

PETROLEUM DEVELOPMENT CORP Weld County CO

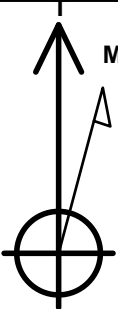
Well Name: **Harvesters Resources 15R-243**

Surface Location: Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4820.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1423918.81	3205417.99	40.494710	-104.761400	
RKB-15' WELL @ 4835.0ft (RKB-15')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
BHL 500'FSL & 1704'FEL	7095.0	-4459.2	322.7	Point



Azimuths to True North
Magnetic North: 8.60°

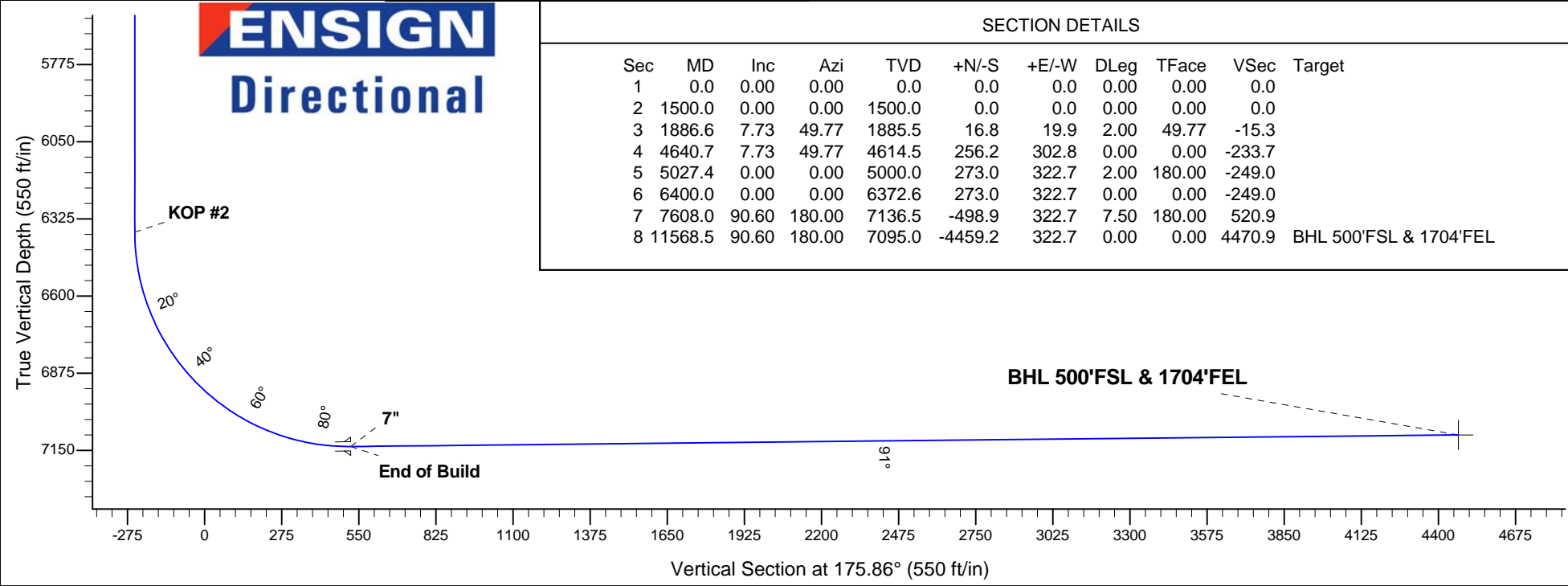
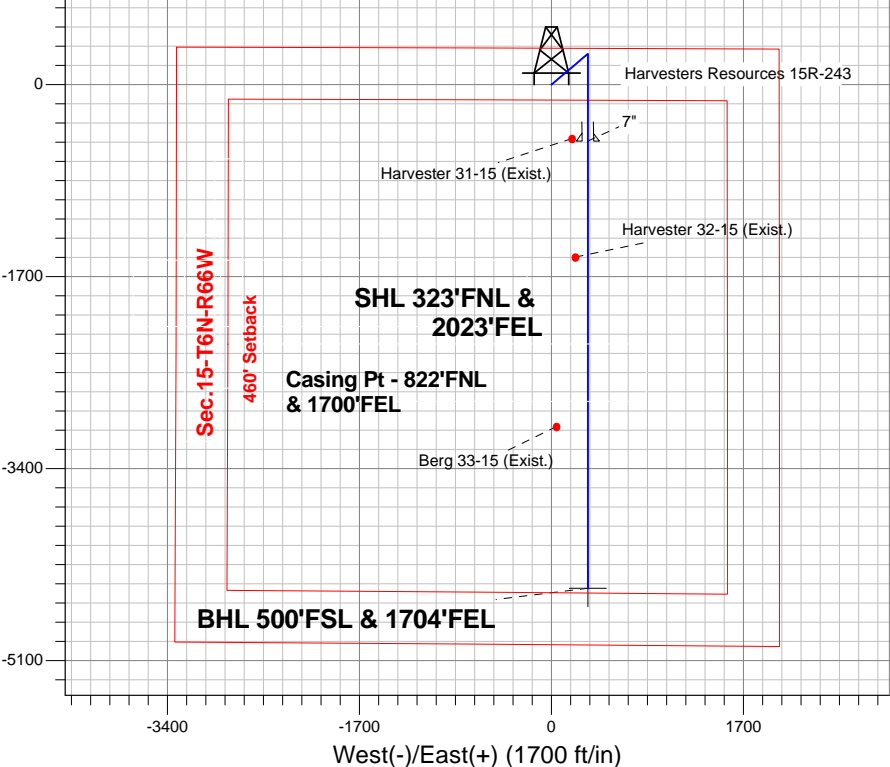
Magnetic Field
Strength: 52971.6snT
Dip Angle: 67.06°
Date: 6/11/2013
Model: IGRF2010

Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W
Harvesters Resources 15R-243
Plan #1 (6-11-13)
11:07, June 11 2013

ANNOTATIONS

TVD	MD	Annotation
1500.0	1500.0	KOP #1
6372.6	6400.0	KOP #2
7136.5	7608.0	End of Build

South(-)/North(+) (1700 ft/in)



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	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1886.6	7.73	49.77	1885.5	16.8	19.9	2.00	49.77	-15.3	
4	4640.7	7.73	49.77	4614.5	256.2	302.8	0.00	0.00	-233.7	
5	5027.4	0.00	0.00	5000.0	273.0	322.7	2.00	180.00	-249.0	
6	6400.0	0.00	0.00	6372.6	273.0	322.7	0.00	0.00	-249.0	
7	7608.0	90.60	180.00	7136.5	-498.9	322.7	7.50	180.00	520.9	
8	11568.5	90.60	180.00	7095.0	-4459.2	322.7	0.00	0.00	4470.9	BHL 500'FSL & 1704'FEL



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.15-T6N-R66W

Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W

Harvesters Resources 15R-243

Wellbore #1

Plan: Plan #1 (6-11-13)

Standard Planning Report

11 June, 2013

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

Project	SEC.15-T6N-R66W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W					
Site Position:		Northing:		1,423,918.59 ft	
From:		Easting:		3,205,390.18 ft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Lat/Long		"		°	
0.0 ft				0.48	

Well	Harvesters Resources 15R-243					
Well Position	+N-S	0.0 ft	Northing:	1,423,918.81 ft	Latitude:	40.494710
	+E-W	27.8 ft	Easting:	3,205,417.99 ft	Longitude:	-104.761400
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,820.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/11/2013	8.60	67.06	52,972

Design	Plan #1 (6-11-13)			
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	175.86

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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,886.6	7.73	49.77	1,885.5	16.8	19.9	2.00	2.00	0.00	49.77	
4,640.7	7.73	49.77	4,614.5	256.2	302.8	0.00	0.00	0.00	0.00	
5,027.4	0.00	0.00	5,000.0	273.0	322.7	2.00	-2.00	0.00	180.00	
6,400.0	0.00	0.00	6,372.6	273.0	322.7	0.00	0.00	0.00	0.00	
7,608.0	90.60	180.00	7,136.5	-498.9	322.7	7.50	7.50	0.00	180.00	
11,568.5	90.60	180.00	7,095.0	-4,459.2	322.7	0.00	0.00	0.00	0.00	BHL 500'FSL & 17C

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
1,520.0	0.40	49.77	1,520.0	0.0	0.1	0.0	2.00	2.00	0.00
1,560.0	1.20	49.77	1,560.0	0.4	0.5	-0.4	2.00	2.00	0.00
1,600.0	2.00	49.77	1,600.0	1.1	1.3	-1.0	2.00	2.00	0.00
1,640.0	2.80	49.77	1,639.9	2.2	2.6	-2.0	2.00	2.00	0.00
1,680.0	3.60	49.77	1,679.9	3.7	4.3	-3.3	2.00	2.00	0.00
1,720.0	4.40	49.77	1,719.8	5.5	6.4	-5.0	2.00	2.00	0.00
1,760.0	5.20	49.77	1,759.6	7.6	9.0	-6.9	2.00	2.00	0.00
1,800.0	6.00	49.77	1,799.5	10.1	12.0	-9.2	2.00	2.00	0.00
1,840.0	6.80	49.77	1,839.2	13.0	15.4	-11.9	2.00	2.00	0.00
1,880.0	7.60	49.77	1,878.9	16.3	19.2	-14.8	2.00	2.00	0.00
1,886.6	7.73	49.77	1,885.5	16.8	19.9	-15.3	2.00	2.00	0.00
1,920.0	7.73	49.77	1,918.5	19.7	23.3	-18.0	0.00	0.00	0.00

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Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

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)
1,960.0	7.73	49.77	1,958.2	23.2	27.4	-21.2	0.00	0.00	0.00
2,000.0	7.73	49.77	1,997.8	26.7	31.5	-24.3	0.00	0.00	0.00
2,040.0	7.73	49.77	2,037.4	30.2	35.6	-27.5	0.00	0.00	0.00
2,080.0	7.73	49.77	2,077.1	33.6	39.8	-30.7	0.00	0.00	0.00
2,120.0	7.73	49.77	2,116.7	37.1	43.9	-33.8	0.00	0.00	0.00
2,160.0	7.73	49.77	2,156.3	40.6	48.0	-37.0	0.00	0.00	0.00
2,200.0	7.73	49.77	2,196.0	44.1	52.1	-40.2	0.00	0.00	0.00
2,240.0	7.73	49.77	2,235.6	47.5	56.2	-43.4	0.00	0.00	0.00
2,280.0	7.73	49.77	2,275.3	51.0	60.3	-46.5	0.00	0.00	0.00
2,320.0	7.73	49.77	2,314.9	54.5	64.4	-49.7	0.00	0.00	0.00
2,360.0	7.73	49.77	2,354.5	58.0	68.5	-52.9	0.00	0.00	0.00
2,400.0	7.73	49.77	2,394.2	61.4	72.6	-56.0	0.00	0.00	0.00
2,440.0	7.73	49.77	2,433.8	64.9	76.7	-59.2	0.00	0.00	0.00
2,480.0	7.73	49.77	2,473.4	68.4	80.8	-62.4	0.00	0.00	0.00
2,520.0	7.73	49.77	2,513.1	71.9	84.9	-65.5	0.00	0.00	0.00
2,560.0	7.73	49.77	2,552.7	75.3	89.1	-68.7	0.00	0.00	0.00
2,600.0	7.73	49.77	2,592.3	78.8	93.2	-71.9	0.00	0.00	0.00
2,640.0	7.73	49.77	2,632.0	82.3	97.3	-75.1	0.00	0.00	0.00
2,680.0	7.73	49.77	2,671.6	85.8	101.4	-78.2	0.00	0.00	0.00
2,720.0	7.73	49.77	2,711.2	89.2	105.5	-81.4	0.00	0.00	0.00
2,760.0	7.73	49.77	2,750.9	92.7	109.6	-84.6	0.00	0.00	0.00
2,800.0	7.73	49.77	2,790.5	96.2	113.7	-87.7	0.00	0.00	0.00
2,840.0	7.73	49.77	2,830.2	99.7	117.8	-90.9	0.00	0.00	0.00
2,880.0	7.73	49.77	2,869.8	103.2	121.9	-94.1	0.00	0.00	0.00
2,920.0	7.73	49.77	2,909.4	106.6	126.0	-97.3	0.00	0.00	0.00
2,960.0	7.73	49.77	2,949.1	110.1	130.1	-100.4	0.00	0.00	0.00
3,000.0	7.73	49.77	2,988.7	113.6	134.3	-103.6	0.00	0.00	0.00
3,040.0	7.73	49.77	3,028.3	117.1	138.4	-106.8	0.00	0.00	0.00
3,080.0	7.73	49.77	3,068.0	120.5	142.5	-109.9	0.00	0.00	0.00
3,120.0	7.73	49.77	3,107.6	124.0	146.6	-113.1	0.00	0.00	0.00
3,160.0	7.73	49.77	3,147.2	127.5	150.7	-116.3	0.00	0.00	0.00
3,200.0	7.73	49.77	3,186.9	131.0	154.8	-119.4	0.00	0.00	0.00
3,240.0	7.73	49.77	3,226.5	134.4	158.9	-122.6	0.00	0.00	0.00
3,280.0	7.73	49.77	3,266.2	137.9	163.0	-125.8	0.00	0.00	0.00
3,320.0	7.73	49.77	3,305.8	141.4	167.1	-129.0	0.00	0.00	0.00
3,360.0	7.73	49.77	3,345.4	144.9	171.2	-132.1	0.00	0.00	0.00
3,400.0	7.73	49.77	3,385.1	148.3	175.3	-135.3	0.00	0.00	0.00
3,440.0	7.73	49.77	3,424.7	151.8	179.5	-138.5	0.00	0.00	0.00
3,480.0	7.73	49.77	3,464.3	155.3	183.6	-141.6	0.00	0.00	0.00
3,520.0	7.73	49.77	3,504.0	158.8	187.7	-144.8	0.00	0.00	0.00
3,560.0	7.73	49.77	3,543.6	162.3	191.8	-148.0	0.00	0.00	0.00
3,600.0	7.73	49.77	3,583.2	165.7	195.9	-151.2	0.00	0.00	0.00
3,640.0	7.73	49.77	3,622.9	169.2	200.0	-154.3	0.00	0.00	0.00
3,680.0	7.73	49.77	3,662.5	172.7	204.1	-157.5	0.00	0.00	0.00
3,720.0	7.73	49.77	3,702.2	176.2	208.2	-160.7	0.00	0.00	0.00
3,760.0	7.73	49.77	3,741.8	179.6	212.3	-163.8	0.00	0.00	0.00
3,800.0	7.73	49.77	3,781.4	183.1	216.4	-167.0	0.00	0.00	0.00
3,840.0	7.73	49.77	3,821.1	186.6	220.5	-170.2	0.00	0.00	0.00
3,880.0	7.73	49.77	3,860.7	190.1	224.7	-173.4	0.00	0.00	0.00
3,920.0	7.73	49.77	3,900.3	193.5	228.8	-176.5	0.00	0.00	0.00
3,960.0	7.73	49.77	3,940.0	197.0	232.9	-179.7	0.00	0.00	0.00
4,000.0	7.73	49.77	3,979.6	200.5	237.0	-182.9	0.00	0.00	0.00

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Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

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)
4,040.0	7.73	49.77	4,019.2	204.0	241.1	-186.0	0.00	0.00	0.00
4,080.0	7.73	49.77	4,058.9	207.4	245.2	-189.2	0.00	0.00	0.00
4,120.0	7.73	49.77	4,098.5	210.9	249.3	-192.4	0.00	0.00	0.00
4,160.0	7.73	49.77	4,138.2	214.4	253.4	-195.5	0.00	0.00	0.00
4,200.0	7.73	49.77	4,177.8	217.9	257.5	-198.7	0.00	0.00	0.00
4,240.0	7.73	49.77	4,217.4	221.3	261.6	-201.9	0.00	0.00	0.00
4,280.0	7.73	49.77	4,257.1	224.8	265.7	-205.1	0.00	0.00	0.00
4,320.0	7.73	49.77	4,296.7	228.3	269.9	-208.2	0.00	0.00	0.00
4,360.0	7.73	49.77	4,336.3	231.8	274.0	-211.4	0.00	0.00	0.00
4,400.0	7.73	49.77	4,376.0	235.3	278.1	-214.6	0.00	0.00	0.00
4,440.0	7.73	49.77	4,415.6	238.7	282.2	-217.7	0.00	0.00	0.00
4,480.0	7.73	49.77	4,455.2	242.2	286.3	-220.9	0.00	0.00	0.00
4,520.0	7.73	49.77	4,494.9	245.7	290.4	-224.1	0.00	0.00	0.00
4,560.0	7.73	49.77	4,534.5	249.2	294.5	-227.3	0.00	0.00	0.00
4,600.0	7.73	49.77	4,574.2	252.6	298.6	-230.4	0.00	0.00	0.00
4,640.0	7.73	49.77	4,613.8	256.1	302.7	-233.6	0.00	0.00	0.00
4,640.7	7.73	49.77	4,614.5	256.2	302.8	-233.7	0.00	0.00	0.00
4,680.0	6.95	49.77	4,653.5	259.4	306.6	-236.6	2.00	-2.00	0.00
4,720.0	6.15	49.77	4,693.2	262.4	310.1	-239.3	2.00	-2.00	0.00
4,760.0	5.35	49.77	4,733.0	264.9	313.2	-241.7	2.00	-2.00	0.00
4,800.0	4.55	49.77	4,772.8	267.2	315.8	-243.7	2.00	-2.00	0.00
4,840.0	3.75	49.77	4,812.7	269.0	318.0	-245.4	2.00	-2.00	0.00
4,880.0	2.95	49.77	4,852.7	270.6	319.8	-246.8	2.00	-2.00	0.00
4,920.0	2.15	49.77	4,892.6	271.7	321.2	-247.8	2.00	-2.00	0.00
4,960.0	1.35	49.77	4,932.6	272.5	322.1	-248.5	2.00	-2.00	0.00
5,000.0	0.55	49.77	4,972.6	272.9	322.6	-248.9	2.00	-2.00	0.00
5,027.4	0.00	0.00	5,000.0	273.0	322.7	-249.0	2.00	-2.00	0.00
5,040.0	0.00	0.00	5,012.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,080.0	0.00	0.00	5,052.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,120.0	0.00	0.00	5,092.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,160.0	0.00	0.00	5,132.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,172.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,240.0	0.00	0.00	5,212.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,280.0	0.00	0.00	5,252.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,320.0	0.00	0.00	5,292.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,360.0	0.00	0.00	5,332.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,372.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,440.0	0.00	0.00	5,412.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,480.0	0.00	0.00	5,452.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,520.0	0.00	0.00	5,492.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,560.0	0.00	0.00	5,532.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,572.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,640.0	0.00	0.00	5,612.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,680.0	0.00	0.00	5,652.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,720.0	0.00	0.00	5,692.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,760.0	0.00	0.00	5,732.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,772.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,840.0	0.00	0.00	5,812.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,880.0	0.00	0.00	5,852.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,920.0	0.00	0.00	5,892.6	273.0	322.7	-249.0	0.00	0.00	0.00
5,960.0	0.00	0.00	5,932.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,972.6	273.0	322.7	-249.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

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)
6,040.0	0.00	0.00	6,012.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,080.0	0.00	0.00	6,052.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,120.0	0.00	0.00	6,092.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,160.0	0.00	0.00	6,132.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,172.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,240.0	0.00	0.00	6,212.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,252.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,292.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,360.0	0.00	0.00	6,332.6	273.0	322.7	-249.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,372.6	273.0	322.7	-249.0	0.00	0.00	0.00
KOP #2									
6,440.0	3.00	180.00	6,412.6	272.0	322.7	-248.0	7.51	7.51	0.00
6,480.0	6.00	180.00	6,452.5	268.8	322.7	-244.8	7.50	7.50	0.00
6,520.0	9.00	180.00	6,492.1	263.6	322.7	-239.6	7.50	7.50	0.00
6,560.0	12.00	180.00	6,531.4	256.3	322.7	-232.3	7.50	7.50	0.00
6,600.0	15.00	180.00	6,570.3	247.0	322.7	-223.0	7.50	7.50	0.00
6,640.0	18.00	180.00	6,608.7	235.6	322.7	-211.7	7.50	7.50	0.00
6,680.0	21.00	180.00	6,646.4	222.2	322.7	-198.4	7.50	7.50	0.00
6,720.0	24.00	180.00	6,683.3	206.9	322.7	-183.1	7.50	7.50	0.00
6,760.0	27.00	180.00	6,719.4	189.7	322.7	-165.9	7.50	7.50	0.00
6,800.0	30.00	180.00	6,754.6	170.6	322.7	-146.9	7.50	7.50	0.00
6,840.0	33.00	180.00	6,788.7	149.7	322.7	-126.1	7.50	7.50	0.00
6,880.0	36.00	180.00	6,821.6	127.1	322.7	-103.5	7.50	7.50	0.00
6,920.0	39.00	180.00	6,853.4	102.7	322.7	-79.2	7.50	7.50	0.00
6,960.0	42.00	180.00	6,883.8	76.8	322.7	-53.3	7.50	7.50	0.00
7,000.0	45.00	180.00	6,912.8	49.2	322.7	-25.8	7.50	7.50	0.00
7,040.0	48.00	180.00	6,940.3	20.2	322.7	3.1	7.50	7.50	0.00
7,080.0	51.00	180.00	6,966.3	-10.2	322.7	33.5	7.50	7.50	0.00
7,120.0	54.00	180.00	6,990.6	-41.9	322.7	65.1	7.50	7.50	0.00
7,160.0	57.00	180.00	7,013.3	-74.9	322.7	98.0	7.50	7.50	0.00
7,200.0	60.00	180.00	7,034.2	-109.0	322.7	132.0	7.50	7.50	0.00
7,240.0	63.00	180.00	7,053.3	-144.2	322.7	167.1	7.50	7.50	0.00
7,280.0	66.00	180.00	7,070.5	-180.3	322.7	203.1	7.50	7.50	0.00
7,320.0	69.00	180.00	7,085.8	-217.2	322.7	239.9	7.50	7.50	0.00
7,360.0	72.00	180.00	7,099.1	-254.9	322.7	277.5	7.50	7.50	0.00
7,400.0	75.00	180.00	7,110.5	-293.3	322.7	315.8	7.50	7.50	0.00
7,440.0	78.00	180.00	7,119.8	-332.1	322.7	354.6	7.50	7.50	0.00
7,480.0	81.00	180.00	7,127.1	-371.5	322.7	393.8	7.50	7.50	0.00
7,520.0	84.00	180.00	7,132.3	-411.1	322.7	433.3	7.50	7.50	0.00
7,560.0	87.00	180.00	7,135.5	-451.0	322.7	473.1	7.50	7.50	0.00
7,600.0	90.00	180.00	7,136.5	-491.0	322.7	513.0	7.50	7.50	0.00
7,608.0	90.60	180.00	7,136.5	-499.0	322.7	521.0	7.47	7.47	0.00
End of Build - 7"									
7,640.0	90.60	180.00	7,136.1	-531.0	322.7	552.9	0.00	0.00	0.00
7,680.0	90.60	180.00	7,135.7	-571.0	322.7	592.8	0.00	0.00	0.00
7,720.0	90.60	180.00	7,135.3	-611.0	322.7	632.7	0.00	0.00	0.00
7,760.0	90.60	180.00	7,134.9	-651.0	322.7	672.6	0.00	0.00	0.00
7,800.0	90.60	180.00	7,134.5	-691.0	322.7	712.5	0.00	0.00	0.00
7,840.0	90.60	180.00	7,134.0	-731.0	322.7	752.4	0.00	0.00	0.00
7,880.0	90.60	180.00	7,133.6	-771.0	322.7	792.2	0.00	0.00	0.00
7,920.0	90.60	180.00	7,133.2	-811.0	322.7	832.1	0.00	0.00	0.00
7,960.0	90.60	180.00	7,132.8	-851.0	322.7	872.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,000.0	90.60	180.00	7,132.4	-891.0	322.7	911.9	0.00	0.00	0.00
8,040.0	90.60	180.00	7,131.9	-931.0	322.7	951.8	0.00	0.00	0.00
8,080.0	90.60	180.00	7,131.5	-971.0	322.7	991.7	0.00	0.00	0.00
8,120.0	90.60	180.00	7,131.1	-1,011.0	322.7	1,031.6	0.00	0.00	0.00
8,160.0	90.60	180.00	7,130.7	-1,051.0	322.7	1,071.5	0.00	0.00	0.00
8,200.0	90.60	180.00	7,130.3	-1,090.9	322.7	1,111.4	0.00	0.00	0.00
8,240.0	90.60	180.00	7,129.9	-1,130.9	322.7	1,151.3	0.00	0.00	0.00
8,280.0	90.60	180.00	7,129.4	-1,170.9	322.7	1,191.2	0.00	0.00	0.00
8,320.0	90.60	180.00	7,129.0	-1,210.9	322.7	1,231.1	0.00	0.00	0.00
8,360.0	90.60	180.00	7,128.6	-1,250.9	322.7	1,271.0	0.00	0.00	0.00
8,400.0	90.60	180.00	7,128.2	-1,290.9	322.7	1,310.9	0.00	0.00	0.00
8,440.0	90.60	180.00	7,127.8	-1,330.9	322.7	1,350.8	0.00	0.00	0.00
8,480.0	90.60	180.00	7,127.3	-1,370.9	322.7	1,390.6	0.00	0.00	0.00
8,520.0	90.60	180.00	7,126.9	-1,410.9	322.7	1,430.5	0.00	0.00	0.00
8,560.0	90.60	180.00	7,126.5	-1,450.9	322.7	1,470.4	0.00	0.00	0.00
8,600.0	90.60	180.00	7,126.1	-1,490.9	322.7	1,510.3	0.00	0.00	0.00
8,640.0	90.60	180.00	7,125.7	-1,530.9	322.7	1,550.2	0.00	0.00	0.00
8,680.0	90.60	180.00	7,125.2	-1,570.9	322.7	1,590.1	0.00	0.00	0.00
8,720.0	90.60	180.00	7,124.8	-1,610.9	322.7	1,630.0	0.00	0.00	0.00
8,760.0	90.60	180.00	7,124.4	-1,650.9	322.7	1,669.9	0.00	0.00	0.00
8,800.0	90.60	180.00	7,124.0	-1,690.9	322.7	1,709.8	0.00	0.00	0.00
8,840.0	90.60	180.00	7,123.6	-1,730.9	322.7	1,749.7	0.00	0.00	0.00
8,880.0	90.60	180.00	7,123.2	-1,770.9	322.7	1,789.6	0.00	0.00	0.00
8,920.0	90.60	180.00	7,122.7	-1,810.9	322.7	1,829.5	0.00	0.00	0.00
8,960.0	90.60	180.00	7,122.3	-1,850.9	322.7	1,869.4	0.00	0.00	0.00
9,000.0	90.60	180.00	7,121.9	-1,890.9	322.7	1,909.3	0.00	0.00	0.00
9,040.0	90.60	180.00	7,121.5	-1,930.9	322.7	1,949.2	0.00	0.00	0.00
9,080.0	90.60	180.00	7,121.1	-1,970.9	322.7	1,989.1	0.00	0.00	0.00
9,120.0	90.60	180.00	7,120.6	-2,010.9	322.7	2,028.9	0.00	0.00	0.00
9,160.0	90.60	180.00	7,120.2	-2,050.9	322.7	2,068.8	0.00	0.00	0.00
9,200.0	90.60	180.00	7,119.8	-2,090.9	322.7	2,108.7	0.00	0.00	0.00
9,240.0	90.60	180.00	7,119.4	-2,130.9	322.7	2,148.6	0.00	0.00	0.00
9,280.0	90.60	180.00	7,119.0	-2,170.9	322.7	2,188.5	0.00	0.00	0.00
9,320.0	90.60	180.00	7,118.5	-2,210.9	322.7	2,228.4	0.00	0.00	0.00
9,360.0	90.60	180.00	7,118.1	-2,250.9	322.7	2,268.3	0.00	0.00	0.00
9,400.0	90.60	180.00	7,117.7	-2,290.9	322.7	2,308.2	0.00	0.00	0.00
9,440.0	90.60	180.00	7,117.3	-2,330.9	322.7	2,348.1	0.00	0.00	0.00
9,480.0	90.60	180.00	7,116.9	-2,370.9	322.7	2,388.0	0.00	0.00	0.00
9,520.0	90.60	180.00	7,116.5	-2,410.9	322.7	2,427.9	0.00	0.00	0.00
9,560.0	90.60	180.00	7,116.0	-2,450.9	322.7	2,467.8	0.00	0.00	0.00
9,600.0	90.60	180.00	7,115.6	-2,490.9	322.7	2,507.7	0.00	0.00	0.00
9,640.0	90.60	180.00	7,115.2	-2,530.9	322.7	2,547.6	0.00	0.00	0.00
9,680.0	90.60	180.00	7,114.8	-2,570.9	322.7	2,587.5	0.00	0.00	0.00
9,720.0	90.60	180.00	7,114.4	-2,610.9	322.7	2,627.3	0.00	0.00	0.00
9,760.0	90.60	180.00	7,113.9	-2,650.9	322.7	2,667.2	0.00	0.00	0.00
9,800.0	90.60	180.00	7,113.5	-2,690.9	322.7	2,707.1	0.00	0.00	0.00
9,840.0	90.60	180.00	7,113.1	-2,730.9	322.7	2,747.0	0.00	0.00	0.00
9,880.0	90.60	180.00	7,112.7	-2,770.9	322.7	2,786.9	0.00	0.00	0.00
9,920.0	90.60	180.00	7,112.3	-2,810.9	322.7	2,826.8	0.00	0.00	0.00
9,960.0	90.60	180.00	7,111.8	-2,850.9	322.7	2,866.7	0.00	0.00	0.00
10,000.0	90.60	180.00	7,111.4	-2,890.9	322.7	2,906.6	0.00	0.00	0.00
10,040.0	90.60	180.00	7,111.0	-2,930.8	322.7	2,946.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,080.0	90.60	180.00	7,110.6	-2,970.8	322.7	2,986.4	0.00	0.00	0.00
10,120.0	90.60	180.00	7,110.2	-3,010.8	322.7	3,026.3	0.00	0.00	0.00
10,160.0	90.60	180.00	7,109.7	-3,050.8	322.7	3,066.2	0.00	0.00	0.00
10,200.0	90.60	180.00	7,109.3	-3,090.8	322.7	3,106.1	0.00	0.00	0.00
10,240.0	90.60	180.00	7,108.9	-3,130.8	322.7	3,146.0	0.00	0.00	0.00
10,280.0	90.60	180.00	7,108.5	-3,170.8	322.7	3,185.9	0.00	0.00	0.00
10,320.0	90.60	180.00	7,108.1	-3,210.8	322.7	3,225.7	0.00	0.00	0.00
10,360.0	90.60	180.00	7,107.7	-3,250.8	322.7	3,265.6	0.00	0.00	0.00
10,400.0	90.60	180.00	7,107.2	-3,290.8	322.7	3,305.5	0.00	0.00	0.00
10,440.0	90.60	180.00	7,106.8	-3,330.8	322.7	3,345.4	0.00	0.00	0.00
10,480.0	90.60	180.00	7,106.4	-3,370.8	322.7	3,385.3	0.00	0.00	0.00
10,520.0	90.60	180.00	7,106.0	-3,410.8	322.7	3,425.2	0.00	0.00	0.00
10,560.0	90.60	180.00	7,105.6	-3,450.8	322.7	3,465.1	0.00	0.00	0.00
10,600.0	90.60	180.00	7,105.1	-3,490.8	322.7	3,505.0	0.00	0.00	0.00
10,640.0	90.60	180.00	7,104.7	-3,530.8	322.7	3,544.9	0.00	0.00	0.00
10,680.0	90.60	180.00	7,104.3	-3,570.8	322.7	3,584.8	0.00	0.00	0.00
10,720.0	90.60	180.00	7,103.9	-3,610.8	322.7	3,624.7	0.00	0.00	0.00
10,760.0	90.60	180.00	7,103.5	-3,650.8	322.7	3,664.6	0.00	0.00	0.00
10,800.0	90.60	180.00	7,103.0	-3,690.8	322.7	3,704.5	0.00	0.00	0.00
10,840.0	90.60	180.00	7,102.6	-3,730.8	322.7	3,744.4	0.00	0.00	0.00
10,880.0	90.60	180.00	7,102.2	-3,770.8	322.7	3,784.3	0.00	0.00	0.00
10,920.0	90.60	180.00	7,101.8	-3,810.8	322.7	3,824.2	0.00	0.00	0.00
10,960.0	90.60	180.00	7,101.4	-3,850.8	322.7	3,864.0	0.00	0.00	0.00
11,000.0	90.60	180.00	7,101.0	-3,890.8	322.7	3,903.9	0.00	0.00	0.00
11,040.0	90.60	180.00	7,100.5	-3,930.8	322.7	3,943.8	0.00	0.00	0.00
11,080.0	90.60	180.00	7,100.1	-3,970.8	322.7	3,983.7	0.00	0.00	0.00
11,120.0	90.60	180.00	7,099.7	-4,010.8	322.7	4,023.6	0.00	0.00	0.00
11,160.0	90.60	180.00	7,099.3	-4,050.8	322.7	4,063.5	0.00	0.00	0.00
11,200.0	90.60	180.00	7,098.9	-4,090.8	322.7	4,103.4	0.00	0.00	0.00
11,240.0	90.60	180.00	7,098.4	-4,130.8	322.7	4,143.3	0.00	0.00	0.00
11,280.0	90.60	180.00	7,098.0	-4,170.8	322.7	4,183.2	0.00	0.00	0.00
11,320.0	90.60	180.00	7,097.6	-4,210.8	322.7	4,223.1	0.00	0.00	0.00
11,360.0	90.60	180.00	7,097.2	-4,250.8	322.7	4,263.0	0.00	0.00	0.00
11,400.0	90.60	180.00	7,096.8	-4,290.8	322.7	4,302.9	0.00	0.00	0.00
11,440.0	90.60	180.00	7,096.3	-4,330.8	322.7	4,342.8	0.00	0.00	0.00
11,480.0	90.60	180.00	7,095.9	-4,370.8	322.7	4,382.7	0.00	0.00	0.00
11,520.0	90.60	180.00	7,095.5	-4,410.8	322.7	4,422.6	0.00	0.00	0.00
11,560.0	90.60	180.00	7,095.1	-4,450.8	322.7	4,462.4	0.00	0.00	0.00
11,568.5	90.60	180.00	7,095.0	-4,459.2	322.7	4,470.9	0.00	0.00	0.00
BHL 500'FSL & 1704'FEL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL 500'FSL & 1704'I	0.00	0.00	7,095.0	-4,459.2	322.7	1,419,462.58	3,205,777.80	40.482470	-104.760240
- plan hits target center									
- Point									

Database:	Landmark	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Project:	SEC.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	North Reference:	True
Well:	Harvesters Resources 15R-243	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-11-13)		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,608.0	7,136.5	7"	7	7-1/2

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.0	1,500.0	0.0	0.0	KOP #1
6,400.0	6,372.6	273.0	322.7	KOP #2
7,608.0	7,136.5	-499.0	322.7	End of Build



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.15-T6N-R66W

Harvesters Resources 15RM-HZ Pad

Sec.15-T6N-R66W

Harvesters Resources 15R-243

Wellbore #1

Plan #1 (6-11-13)

Anticollision Report

11 June, 2013



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (6-11-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 6/11/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,568.5	Plan #1 (6-11-13) (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						
Existing Wells						
Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1	10,136.6	7,058.0	278.2	75.9	1.375	Level 3, CC, ES, SF
Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1	7,586.3	7,111.4	139.1	-21.6	0.866	Level 1, CC, ES, SF
Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1	8,635.6	7,090.7	111.3	-64.5	0.633	Level 1, CC, ES, SF
Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W						
Harvesters Resources 15M-303 - Wellbore #1 - Plan #1 (	1,000.0	1,000.0	58.4	54.2	13.786	CC, ES
Harvesters Resources 15M-303 - Wellbore #1 - Plan #1 (	11,568.5	11,649.7	810.2	635.0	4.623	SF
Harvesters Resources 15M-423 - Wellbore #1 - Plan #1 (	1,500.0	1,500.0	27.8	21.3	4.289	CC, ES
Harvesters Resources 15M-423 - Wellbore #1 - Plan #1 (	11,568.5	11,703.8	506.9	339.7	3.031	SF

Offset Design											
Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1											
Survey Program: 7300-UNKNOWN											
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)
0.0	0.0	0.0	0.0	0.0	0.0	179.16	-3,027.5	44.5	3,028.2		
100.0	100.0	48.0	48.0	0.1	1.0	179.16	-3,027.5	44.5	3,027.8	3,026.7	1.06
200.0	200.0	148.0	148.0	0.3	3.0	179.16	-3,027.5	44.5	3,027.8	3,024.5	3.28
300.0	300.0	248.0	248.0	0.5	5.0	179.16	-3,027.5	44.5	3,027.8	3,022.3	5.51
400.0	400.0	348.0	348.0	0.8	7.0	179.16	-3,027.5	44.5	3,027.8	3,020.1	7.73
500.0	500.0	448.0	448.0	1.0	9.0	179.16	-3,027.5	44.5	3,027.8	3,017.8	9.95
600.0	600.0	548.0	548.0	1.2	11.0	179.16	-3,027.5	44.5	3,027.8	3,015.6	12.18
700.0	700.0	648.0	648.0	1.4	13.0	179.16	-3,027.5	44.5	3,027.8	3,013.4	14.40
800.0	800.0	748.0	748.0	1.7	15.0	179.16	-3,027.5	44.5	3,027.8	3,011.2	16.63
900.0	900.0	848.0	848.0	1.9	17.0	179.16	-3,027.5	44.5	3,027.8	3,008.9	18.85
1,000.0	1,000.0	948.0	948.0	2.1	19.0	179.16	-3,027.5	44.5	3,027.8	3,006.7	21.08
1,100.0	1,100.0	1,048.0	1,048.0	2.3	21.0	179.16	-3,027.5	44.5	3,027.8	3,004.5	23.30
1,200.0	1,200.0	1,148.0	1,148.0	2.6	23.0	179.16	-3,027.5	44.5	3,027.8	3,002.3	25.53
1,300.0	1,300.0	1,248.0	1,248.0	2.8	25.0	179.16	-3,027.5	44.5	3,027.8	3,000.1	27.75
1,400.0	1,400.0	1,348.0	1,348.0	3.0	27.0	179.16	-3,027.5	44.5	3,027.8	2,997.8	29.98
1,500.0	1,500.0	1,448.0	1,448.0	3.2	29.0	179.16	-3,027.5	44.5	3,027.8	2,995.6	32.20
1,600.0	1,600.0	1,548.0	1,548.0	3.5	31.0	129.40	-3,027.5	44.5	3,028.9	2,994.5	34.41

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft		
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor					
1,700.0	1,699.8	1,647.8	1,647.8	3.7	33.0	129.42	-3,027.5	44.5	3,032.2	2,995.6	36.60	82.842					
1,800.0	1,799.5	1,747.5	1,747.5	3.9	34.9	129.46	-3,027.5	44.5	3,037.8	2,999.0	38.77	78.353					
1,886.6	1,885.5	1,833.5	1,833.5	4.1	36.7	129.51	-3,027.5	44.5	3,044.4	3,003.8	40.63	74.929					
1,900.0	1,898.7	1,846.7	1,846.7	4.1	36.9	129.54	-3,027.5	44.5	3,045.6	3,004.6	40.93	74.416					
2,000.0	1,997.8	1,945.8	1,945.8	4.4	38.9	129.73	-3,027.5	44.5	3,054.2	3,011.0	43.14	70.792					
2,100.0	2,096.9	2,044.9	2,044.9	4.7	40.9	129.92	-3,027.5	44.5	3,062.8	3,017.5	45.37	67.514					
2,200.0	2,196.0	2,144.0	2,144.0	4.9	42.9	130.11	-3,027.5	44.5	3,071.5	3,023.9	47.60	64.534					
2,300.0	2,295.1	2,243.1	2,243.1	5.2	44.9	130.31	-3,027.5	44.5	3,080.3	3,030.4	49.83	61.816					
2,400.0	2,394.2	2,342.2	2,342.2	5.5	46.8	130.49	-3,027.5	44.5	3,089.0	3,037.0	52.07	59.328					
2,500.0	2,493.2	2,441.2	2,441.2	5.8	48.8	130.68	-3,027.5	44.5	3,097.8	3,043.5	54.31	57.041					
2,600.0	2,592.3	2,540.3	2,540.3	6.1	50.8	130.87	-3,027.5	44.5	3,106.7	3,050.1	56.55	54.934					
2,700.0	2,691.4	2,639.4	2,639.4	6.4	52.8	131.06	-3,027.5	44.5	3,115.5	3,056.7	58.80	52.986					
2,800.0	2,790.5	2,738.5	2,738.5	6.7	54.8	131.24	-3,027.5	44.5	3,124.4	3,063.4	61.05	51.181					
2,900.0	2,889.6	2,837.6	2,837.6	7.0	56.8	131.43	-3,027.5	44.5	3,133.4	3,070.1	63.30	49.503					
3,000.0	2,988.7	2,936.7	2,936.7	7.3	58.7	131.61	-3,027.5	44.5	3,142.3	3,076.8	65.55	47.940					
3,100.0	3,087.8	3,035.8	3,035.8	7.6	60.7	131.79	-3,027.5	44.5	3,151.3	3,083.5	67.80	46.480					
3,200.0	3,186.9	3,134.9	3,134.9	7.9	62.7	131.97	-3,027.5	44.5	3,160.4	3,090.3	70.05	45.114					
3,300.0	3,286.0	3,234.0	3,234.0	8.2	64.7	132.15	-3,027.5	44.5	3,169.4	3,097.1	72.31	43.833					
3,400.0	3,385.1	3,333.1	3,333.1	8.5	66.7	132.33	-3,027.5	44.5	3,178.5	3,104.0	74.56	42.630					
3,500.0	3,484.2	3,432.2	3,432.2	8.9	68.6	132.51	-3,027.5	44.5	3,187.6	3,110.8	76.82	41.497					
3,600.0	3,583.2	3,531.2	3,531.2	9.2	70.6	132.68	-3,027.5	44.5	3,196.8	3,117.7	79.07	40.429					
3,700.0	3,682.3	3,630.3	3,630.3	9.5	72.6	132.86	-3,027.5	44.5	3,206.0	3,124.6	81.33	39.421					
3,800.0	3,781.4	3,729.4	3,729.4	9.8	74.6	133.04	-3,027.5	44.5	3,215.2	3,131.6	83.58	38.467					
3,900.0	3,880.5	3,828.5	3,828.5	10.1	76.6	133.21	-3,027.5	44.5	3,224.4	3,138.6	85.84	37.564					
4,000.0	3,979.6	3,927.6	3,927.6	10.5	78.6	133.38	-3,027.5	44.5	3,233.7	3,145.6	88.09	36.707					
4,100.0	4,078.7	4,026.7	4,026.7	10.8	80.5	133.55	-3,027.5	44.5	3,243.0	3,152.6	90.35	35.894					
4,200.0	4,177.8	4,125.8	4,125.8	11.1	82.5	133.73	-3,027.5	44.5	3,252.3	3,159.7	92.61	35.120					
4,300.0	4,276.9	4,224.9	4,224.9	11.4	84.5	133.90	-3,027.5	44.5	3,261.7	3,166.8	94.86	34.383					
4,400.0	4,376.0	4,324.0	4,324.0	11.8	86.5	134.06	-3,027.5	44.5	3,271.1	3,174.0	97.12	33.682					
4,500.0	4,475.1	4,423.1	4,423.1	12.1	88.5	134.23	-3,027.5	44.5	3,280.5	3,181.1	99.37	33.012					
4,600.0	4,574.2	4,522.2	4,522.2	12.4	90.4	134.40	-3,027.5	44.5	3,289.9	3,188.3	101.63	32.372					
4,640.7	4,614.5	4,562.5	4,562.5	12.6	91.3	134.47	-3,027.5	44.5	3,293.8	3,191.2	102.55	32.120					
4,700.0	4,673.3	4,621.3	4,621.3	12.7	92.4	134.63	-3,027.5	44.5	3,299.0	3,195.0	103.98	31.728					
4,800.0	4,772.8	4,720.8	4,720.8	13.0	94.4	134.85	-3,027.5	44.5	3,305.8	3,199.5	106.31	31.095					
4,900.0	4,872.7	4,820.7	4,820.7	13.2	96.4	134.99	-3,027.5	44.5	3,310.2	3,201.6	108.58	30.485					
5,000.0	4,972.6	4,920.6	4,920.6	13.3	98.4	135.05	-3,027.5	44.5	3,312.1	3,201.3	110.79	29.896					
5,027.4	5,000.0	4,948.0	4,948.0	13.4	99.0	-175.18	-3,027.5	44.5	3,312.2	3,200.8	111.37	29.739					
5,100.0	5,072.6	5,020.6	5,020.6	13.5	100.4	-175.18	-3,027.5	44.5	3,312.2	3,199.2	112.95	29.323					
5,200.0	5,172.6	5,120.6	5,120.6	13.7	102.4	-175.18	-3,027.5	44.5	3,312.2	3,197.0	115.15	28.764					
5,300.0	5,272.6	5,220.6	5,220.6	13.8	104.4	-175.18	-3,027.5	44.5	3,312.2	3,194.8	117.34	28.226					
5,400.0	5,372.6	5,320.6	5,320.6	14.0	106.4	-175.18	-3,027.5	44.5	3,312.2	3,192.6	119.54	27.707					
5,500.0	5,472.6	5,420.6	5,420.6	14.2	108.4	-175.18	-3,027.5	44.5	3,312.2	3,190.4	121.74	27.207					
5,600.0	5,572.6	5,520.6	5,520.6	14.4	110.4	-175.18	-3,027.5	44.5	3,312.2	3,188.2	123.94	26.725					
5,700.0	5,672.6	5,620.6	5,620.6	14.6	112.4	-175.18	-3,027.5	44.5	3,312.2	3,186.0	126.14	26.259					
5,800.0	5,772.6	5,720.6	5,720.6	14.8	114.4	-175.18	-3,027.5	44.5	3,312.2	3,183.8	128.34	25.808					
5,900.0	5,872.6	5,820.6	5,820.6	15.0	116.4	-175.18	-3,027.5	44.5	3,312.2	3,181.6	130.54	25.373					
6,000.0	5,972.6	5,920.6	5,920.6	15.1	118.4	-175.18	-3,027.5	44.5	3,312.2	3,179.4	132.74	24.952					
6,100.0	6,072.6	6,020.6	6,020.6	15.3	120.4	-175.18	-3,027.5	44.5	3,312.2	3,177.2	134.94	24.545					
6,200.0	6,172.6	6,120.6	6,120.6	15.5	122.4	-175.18	-3,027.5	44.5	3,312.2	3,175.0	137.15	24.151					
6,300.0	6,272.6	6,220.6	6,220.6	15.7	124.4	-175.18	-3,027.5	44.5	3,312.2	3,172.8	139.35	23.769					
6,400.0	6,372.6	6,320.6	6,320.6	15.9	126.4	-175.18	-3,027.5	44.5	3,312.2	3,170.6	141.55	23.399					

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													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	
6,450.0	6,422.6	6,370.6	6,370.6	16.0	127.4	4.83	-3,027.5	44.5	3,310.5	3,168.2	142.31	23.263		
6,500.0	6,472.3	6,420.3	6,420.3	16.0	128.4	4.87	-3,027.5	44.5	3,305.7	3,163.2	142.44	23.207		
6,550.0	6,521.6	6,469.6	6,469.6	16.1	129.4	4.93	-3,027.5	44.5	3,297.5	3,155.6	141.96	23.229		
6,600.0	6,570.3	6,518.3	6,518.3	16.1	130.4	5.03	-3,027.5	44.5	3,286.2	3,145.4	140.84	23.333		
6,650.0	6,618.2	6,566.2	6,566.2	16.1	131.3	5.15	-3,027.5	44.5	3,271.8	3,132.7	139.09	23.523		
6,700.0	6,665.0	6,613.0	6,613.0	16.1	132.3	5.31	-3,027.5	44.5	3,254.2	3,117.5	136.71	23.804		
6,750.0	6,710.5	6,658.5	6,658.5	16.1	133.2	5.50	-3,027.5	44.5	3,233.7	3,100.0	133.70	24.186		
6,800.0	6,754.6	6,702.6	6,702.6	16.1	134.1	5.74	-3,027.5	44.5	3,210.2	3,080.1	130.08	24.679		
6,850.0	6,797.0	6,745.0	6,745.0	16.1	134.9	6.02	-3,027.5	44.5	3,183.9	3,058.0	125.85	25.298		
6,900.0	6,837.7	6,785.7	6,785.7	16.1	135.7	6.37	-3,027.5	44.5	3,154.9	3,033.8	121.06	26.060		
6,950.0	6,876.3	6,824.3	6,824.3	16.1	136.5	6.78	-3,027.5	44.5	3,123.3	3,007.5	115.73	26.987		
7,000.0	6,912.8	6,860.8	6,860.8	16.1	137.2	7.29	-3,027.5	44.5	3,089.2	2,979.3	109.92	28.104		
7,050.0	6,947.0	6,895.0	6,895.0	16.1	137.9	7.90	-3,027.5	44.5	3,052.9	2,949.2	103.69	29.442		
7,100.0	6,978.7	6,926.7	6,926.7	16.1	138.5	8.66	-3,027.5	44.5	3,014.4	2,917.3	97.15	31.029		
7,150.0	7,007.8	6,955.8	6,955.8	16.2	139.1	9.60	-3,027.5	44.5	2,974.0	2,883.5	90.43	32.885		
7,200.0	7,034.2	6,982.2	6,982.2	16.3	139.6	10.79	-3,027.5	44.5	2,931.7	2,847.9	83.79	34.991		
7,250.0	7,057.7	7,005.7	7,005.7	16.4	140.1	12.34	-3,027.5	44.5	2,887.8	2,810.2	77.60	37.214		
7,300.0	7,078.4	7,026.4	7,026.4	16.6	140.5	14.41	-3,027.5	44.5	2,842.5	2,769.9	72.58	39.166		
7,350.0	7,096.0	7,044.0	7,044.0	16.9	140.9	17.28	-3,027.5	44.5	2,795.9	2,726.0	69.96	39.965		
7,400.0	7,110.5	7,058.5	7,058.5	17.2	141.2	21.46	-3,027.5	44.5	2,748.3	2,676.5	71.86	38.247		
7,450.0	7,121.8	7,069.8	7,069.8	17.6	141.4	27.97	-3,027.5	44.5	2,699.9	2,618.5	81.42	33.160		
7,500.0	7,130.0	7,078.0	7,078.0	18.1	141.6	38.96	-3,027.5	44.5	2,650.8	2,548.2	102.66	25.822		
7,550.0	7,134.9	7,082.9	7,082.9	18.6	141.7	58.72	-3,027.5	44.5	2,601.4	2,464.5	136.85	19.009		
7,600.0	7,136.5	7,084.5	7,084.5	19.1	141.7	90.03	-3,027.5	44.5	2,551.7	2,391.4	160.34	15.915		
7,608.0	7,136.5	7,084.5	7,084.5	19.2	141.7	95.44	-3,027.5	44.5	2,543.8	2,384.0	159.82	15.916		
7,700.0	7,135.5	7,083.5	7,083.5	20.2	141.7	95.24	-3,027.5	44.5	2,452.3	2,291.4	160.89	15.242		
7,800.0	7,134.5	7,082.5	7,082.5	21.4	141.6	95.03	-3,027.5	44.5	2,353.0	2,190.8	162.16	14.511		
7,900.0	7,133.4	7,081.4	7,081.4	22.8	141.6	94.81	-3,027.5	44.5	2,253.7	2,090.2	163.52	13.783		
8,000.0	7,132.4	7,080.4	7,080.4	24.2	141.6	94.60	-3,027.5	44.5	2,154.6	1,989.6	164.96	13.061		
8,100.0	7,131.3	7,079.3	7,079.3	25.6	141.6	94.38	-3,027.5	44.5	2,055.4	1,889.0	166.46	12.348		
8,200.0	7,130.3	7,078.3	7,078.3	27.2	141.6	94.17	-3,027.5	44.5	1,956.4	1,788.4	168.02	11.644		
8,300.0	7,129.2	7,077.2	7,077.2	28.7	141.5	93.95	-3,027.5	44.5	1,857.5	1,687.9	169.62	10.951		
8,400.0	7,128.2	7,076.2	7,076.2	30.4	141.5	93.74	-3,027.5	44.5	1,758.7	1,587.4	171.26	10.269		
8,500.0	7,127.1	7,075.1	7,075.1	32.0	141.5	93.53	-3,027.5	44.5	1,660.0	1,487.1	172.94	9.599		
8,600.0	7,126.1	7,074.1	7,074.1	33.7	141.5	93.31	-3,027.5	44.5	1,561.5	1,386.9	174.63	8.942		
8,700.0	7,125.0	7,073.0	7,073.0	35.4	141.5	93.10	-3,027.5	44.5	1,463.2	1,286.9	176.36	8.297		
8,800.0	7,124.0	7,072.0	7,072.0	37.1	141.4	92.88	-3,027.5	44.5	1,365.2	1,187.1	178.09	7.666		
8,900.0	7,122.9	7,070.9	7,070.9	38.8	141.4	92.67	-3,027.5	44.5	1,267.5	1,087.6	179.85	7.047		
9,000.0	7,121.9	7,069.9	7,069.9	40.6	141.4	92.45	-3,027.5	44.5	1,170.1	988.5	181.62	6.443		
9,100.0	7,120.8	7,068.8	7,068.8	42.4	141.4	92.23	-3,027.5	44.5	1,073.3	889.9	183.40	5.852		
9,200.0	7,119.8	7,067.8	7,067.8	44.2	141.4	92.02	-3,027.5	44.5	977.0	791.8	185.19	5.276		
9,300.0	7,118.8	7,066.8	7,066.8	45.9	141.3	91.80	-3,027.5	44.5	881.6	694.6	186.99	4.715		
9,400.0	7,117.7	7,065.7	7,065.7	47.8	141.3	91.59	-3,027.5	44.5	787.4	598.6	188.80	4.170		
9,500.0	7,116.7	7,064.7	7,064.7	49.6	141.3	91.37	-3,027.5	44.5	694.7	504.1	190.61	3.645		
9,600.0	7,115.6	7,063.6	7,063.6	51.4	141.3	91.16	-3,027.5	44.5	604.4	412.0	192.43	3.141		
9,700.0	7,114.6	7,062.6	7,062.6	53.2	141.3	90.94	-3,027.5	44.5	517.7	323.4	194.25	2.665		
9,800.0	7,113.5	7,061.5	7,061.5	55.1	141.2	90.73	-3,027.5	44.5	436.7	240.6	196.08	2.227		
9,900.0	7,112.5	7,060.5	7,060.5	56.9	141.2	90.51	-3,027.5	44.5	365.2	167.3	197.91	1.845		
10,000.0	7,111.4	7,059.4	7,059.4	58.7	141.2	90.29	-3,027.5	44.5	309.9	110.2	199.74	1.552		
10,100.0	7,110.4	7,058.4	7,058.4	60.6	141.2	90.08	-3,027.5	44.5	280.6	79.0	201.57	1.392 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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														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)					
10,136.6	7,110.0	7,058.0	7,058.0	61.3	141.2	90.00	-3,027.5	44.5	278.2	75.9	202.24	1.375	Level 3, CC, ES, SF 1.403 Level 3			
10,200.0	7,109.3	7,057.3	7,057.3	62.4	141.1	89.86	-3,027.5	44.5	285.3	81.9	203.41					
10,300.0	7,108.3	7,056.3	7,056.3	64.3	141.1	89.65	-3,027.5	44.5	322.6	117.4	205.24	1.572				
10,400.0	7,107.2	7,055.2	7,055.2	66.2	141.1	89.43	-3,027.5	44.5	383.1	176.0	207.08	1.850				
10,500.0	7,106.2	7,054.2	7,054.2	68.0	141.1	89.22	-3,027.5	44.5	457.6	248.7	208.92	2.190				
10,600.0	7,105.1	7,053.1	7,053.1	69.9	141.1	89.00	-3,027.5	44.5	540.4	329.7	210.75	2.564				
10,700.0	7,104.1	7,052.1	7,052.1	71.8	141.0	88.79	-3,027.5	44.5	628.3	415.7	212.59	2.955				
10,800.0	7,103.0	7,051.0	7,051.0	73.6	141.0	88.57	-3,027.5	44.5	719.3	504.9	214.42	3.355				
10,900.0	7,102.0	7,050.0	7,050.0	75.5	141.0	88.35	-3,027.5	44.5	812.4	596.2	216.26	3.757				
11,000.0	7,101.0	7,049.0	7,049.0	77.4	141.0	88.14	-3,027.5	44.5	907.0	688.9	218.09	4.159				
11,100.0	7,099.9	7,047.9	7,047.9	79.3	141.0	87.92	-3,027.5	44.5	1,002.7	782.8	219.92	4.559				
11,200.0	7,098.9	7,046.9	7,046.9	81.2	140.9	87.71	-3,027.5	44.5	1,099.1	877.3	221.75	4.956				
11,300.0	7,097.8	7,045.8	7,045.8	83.1	140.9	87.49	-3,027.5	44.5	1,196.1	972.5	223.58	5.350				
11,400.0	7,096.8	7,044.8	7,044.8	84.9	140.9	87.28	-3,027.5	44.5	1,293.6	1,068.2	225.41	5.739				
11,500.0	7,095.7	7,043.7	7,043.7	86.8	140.9	87.06	-3,027.5	44.5	1,391.4	1,164.2	227.23	6.123				
11,568.5	7,095.0	7,043.0	7,043.0	88.1	140.9	86.91	-3,027.5	44.5	1,458.5	1,230.1	228.48	6.384				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													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	158.96	-477.3	183.6	511.9					
100.0	100.0	75.0	75.0	0.1	1.5	158.96	-477.3	183.6	511.3	509.7	1.60	320.443		
200.0	200.0	175.0	175.0	0.3	3.5	158.96	-477.3	183.6	511.3	507.5	3.82	133.841		
300.0	300.0	275.0	275.0	0.5	5.5	158.96	-477.3	183.6	511.3	505.3	6.05	84.585		
400.0	400.0	375.0	375.0	0.8	7.5	158.96	-477.3	183.6	511.3	503.1	8.27	61.830		
500.0	500.0	475.0	475.0	1.0	9.5	158.96	-477.3	183.6	511.3	500.8	10.49	48.723		
600.0	600.0	575.0	575.0	1.2	11.5	158.96	-477.3	183.6	511.3	498.6	12.72	40.201		
700.0	700.0	675.0	675.0	1.4	13.5	158.96	-477.3	183.6	511.3	496.4	14.94	34.216		
800.0	800.0	775.0	775.0	1.7	15.5	158.96	-477.3	183.6	511.3	494.2	17.17	29.783		
900.0	900.0	875.0	875.0	1.9	17.5	158.96	-477.3	183.6	511.3	491.9	19.39	26.366		
1,000.0	1,000.0	975.0	975.0	2.1	19.5	158.96	-477.3	183.6	511.3	489.7	21.62	23.653		
1,100.0	1,100.0	1,075.0	1,075.0	2.3	21.5	158.96	-477.3	183.6	511.3	487.5	23.84	21.446		
1,200.0	1,200.0	1,175.0	1,175.0	2.6	23.5	158.96	-477.3	183.6	511.3	485.3	26.07	19.615		
1,300.0	1,300.0	1,275.0	1,275.0	2.8	25.5	158.96	-477.3	183.6	511.3	483.0	28.29	18.073		
1,400.0	1,400.0	1,375.0	1,375.0	3.0	27.5	158.96	-477.3	183.6	511.3	480.8	30.52	16.756		
1,500.0	1,500.0	1,475.0	1,475.0	3.2	29.5	158.96	-477.3	183.6	511.3	478.6	32.74	15.617		
1,600.0	1,600.0	1,575.0	1,575.0	3.5	31.5	109.37	-477.3	183.6	511.9	477.0	34.96	14.643		
1,700.0	1,699.8	1,674.8	1,674.8	3.7	33.5	109.88	-477.3	183.6	513.7	476.5	37.17	13.821		
1,800.0	1,799.5	1,774.5	1,774.5	3.9	35.5	110.73	-477.3	183.6	516.7	477.3	39.37	13.125		
1,886.6	1,885.5	1,860.5	1,860.5	4.1	37.2	111.72	-477.3	183.6	520.5	479.2	41.27	12.612		
1,900.0	1,898.7	1,873.7	1,873.7	4.1	37.5	111.90	-477.3	183.6	521.2	479.6	41.57	12.538		
2,000.0	1,997.8	1,972.8	1,972.8	4.4	39.5	113.25	-477.3	183.6	526.4	482.6	43.79	12.021		
2,100.0	2,096.9	2,071.9	2,071.9	4.7	41.4	114.57	-477.3	183.6	531.9	485.8	46.02	11.557		
2,200.0	2,196.0	2,171.0	2,171.0	4.9	43.4	115.87	-477.3	183.6	537.6	489.4	48.25	11.142		
2,300.0	2,295.1	2,270.1	2,270.1	5.2	45.4	117.14	-477.3	183.6	543.7	493.2	50.49	10.767		
2,400.0	2,394.2	2,369.2	2,369.2	5.5	47.4	118.37	-477.3	183.6	550.0	497.3	52.74	10.429		
2,500.0	2,493.2	2,468.2	2,468.2	5.8	49.4	119.58	-477.3	183.6	556.6	501.6	54.98	10.122		
2,600.0	2,592.3	2,567.3	2,567.3	6.1	51.3	120.77	-477.3	183.6	563.4	506.1	57.23	9.844		
2,700.0	2,691.4	2,666.4	2,666.4	6.4	53.3	121.92	-477.3	183.6	570.4	510.9	59.48	9.591		
2,800.0	2,790.5	2,765.5	2,765.5	6.7	55.3	123.05	-477.3	183.6	577.7	516.0	61.72	9.360		
2,900.0	2,889.6	2,864.6	2,864.6	7.0	57.3	124.14	-477.3	183.6	585.2	521.2	63.97	9.148		
3,000.0	2,988.7	2,963.7	2,963.7	7.3	59.3	125.21	-477.3	183.6	592.9	526.7	66.21	8.954		
3,100.0	3,087.8	3,062.8	3,062.8	7.6	61.3	126.26	-477.3	183.6	600.8	532.3	68.46	8.776		
3,200.0	3,186.9	3,161.9	3,161.9	7.9	63.2	127.27	-477.3	183.6	608.9	538.2	70.70	8.612		
3,300.0	3,286.0	3,261.0	3,261.0	8.2	65.2	128.26	-477.3	183.6	617.2	544.2	72.94	8.461		
3,400.0	3,385.1	3,360.1	3,360.1	8.5	67.2	129.22	-477.3	183.6	625.7	550.5	75.18	8.322		
3,500.0	3,484.2	3,459.2	3,459.2	8.9	69.2	130.16	-477.3	183.6	634.3	556.9	77.42	8.193		
3,600.0	3,583.2	3,558.2	3,558.2	9.2	71.2	131.07	-477.3	183.6	643.1	563.4	79.66	8.073		
3,700.0	3,682.3	3,657.3	3,657.3	9.5	73.1	131.96	-477.3	183.6	652.1	570.2	81.89	7.962		
3,800.0	3,781.4	3,756.4	3,756.4	9.8	75.1	132.82	-477.3	183.6	661.2	577.0	84.13	7.859		
3,900.0	3,880.5	3,855.5	3,855.5	10.1	77.1	133.66	-477.3	183.6	670.4	584.1	86.36	7.763		
4,000.0	3,979.6	3,954.6	3,954.6	10.5	79.1	134.48	-477.3	183.6	679.8	591.3	88.59	7.674		
4,100.0	4,078.7	4,053.7	4,053.7	10.8	81.1	135.27	-477.3	183.6	689.4	598.6	90.82	7.591		
4,200.0	4,177.8	4,152.8	4,152.8	11.1	83.1	136.04	-477.3	183.6	699.0	606.0	93.05	7.513		
4,300.0	4,276.9	4,251.9	4,251.9	11.4	85.0	136.79	-477.3	183.6	708.8	613.6	95.27	7.440		
4,400.0	4,376.0	4,351.0	4,351.0	11.8	87.0	137.53	-477.3	183.6	718.7	621.2	97.50	7.372		
4,500.0	4,475.1	4,450.1	4,450.1	12.1	89.0	138.24	-477.3	183.6	728.8	629.0	99.72	7.308		
4,600.0	4,574.2	4,549.2	4,549.2	12.4	91.0	138.93	-477.3	183.6	738.9	637.0	101.94	7.248		
4,640.7	4,614.5	4,589.5	4,589.5	12.6	91.8	139.21	-477.3	183.6	743.1	640.2	102.85	7.225		
4,700.0	4,673.3	4,648.3	4,648.3	12.7	93.0	139.65	-477.3	183.6	748.7	644.4	104.28	7.179		
4,800.0	4,772.8	4,747.8	4,747.8	13.0	95.0	140.22	-477.3	183.6	756.1	649.5	106.63	7.091		

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														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				
4,900.0	4,872.7	4,847.7	4,847.7	13.2	97.0	140.57	-477.3	183.6	760.9	651.9	108.91	6.986				
5,000.0	4,972.6	4,947.6	4,947.6	13.3	99.0	140.73	-477.3	183.6	762.9	651.8	111.11	6.866				
5,027.4	5,000.0	4,975.0	4,975.0	13.4	99.5	-169.49	-477.3	183.6	763.0	651.3	111.70	6.831				
5,100.0	5,072.6	5,047.6	5,047.6	13.5	101.0	-169.49	-477.3	183.6	763.0	649.8	113.28	6.736				
5,200.0	5,172.6	5,147.6	5,147.6	13.7	103.0	-169.49	-477.3	183.6	763.0	647.6	115.48	6.607				
5,300.0	5,272.6	5,247.6	5,247.6	13.8	105.0	-169.49	-477.3	183.6	763.0	645.4	117.68	6.484				
5,400.0	5,372.6	5,347.6	5,347.6	14.0	107.0	-169.49	-477.3	183.6	763.0	643.2	119.88	6.365				
5,500.0	5,472.6	5,447.6	5,447.6	14.2	109.0	-169.49	-477.3	183.6	763.0	641.0	122.08	6.250				
5,600.0	5,572.6	5,547.6	5,547.6	14.4	111.0	-169.49	-477.3	183.6	763.0	638.8	124.28	6.140				
5,700.0	5,672.6	5,647.6	5,647.6	14.6	113.0	-169.49	-477.3	183.6	763.0	636.6	126.48	6.033				
5,800.0	5,772.6	5,747.6	5,747.6	14.8	115.0	-169.49	-477.3	183.6	763.0	634.4	128.69	5.929				
5,900.0	5,872.6	5,847.6	5,847.6	15.0	117.0	-169.49	-477.3	183.6	763.0	632.2	130.89	5.830				
6,000.0	5,972.6	5,947.6	5,947.6	15.1	119.0	-169.49	-477.3	183.6	763.0	629.9	133.09	5.733				
6,100.0	6,072.6	6,047.6	6,047.6	15.3	121.0	-169.49	-477.3	183.6	763.0	627.7	135.30	5.640				
6,200.0	6,172.6	6,147.6	6,147.6	15.5	123.0	-169.49	-477.3	183.6	763.0	625.5	137.51	5.549				
6,300.0	6,272.6	6,247.6	6,247.6	15.7	125.0	-169.49	-477.3	183.6	763.0	623.3	139.71	5.462				
6,400.0	6,372.6	6,347.6	6,347.6	15.9	127.0	-169.49	-477.3	183.6	763.0	621.1	141.92	5.377				
6,450.0	6,422.6	6,397.6	6,397.6	16.0	128.0	10.55	-477.3	183.6	761.4	618.8	142.68	5.337				
6,500.0	6,472.3	6,447.3	6,447.3	16.0	128.9	10.68	-477.3	183.6	756.6	613.8	142.83	5.297				
6,550.0	6,521.6	6,496.6	6,496.6	16.1	129.9	10.92	-477.3	183.6	748.6	606.2	142.38	5.258				
6,600.0	6,570.3	6,545.3	6,545.3	16.1	130.9	11.25	-477.3	183.6	737.5	596.1	141.32	5.218				
6,650.0	6,618.2	6,593.2	6,593.2	16.1	131.9	11.70	-477.3	183.6	723.2	583.5	139.67	5.178				
6,700.0	6,665.0	6,640.0	6,640.0	16.1	132.8	12.28	-477.3	183.6	705.9	568.5	137.43	5.137				
6,750.0	6,710.5	6,685.5	6,685.5	16.1	133.7	13.01	-477.3	183.6	685.7	551.1	134.63	5.093				
6,800.0	6,754.6	6,729.6	6,729.6	16.1	134.6	13.93	-477.3	183.6	662.7	531.3	131.33	5.046				
6,850.0	6,797.0	6,772.0	6,772.0	16.1	135.4	15.07	-477.3	183.6	636.9	509.3	127.60	4.991				
6,900.0	6,837.7	6,812.7	6,812.7	16.1	136.3	16.49	-477.3	183.6	608.5	484.9	123.57	4.924				
6,950.0	6,876.3	6,851.3	6,851.3	16.1	137.0	18.27	-477.3	183.6	577.6	458.2	119.42	4.837				
7,000.0	6,912.8	6,887.8	6,887.8	16.1	137.8	20.49	-477.3	183.6	544.5	429.1	115.45	4.717				
7,050.0	6,947.0	6,922.0	6,922.0	16.1	138.4	23.30	-477.3	183.6	509.3	397.2	112.11	4.543				
7,100.0	6,978.7	6,953.7	6,953.7	16.1	139.1	26.86	-477.3	183.6	472.3	362.2	110.07	4.291				
7,150.0	7,007.8	6,982.8	6,982.8	16.2	139.7	31.37	-477.3	183.6	433.6	323.4	110.22	3.934				
7,200.0	7,034.2	7,009.2	7,009.2	16.3	140.2	37.08	-477.3	183.6	393.6	280.1	113.51	3.468				
7,250.0	7,057.7	7,032.7	7,032.7	16.4	140.7	44.14	-477.3	183.6	352.7	232.3	120.45	2.929				
7,300.0	7,078.4	7,053.4	7,053.4	16.6	141.1	52.54	-477.3	183.6	311.4	181.0	130.44	2.388				
7,350.0	7,096.0	7,071.0	7,071.0	16.9	141.4	61.83	-477.3	183.6	270.4	129.0	141.38	1.912				
7,400.0	7,110.5	7,085.5	7,085.5	17.2	141.7	71.11	-477.3	183.6	230.7	80.1	150.57	1.532				
7,450.0	7,121.8	7,096.8	7,096.8	17.6	141.9	79.26	-477.3	183.6	194.1	37.7	156.40	1.241 Level 2				
7,500.0	7,130.0	7,105.0	7,105.0	18.1	142.1	85.39	-477.3	183.6	163.5	4.4	159.19	1.027 Level 2				
7,550.0	7,134.9	7,109.9	7,109.9	18.6	142.2	89.02	-477.3	183.6	143.8	-16.5	160.29	0.897 Level 1				
7,586.3	7,136.4	7,111.4	7,111.4	18.9	142.2	90.00	-477.3	183.6	139.1	-21.6	160.73	0.866 Level 1, CC, ES, SF				
7,600.0	7,136.5	7,111.5	7,111.5	19.1	142.2	90.00	-477.3	183.6	139.8	-21.1	160.88	0.869 Level 1				
7,608.0	7,136.5	7,111.5	7,111.5	19.2	142.2	89.91	-477.3	183.6	140.8	-20.2	160.96	0.875 Level 1				
7,700.0	7,135.5	7,110.5	7,110.5	20.2	142.2	89.51	-477.3	183.6	179.7	17.7	161.97	1.109 Level 2				
7,800.0	7,134.5	7,109.5	7,109.5	21.4	142.2	89.08	-477.3	183.6	255.0	91.8	163.17	1.563				
7,900.0	7,133.4	7,108.4	7,108.4	22.8	142.2	88.65	-477.3	183.6	343.2	178.7	164.45	2.087				
8,000.0	7,132.4	7,107.4	7,107.4	24.2	142.1	88.22	-477.3	183.6	436.5	270.7	165.81	2.632				
8,100.0	7,131.3	7,106.3	7,106.3	25.6	142.1	87.79	-477.3	183.6	532.2	365.0	167.22	3.183				
8,200.0	7,130.3	7,105.3	7,105.3	27.2	142.1	87.36	-477.3	183.6	629.3	460.6	168.68	3.731				
8,300.0	7,129.2	7,104.2	7,104.2	28.7	142.1	86.92	-477.3	183.6	727.1	557.0	170.17	4.273				

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														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				
8,400.0	7,128.2	7,103.2	7,103.2	30.4	142.1	86.50	-477.3	183.6	825.5	653.8	171.70	4.808				
8,500.0	7,127.1	7,102.1	7,102.1	32.0	142.0	86.07	-477.3	183.6	924.2	751.0	173.24	5.335				
8,600.0	7,126.1	7,101.1	7,101.1	33.7	142.0	85.64	-477.3	183.6	1,023.2	848.4	174.81	5.853				
8,700.0	7,125.0	7,100.0	7,100.0	35.4	142.0	85.21	-477.3	183.6	1,122.3	945.9	176.39	6.363				
8,800.0	7,124.0	7,099.0	7,099.0	37.1	142.0	84.78	-477.3	183.6	1,221.6	1,043.6	177.97	6.864				
8,900.0	7,122.9	7,097.9	7,097.9	38.8	142.0	84.35	-477.3	183.6	1,321.0	1,141.4	179.57	7.357				
9,000.0	7,121.9	7,096.9	7,096.9	40.6	141.9	83.93	-477.3	183.6	1,420.5	1,239.3	181.16	7.841				
9,100.0	7,120.8	7,095.8	7,095.8	42.4	141.9	83.50	-477.3	183.6	1,520.0	1,337.3	182.76	8.317				
9,200.0	7,119.8	7,094.8	7,094.8	44.2	141.9	83.07	-477.3	183.6	1,619.6	1,435.3	184.36	8.785				
9,300.0	7,118.8	7,093.8	7,093.8	45.9	141.9	82.65	-477.3	183.6	1,719.3	1,533.3	185.96	9.245				
9,400.0	7,117.7	7,092.7	7,092.7	47.8	141.9	82.23	-477.3	183.6	1,819.0	1,631.4	187.56	9.698				
9,500.0	7,116.7	7,091.7	7,091.7	49.6	141.8	81.80	-477.3	183.6	1,918.7	1,729.5	189.15	10.144				
9,600.0	7,115.6	7,090.6	7,090.6	51.4	141.8	81.38	-477.3	183.6	2,018.4	1,827.7	190.73	10.583				
9,700.0	7,114.6	7,089.6	7,089.6	53.2	141.8	80.96	-477.3	183.6	2,118.2	1,925.9	192.31	11.014				
9,800.0	7,113.5	7,088.5	7,088.5	55.1	141.8	80.54	-477.3	183.6	2,218.0	2,024.1	193.88	11.440				
9,900.0	7,112.5	7,087.5	7,087.5	56.9	141.7	80.12	-477.3	183.6	2,317.8	2,122.3	195.45	11.859				
10,000.0	7,111.4	7,086.4	7,086.4	58.7	141.7	79.70	-477.3	183.6	2,417.6	2,220.6	197.00	12.272				
10,100.0	7,110.4	7,085.4	7,085.4	60.6	141.7	79.29	-477.3	183.6	2,517.4	2,318.9	198.55	12.679				
10,200.0	7,109.3	7,084.3	7,084.3	62.4	141.7	78.87	-477.3	183.6	2,617.3	2,417.2	200.09	13.081				
10,300.0	7,108.3	7,083.3	7,083.3	64.3	141.7	78.46	-477.3	183.6	2,717.1	2,515.5	201.62	13.477				
10,400.0	7,107.2	7,082.2	7,082.2	66.2	141.6	78.04	-477.3	183.6	2,817.0	2,613.9	203.14	13.868				
10,500.0	7,106.2	7,081.2	7,081.2	68.0	141.6	77.63	-477.3	183.6	2,916.9	2,712.2	204.64	14.254				
10,600.0	7,105.1	7,080.1	7,080.1	69.9	141.6	77.22	-477.3	183.6	3,016.8	2,810.6	206.14	14.635				
10,700.0	7,104.1	7,079.1	7,079.1	71.8	141.6	76.81	-477.3	183.6	3,116.7	2,909.0	207.62	15.011				
10,800.0	7,103.0	7,078.0	7,078.0	73.6	141.6	76.40	-477.3	183.6	3,216.6	3,007.5	209.10	15.383				
10,900.0	7,102.0	7,077.0	7,077.0	75.5	141.5	76.00	-477.3	183.6	3,316.5	3,105.9	210.56	15.751				
11,000.0	7,101.0	7,076.0	7,076.0	77.4	141.5	75.59	-477.3	183.6	3,416.4	3,204.4	212.01	16.115				
11,100.0	7,099.9	7,074.9	7,074.9	79.3	141.5	75.19	-477.3	183.6	3,516.3	3,302.8	213.44	16.474				
11,200.0	7,098.9	7,073.9	7,073.9	81.2	141.5	74.78	-477.3	183.6	3,616.2	3,401.3	214.87	16.830				
11,300.0	7,097.8	7,072.8	7,072.8	83.1	141.5	74.38	-477.3	183.6	3,716.1	3,499.9	216.28	17.182				
11,400.0	7,096.8	7,071.8	7,071.8	84.9	141.4	73.98	-477.3	183.6	3,816.1	3,598.4	217.68	17.531				
11,500.0	7,095.7	7,070.7	7,070.7	86.8	141.4	73.59	-477.3	183.6	3,916.0	3,696.9	219.06	17.876				
11,568.5	7,095.0	7,070.0	7,070.0	88.1	141.4	73.31	-477.3	183.6	3,984.4	3,764.4	220.01	18.110				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN														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	172.12	-1,526.5	211.4	1,541.5						
100.0	100.0	65.0	65.0	0.1	1.3	172.12	-1,526.5	211.4	1,541.1	1,539.7	1.40	1,104.126			
200.0	200.0	165.0	165.0	0.3	3.3	172.12	-1,526.5	211.4	1,541.1	1,537.4	3.62	425.648			
300.0	300.0	265.0	265.0	0.5	5.3	172.12	-1,526.5	211.4	1,541.1	1,535.2	5.85	263.642			
400.0	400.0	365.0	365.0	0.8	7.3	172.12	-1,526.5	211.4	1,541.1	1,533.0	8.07	190.961			
500.0	500.0	465.0	465.0	1.0	9.3	172.12	-1,526.5	211.4	1,541.1	1,530.8	10.29	149.693			
600.0	600.0	565.0	565.0	1.2	11.3	172.12	-1,526.5	211.4	1,541.1	1,528.5	12.52	123.092			
700.0	700.0	665.0	665.0	1.4	13.3	172.12	-1,526.5	211.4	1,541.1	1,526.3	14.74	104.519			
800.0	800.0	765.0	765.0	1.7	15.3	172.12	-1,526.5	211.4	1,541.1	1,524.1	16.97	90.816			
900.0	900.0	865.0	865.0	1.9	17.3	172.12	-1,526.5	211.4	1,541.1	1,521.9	19.19	80.289			
1,000.0	1,000.0	965.0	965.0	2.1	19.3	172.12	-1,526.5	211.4	1,541.1	1,519.6	21.42	71.949			
1,100.0	1,100.0	1,065.0	1,065.0	2.3	21.3	172.12	-1,526.5	211.4	1,541.1	1,517.4	23.64	65.179			
1,200.0	1,200.0	1,165.0	1,165.0	2.6	23.3	172.12	-1,526.5	211.4	1,541.1	1,515.2	25.87	59.574			
1,300.0	1,300.0	1,265.0	1,265.0	2.8	25.3	172.12	-1,526.5	211.4	1,541.1	1,513.0	28.09	54.856			
1,400.0	1,400.0	1,365.0	1,365.0	3.0	27.3	172.12	-1,526.5	211.4	1,541.1	1,510.7	30.32	50.830			
1,500.0	1,500.0	1,465.0	1,465.0	3.2	29.3	172.12	-1,526.5	211.4	1,541.1	1,508.5	32.54	47.355			
1,600.0	1,600.0	1,565.0	1,565.0	3.5	31.3	122.39	-1,526.5	211.4	1,542.0	1,507.2	34.76	44.366			
1,700.0	1,699.8	1,664.8	1,664.8	3.7	33.3	122.50	-1,526.5	211.4	1,544.8	1,507.8	36.95	41.805			
1,800.0	1,799.5	1,764.5	1,764.5	3.9	35.3	122.69	-1,526.5	211.4	1,549.5	1,510.4	39.13	39.595			
1,886.6	1,885.5	1,850.5	1,850.5	4.1	37.0	122.92	-1,526.5	211.4	1,555.1	1,514.1	41.01	37.920			
1,900.0	1,898.7	1,863.7	1,863.7	4.1	37.3	122.97	-1,526.5	211.4	1,556.1	1,514.8	41.31	37.672			
2,000.0	1,997.8	1,962.8	1,962.8	4.4	39.3	123.39	-1,526.5	211.4	1,563.5	1,520.0	43.53	35.921			
2,100.0	2,096.9	2,061.9	2,061.9	4.7	41.2	123.79	-1,526.5	211.4	1,571.0	1,525.3	45.75	34.336			
2,200.0	2,196.0	2,161.0	2,161.0	4.9	43.2	124.20	-1,526.5	211.4	1,578.6	1,530.6	47.99	32.896			
2,300.0	2,295.1	2,260.1	2,260.1	5.2	45.2	124.60	-1,526.5	211.4	1,586.3	1,536.0	50.23	31.582			
2,400.0	2,394.2	2,359.2	2,359.2	5.5	47.2	124.99	-1,526.5	211.4	1,594.0	1,541.5	52.47	30.379			
2,500.0	2,493.2	2,458.2	2,458.2	5.8	49.2	125.38	-1,526.5	211.4	1,601.8	1,547.1	54.72	29.275			
2,600.0	2,592.3	2,557.3	2,557.3	6.1	51.1	125.77	-1,526.5	211.4	1,609.7	1,552.7	56.96	28.258			
2,700.0	2,691.4	2,656.4	2,656.4	6.4	53.1	126.16	-1,526.5	211.4	1,617.6	1,558.4	59.21	27.318			
2,800.0	2,790.5	2,755.5	2,755.5	6.7	55.1	126.54	-1,526.5	211.4	1,625.6	1,564.2	61.47	26.447			
2,900.0	2,889.6	2,854.6	2,854.6	7.0	57.1	126.91	-1,526.5	211.4	1,633.7	1,570.0	63.72	25.639			
3,000.0	2,988.7	2,953.7	2,953.7	7.3	59.1	127.29	-1,526.5	211.4	1,641.9	1,575.9	65.97	24.887			
3,100.0	3,087.8	3,052.8	3,052.8	7.6	61.1	127.66	-1,526.5	211.4	1,650.1	1,581.9	68.23	24.185			
3,200.0	3,186.9	3,151.9	3,151.9	7.9	63.0	128.02	-1,526.5	211.4	1,658.4	1,587.9	70.48	23.529			
3,300.0	3,286.0	3,251.0	3,251.0	8.2	65.0	128.38	-1,526.5	211.4	1,666.8	1,594.0	72.74	22.914			
3,400.0	3,385.1	3,350.1	3,350.1	8.5	67.0	128.74	-1,526.5	211.4	1,675.2	1,600.2	75.00	22.337			
3,500.0	3,484.2	3,449.2	3,449.2	8.9	69.0	129.10	-1,526.5	211.4	1,683.7	1,606.5	77.25	21.795			
3,600.0	3,583.2	3,548.2	3,548.2	9.2	71.0	129.45	-1,526.5	211.4	1,692.3	1,612.8	79.51	21.284			
3,700.0	3,682.3	3,647.3	3,647.3	9.5	72.9	129.80	-1,526.5	211.4	1,700.9	1,619.1	81.76	20.803			
3,800.0	3,781.4	3,746.4	3,746.4	9.8	74.9	130.14	-1,526.5	211.4	1,709.6	1,625.6	84.02	20.348			
3,900.0	3,880.5	3,845.5	3,845.5	10.1	76.9	130.48	-1,526.5	211.4	1,718.4	1,632.1	86.27	19.917			
4,000.0	3,979.6	3,944.6	3,944.6	10.5	78.9	130.82	-1,526.5	211.4	1,727.2	1,638.6	88.53	19.510			
4,100.0	4,078.7	4,043.7	4,043.7	10.8	80.9	131.16	-1,526.5	211.4	1,736.0	1,645.3	90.78	19.123			
4,200.0	4,177.8	4,142.8	4,142.8	11.1	82.9	131.49	-1,526.5	211.4	1,745.0	1,651.9	93.04	18.756			
4,300.0	4,276.9	4,241.9	4,241.9	11.4	84.8	131.81	-1,526.5	211.4	1,754.0	1,658.7	95.29	18.407			
4,400.0	4,376.0	4,341.0	4,341.0	11.8	86.8	132.14	-1,526.5	211.4	1,763.0	1,665.5	97.54	18.074			
4,500.0	4,475.1	4,440.1	4,440.1	12.1	88.8	132.46	-1,526.5	211.4	1,772.1	1,672.3	99.79	17.758			
4,600.0	4,574.2	4,539.2	4,539.2	12.4	90.8	132.78	-1,526.5	211.4	1,781.3	1,679.2	102.05	17.456			
4,640.7	4,614.5	4,579.5	4,579.5	12.6	91.6	132.91	-1,526.5	211.4	1,785.0	1,682.0	102.96	17.336			
4,700.0	4,673.3	4,638.3	4,638.3	12.7	92.8	133.15	-1,526.5	211.4	1,790.0	1,685.7	104.38	17.149			
4,800.0	4,772.8	4,737.8	4,737.8	13.0	94.8	133.47	-1,526.5	211.4	1,796.7	1,690.0	106.71	16.837			

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														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				
4,900.0	4,872.7	4,837.7	4,837.7	13.2	96.8	133.68	-1,526.5	211.4	1,801.0	1,692.0	108.97	16.527				
5,000.0	4,972.6	4,937.6	4,937.6	13.3	98.8	133.77	-1,526.5	211.4	1,802.8	1,691.7	111.17	16.217				
5,027.4	5,000.0	4,965.0	4,965.0	13.4	99.3	-176.46	-1,526.5	211.4	1,802.9	1,691.2	111.76	16.132				
5,100.0	5,072.6	5,037.6	5,037.6	13.5	100.8	-176.46	-1,526.5	211.4	1,802.9	1,689.6	113.34	15.907				
5,200.0	5,172.6	5,137.6	5,137.6	13.7	102.8	-176.46	-1,526.5	211.4	1,802.9	1,687.4	115.53	15.605				
5,300.0	5,272.6	5,237.6	5,237.6	13.8	104.8	-176.46	-1,526.5	211.4	1,802.9	1,685.2	117.73	15.314				
5,400.0	5,372.6	5,337.6	5,337.6	14.0	106.8	-176.46	-1,526.5	211.4	1,802.9	1,683.0	119.93	15.034				
5,500.0	5,472.6	5,437.6	5,437.6	14.2	108.8	-176.46	-1,526.5	211.4	1,802.9	1,680.8	122.12	14.763				
5,600.0	5,572.6	5,537.6	5,537.6	14.4	110.8	-176.46	-1,526.5	211.4	1,802.9	1,678.6	124.32	14.502				
5,700.0	5,672.6	5,637.6	5,637.6	14.6	112.8	-176.46	-1,526.5	211.4	1,802.9	1,676.4	126.52	14.250				
5,800.0	5,772.6	5,737.6	5,737.6	14.8	114.8	-176.46	-1,526.5	211.4	1,802.9	1,674.2	128.72	14.007				
5,900.0	5,872.6	5,837.6	5,837.6	15.0	116.8	-176.46	-1,526.5	211.4	1,802.9	1,672.0	130.92	13.771				
6,000.0	5,972.6	5,937.6	5,937.6	15.1	118.8	-176.46	-1,526.5	211.4	1,802.9	1,669.8	133.12	13.544				
6,100.0	6,072.6	6,037.6	6,037.6	15.3	120.8	-176.46	-1,526.5	211.4	1,802.9	1,667.6	135.32	13.323				
6,200.0	6,172.6	6,137.6	6,137.6	15.5	122.8	-176.46	-1,526.5	211.4	1,802.9	1,665.4	137.53	13.110				
6,300.0	6,272.6	6,237.6	6,237.6	15.7	124.8	-176.46	-1,526.5	211.4	1,802.9	1,663.2	139.73	12.903				
6,400.0	6,372.6	6,337.6	6,337.6	15.9	126.8	-176.46	-1,526.5	211.4	1,802.9	1,661.0	141.93	12.703				
6,450.0	6,422.6	6,387.6	6,387.6	16.0	127.8	3.55	-1,526.5	211.4	1,801.3	1,658.6	142.69	12.624				
6,500.0	6,472.3	6,437.3	6,437.3	16.0	128.7	3.58	-1,526.5	211.4	1,796.4	1,653.6	142.81	12.578				
6,550.0	6,521.6	6,486.6	6,486.6	16.1	129.7	3.64	-1,526.5	211.4	1,788.3	1,645.9	142.32	12.565				
6,600.0	6,570.3	6,535.3	6,535.3	16.1	130.7	3.72	-1,526.5	211.4	1,776.9	1,635.7	141.19	12.585				
6,650.0	6,618.2	6,583.2	6,583.2	16.1	131.7	3.82	-1,526.5	211.4	1,762.4	1,623.0	139.42	12.641				
6,700.0	6,665.0	6,630.0	6,630.0	16.1	132.6	3.96	-1,526.5	211.4	1,744.9	1,607.9	137.02	12.735				
6,750.0	6,710.5	6,675.5	6,675.5	16.1	133.5	4.13	-1,526.5	211.4	1,724.3	1,590.3	133.98	12.870				
6,800.0	6,754.6	6,719.6	6,719.6	16.1	134.4	4.33	-1,526.5	211.4	1,700.8	1,570.4	130.32	13.051				
6,850.0	6,797.0	6,762.0	6,762.0	16.1	135.2	4.58	-1,526.5	211.4	1,674.4	1,548.4	126.05	13.284				
6,900.0	6,837.7	6,802.7	6,802.7	16.1	136.1	4.88	-1,526.5	211.4	1,645.4	1,524.2	121.19	13.576				
6,950.0	6,876.3	6,841.3	6,841.3	16.1	136.8	5.25	-1,526.5	211.4	1,613.7	1,497.9	115.79	13.937				
7,000.0	6,912.8	6,877.8	6,877.8	16.1	137.6	5.70	-1,526.5	211.4	1,579.6	1,469.8	109.87	14.377				
7,050.0	6,947.0	6,912.0	6,912.0	16.1	138.2	6.26	-1,526.5	211.4	1,543.2	1,439.7	103.51	14.909				
7,100.0	6,978.7	6,943.7	6,943.7	16.1	138.9	6.95	-1,526.5	211.4	1,504.7	1,407.9	96.78	15.548				
7,150.0	7,007.8	6,972.8	6,972.8	16.2	139.5	7.81	-1,526.5	211.4	1,464.2	1,374.4	89.81	16.302				
7,200.0	7,034.2	6,999.2	6,999.2	16.3	140.0	8.93	-1,526.5	211.4	1,421.8	1,339.0	82.81	17.170				
7,250.0	7,057.7	7,022.7	7,022.7	16.4	140.5	10.38	-1,526.5	211.4	1,377.9	1,301.8	76.12	18.101				
7,300.0	7,078.4	7,043.4	7,043.4	16.6	140.9	12.36	-1,526.5	211.4	1,332.5	1,262.1	70.40	18.928				
7,350.0	7,096.0	7,061.0	7,061.0	16.9	141.2	15.13	-1,526.5	211.4	1,285.9	1,219.0	66.88	19.228				
7,400.0	7,110.5	7,075.5	7,075.5	17.2	141.5	19.23	-1,526.5	211.4	1,238.2	1,170.4	67.82	18.259				
7,450.0	7,121.8	7,086.8	7,086.8	17.6	141.7	25.72	-1,526.5	211.4	1,189.8	1,112.9	76.83	15.485				
7,500.0	7,130.0	7,095.0	7,095.0	18.1	141.9	36.92	-1,526.5	211.4	1,140.7	1,042.0	98.69	11.559				
7,550.0	7,134.9	7,099.9	7,099.9	18.6	142.0	57.49	-1,526.5	211.4	1,091.2	955.8	135.37	8.060				
7,600.0	7,136.5	7,101.5	7,101.5	19.1	142.0	90.03	-1,526.5	211.4	1,041.5	880.8	160.68	6.482				
7,608.0	7,136.5	7,101.5	7,101.5	19.2	142.0	95.52	-1,526.5	211.4	1,033.6	873.4	160.14	6.454				
7,700.0	7,135.5	7,100.5	7,100.5	20.2	142.0	95.03	-1,526.5	211.4	942.1	780.8	161.28	5.842				
7,800.0	7,134.5	7,099.5	7,099.5	21.4	142.0	94.49	-1,526.5	211.4	842.9	680.3	162.61	5.184				
7,900.0	7,133.4	7,098.4	7,098.4	22.8	142.0	93.96	-1,526.5	211.4	743.9	579.9	164.02	4.535				
8,000.0	7,132.4	7,097.4	7,097.4	24.2	141.9	93.42	-1,526.5	211.4	645.2	479.7	165.50	3.898				
8,100.0	7,131.3	7,096.3	7,096.3	25.6	141.9	92.88	-1,526.5	211.4	547.0	379.9	167.04	3.275				
8,200.0	7,130.3	7,095.3	7,095.3	27.2	141.9	92.35	-1,526.5	211.4	449.5	280.9	168.62	2.666				
8,300.0	7,129.2	7,094.2	7,094.2	28.7	141.9	91.81	-1,526.5	211.4	353.5	183.3	170.23	2.077				
8,400.0	7,128.2	7,093.2	7,093.2	30.4	141.9	91.27	-1,526.5	211.4	260.5	88.7	171.87	1.516				

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													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		
8,500.0	7,127.1	7,092.1	7,092.1	32.0	141.8	90.73	-1,526.5	211.4	175.4	1.9	173.52	1.011	Level 2	
8,600.0	7,126.1	7,091.1	7,091.1	33.7	141.8	90.19	-1,526.5	211.4	116.8	-58.4	175.19	0.667	Level 1	
8,635.6	7,125.7	7,090.7	7,090.7	34.3	141.8	90.00	-1,526.5	211.4	111.3	-64.5	175.79	0.633	Level 1, CC, ES, SF	
8,700.0	7,125.0	7,090.0	7,090.0	35.4	141.8	89.65	-1,526.5	211.4	128.6	-48.3	176.87	0.727	Level 1	
8,800.0	7,124.0	7,089.0	7,089.0	37.1	141.8	89.11	-1,526.5	211.4	198.6	20.0	178.55	1.112	Level 2	
8,900.0	7,122.9	7,087.9	7,087.9	38.8	141.8	88.57	-1,526.5	211.4	286.9	106.7	180.24	1.592		
9,000.0	7,121.9	7,086.9	7,086.9	40.6	141.7	88.04	-1,526.5	211.4	381.0	199.1	181.93	2.094		
9,100.0	7,120.8	7,085.8	7,085.8	42.4	141.7	87.50	-1,526.5	211.4	477.6	294.0	183.61	2.601		
9,200.0	7,119.8	7,084.8	7,084.8	44.2	141.7	86.96	-1,526.5	211.4	575.3	390.0	185.29	3.105		
9,300.0	7,118.8	7,083.8	7,083.8	45.9	141.7	86.42	-1,526.5	211.4	673.7	486.7	186.96	3.603		
9,400.0	7,117.7	7,082.7	7,082.7	47.8	141.7	85.89	-1,526.5	211.4	772.5	583.8	188.63	4.095		
9,500.0	7,116.7	7,081.7	7,081.7	49.6	141.6	85.35	-1,526.5	211.4	871.5	681.2	190.28	4.580		
9,600.0	7,115.6	7,080.6	7,080.6	51.4	141.6	84.82	-1,526.5	211.4	970.8	778.9	191.93	5.058		
9,700.0	7,114.6	7,079.6	7,079.6	53.2	141.6	84.28	-1,526.5	211.4	1,070.2	876.6	193.56	5.529		
9,800.0	7,113.5	7,078.5	7,078.5	55.1	141.6	83.75	-1,526.5	211.4	1,169.7	974.5	195.18	5.993		
9,900.0	7,112.5	7,077.5	7,077.5	56.9	141.5	83.22	-1,526.5	211.4	1,269.3	1,072.5	196.79	6.450		
10,000.0	7,111.4	7,076.4	7,076.4	58.7	141.5	82.68	-1,526.5	211.4	1,368.9	1,170.5	198.38	6.900		
10,100.0	7,110.4	7,075.4	7,075.4	60.6	141.5	82.16	-1,526.5	211.4	1,468.6	1,268.6	199.96	7.344		
10,200.0	7,109.3	7,074.3	7,074.3	62.4	141.5	81.63	-1,526.5	211.4	1,568.3	1,366.8	201.52	7.782		
10,300.0	7,108.3	7,073.3	7,073.3	64.3	141.5	81.10	-1,526.5	211.4	1,668.1	1,465.0	203.07	8.214		
10,400.0	7,107.2	7,072.2	7,072.2	66.2	141.4	80.57	-1,526.5	211.4	1,767.8	1,563.2	204.60	8.641		
10,500.0	7,106.2	7,071.2	7,071.2	68.0	141.4	80.05	-1,526.5	211.4	1,867.7	1,661.5	206.11	9.061		
10,600.0	7,105.1	7,070.1	7,070.1	69.9	141.4	79.53	-1,526.5	211.4	1,967.5	1,759.9	207.61	9.477		
10,700.0	7,104.1	7,069.1	7,069.1	71.8	141.4	79.01	-1,526.5	211.4	2,067.3	1,858.2	209.09	9.887		
10,800.0	7,103.0	7,068.0	7,068.0	73.6	141.4	78.49	-1,526.5	211.4	2,167.2	1,956.6	210.55	10.293		
10,900.0	7,102.0	7,067.0	7,067.0	75.5	141.3	77.97	-1,526.5	211.4	2,267.0	2,055.1	211.99	10.694		
11,000.0	7,101.0	7,066.0	7,066.0	77.4	141.3	77.46	-1,526.5	211.4	2,366.9	2,153.5	213.41	11.091		
11,100.0	7,099.9	7,064.9	7,064.9	79.3	141.3	76.95	-1,526.5	211.4	2,466.8	2,252.0	214.82	11.483		
11,200.0	7,098.9	7,063.9	7,063.9	81.2	141.3	76.44	-1,526.5	211.4	2,566.7	2,350.5	216.20	11.872		
11,300.0	7,097.8	7,062.8	7,062.8	83.1	141.3	75.93	-1,526.5	211.4	2,666.6	2,449.0	217.57	12.256		
11,400.0	7,096.8	7,061.8	7,061.8	84.9	141.2	75.42	-1,526.5	211.4	2,766.5	2,547.6	218.92	12.637		
11,500.0	7,095.7	7,060.7	7,060.7	86.8	141.2	74.92	-1,526.5	211.4	2,866.4	2,646.2	220.25	13.015		
11,568.5	7,095.0	7,060.0	7,060.0	88.1	141.2	74.57	-1,526.5	211.4	2,934.9	2,713.7	221.14	13.271		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-303 - Wellbore #										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	-90.00	0.0	-58.4	58.4					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-58.4	58.4	58.2	0.19	305.717		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-58.4	58.4	57.8	0.64	91.179		
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	0.0	-58.4	58.4	57.3	1.09	53.579		
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-58.4	58.4	56.9	1.54	37.936		
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-58.4	58.4	56.4	1.99	29.363		
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-58.4	58.4	56.0	2.44	23.950		
700.0	700.0	700.0	700.0	1.4	1.4	-90.00	0.0	-58.4	58.4	55.5	2.89	20.223		
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-58.4	58.4	55.1	3.34	17.499		
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-58.4	58.4	54.6	3.79	15.422		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-58.4	58.4	54.2	4.24	13.786	CC, ES	
1,100.0	1,100.0	1,098.3	1,098.3	2.3	2.3	-89.13	0.9	-59.8	59.9	55.2	4.68	12.799		
1,200.0	1,200.0	1,196.3	1,196.2	2.6	2.5	-86.76	3.6	-64.1	64.3	59.2	5.11	12.569		
1,300.0	1,300.0	1,293.9	1,293.4	2.8	2.8	-83.47	8.1	-71.1	71.9	66.3	5.56	12.923		
1,400.0	1,400.0	1,390.8	1,389.6	3.0	3.0	-79.92	14.4	-80.8	82.7	76.7	6.02	13.745		
1,500.0	1,500.0	1,489.6	1,487.4	3.2	3.3	-76.73	21.8	-92.4	95.7	89.2	6.50	14.733		
1,600.0	1,600.0	1,588.5	1,585.4	3.5	3.6	-124.60	29.2	-104.0	109.9	103.0	6.89	15.963		
1,700.0	1,699.8	1,687.2	1,683.1	3.7	3.8	-124.38	36.6	-115.5	126.1	118.8	7.32	17.221		
1,800.0	1,799.5	1,785.5	1,780.4	3.9	4.1	-125.27	44.0	-127.0	144.3	136.6	7.77	18.583		
1,886.6	1,885.5	1,870.3	1,864.4	4.1	4.4	-126.63	50.4	-136.9	161.8	153.6	8.15	19.838		
1,900.0	1,898.7	1,883.3	1,877.3	4.1	4.4	-126.90	51.4	-138.5	164.6	156.4	8.22	20.032		
2,000.0	1,997.8	1,980.9	1,973.9	4.4	4.7	-128.73	58.7	-149.9	185.8	177.1	8.68	21.393		
2,100.0	2,096.9	2,078.4	2,070.5	4.7	5.0	-130.17	66.0	-161.3	207.1	197.9	9.16	22.605		
2,200.0	2,196.0	2,176.0	2,167.2	4.9	5.4	-131.35	73.3	-172.7	228.5	218.9	9.65	23.687		
2,300.0	2,295.1	2,273.6	2,263.8	5.2	5.7	-132.33	80.7	-184.2	250.1	239.9	10.14	24.656		
2,400.0	2,394.2	2,371.2	2,360.4	5.5	6.0	-133.15	88.0	-195.6	271.6	261.0	10.64	25.527		
2,500.0	2,493.2	2,468.7	2,457.1	5.8	6.3	-133.85	95.3	-207.0	293.2	282.1	11.14	26.313		
2,600.0	2,592.3	2,566.3	2,553.7	6.1	6.6	-134.45	102.7	-218.4	314.9	303.2	11.65	27.024		
2,700.0	2,691.4	2,663.9	2,650.3	6.4	6.9	-134.98	110.0	-229.9	336.6	324.4	12.16	27.670		
2,800.0	2,790.5	2,761.5	2,746.9	6.7	7.3	-135.44	117.3	-241.3	358.3	345.6	12.68	28.259		
2,900.0	2,889.6	2,859.1	2,843.6	7.0	7.6	-135.85	124.6	-252.7	380.0	366.8	13.20	28.797		
3,000.0	2,988.7	2,956.6	2,940.2	7.3	7.9	-136.21	132.0	-264.1	401.8	388.0	13.72	29.291		
3,100.0	3,087.8	3,054.2	3,036.8	7.6	8.2	-136.54	139.3	-275.6	423.5	409.3	14.24	29.745		
3,200.0	3,186.9	3,151.8	3,133.5	7.9	8.6	-136.84	146.6	-287.0	445.3	430.5	14.76	30.164		
3,300.0	3,286.0	3,249.4	3,230.1	8.2	8.9	-137.11	154.0	-298.4	467.1	451.8	15.29	30.552		
3,400.0	3,385.1	3,346.9	3,326.7	8.5	9.2	-137.35	161.3	-309.8	488.9	473.0	15.82	30.911		
3,500.0	3,484.2	3,444.5	3,423.3	8.9	9.6	-137.57	168.6	-321.3	510.7	494.3	16.34	31.245		
3,600.0	3,583.2	3,542.1	3,520.0	9.2	9.9	-137.78	175.9	-332.7	532.5	515.6	16.87	31.556		
3,700.0	3,682.3	3,639.7	3,616.6	9.5	10.2	-137.97	183.3	-344.1	554.3	536.9	17.40	31.847		
3,800.0	3,781.4	3,737.3	3,713.2	9.8	10.6	-138.14	190.6	-355.6	576.1	558.2	17.94	32.119		
3,900.0	3,880.5	3,834.8	3,809.9	10.1	10.9	-138.30	197.9	-367.0	597.9	579.4	18.47	32.374		
4,000.0	3,979.6	3,932.4	3,906.5	10.5	11.2	-138.46	205.3	-378.4	619.7	600.7	19.00	32.613		
4,100.0	4,078.7	4,030.0	4,003.1	10.8	11.5	-138.60	212.6	-389.8	641.6	622.0	19.54	32.838		
4,200.0	4,177.8	4,127.6	4,099.7	11.1	11.9	-138.73	219.9	-401.3	663.4	643.3	20.07	33.050		
4,300.0	4,276.9	4,225.1	4,196.4	11.4	12.2	-138.85	227.2	-412.7	685.2	664.6	20.61	33.250		
4,400.0	4,376.0	4,322.7	4,293.0	11.8	12.5	-138.96	234.6	-424.1	707.1	685.9	21.14	33.439		
4,500.0	4,475.1	4,420.3	4,389.6	12.1	12.9	-139.07	241.9	-435.5	728.9	707.2	21.68	33.618		
4,600.0	4,574.2	4,517.9	4,486.3	12.4	13.2	-139.18	249.2	-447.0	750.7	728.5	22.22	33.787		
4,640.7	4,614.5	4,557.6	4,525.6	12.6	13.3	-139.22	252.2	-451.6	759.6	737.2	22.44	33.854		
4,700.0	4,673.3	4,615.5	4,583.0	12.7	13.5	-139.41	256.6	-458.4	772.1	749.4	22.77	33.903		
4,800.0	4,772.8	4,737.7	4,704.2	13.0	13.9	-139.60	264.7	-471.1	789.9	766.6	23.31	33.884		

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-303 - Wellbore #										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			
4,900.0	4,872.7	4,867.4	4,833.4	13.2	14.2	-139.72	270.4	-479.9	801.4	777.6	23.79	33.688			
5,000.0	4,972.6	4,998.1	4,964.1	13.3	14.4	-139.77	272.9	-483.8	806.5	782.3	24.21	33.309			
5,027.4	5,000.0	5,034.0	5,000.0	13.4	14.4	-90.00	273.0	-484.0	806.7	782.4	24.32	33.174			
5,100.0	5,072.6	5,106.7	5,072.6	13.5	14.5	-90.00	273.0	-484.0	806.7	782.1	24.58	32.823			
5,200.0	5,172.6	5,206.7	5,172.6	13.7	14.7	-90.00	273.0	-484.0	806.7	781.8	24.96	32.315			
5,300.0	5,272.6	5,306.7	5,272.6	13.8	14.9	-90.00	273.0	-484.0	806.7	781.4	25.35	31.820			
5,400.0	5,372.6	5,406.7	5,372.6	14.0	15.0	-90.00	273.0	-484.0	806.7	781.0	25.74	31.337			
5,500.0	5,472.6	5,506.7	5,472.6	14.2	15.2	-90.00	273.0	-484.0	806.7	780.6	26.14	30.867			
5,600.0	5,572.6	5,606.7	5,572.6	14.4	15.4	-90.00	273.0	-484.0	806.7	780.2	26.53	30.408			
5,700.0	5,672.6	5,706.7	5,672.6	14.6	15.6	-90.00	273.0	-484.0	806.7	779.8	26.93	29.961			
5,800.0	5,772.6	5,806.7	5,772.6	14.8	15.7	-90.00	273.0	-484.0	806.7	779.4	27.32	29.525			
5,900.0	5,872.6	5,906.7	5,872.6	15.0	15.9	-90.00	273.0	-484.0	806.7	779.0	27.72	29.100			
6,000.0	5,972.6	6,006.7	5,972.6	15.1	16.1	-90.00	273.0	-484.0	806.7	778.6	28.12	28.685			
6,100.0	6,072.6	6,106.7	6,072.6	15.3	16.3	-90.00	273.0	-484.0	806.7	778.2	28.53	28.281			
6,200.0	6,172.6	6,206.7	6,172.6	15.5	16.5	-90.00	273.0	-484.0	806.7	777.8	28.93	27.886			
6,300.0	6,272.6	6,306.7	6,272.6	15.7	16.6	-90.00	273.0	-484.0	806.7	777.4	29.33	27.501			
6,400.0	6,372.6	6,406.6	6,372.6	15.9	16.8	-90.00	273.0	-484.0	806.7	777.0	29.74	27.126			
6,411.1	6,383.7	6,417.7	6,383.7	15.9	16.8	90.01	273.0	-484.0	806.7	776.9	29.78	27.088			
6,450.0	6,422.6	6,456.6	6,422.6	16.0	16.9	90.12	273.0	-484.0	806.7	776.8	29.92	26.959			
6,500.0	6,472.3	6,506.5	6,472.5	16.0	17.0	90.45	272.8	-484.0	806.7	776.7	30.07	26.827			
6,550.0	6,521.6	6,556.8	6,522.7	16.1	17.1	90.82	269.9	-484.0	806.8	776.6	30.18	26.735			
6,600.0	6,570.3	6,607.5	6,573.0	16.1	17.1	91.20	263.7	-484.0	806.9	776.6	30.25	26.674			
6,650.0	6,618.2	6,658.5	6,623.1	16.1	17.1	91.57	254.1	-484.0	807.0	776.7	30.30	26.638			
6,700.0	6,665.0	6,709.9	6,672.8	16.1	17.2	91.94	241.1	-484.0	807.2	776.9	30.32	26.624			
6,750.0	6,710.5	6,761.7	6,721.9	16.1	17.2	92.30	224.6	-484.0	807.4	777.0	30.32	26.624			
6,800.0	6,754.6	6,813.8	6,770.1	16.1	17.2	92.65	204.7	-484.0	807.6	777.3	30.32	26.633			
6,850.0	6,797.0	6,866.4	6,817.1	16.1	17.2	92.98	181.4	-484.0	807.8	777.5	30.32	26.642			
6,900.0	6,837.7	6,919.2	6,862.7	16.1	17.2	93.31	154.7	-484.0	808.1	777.7	30.33	26.641			
6,950.0	6,876.3	6,972.4	6,906.7	16.1	17.2	93.62	124.7	-484.0	808.3	778.0	30.37	26.620			
7,000.0	6,912.8	7,026.0	6,948.7	16.1	17.2	93.92	91.5	-484.0	808.6	778.2	30.43	26.569			
7,050.0	6,947.0	7,079.9	6,988.5	16.1	17.2	94.20	55.2	-484.0	808.9	778.4	30.55	26.477			
7,100.0	6,978.7	7,134.1	7,025.9	16.1	17.2	94.46	16.0	-484.0	809.2	778.5	30.73	26.334			
7,150.0	7,007.8	7,188.6	7,060.6	16.2	17.2	94.71	-26.1	-484.0	809.5	778.5	30.97	26.133			
7,200.0	7,034.2	7,243.4	7,092.4	16.3	17.2	94.93	-70.7	-484.0	809.7	778.4	31.30	25.869			
7,250.0	7,057.7	7,298.5	7,121.0	16.4	17.3	95.12	-117.7	-484.0	810.0	778.2	31.72	25.535			
7,300.0	7,078.4	7,353.8	7,146.2	16.6	17.4	95.30	-166.9	-484.0	810.2	777.9	32.24	25.133			
7,350.0	7,096.0	7,409.2	7,167.9	16.9	17.6	95.45	-217.9	-484.0	810.4	777.5	32.85	24.668			
7,400.0	7,110.5	7,464.9	7,185.9	17.2	17.8	95.57	-270.6	-484.0	810.5	777.0	33.57	24.146			
7,450.0	7,121.8	7,520.6	7,200.0	17.6	18.2	95.67	-324.5	-484.0	810.7	776.3	34.38	23.578			
7,500.0	7,130.0	7,576.5	7,210.2	18.1	18.6	95.74	-379.4	-484.0	810.8	775.5	35.29	22.975			
7,550.0	7,134.9	7,632.5	7,216.3	18.6	19.1	95.78	-435.0	-484.0	810.8	774.6	36.28	22.347			
7,600.0	7,136.5	7,688.5	7,218.3	19.1	19.7	95.79	-491.0	-484.0	810.9	773.5	37.35	21.708			
7,608.0	7,136.5	7,697.4	7,218.3	19.2	19.8	95.79	-499.9	-484.0	810.9	773.3	37.53	21.606			
7,700.0	7,135.5	7,789.5	7,217.2	20.2	20.8	95.78	-592.0	-484.0	810.8	771.2	39.60	20.477			
7,800.0	7,134.5	7,889.5	7,215.9	21.4	22.0	95.77	-692.0	-484.0	810.8	768.8	42.06	19.278			
7,900.0	7,133.4	7,989.5	7,214.7	22.8	23.3	95.76	-792.0	-484.0	810.8	766.1	44.71	18.133			
8,000.0	7,132.4	8,089.5	7,213.5	24.2	24.7	95.74	-892.0	-484.0	810.8	763.3	47.53	17.058			
8,100.0	7,131.3	8,189.5	7,212.3	25.6	26.1	95.73	-991.9	-484.0	810.8	760.3	50.48	16.061			
8,200.0	7,130.3	8,289.5	7,211.1	27.2	27.6	95.72	-1,091.9	-484.0	810.8	757.2	53.54	15.142			
8,300.0	7,129.2	8,389.5	7,209.8	28.7	29.2	95.71	-1,191.9	-484.0	810.7	754.0	56.70	14.299			

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-303 - Wellbore #										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		
8,400.0	7,128.2	8,489.5	7,208.6	30.4	30.8	95.69	-1,291.9	-484.0	810.7	750.8	59.93	13.528		
8,500.0	7,127.1	8,589.5	7,207.4	32.0	32.4	95.68	-1,391.9	-484.0	810.7	747.5	63.23	12.821		
8,600.0	7,126.1	8,689.5	7,206.2	33.7	34.1	95.67	-1,491.9	-484.0	810.7	744.1	66.59	12.174		
8,700.0	7,125.0	8,789.5	7,204.9	35.4	35.7	95.66	-1,591.9	-484.0	810.7	740.7	70.00	11.581		
8,800.0	7,124.0	8,889.5	7,203.7	37.1	37.5	95.64	-1,691.9	-484.0	810.6	737.2	73.45	11.037		
8,900.0	7,122.9	8,989.5	7,202.5	38.8	39.2	95.63	-1,791.9	-484.0	810.6	733.7	76.93	10.537		
9,000.0	7,121.9	9,089.5	7,201.3	40.6	40.9	95.62	-1,891.9	-484.0	810.6	730.2	80.45	10.076		
9,100.0	7,120.8	9,189.5	7,200.1	42.4	42.7	95.61	-1,991.9	-484.0	810.6	726.6	83.99	9.651		
9,200.0	7,119.8	9,289.5	7,198.8	44.2	44.5	95.60	-2,091.9	-484.0	810.6	723.0	87.56	9.257		
9,300.0	7,118.8	9,389.5	7,197.6	45.9	46.2	95.58	-2,191.9	-484.0	810.6	719.4	91.15	8.893		
9,400.0	7,117.7	9,489.5	7,196.4	47.8	48.0	95.57	-2,291.8	-484.0	810.5	715.8	94.76	8.554		
9,500.0	7,116.7	9,589.5	7,195.2	49.6	49.8	95.56	-2,391.8	-484.0	810.5	712.1	98.39	8.238		
9,600.0	7,115.6	9,689.5	7,193.9	51.4	51.7	95.55	-2,491.8	-484.0	810.5	708.5	102.03	7.944		
9,700.0	7,114.6	9,789.5	7,192.7	53.2	53.5	95.53	-2,591.8	-484.0	810.5	704.8	105.68	7.669		
9,800.0	7,113.5	9,889.5	7,191.5	55.1	55.3	95.52	-2,691.8	-484.0	810.5	701.1	109.35	7.412		
9,900.0	7,112.5	9,989.5	7,190.3	56.9	57.1	95.51	-2,791.8	-484.0	810.5	697.4	113.03	7.170		
10,000.0	7,111.4	10,089.5	7,189.1	58.7	59.0	95.50	-2,891.8	-484.0	810.4	693.7	116.72	6.944		
10,100.0	7,110.4	10,189.5	7,187.8	60.6	60.8	95.49	-2,991.8	-484.0	810.4	690.0	120.41	6.730		
10,200.0	7,109.3	10,289.5	7,186.6	62.4	62.7	95.47	-3,091.8	-484.0	810.4	686.3	124.12	6.529		
10,300.0	7,108.3	10,389.5	7,185.4	64.3	64.5	95.46	-3,191.8	-484.0	810.4	682.6	127.83	6.339		
10,400.0	7,107.2	10,489.5	7,184.2	66.2	66.4	95.45	-3,291.8	-484.0	810.4	678.8	131.56	6.160		
10,500.0	7,106.2	10,589.5	7,183.0	68.0	68.2	95.44	-3,391.8	-484.0	810.4	675.1	135.28	5.990		
10,600.0	7,105.1	10,689.5	7,181.7	69.9	70.1	95.42	-3,491.8	-484.0	810.3	671.3	139.02	5.829		
10,700.0	7,104.1	10,789.5	7,180.5	71.8	72.0	95.41	-3,591.7	-484.0	810.3	667.6	142.75	5.676		
10,800.0	7,103.0	10,889.5	7,179.3	73.6	73.8	95.40	-3,691.7	-484.0	810.3	663.8	146.50	5.531		
10,900.0	7,102.0	10,989.5	7,178.1	75.5	75.7	95.39	-3,791.7	-484.0	810.3	660.0	150.25	5.393		
11,000.0	7,101.0	11,089.5	7,176.8	77.4	77.6	95.37	-3,891.7	-484.0	810.3	656.3	154.00	5.262		
11,100.0	7,099.9	11,189.5	7,175.6	79.3	79.5	95.36	-3,991.7	-484.0	810.3	652.5	157.76	5.136		
11,200.0	7,098.9	11,289.5	7,174.4	81.2	81.4	95.35	-4,091.7	-484.0	810.2	648.7	161.52	5.017		
11,300.0	7,097.8	11,389.5	7,173.2	83.1	83.2	95.34	-4,191.7	-484.0	810.2	644.9	165.28	4.902		
11,400.0	7,096.8	11,489.5	7,172.0	84.9	85.1	95.33	-4,291.7	-484.0	810.2	641.2	169.05	4.793		
11,500.0	7,095.7	11,589.5	7,170.7	86.8	87.0	95.31	-4,391.7	-484.0	810.2	637.4	172.82	4.688		
11,548.2	7,095.2	11,637.7	7,170.1	87.7	87.9	95.31	-4,439.9	-484.0	810.2	635.6	174.64	4.639		
11,568.5	7,095.0	11,649.7	7,170.0	88.1	88.1	95.31	-4,451.9	-484.0	810.2	635.0	175.25	4.623 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-423 - Wellbore #										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	-27.8	27.8					
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	0.0	-27.8	27.8	27.6	0.19	145.579		
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	0.0	-27.8	27.8	27.2	0.64	43.418		
300.0	300.0	300.0	300.0	0.5	0.5	-89.99	0.0	-27.8	27.8	26.7	1.09	25.514		
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	0.0	-27.8	27.8	26.3	1.54	18.065		
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	0.0	-27.8	27.8	25.8	1.99	13.982		
600.0	600.0	600.0	600.0	1.2	1.2	-89.99	0.0	-27.8	27.8	25.4	2.44	11.405		
700.0	700.0	700.0	700.0	1.4	1.4	-89.99	0.0	-27.8	27.8	24.9	2.89	9.630		
800.0	800.0	800.0	800.0	1.7	1.7	-89.99	0.0	-27.8	27.8	24.5	3.34	8.333		
900.0	900.0	900.0	900.0	1.9	1.9	-89.99	0.0	-27.8	27.8	24.0	3.79	7.344		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-89.99	0.0	-27.8	27.8	23.6	4.24	6.565		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-89.99	0.0	-27.8	27.8	23.1	4.69	5.935		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-89.99	0.0	-27.8	27.8	22.7	5.14	5.415		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-89.99	0.0	-27.8	27.8	22.2	5.59	4.980		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-89.99	0.0	-27.8	27.8	21.8	6.03	4.609		
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-89.99	0.0	-27.8	27.8	21.3	6.48	4.289 CC, ES		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-141.96	0.0	-27.8	29.2	22.2	6.93	4.211		
1,700.0	1,699.8	1,699.8	1,699.8	3.7	3.7	-147.44	0.0	-27.8	33.4	26.1	7.36	4.545		
1,800.0	1,799.5	1,799.5	1,799.5	3.9	3.9	-153.93	0.0	-27.8	41.1	33.3	7.78	5.275		
1,886.6	1,885.5	1,885.5	1,885.5	4.1	4.1	-159.02	0.0	-27.8	50.6	42.4	8.15	6.210		
1,900.0	1,898.7	1,898.7	1,898.7	4.1	4.1	-159.72	0.0	-27.8	52.3	44.1	8.20	6.371		
2,000.0	1,997.8	1,997.8	1,997.8	4.4	4.4	-163.83	0.0	-27.8	65.1	56.4	8.64	7.527		
2,100.0	2,096.9	2,097.0	2,096.9	4.7	4.6	-165.37	1.5	-28.5	78.0	69.0	9.09	8.588		
2,200.0	2,196.0	2,196.1	2,196.0	4.9	4.8	-164.29	6.1	-30.6	91.0	81.5	9.53	9.544		
2,300.0	2,295.1	2,295.1	2,294.6	5.2	5.0	-161.58	13.8	-34.1	104.1	94.1	9.99	10.419		
2,400.0	2,394.2	2,393.9	2,392.8	5.5	5.3	-158.28	23.7	-38.7	117.5	107.1	10.46	11.241		
2,500.0	2,493.2	2,492.8	2,491.1	5.8	5.5	-155.61	33.7	-43.3	131.3	120.4	10.94	12.010		
2,600.0	2,592.3	2,591.7	2,589.3	6.1	5.7	-153.46	43.7	-47.9	145.4	133.9	11.42	12.724		
2,700.0	2,691.4	2,690.6	2,687.6	6.4	6.0	-151.68	53.7	-52.5	159.6	147.6	11.92	13.384		
2,800.0	2,790.5	2,789.4	2,785.9	6.7	6.2	-150.20	63.8	-57.0	173.9	161.5	12.43	13.993		
2,900.0	2,889.6	2,888.3	2,884.1	7.0	6.5	-148.94	73.8	-61.6	188.3	175.4	12.94	14.556		
3,000.0	2,988.7	2,987.2	2,982.4	7.3	6.8	-147.86	83.8	-66.2	202.8	189.3	13.45	15.075		
3,100.0	3,087.8	3,086.1	3,080.6	7.6	7.0	-146.93	93.8	-70.8	217.3	203.4	13.97	15.555		
3,200.0	3,186.9	3,184.9	3,178.9	7.9	7.3	-146.11	103.8	-75.4	231.9	217.4	14.50	16.000		
3,300.0	3,286.0	3,283.8	3,277.2	8.2	7.6	-145.39	113.8	-80.0	246.6	231.6	15.03	16.412		
3,400.0	3,385.1	3,382.7	3,375.4	8.5	7.8	-144.75	123.8	-84.6	261.3	245.7	15.56	16.794		
3,500.0	3,484.2	3,481.6	3,473.7	8.9	8.1	-144.18	133.8	-89.2	276.0	259.9	16.09	17.150		
3,600.0	3,583.2	3,580.5	3,571.9	9.2	8.4	-143.66	143.8	-93.8	290.7	274.1	16.63	17.482		
3,700.0	3,682.3	3,679.3	3,670.2	9.5	8.6	-143.20	153.8	-98.4	305.5	288.3	17.17	17.791		
3,800.0	3,781.4	3,778.2	3,768.5	9.8	8.9	-142.78	163.9	-102.9	320.2	302.5	17.71	18.080		
3,900.0	3,880.5	3,877.1	3,866.7	10.1	9.2	-142.39	173.9	-107.5	335.0	316.8	18.26	18.351		
4,000.0	3,979.6	3,976.0	3,965.0	10.5	9.5	-142.04	183.9	-112.1	349.8	331.0	18.80	18.605		
4,100.0	4,078.7	4,074.8	4,063.3	10.8	9.8	-141.72	193.9	-116.7	364.6	345.3	19.35	18.844		
4,200.0	4,177.8	4,173.7	4,161.5	11.1	10.0	-141.42	203.9	-121.3	379.4	359.5	19.90	19.069		
4,300.0	4,276.9	4,272.6	4,259.8	11.4	10.3	-141.14	213.9	-125.9	394.3	373.8	20.45	19.281		
4,400.0	4,376.0	4,371.5	4,358.0	11.8	10.6	-140.89	223.9	-130.5	409.1	388.1	21.00	19.480		
4,500.0	4,475.1	4,470.3	4,456.3	12.1	10.9	-140.65	233.9	-135.1	424.0	402.4	21.55	19.669		
4,600.0	4,574.2	4,569.2	4,554.6	12.4	11.2	-140.43	243.9	-139.7	438.8	416.7	22.11	19.848		
4,640.7	4,614.5	4,609.5	4,594.6	12.6	11.3	-140.34	248.0	-141.5	444.9	422.5	22.33	19.918		
4,700.0	4,673.3	4,668.2	4,652.9	12.7	11.5	-140.28	253.9	-144.3	453.2	430.5	22.67	19.994		
4,800.0	4,772.8	4,772.4	4,756.6	13.0	11.7	-140.02	263.6	-148.7	464.8	441.6	23.15	20.076		

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 Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-423 - Wellbore #										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		
4,900.0	4,872.7	4,879.4	4,863.3	13.2	11.9	-139.84	270.0	-151.6	472.3	448.7	23.57	20.033		
5,000.0	4,972.6	4,986.7	4,970.6	13.3	12.1	-139.77	272.9	-152.9	475.5	451.6	23.94	19.861		
5,027.4	5,000.0	5,016.1	5,000.0	13.4	12.2	-90.00	273.0	-153.0	475.7	451.7	24.04	19.791		
5,100.0	5,072.6	5,088.7	5,072.6	13.5	12.3	-90.00	273.0	-153.0	475.7	451.4	24.30	19.578		
5,200.0	5,172.6	5,188.7	5,172.6	13.7	12.5	-90.00	273.0	-153.0	475.7	451.0	24.69	19.264		
5,300.0	5,272.6	5,288.7	5,272.6	13.8	12.7	-90.00	273.0	-153.0	475.7	450.6	25.09	18.958		
5,400.0	5,372.6	5,388.7	5,372.6	14.0	12.9	-90.00	273.0	-153.0	475.7	450.2	25.49	18.659		
5,500.0	5,472.6	5,488.7	5,472.6	14.2	13.1	-90.00	273.0	-153.0	475.7	449.8	25.90	18.369		
5,600.0	5,572.6	5,588.7	5,572.6	14.4	13.3	-90.00	273.0	-153.0	475.7	449.4	26.30	18.087		
5,700.0	5,672.6	5,688.7	5,672.6	14.6	13.5	-90.00	273.0	-153.0	475.7	449.0	26.71	17.812		
5,800.0	5,772.6	5,788.7	5,772.6	14.8	13.7	-90.00	273.0	-153.0	475.7	448.6	27.11	17.545		
5,900.0	5,872.6	5,888.7	5,872.6	15.0	13.9	-90.00	273.0	-153.0	475.7	448.2	27.52	17.284		
6,000.0	5,972.6	5,988.7	5,972.6	15.1	14.1	-90.00	273.0	-153.0	475.7	447.8	27.93	17.031		
6,100.0	6,072.6	6,088.7	6,072.6	15.3	14.3	-90.00	273.0	-153.0	475.7	447.3	28.34	16.784		
6,200.0	6,172.6	6,188.7	6,172.6	15.5	14.5	-90.00	273.0	-153.0	475.7	446.9	28.75	16.544		
6,300.0	6,272.6	6,288.7	6,272.6	15.7	14.8	-90.00	273.0	-153.0	475.7	446.5	29.17	16.309		
6,400.0	6,372.6	6,388.7	6,372.6	15.9	15.0	-90.00	273.0	-153.0	475.7	446.1	29.58	16.081		
6,410.9	6,383.5	6,399.6	6,383.5	15.9	15.0	90.01	273.0	-153.0	475.7	446.1	29.62	16.059		
6,450.0	6,422.6	6,438.7	6,422.6	16.0	15.1	90.20	273.0	-153.0	475.7	445.9	29.77	15.977		
6,500.0	6,472.3	6,488.4	6,472.3	16.0	15.2	90.78	273.0	-153.0	475.7	445.8	29.95	15.887		
6,550.0	6,521.6	6,537.8	6,521.6	16.1	15.3	91.74	273.0	-153.0	475.9	445.8	30.11	15.808		
6,600.0	6,570.3	6,588.1	6,571.9	16.1	15.3	92.89	271.4	-153.0	476.3	446.1	30.22	15.760		
6,650.0	6,618.2	6,639.1	6,622.7	16.1	15.4	94.04	266.4	-153.0	476.9	446.6	30.31	15.737		
6,700.0	6,665.0	6,690.8	6,673.7	16.1	15.4	95.18	257.9	-153.0	477.7	447.4	30.36	15.736		
6,750.0	6,710.5	6,743.2	6,724.6	16.1	15.5	96.30	245.8	-153.0	478.7	448.3	30.38	15.756		
6,800.0	6,754.6	6,796.4	6,775.4	16.1	15.5	97.39	229.9	-153.0	479.8	449.4	30.38	15.794		
6,850.0	6,797.0	6,850.3	6,825.6	16.1	15.5	98.46	210.3	-153.0	481.1	450.7	30.36	15.846		
6,900.0	6,837.7	6,905.0	6,875.0	16.1	15.5	99.50	186.8	-153.0	482.5	452.2	30.34	15.905		
6,950.0	6,876.3	6,960.4	6,923.2	16.1	15.5	100.49	159.5	-153.0	484.0	453.7	30.32	15.966		
7,000.0	6,912.8	7,016.6	6,969.9	16.1	15.5	101.44	128.2	-153.0	485.6	455.3	30.31	16.020		
7,050.0	6,947.0	7,073.6	7,014.8	16.1	15.5	102.34	93.2	-153.0	487.2	456.8	30.34	16.059		
7,100.0	6,978.7	7,131.3	7,057.4	16.1	15.6	103.18	54.4	-153.0	488.8	458.4	30.41	16.075		
7,150.0	7,007.8	7,189.7	7,097.5	16.2	15.6	103.96	11.9	-153.0	490.4	459.9	30.54	16.056		
7,200.0	7,034.2	7,248.7	7,134.7	16.3	15.7	104.67	-34.0	-153.0	491.9	461.2	30.75	15.997		
7,250.0	7,057.7	7,308.5	7,168.5	16.4	15.8	105.31	-83.2	-153.0	493.4	462.3	31.06	15.885		
7,300.0	7,078.4	7,368.7	7,198.6	16.6	16.1	105.87	-135.4	-153.0	494.7	463.2	31.47	15.718		
7,350.0	7,096.0	7,429.5	7,224.7	16.9	16.4	106.36	-190.3	-153.0	495.9	463.9	32.00	15.496		
7,400.0	7,110.5	7,490.8	7,246.5	17.2	16.8	106.76	-247.5	-153.0	496.9	464.2	32.65	15.219		
7,450.0	7,121.8	7,552.4	7,263.8	17.6	17.2	107.08	-306.7	-153.0	497.7	464.2	33.42	14.891		
7,500.0	7,130.0	7,614.3	7,276.3	18.1	17.8	107.30	-367.3	-153.0	498.3	463.9	34.32	14.518		
7,550.0	7,134.9	7,672.9	7,283.7	18.6	18.3	107.45	-425.4	-153.0	498.7	463.4	35.30	14.128		
7,600.0	7,136.5	7,722.8	7,288.9	19.1	18.8	107.76	-475.0	-153.0	499.8	463.5	36.25	13.785		
7,608.0	7,136.5	7,730.7	7,289.7	19.2	18.9	107.84	-482.8	-153.0	500.0	463.6	36.41	13.734		
7,700.0	7,135.5	7,836.8	7,296.1	20.2	20.1	108.65	-588.8	-153.0	502.1	463.6	38.42	13.066		
7,800.0	7,134.5	7,940.1	7,295.6	21.4	21.4	108.72	-692.1	-153.0	502.2	461.4	40.82	12.303		
7,900.0	7,133.4	8,040.1	7,294.9	22.8	22.7	108.76	-792.1	-153.0	502.4	459.0	43.36	11.585		
8,000.0	7,132.4	8,140.1	7,294.3	24.2	24.1	108.80	-892.1	-153.0	502.5	456.4	46.05	10.911		
8,100.0	7,131.3	8,240.1	7,293.6	25.6	25.6	108.83	-992.1	-153.0	502.6	453.7	48.87	10.285		
8,200.0	7,130.3	8,340.1	7,292.9	27.2	27.1	108.87	-1,092.1	-153.0	502.7	450.9	51.79	9.707		
8,300.0	7,129.2	8,440.1	7,292.2	28.7	28.7	108.91	-1,192.1	-153.0	502.8	448.0	54.80	9.176		

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

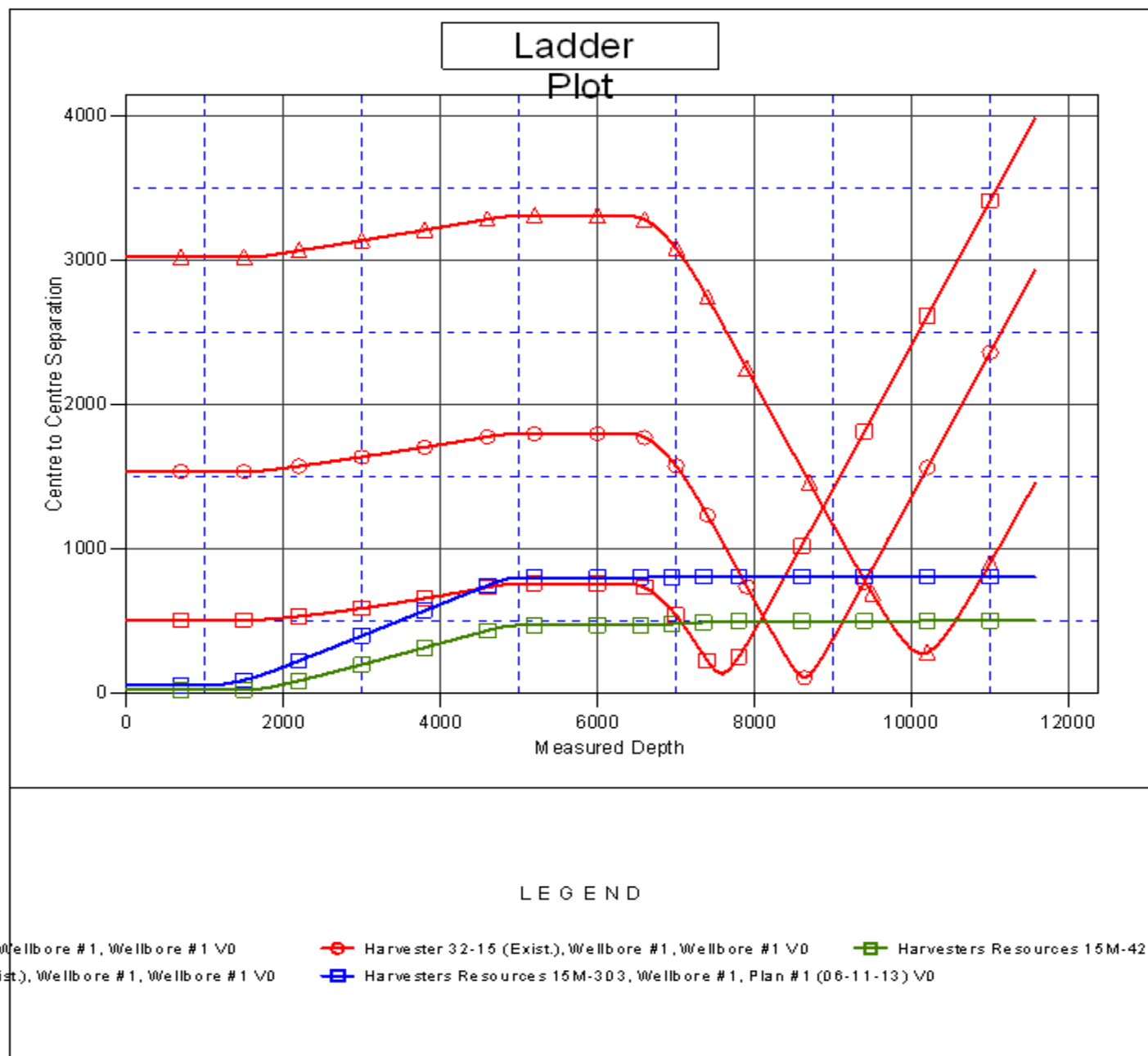
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Offset Design		Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15M-423 - Wellbore #										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)			
8,400.0	7,128.2	8,540.1	7,291.5	30.4	30.3	108.95	-1,292.1	-153.0	503.0	445.1	57.89	8.689		
8,500.0	7,127.1	8,640.1	7,290.9	32.0	32.0	108.99	-1,392.0	-153.0	503.1	442.0	61.03	8.243		
8,600.0	7,126.1	8,740.1	7,290.2	33.7	33.6	109.03	-1,492.0	-153.0	503.2	439.0	64.23	7.834		
8,700.0	7,125.0	8,840.1	7,289.5	35.4	35.3	109.07	-1,592.0	-153.0	503.3	435.8	67.48	7.459		
8,800.0	7,124.0	8,940.1	7,288.8	37.1	37.1	109.11	-1,692.0	-153.0	503.4	432.7	70.76	7.115		
8,900.0	7,122.9	9,040.1	7,288.1	38.8	38.8	109.15	-1,792.0	-153.0	503.6	429.5	74.08	6.798		
9,000.0	7,121.9	9,140.1	7,287.4	40.6	40.6	109.19	-1,892.0	-153.0	503.7	426.2	77.42	6.505		
9,100.0	7,120.8	9,240.1	7,286.8	42.4	42.4	109.23	-1,992.0	-153.0	503.8	423.0	80.80	6.235		
9,200.0	7,119.8	9,340.1	7,286.1	44.2	44.1	109.27	-2,092.0	-153.0	503.9	419.7	84.19	5.985		
9,300.0	7,118.8	9,440.1	7,285.4	45.9	45.9	109.31	-2,192.0	-153.0	504.0	416.4	87.60	5.754		
9,400.0	7,117.7	9,540.1	7,284.7	47.8	47.7	109.35	-2,292.0	-153.0	504.2	413.1	91.03	5.538		
9,500.0	7,116.7	9,640.1	7,284.0	49.6	49.6	109.39	-2,392.0	-153.0	504.3	409.8	94.48	5.338		
9,600.0	7,115.6	9,740.1	7,283.4	51.4	51.4	109.43	-2,492.0	-153.0	504.4	406.5	97.93	5.150		
9,700.0	7,114.6	9,840.1	7,282.7	53.2	53.2	109.46	-2,592.0	-153.0	504.5	403.1	101.40	4.975		
9,800.0	7,113.5	9,940.1	7,282.0	55.1	55.1	109.50	-2,692.0	-153.0	504.6	399.8	104.88	4.812		
9,900.0	7,112.5	10,040.1	7,281.3	56.9	56.9	109.54	-2,792.0	-153.0	504.8	396.4	108.37	4.658		
10,000.0	7,111.4	10,140.1	7,280.6	58.7	58.8	109.58	-2,892.0	-153.0	504.9	393.0	111.87	4.513		
10,100.0	7,110.4	10,240.1	7,280.0	60.6	60.6	109.62	-2,992.0	-153.0	505.0	389.6	115.37	4.377		
10,200.0	7,109.3	10,340.1	7,279.3	62.4	62.5	109.66	-3,092.0	-153.0	505.1	386.3	118.88	4.249		
10,300.0	7,108.3	10,440.1	7,278.6	64.3	64.3	109.70	-3,192.0	-153.0	505.3	382.9	122.40	4.128		
10,400.0	7,107.2	10,540.1	7,277.9	66.2	66.2	109.74	-3,292.0	-153.0	505.4	379.5	125.92	4.014		
10,500.0	7,106.2	10,640.1	7,277.2	68.0	68.1	109.78	-3,392.0	-153.0	505.5	376.1	129.44	3.905		
10,600.0	7,105.1	10,740.1	7,276.6	69.9	69.9	109.82	-3,492.0	-153.0	505.6	372.7	132.97	3.803		
10,700.0	7,104.1	10,840.1	7,275.9	71.8	71.8	109.86	-3,592.0	-153.0	505.8	369.2	136.51	3.705		
10,800.0	7,103.0	10,940.1	7,275.2	73.6	73.7	109.90	-3,692.0	-153.0	505.9	365.8	140.04	3.612		
10,900.0	7,102.0	11,040.1	7,274.5	75.5	75.6	109.93	-3,792.0	-153.0	506.0	362.4	143.58	3.524		
11,000.0	7,101.0	11,140.1	7,273.8	77.4	77.4	109.97	-3,892.0	-153.0	506.1	359.0	147.12	3.440		
11,100.0	7,099.9	11,240.1	7,273.2	79.3	79.3	110.01	-3,992.0	-153.0	506.3	355.6	150.67	3.360		
11,200.0	7,098.9	11,340.1	7,272.5	81.2	81.2	110.05	-4,092.0	-153.0	506.4	352.2	154.21	3.284		
11,300.0	7,097.8	11,440.1	7,271.8	83.1	83.1	110.09	-4,192.0	-153.0	506.5	348.7	157.76	3.211		
11,400.0	7,096.8	11,540.1	7,271.1	84.9	85.0	110.13	-4,292.0	-153.0	506.6	345.3	161.31	3.141		
11,500.0	7,095.7	11,640.1	7,270.4	86.8	86.9	110.17	-4,392.0	-153.0	506.8	341.9	164.86	3.074		
11,532.5	7,095.4	11,672.6	7,270.2	87.4	87.5	110.18	-4,424.5	-153.0	506.8	340.8	166.02	3.053		
11,568.5	7,095.0	11,703.8	7,270.0	88.1	88.1	110.19	-4,455.6	-153.0	506.9	339.7	167.21	3.031 SF		

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Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4835.0ft (RKB-15')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Harvesters Resources 15R-243
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.48°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15R-243
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Reference Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Harvesters Resources 15R-243	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 (6-11-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4835.0ft (RKB-15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Harvesters Resources 15R-243
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.48°

