.4	584.7	80.69	8.246	
10,700.0	6,802.0	6,600.0	6,599.0	114.1	11.5	-39.03	-501.5	4,557.0	572.4	489.9	82.54	6.935	
10,800.0	6,801.4	6,600.0	6,599.0	116.8	11.5	-39.03	-501.5	4,557.0	482.2	397.8	84.38	5.715	
10,900.0	6,800.9	6,600.0	6,599.0	119.6	11.5	-39.03	-501.5	4,557.0	396.8	310.5	86.23	4.601	
11,000.0	6,800.3	6,600.0	6,599.0	122.4	11.5	-39.03	-501.5	4,557.0	319.8	231.7	88.08	3.631	
11,100.0	6,799.8	6,600.0	6,599.0	125.2	11.5	-39.03	-501.5	4,557.0	259.1	169.2	89.92	2.882	
11,200.0	6,799.2	6,600.0	6,599.0	128.0	11.5	-39.03	-501.5	4,557.0	228.1	136.3	91.77	2.486	
11,225.6	6,799.1	6,600.0	6,599.0	128.7	11.5	-39.03	-501.5	4,557.0	226.7	134.4	92.24	2.457 CC, ES	
11,245.3	6,799.0	6,600.0	6,599.0	129.2	11.5	-39.03	-501.5	4,557.0	227.5	134.9	92.61	2.457 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design													Maxey 24Q-HZ Pad Sec.24-T5N-R65W - Maxey 33-24 (Exist.) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.0 ft
Survey Program: 7300-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis				Distance						Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	0.0	0.0	0.0	0.0	127.66	-393.5	509.8	644.2								
100.0	100.0	84.0	84.0	0.1	0.1	127.66	-393.5	509.8	644.0	643.8	0.21	3,111.334					
200.0	200.0	184.0	184.0	0.3	0.2	127.66	-393.5	509.8	644.0	643.4	0.54	1,183.528					
300.0	300.0	284.0	284.0	0.6	0.3	127.66	-393.5	509.8	644.0	643.1	0.88	730.750					
400.0	400.0	384.0	384.0	0.8	0.4	127.66	-393.5	509.8	644.0	642.8	1.22	528.546					
500.0	500.0	484.0	484.0	1.0	0.5	127.66	-393.5	509.8	644.0	642.4	1.56	413.991					
600.0	600.0	584.0	584.0	1.2	0.7	127.66	-393.5	509.8	644.0	642.1	1.89	340.248					
700.0	700.0	684.0	684.0	1.5	0.8	127.66	-393.5	509.8	644.0	641.8	2.23	288.804					
800.0	800.0	784.0	784.0	1.7	0.9	127.66	-393.5	509.8	644.0	641.4	2.57	250.873					
900.0	900.0	884.0	884.0	1.9	1.0	127.66	-393.5	509.8	644.0	641.1	2.90	221.748					
1,000.0	1,000.0	984.0	984.0	2.1	1.1	127.66	-393.5	509.8	644.0	640.8	3.24	198.683					
1,100.0	1,100.0	1,084.0	1,084.0	2.3	1.2	-64.64	-393.5	509.8	643.2	639.7	3.55	181.212					
1,200.0	1,199.8	1,183.8	1,183.8	2.5	1.3	-65.10	-393.5	509.8	641.0	637.2	3.84	167.043					
1,300.0	1,299.5	1,283.5	1,283.5	2.7	1.4	-65.88	-393.5	509.8	637.4	633.2	4.14	153.980					
1,400.0	1,398.7	1,382.7	1,382.7	2.9	1.6	-66.97	-393.5	509.8	632.5	628.0	4.46	141.722					
1,500.0	1,497.7	1,481.7	1,481.7	3.2	1.7	-68.13	-393.5	509.8	627.1	622.3	4.81	130.328					
1,600.0	1,596.8	1,580.8	1,580.8	3.4	1.8	-69.31	-393.5	509.8	622.0	616.9	5.18	120.097					
1,700.0	1,695.8	1,679.8	1,679.8	3.7	1.9	-70.51	-393.5	509.8	617.2	611.6	5.56	110.965					
1,800.0	1,794.8	1,778.8	1,778.8	4.0	2.0	-71.72	-393.5	509.8	612.7	606.7	5.96	102.837					
1,900.0	1,893.8	1,877.8	1,877.8	4.3	2.1	-72.96	-393.5	509.8	608.4	602.0	6.36	95.607					
2,000.0	1,992.9	1,976.9	1,976.9	4.6	2.2	-74.20	-393.5	509.8	604.4	597.7	6.78	89.170					
2,100.0	2,091.9	2,075.9	2,075.9	4.9	2.3	-75.47	-393.5	509.8	600.8	593.6	7.20	83.430					
2,200.0	2,190.9	2,174.9	2,174.9	5.2	2.4	-76.75	-393.5	509.8	597.4	589.8	7.63	78.301					
2,300.0	2,289.9	2,273.9	2,273.9	5.5	2.6	-78.04	-393.5	509.8	594.3	586.3	8.06	73.708					
2,400.0	2,389.0	2,373.0	2,373.0	5.9	2.7	-79.35	-393.5	509.8	591.6	583.1	8.50	69.584					
2,500.0	2,488.0	2,472.0	2,472.0	6.2	2.8	-80.67	-393.5	509.8	589.1	580.2	8.94	65.873					
2,600.0	2,587.0	2,571.0	2,571.0	6.5	2.9	-81.99	-393.5	509.8	587.0	577.6	9.39	62.526					
2,700.0	2,686.1	2,670.1	2,670.1	6.8	3.0	-83.33	-393.5	509.8	585.2	575.4	9.84	59.501					
2,800.0	2,785.1	2,769.1	2,769.1	7.2	3.1	-84.67	-393.5	509.8	583.8	573.5	10.28	56.760					
2,900.0	2,884.1	2,868.1	2,868.1	7.5	3.2	-86.02	-393.5	509.8	582.6	571.9	10.73	54.274					
3,000.0	2,983.1	2,967.1	2,967.1	7.9	3.3	-87.38	-393.5	509.8	581.8	570.6	11.19	52.014					
3,100.0	3,082.2	3,066.2	3,066.2	8.2	3.4	-88.73	-393.5	509.8	581.3	569.7	11.64	49.957					
3,193.3	3,174.6	3,158.6	3,158.6	8.5	3.5	-90.00	-393.5	509.8	581.2	569.1	12.06	48.202					
3,200.0	3,181.2	3,165.2	3,165.2	8.5	3.6	-90.09	-393.5	509.8	581.2	569.1	12.09	48.082					
3,300.0	3,280.2	3,264.2	3,264.2	8.9	3.7	-91.45	-393.5	509.8	581.4	568.8	12.54	46.371					
3,400.0	3,379.3	3,363.3	3,363.3	9.2	3.8	-92.80	-393.5	509.8	581.9	568.9	12.99	44.808					
3,500.0	3,478.3	3,462.3	3,462.3	9.6	3.9	-94.16	-393.5	509.8	582.8	569.3	13.43	43.379					
3,600.0	3,577.3	3,561.3	3,561.3	9.9	4.0	-95.51	-393.5	509.8	583.9	570.1	13.88	42.071					
3,700.0	3,676.3	3,660.3	3,660.3	10.2	4.1	-96.85	-393.5	509.8	585.5	571.1	14.32	40.873					
3,800.0	3,775.4	3,759.4	3,759.4	10.6	4.2	-98.18	-393.5	509.8	587.3	572.5	14.77	39.776					
3,900.0	3,874.4	3,858.4	3,858.4	10.9	4.3	-99.51	-393.5	509.8	589.5	574.2	15.20	38.770					
4,000.0	3,973.4	3,957.4	3,957.4	11.3	4.4	-100.83	-393.5	509.8	591.9	576.3	15.64	37.848					
4,100.0	4,072.4	4,056.4	4,056.4	11.6	4.6	-102.13	-393.5	509.8	594.7	578.7	16.07	37.003					
4,200.0	4,171.5	4,155.5	4,155.5	12.0	4.7	-103.42	-393.5	509.8	597.8	581.3	16.50	36.228					
4,300.0	4,270.5	4,254.5	4,254.5	12.3	4.8	-104.70	-393.5	509.8	601.2	584.3	16.93	35.518					
4,400.0	4,369.5	4,353.5	4,353.5	12.7	4.9	-105.96	-393.5	509.8	605.0	587.6	17.35	34.867					
4,500.0	4,468.6	4,452.6	4,452.6	13.0	5.0	-107.21	-393.5	509.8	609.0	591.2	17.77	34.270					
4,600.0	4,567.6	4,551.6	4,551.6	13.3	5.1	-108.44	-393.5	509.8	613.3	595.1	18.18	33.724					
4,700.0	4,666.6	4,650.6	4,650.6	13.7	5.2	-109.65	-393.5	509.8	617.8	599.2	18.60	33.223					
4,800.0	4,765.6	4,749.6	4,749.6	14.0	5.3	-110.85	-393.5	509.8	622.7	603.7	19.00	32.766					
4,900.0	4,864.7	4,848.7	4,848.7	14.4	5.4	-112.03	-393.5	509.8	627.8	608.4	19.41	32.348					

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 Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 7300-MWD												Offset Well Error:	0.0 ft
Maxey 24Q-HZ Pad Sec.24-T5N-R65W - Maxey 33-24 (Exist.) - Wellbore #1 - Wellbore #1													
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	4,963.7	4,947.7	4,947.7	14.7	5.6	-113.18	-393.5	509.8	633.2	613.4	19.81	31.966	
5,100.0	5,062.7	5,046.7	5,046.7	15.1	5.7	-114.32	-393.5	509.8	638.9	618.7	20.21	31.617	
5,200.0	5,161.7	5,145.7	5,145.7	15.4	5.8	-115.44	-393.5	509.8	644.8	624.2	20.60	31.300	
5,300.0	5,260.8	5,244.8	5,244.8	15.8	5.9	-116.54	-393.5	509.8	650.9	629.9	20.99	31.011	
5,400.0	5,359.8	5,343.8	5,343.8	16.1	6.0	-117.61	-393.5	509.8	657.3	635.9	21.38	30.749	
5,500.0	5,458.8	5,442.8	5,442.8	16.5	6.1	-118.67	-393.5	509.8	663.9	642.1	21.76	30.511	
5,600.0	5,557.9	5,541.9	5,541.9	16.8	6.2	-119.73	-393.5	509.8	670.5	648.4	22.11	30.324	
5,700.0	5,657.4	5,641.4	5,641.4	17.0	6.3	-120.56	-393.5	509.8	675.6	653.2	22.39	30.180	
5,800.0	5,757.2	5,741.2	5,741.2	17.2	6.5	-121.11	-393.5	509.8	679.1	656.4	22.65	29.981	
5,900.0	5,857.1	5,841.1	5,841.1	17.4	6.6	-121.37	-393.5	509.8	680.7	657.8	22.90	29.724	
6,000.0	5,957.1	5,941.1	5,941.1	17.5	6.7	70.75	-393.5	509.8	680.9	659.6	21.33	31.921	
6,100.0	6,057.1	6,041.1	6,041.1	17.6	6.8	-19.58	-393.5	509.8	680.9	657.5	23.42	29.073	
6,200.0	6,156.8	6,140.8	6,140.8	17.8	6.9	-19.92	-393.5	509.8	674.7	651.2	23.50	28.715	
6,300.0	6,254.8	6,238.8	6,238.8	17.9	7.0	-21.00	-393.5	509.8	656.3	632.9	23.33	28.132	
6,400.0	6,349.4	6,333.4	6,333.4	18.0	7.1	-22.96	-393.5	509.8	626.2	603.2	22.94	27.297	
6,500.0	6,439.0	6,423.0	6,423.0	18.1	7.2	-26.07	-393.5	509.8	585.2	562.8	22.38	26.144	
6,600.0	6,522.0	6,506.0	6,506.0	18.2	7.3	-30.77	-393.5	509.8	534.4	512.6	21.78	24.540	
6,700.0	6,597.1	6,581.1	6,581.1	18.3	7.4	-37.74	-393.5	509.8	475.6	454.2	21.37	22.256	
6,800.0	6,662.9	6,646.9	6,646.9	18.5	7.5	-47.64	-393.5	509.8	411.2	389.6	21.59	19.047	
6,900.0	6,718.3	6,702.3	6,702.3	18.9	7.5	-60.46	-393.5	509.8	345.1	322.3	22.81	15.131	
7,000.0	6,762.5	6,746.5	6,746.5	19.5	7.6	-74.18	-393.5	509.8	284.1	259.3	24.77	11.471	
7,100.0	6,794.5	6,778.5	6,778.5	20.7	7.6	-85.18	-393.5	509.8	240.0	213.2	26.80	8.955	
7,176.4	6,810.5	6,794.5	6,794.5	21.8	7.6	-90.00	-393.5	509.8	228.1	199.8	28.33	8.053 CC, ES	
7,200.0	6,813.9	6,797.9	6,797.9	22.2	7.6	-90.76	-393.5	509.8	229.3	200.6	28.78	7.968 SF	
7,300.0	6,820.3	6,804.3	6,804.3	24.1	7.6	-89.97	-393.5	509.8	259.2	228.4	30.80	8.415	
7,400.0	6,819.8	6,803.8	6,803.8	26.2	7.6	-89.70	-393.5	509.8	319.1	286.1	32.96	9.680	
7,500.0	6,819.3	6,803.3	6,803.3	28.4	7.6	-89.56	-393.5	509.8	395.5	360.3	35.24	11.223	
7,600.0	6,818.7	6,802.7	6,802.7	30.7	7.6	-89.43	-393.5	509.8	480.7	443.1	37.61	12.780	
7,700.0	6,818.2	6,802.2	6,802.2	33.1	7.6	-89.29	-393.5	509.8	570.7	530.6	40.05	14.250	
7,800.0	6,817.6	6,801.6	6,801.6	35.5	7.6	-89.15	-393.5	509.8	663.6	621.0	42.54	15.597	
7,900.0	6,817.1	6,801.1	6,801.1	38.0	7.6	-89.02	-393.5	509.8	758.2	713.2	45.08	16.820	
8,000.0	6,816.6	6,800.6	6,800.6	40.6	7.6	-88.88	-393.5	509.8	854.1	806.5	47.65	17.924	
8,100.0	6,816.0	6,800.0	6,800.0	43.1	7.6	-88.75	-393.5	509.8	950.9	900.6	50.25	18.921	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Offset Design Maxey 24Q-HZ Pad Sec.24-T5N-R65W - Maxey Hoff 2 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												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
9,000.0	6,811.1	6,774.3	6,771.5	67.2	14.4	70.81	-676.0	3,257.6	927.3	849.7	77.58	11.952	
9,100.0	6,810.6	6,775.9	6,773.2	69.9	14.4	72.99	-676.0	3,257.7	827.4	746.4	81.03	10.211	
9,200.0	6,810.1	6,777.5	6,774.8	72.6	14.4	75.18	-676.0	3,257.7	727.5	643.1	84.44	8.616	
9,300.0	6,809.5	6,779.1	6,776.4	75.4	14.4	77.37	-676.0	3,257.7	627.7	539.9	87.79	7.150	
9,400.0	6,809.0	6,780.7	6,777.9	78.1	14.4	79.54	-676.0	3,257.8	528.0	436.9	91.06	5.798	
9,500.0	6,808.4	6,782.2	6,779.4	80.9	14.4	81.69	-676.0	3,257.8	428.3	334.0	94.26	4.544	
9,600.0	6,807.9	6,783.6	6,780.9	83.6	14.4	83.82	-676.0	3,257.8	328.9	231.5	97.36	3.378	
9,700.0	6,807.4	6,785.1	6,782.4	86.4	14.4	85.92	-675.9	3,257.9	229.9	129.5	100.35	2.291	
9,800.0	6,806.8	6,786.5	6,783.8	89.1	14.4	87.99	-675.9	3,257.9	132.4	29.2	103.24	1.283 Level 3	
9,900.0	6,806.3	6,787.9	6,785.1	91.9	14.4	90.02	-675.9	3,257.9	47.1	-58.9	106.01	0.444 Level 1	
9,926.6	6,806.1	6,788.2	6,785.5	92.6	14.4	90.55	-675.9	3,257.9	38.9	-67.8	106.73	0.365 Level 1, CC, ES, SF	
10,000.0	6,805.7	6,789.2	6,786.5	94.6	14.4	92.01	-675.9	3,257.9	83.1	-25.6	108.67	0.765 Level 1	
10,100.0	6,805.2	6,790.5	6,787.8	97.4	14.4	93.95	-675.9	3,258.0	177.7	66.5	111.21	1.598	
10,200.0	6,804.7	6,791.8	6,789.1	100.2	14.4	95.84	-675.9	3,258.0	276.2	162.5	113.63	2.430	
10,300.0	6,804.1	6,793.1	6,790.4	102.9	14.4	97.68	-675.9	3,258.0	375.4	259.5	115.94	3.238	
10,400.0	6,803.6	6,794.3	6,791.6	105.7	14.4	99.47	-675.9	3,258.0	475.0	356.8	118.14	4.021	
10,500.0	6,803.0	6,795.6	6,792.8	108.5	14.4	101.21	-675.8	3,258.1	574.7	454.5	120.22	4.780	
10,600.0	6,802.5	6,800.0	6,797.3	111.3	14.4	107.38	-675.8	3,258.1	674.5	554.8	119.72	5.634	
10,700.0	6,802.0	6,800.0	6,797.3	114.1	14.4	107.38	-675.8	3,258.1	774.3	652.0	122.39	6.327	
10,800.0	6,801.4	6,800.0	6,797.3	116.8	14.4	107.38	-675.8	3,258.1	874.2	749.2	125.06	6.990	
10,900.0	6,800.9	6,800.0	6,797.3	119.6	14.4	107.38	-675.8	3,258.1	974.1	846.4	127.73	7.626	

Reference Depths are relative to WELL @ 4652.0ft (RKB - 15')	Coordinates are relative to: Maxey 24P-312
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.57°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Maxey 24P-312
Project:	SEC.24-T5N-R65W	TVD Reference:	WELL @ 4652.0ft (RKB - 15')
Reference Site:	Maxey 24O-HZ Pad Sec.24-T5N-R65W	MD Reference:	WELL @ 4652.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Maxey 24P-312	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 #2 (8-9-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4652.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Maxey 24P-312
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.57°

